SCAN TEAM REPORT

NCHRP Project 20-68, Scan 19-02

Leading Practices in Strategic Workforce Management by Transportation Agencies

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Acknowledgments

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Scan 19-02 Leading Practices in Strategic Workforce Management by Transportation Agencies

PREPARED BY SCAN 19-02 TEAM

Amanda Holland, *Department of Administration, State of Alaska – AASHTO Chair*

Karen A. Bobo, *Federal Highway Administration (FHWA)*

Brian Brown, *Ohio DOT*

Kendra M. Campbell, *Texas DOT*

Craig Crick, *Nevada DOT*

Lorri Economy, *Utah DOT*

Amanda Henry, *Maryland SHA*

John L. Hibbard, *Georgia DOT*

William R. Lambert, *New Hampshire DOT*

Alexis Martin, *New Hampshire DOT*

Tammy J. Roberts, *California DOT*

Brian Robinson, *Georgia DOT*

Rob Wight, *Utah DOT*

Lee Wilkinson, *Iowa DOT*

Rick A. Smith, *Subject Matter Expert*

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Abbreviations and Acronyms

AASHTO   American Association of State Highway and Transportation Officials

ACE   Achieving Career Excellence

Alaska DOT&PF   Alaska Department of Transportation & Public Facilities

AQ   Amplifying Questions

ARDOT   Arkansas Department of Transportation

Caltrans   California Department of Transportation

CAN   Change Agent Network

CDOT   Colorado DOT

DOT   Department of Transportation

FHWA   Federal Highway Administration

GDOT   Georgia Department of Transportation

HCI   Human Capital Institute

HR   Human Resources

IT   Information Technology

MDOT SHA   Maryland Department of Transportation State Highway Administration

MnDOT   Minnesota Department of Transportation

MoDOT   Missouri Department of Transportation

NCHRP   National Cooperative Highway Research Program

NDOT   Nevada Department of Transportation

NHDOT   New Hampshire Department of Transportation

ODOT   Ohio Department of Transportation

PennDOT   Pennsylvania Department of Transportation

PIN   Personal Identification Number

SHRM   Society for Human Resource Management

SME   Subject Matter Expert

SWM   Strategic Workforce Management

SWMP	Strategic Workforce Management Plan
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TxDOT	Texas Department of Transportation
TRB	Transportation Research Board
UDOT	Utah Department of Transportation
USDOT	U.S. Department of Transportation
USGS	U.S. Geological Survey
VDOT	Virginia Department of Transportation
VTrans	Vermont Agency of Transportation
WMP	Workforce Management Plan
WSDOT	Washington State Department of Transportation
WSDOT	Washington State Department of Transportation

Executive Summary

This report summarizes findings from a domestic scan of strategic workforce management (SWM) within transportation agencies and other organizations. The purpose of this scan is to examine innovative SWM practices state departments of transportation (DOTs) are implementing, particularly those activities that can quickly be adopted and implemented to recruit, develop, and retain the workforce they need today and for the future.

SWM is practiced in federal agencies as well as in public organizations. Therefore, the scan investigated these entities for innovative and successful practices.

A scan team consisting of DOTs and the Federal Highway Administration (FHWA) was formed to guide the scan and develop findings, recommendations, and dissemination actions. Scan team members brought to the scan a diversity of experience and knowledge in the related areas of human capital, leadership, workforce management, workforce development, an understanding of DOT management, and knowledge of workforce challenges.

Scan team members met on three occasions over the course of the scan. The first meeting was an organizational meeting to determine what information needed to be collected. The primary output of the meeting was the creation of a set of amplifying questions. The second and third meetings were organized to facilitate information gathering and sharing between the team and invited host agencies.

At the second meeting, held in March 2020, scan team members and host agencies shared their organizations' SWM experience and practices. A third in-person meeting was planned to accommodate private sector host agencies. However, due to the outbreak of COVID-19 across the country, the in-person meeting was conducted virtually. The virtual session was held in October 2020.

In all, scan participants reviewed SWM programs and activities of 12 state DOTs (Alaska, Arkansas, California, Colorado, Georgia, Maryland, Minnesota, Missouri, Pennsylvania, Texas, Vermont, and Virginia), and three private sector companies. The U.S. Geological Survey was invited to participate as a federal agency with a strong history of strategic workforce planning. However, due to the breakout of COVID-19, it was unable to participate.

The scan investigated the following critical aspects of SWM:

- Human capital
- Design and development
- Implementation
- Performance measures/management
- Organizational challenges and opportunities
- Forecasting

- Plan elements

- Resources

The scan also investigated which states have a defined strategic workforce plan (SWMP) versus individual elements of such a plan, and which have implemented innovative SWM practices.

The report includes an SWMP model comprising the most common elements found in SWMPs managed by state DOTs.

This report presents information collected from host agencies concerning SWM activities designed to forecast workforce talent needs; analyze current workforce and talent supply; and develop, implement, and evaluate strategies to close gaps in the workforce.

Presented within the report are findings and recommendations from information gleaned from responses to amplifying questions and from information exchanged at the scan meetings.

Introduction

Background

The author of the problem statement leading to this scan observed that members of the American Association of State Highway and Transportation Officials (AASHTO) have identified workforce management as one of the most urgent issues for today's Departments of Transportation (DOTs). The author references Roger Millar, Secretary of Transportation of the Washington State DOT (WSDOT), who spoke at an AASHTO Joint Policy Conference in 2017, commenting that he was spending a lot of time on workforce management.

Concerns that retirements and lack of training opportunities will leave DOTs with too few workers to fill positions have led officials to plan the future workforce. Approaches by individual DOTs vary but all seem to have many elements in common. DOTs are careful to ensure their workforce goals are strategically tied to the mission, vision, and goals of the agency; analyzing workforce trends; developing solutions; implementing corrective strategies; and measuring for success. These concerns and observations were confirmed during the scan.

Scan Purpose and Scope

The purpose of this scan was to examine innovative SWM practices state DOTs are implementing, particularly those activities that can quickly be adopted and implemented to recruit, develop, and retain the workforce they need today and for the future.

Scan Chair Amanda Holland, Acting Commissioner, Department of Administration, State of Alaska, defines SWM as a systematic approach used to predict, prepare for, and manage workforce needs. SWM aligns the needs and priorities of an organization with those of its workforce to place the agency in the best position for ongoing success.

SWM and strategic workforce planning are often used interchangeably. Georgia's Department of Administrative Services defines workforce planning as a systematic, proactive process that aligns strategic planning, human capital, and budgeting to meet organizational goals and objectives through:

- Forecasting mission critical talent needs

- Analyzing current workforce and talent supply

- Developing, implementing, and evaluating strategies to close gaps[1]

Perhaps the most widely used definition of workforce planning is having the right number of people, with the right skills, working in the right jobs at the right time.[2]

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[1] Georgia Department of Administrative Services, http://doas.ga.gov/human-resources-administration/hr-tools/workforce-planning

[2] Stokker, Judy H. and Hallam, Gillian (2009), The right person, in the right job, with the right skills, at the right time. A workforce-planning model that goes beyond metrics. Library Management, 30(8/9). pp. 561-571.

To be consistent with the scan proposal, the term used in this report is workforce management instead of workforce planning, human capital management, or some other derivative.
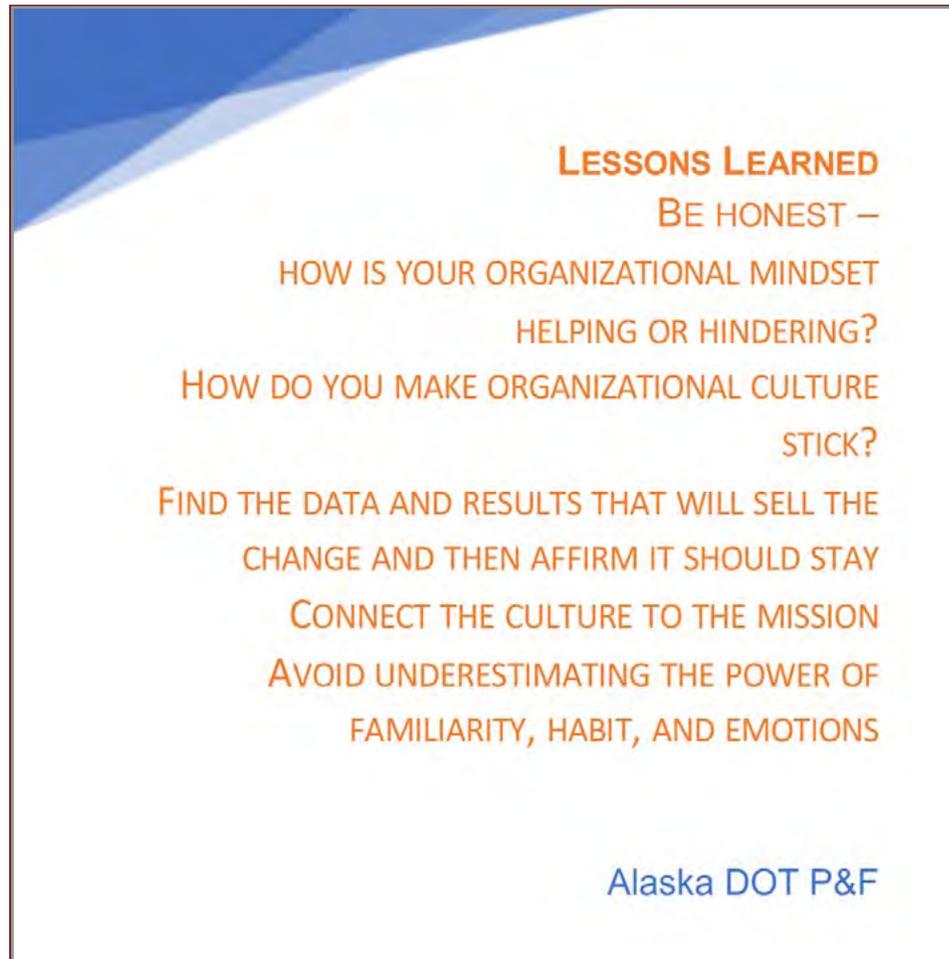
This scan followed the scope presented in the original Domestic Scan proposal submitted in September 2018. The scan investigated transportation agencies and organizations that have conducted or are actively conducting activities identified in the original proposal as common elements of SWM, such as employee engagement, forecasting, knowledge management (KM), recruitment, succession planning, and workforce development, to name a few.

To aid in identifying SWM programs and elements, scan team members offered input into which DOTs are actively operating SWM programs or have implemented SWM elements. Several of the scan team members shared with the team information regarding their specific DOT's workforce management planning efforts. Some of the scan team members also served as host agencies and made a presentation at one of the two workshops.

The scan's scope was not limited to DOTs. In addition to state DOTs, federal organizations, professional associations, and private organizations were examined to identify the most innovative and beneficial elements that could be easily adapted and implemented. Leads provided by team members included several private sector organizations.

Scan Team

A scan team with representation from each of the four AASHTO regional associations was formed. Representatives from DOTs and the U.S. Department of Transportation (USDOT) headquarters staff were invited to guide the scan and develop findings, recommendations, and dissemination actions. Amanda Holland, Acting Commissioner, Department of Administration, State of Alaska, chaired the team.

Members of the scan team represented:

- Alaska
- California DOT (Caltrans)
- FHWA
- Georgia DOT (GDOT)
- Iowa DOT
- Maryland DOT State Highway Administration (MDOT SHA)
- Nevada DOT (NDOT)
- New Hampshire DOT (NHDOT)
- Ohio DOT (ODOT)
- Texas DOT (TxDOT)
- Utah DOT (UDOT)

Scan team members brought a diversity of workforce management experience and an understanding of DOT management and workforce challenges to the table. Members of the team represent critical areas of a DOT organization, including administration, construction, engineering, human resources, and employee development.

Scan Approach and Participants

The scan type used was Type 2. In a Type 2 scan approach, representatives from participant agencies, also known as host agencies, are invited to meet with the team at a predetermined location. The team invited representatives from agencies selected for study to meet with them in San Diego, CA, to present information and to participate in discussions regarding steps they are taking to address challenges related to workforce management.

From a desk scan, a list of host agencies was finalized during an organizational meeting held in Washington, DC, on September 18, 2019. Scan team members were interested in inviting specific DOTs and organizations to participate in a scan workshop. A workshop is a formal setting that gives the team an opportunity to hear from host agencies that actively operate SWM programs or elements of SWM. Additionally, scan team members ask information-seeking questions of the participating representatives and facilitate informal discussions during the multiday workshop.

Typically, a workshop of one week's duration would be sufficient. However, with a mix of state agencies and private sector agencies planned, the team determined that it would be best to conduct two workshops: one dedicated to state agencies and one dedicated to private agencies. Initially the first workshop was scheduled for San Diego, CA, and the second for Seattle, WA. The San Diego workshop was a success. However, due to the outbreak of the COVID-19, pandemic the second workshop was changed to an online format from its originally planned in-person format. The virtual session was conducted in October 2020.

Agencies and organizations of interest included 12 state DOTs (Alaska, Arkansas, California, Colorado, Georgia, Maryland, Minnesota, Missouri, Pennsylvania, Texas, Vermont, and Virginia) and one federal agency (U.S. Geological Survey), and three private sector companies (Tandem Motion[3] , Splunk[4] and WiLD Leaders[5]).

Report Organization

This report documents the scan results and is organized in three major chapters:

- **Chapter 2** presents key findings from all aspects of the scan, including the desk scan, amplifying questions, and the scan meeting.

- **Chapter 3** presents a summary of the conclusions and recommendation developed following the scan meeting.

- **Chapter 4** identifies actions that scan team members recommend for disseminating findings and to foster adoption of beneficial SWM practices.

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3   Tandem Motion, https://www.tandemmotion.com/
4   Splunk, https://www.splunk.com/
5   WiLD Leaders, https://www.wildleaders.org/

Scan Findings

The team employed multiple methods to collect information and data. From information and data collected, the team worked to develop findings and formulate conclusions, which were then organized into recommendations. This chapter presents information collected through these methods. The methods include a desk scan performed by a subject matter expert (SME), circulation of a set of amplifying questions the team developed from information collected through the desk scan and scan workshops.

LESSONS LEARNED
- Focus on middle management early they have access to an incredible network of experts and can help build that strategic work plan
- Successful implementation and institutionalization comes from front line supervisors, managers, and informal leaders within the agency
- A group effort translates to broader support — more branches = more leaves = more energy

Alaska DOT P&F

The following is a presentation of the information and data collected. A summary of the information collected through the desk scan is also presented. Information collected through the amplifying questions is not presented here in its entirety; however, the information can be found in **Appendix H**. A summary of the information collected during the scan meetings is presented near the end of this chapter.

Desk Scan

The purpose of the desk scan is to inform the scan team of SWM programs and elements that are in use by transportation agencies, other public sector organizations, and private sector organizations and that can be easily adapted. desk scan activities include scanning the literature, analyzing secondary data, conducting phone interviews, and creating a list of potential host agencies.

The results of the desk scan were used to develop a list of potential agencies to be studied, referred to as host agencies in scan parlance, and the creation of the amplifying questions (AQ).

The term host agency refers to an agency the scan team invites to present at a scan workshop. While at the workshop, a host agency's representatives share information regarding SWM activities in which their agency is engaged. Team members have an opportunity to question host agency representatives and have informal conversations concerning their agency's SWM activities.

It was determined that numerous DOTs have implemented SWM programs or SWM elements within the public-sector transportation community. Available information is available on individual state DOT websites in the form of recruitment pages and recruitment videos, pamphlets, policies, or memorandums.

Numerous federal agencies have SWM plans in place. Federal agencies have been conducting workforce management planning for some time. Many have well-established SWM planning functions, with successful models and tools that DOTs can adapt. Some states have adapted the federal Office of Personnel Management's workforce management model[6]. Non-transportation groups are active in this area. The International Public Management Association for Human Resources[7] and the Center for Energy Workforce Development[8] are two examples. Many of the Big Tech companies have active and ongoing workforce management programs, including Microsoft, Facebook, and Google.

The desk scan revealed that there are DOTs that have or had a formal plan that describes what the agency will do to ensure its employees have the mission-critical competencies required to carry out the agency's strategic goals. The plan includes workforce planning and deployment, including succession planning, recruiting and retaining talent, achieving performance goals, and addressing unique programmatic challenges.

The desk scan also found there are DOTs that do not have a holistic SWM plan. Instead, some DOTs have employed certain individual elements, such as employee development, employee engagement, forecasting, KM, recruitment, and succession planning activities, to name a few.

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6   Office of Personnel Management,
     https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/strategic-alignment/workforceplanning.pdf

7   International Public Management Association for Human Resources, https://www.ipma-hr.org/

8   the Center for Energy Workforce Development, https://cewd.org/

Desk Scan Findings

This section presents a sample of the findings from the desk scan. The desk scan revealed that there are some states that follow a defined strategic workforce plan model and there are others that employ activities such as workforce development or succession planning that are often included in a strategic workforce plan. The following section presents information from these two categories.

State DOTs Following a Strategic Workforce Management Model

The following DOTs have a clearly defined SWMP. Each DOT has either developed its own workforce management model or has adopted a workforce management model.

Alaska

The Alaska Department of Transportation and Public Facilities (Alaska DOT&PF) published its first agency workforce plan in March 2013. Alaska DOT&PF leadership began work on its Workforce Excellence program in FY2012. The workforce plan uses a four-phase approach

- Phase 1 – Acceptance, Sponsorship and Strategic Direction
- Phase 2 – Supply, Demand, and Gap Analysis
- Phase 3 – Develop and Implement Action Plan
- Phase 4 – Monitor, Evaluate and Revise

The 2019 workforce management plan (WMP) integrates six elements:

- Employee recognition
- Employee wellness and engagement
- KM
- Modern work environment
- Succession planning
- Workforce development

Alaska DOT&PF's workforce management team used the USDOT's Human Capital Management Guide to Workforce Planning[9] as a guide and participated in a peer exchange with Iowa DOT to develop Alaska's first SWMP.

Alaska's Division of Personnel and Labor Relations developed guidance, tools, and other resources for Alaska state agencies to use in the development of workforce plans. It uses a four-phase model that includes:

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9   Human Capital Management Guide to Workforce Planning,
     https://www.opm.gov/policy-data-oversight/human-capital-management/hiring-reform/wfpguide.pdf

- Define the Future

- Analyze Current Workforce

- Close the Gap

- Monitor, Evaluate and Revise

Rose, Thorn, Bud Exercise

Each Scan Day ended in a group discussin using the Rose, Thorn, Bud method for identifying findings as positive, negative, or having potential.

ROSE = something positive

THORN = something more of a challenge

BUD = a new goal, insight, or possibility

California

Caltrans's Human Resources provides workforce management support through guidance, a toolkit, and training. The agency uses a five-phase model[10] that includes setting strategic direction, gathering and analyzing department data, developing workforce strategies and plan, implementing strategies, and evaluating the workforce plan. A workforce plan for limited occupations was implemented in 2010. It follows a seven-phase model that includes reviewing the strategic plan, identifying work functions, identifying staffing requirements, projecting workforce supply, analyzing workforce gaps, developing priorities, implementing solutions, and evaluating the plan.

Georgia

GDOT is one of a few DOTs where state regulations require that state agencies develop a workforce plan as part of its strategic plan: "Each agency shall develop a workforce plan as a component of the strategic plan, as required by Georgia Code, Section 45-12-177." The Georgia Department of Administrative Services11 provides WFP resources to its agencies including a WFP checklist, guidelines, model, and training presentation. The WFP is a simplified model with four phases: forecast, analyze, develop, implement, and evaluate. GDOT has adapted the simplified model. Human Resources (HR) staff works with individual office's managers to determine staffing gaps and develop staffing strategies and training and development strategies.

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10 California Department of Human Resources,
    https://www.calhr.ca.gov/state-hr-professionals/Pages/state-of-california-workforce-planning-model.aspx
11 Georgia Department of Administrative Services,
    http://doas.ga.gov/human-resources-administration/hr-tools/workforce-planning

LESSONS LEARNED
IMPLEMENTING STRATEGIC WORKFORCE MANAGEMENT PLAN

- GATHERING SME FEEDBACK BEFORE MANDATING A PLAN IS IMPORTANT FOR BUY-IN AND TO LEARN DETAILS OF THE PROCESS THAT WILL ENSURE ITS SUCCESS.

- OVERSIGHT OF BACK-END PART OF PROCESS (NICHE KNOWLEDGE THAT WAS NOT SHARED) THAT DELAYED OUR INITIAL ROLL-OUT. THIS LESSON TAUGHT US TO BETTER IDENTIFY KEY STAKEHOLDERS AND THEIR ROLES IN THE PROCESS.

- WE RAN INTO RESISTANCE FROM INTERNAL STAKEHOLDERS AND DID NOT FACTOR IN THE EXTENT OF PARTICIPATION WE WOULD NEED ON THEIR END TO SUCCESSFULLY ROLL OUT THE PLAN.

MDOT SHA

MD SHA is partnering with the Schaefer Center for Public Policy at the University of Baltimore College of Public Affairs to develop its strategic workforce plan. The process involves several phases, including forming a steering committee; conducting a strengths, weaknesses, opportunities, and threats (SWOT) analysis; and conducting staffing and job analysis. The workforce management model includes the following areas:

- Business planning

- Strategic staffing

- Succession planning

- KM

- The State Highway Administration University

Maryland's workforce management efforts are discussed in a report written by Ann Cotton, director of the Schaefer Center for Public Policy, University of Baltimore.[12]

As of January 2018, MDOT SHA began:

- Forming the MDOT SHA Organizational Modernization Steering Committee

- Conducting a SWOT analysis of senior management

- Reviewing highway administration structures and staffing in Maryland and across the U.S.

- Assessing office-level and district-level staffing

- Assessing office-level and district-level organization

- Completing staffing and job analysis based on the organizational assessments

- Creating an MDOT SHA organizational assessment

- Reporting the findings (Momentum (currently Northbound News), January 2018[13]).

Texas

Texas has an agency workforce plan that is incorporated into TxDOT's strategic plan. Among other activities, TxDOT conducts an employee engagement survey and offers a work-life balance/wellness program. Additionally, Texas's model includes supply analysis and demand analysis. Its analysis includes critical functions and competency needs. Included in its workforce management strategies to close the gaps are strategies to address organizational structure, strategic staffing and recruiting, compensation, knowledge transfer, surplus or shortage of workers or skills, leadership and business development, and operations. ("2019-2023 Strategic Plan[14]," June 8, 2018)

In addition, the agency's "Knowledge Fair & Café for Communities of Practice" is of interest to the team as is a proactive element of KM. The program kicked off in 2019 and was scheduled to continue in 2020.

State DOTs Employing Elements of Strategic Workforce Management

The following DOTs employ recognized elements of a WMP without a unifying workforce management model.

Arkansas

Improving employee engagement is a strategic goal of ARDOT's strategic plan. Investing in employee career development and promoting teamwork, accountability, and innovation are key objectives on which the DOT is currently focused. The DOT invested in improving recruitment and retention activities that led to the development of an online applicant tracking and hiring system.

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12 Cotton, A. (2007), Seven Steps of Effective Workforce Planning, http://www.businessofgovernment.org/sites/default/files/CottenReport.pdf
13 Momentum (currently Northbound News), January 2018 https://www.txdot.gov/government/legislative/state-affairs/strategic-plan.html
14 Texas DOT 2019-2023 Strategic Plan, https://www.txdot.gov/government/legislative/state-affairs/strategic-plan.html

The scan team was interested in learning more about ARDOT's online applicant tracking and hiring system. According to ARDOT's published recruiting strategy, the system automated the process of posting jobs and tracking talent and saved the agency time and money. Referred to as the Hiring Management Console, the process streamlined and accelerated the previous hiring process by providing:

- Electronic requisition submission for job advertisements

- Automatic job postings

- Online application process for potential candidates

- Automated interview scheduling

- Electronic hiring and onboarding process

- Reporting and analytics

Colorado

In addition to the basic elements of SWM, Colorado DOT (CDOT) employs a robust change management program. The scan team views change management as a critical aspect of SWM. CDOT's efforts have led to the development of case studies that are posted on the DOT's website.

From CDOT's story, we learn that CDOT needed to become more efficient by integrating process improvement and change management capabilities in its underfunded and geographically spread-out department.

CDOT's solution leaders invested in a robust change management capability plan that included:

- Integrating change management as a key enabler of top-priority strategic initiatives

- Adopting the Prosci ADKAR® Model[15] to build a common language for change management

- Training change managers, frontline managers, executives, and employees in change management capability

- Promoting change management capability through a Change Agent Network[16].

The plan resulted in ongoing performance improvements recognized by the transportation industry.

Minnesota

Minnesota DOT (MnDOT) is currently focused on its future workforce. Rather than a workforce management model approach, MnDOT's workforce plan is integrated into the agency's strategic operating plan. The agency's approach to adapting its workforce to the changing environment involves employing elements typically included in a workforce plan. Activities include:

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15 Prosci® Inc., https://www.prosci.com
16 Colorado Department of Transportation,
    https://www.codot.gov/business/process-improvement/change-management/how-the-change-agent-network-has-transformed-cdot

- Conduct an internal workforce analysis
- Expand on strategic staffing efforts
- Develop career paths and developmental plans
- Establish a workforce management council
- Assess environmental trends and prepare for changes
- Work on workforce development
- Promote employee engagement
- Focus on staff retention

Beyond the basic elements of SWM, MnDOT has established a diverse set of programs. Under the umbrella of its Career Pathways program, individual programs have been established that address MnDOT's future recruitment, development, and retention needs. For example, MnDOT's Phoenix Internship Program offers one-year internships for high school juniors. Individuals in the program are paid to work 15 hours per week. Eligible juniors must maintain a 3.0 GPA and meet certain other requirements.

Amplifying Questions

During the initial team meetings, the team began developing a list of AQ to help in the discussion with host agency representatives and to provide additional insights about the scan's purpose. The questions are focused on the areas the team deems most critical to developing an understanding of how agencies are using SWM.

The list of amplifying questions is presented in its entirety in Appendix G.

Employee engagement as a strategic goal.

The Team was interested in collecting information from participating agencies in nine broad topic areas:

- General Information
- Human Capital
- Design and Development
- Implementation
- Performance Measures/Management
- Organizational
- Forecasting
- Plan Elements
- Resources

General Information

The team considered it important to capture information from the invited host agencies regarding agency size and organizational structure, relevant workforce demographic data, whether the agency had an SWM plan, and information regarding regulations and policies that drive their plans or SWM elements.

Human Capital

The team questioned host agency representatives about what human capital elements are included in their workforce management plan and/or activities. The team was interested in learning if agencies were conducting workforce forecasting activities and succession planning, what employee development activities were conducted, if an employee wellness program existed, and if employee engagement was a concern. The team asked host agencies:

- How are the human capital elements prioritized or targeted for use?
- Are SWM activities tied to the agency's strategic plan or mission?
- How are human capital strategies administered?
- Who is the agency's point of contact on workforce management and human capital strategies?

Design and Development

The team was aware of states that have SWM plans or that implemented activities common to SWM, such as KM and succession planning. It wanted to know if states' plans were modeled after another organization's plan (e.g., DOT, Society of Human Resource Management, International Public Management Association for Human Resources, or Federal Office of Personnel Management).

Implementation

The team was interested in learning who owns the plan once it is ready for implementation and what lessons were learned from implementing the plan. It wanted to know how often a plan was updated. More importantly, the team was interested in learning how to make an SWMP sustainable through changes in the influences that impact an organization, such as a change in leadership.

Performance Measures/Management

The team was interested in learning how agencies guided by an SWM plan or elements of a plan measure success. Therefore, it asked host agencies how they measured success, what worked, what did not work, what they would do differently, if there were any unexpected results, how the agencies communicated with the organization about the SWM plan, and how they measured employee awareness about the SWM plan.

Organizational

The team is aware of the magnitude of SWM in a DOT and the importance of its success when implemented. Therefore, there is great interest in organizational issues related to the development, implementation, and maintenance of an SWM plan and its various elements. Most important is the support of all levels of management and the workforce itself (i.e., did management drive SWM or was it a grassroots effort). Naturally, the team wanted to know about senior management involvement, which aspects of SWM have operationalized, and what obstacles had to be overcome.

Forecasting

- The team considered forecasting a critical element of SWM planning. Therefore, members were interested in learning what critical workforce trends agencies are facing, what the future looks like in terms of skills and competencies, what role turnover plays, and will the required employees for future program delivery come from external or internal sources. Other specific items of interest include:
  - Does your agency develop a set of competency standards for critical positions?
  - Does your agency have a job family matrix or career progression documentation?
  - What sources of data do you use or have access to?

Plan Elements

The team was interested in learning the results of four specific SWM elements: employee recognition, succession planning, onboarding, and the modern work environment. Also of interest was which SWM elements led to the greatest success or the least success in terms of meeting established goals. One of the scan's goals is to create a national toolkit of leading practices. The team defines a leading practice as an SWM element or program that is effective, innovative, sustainable, and forward looking.

Resources

The team was interested in learning what resources are required for the successful development, implementation, and operation of SWM and its individual elements. Host agencies were asked questions that targeted staffing costs; technology costs; whether costs were included in the organizations budget; and whether SWM efforts were managed by a team or committee and, if so, what divisions are represented on the SWM team or committee.

An important element of the amplifying questions submitted to each of the host agencies was a glossary of terms. The Team felt was important to clearly define the terms used in the AQ. Important distinctions are made in the Glossary between strategic workforce plan and workforce management plan. The Glossary includes the Team's definition of an innovative practice taken from comments made from Amanda Holland, Scan Chair.

Amplifying Questions Findings

The invited agencies were sent AQ in advance of the scan meeting and asked to prepare and submit their responses prior to the meeting. In most cases the invited agencies used their responses to questions as the basis for their presentation. In other cases, their responses to the AQ were an extension of their presentation. From the scan team's perspective, the AQ serve as another source of valuable information.

A portion of the findings from the submitted responses to the amplifying questions are presented in the following section. The following responses are taken from the Plan Elements section.

Employee Recognition

In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

- **Pennsylvania Department of Transportation (PennDOT)** – Governor's Award for Excellence, Star of Excellence, IdeaLink, longevity, exceptional pay increases, and individual organization recognition.

- **Alaska DOT&PF** has several internal awards, such as the Extra Mile Award, and there is a governor-sponsored, enterprise-wide recognition program, the Denali Peak Performance program.

- **MDOT SHA**

  - **Project Green Light**– Our previous administrator implemented a program called Project Green Light. This allowed any employee in the organization to submit an idea and present it to the administrator personally on a dedicated day of the year. Any idea that the administrator liked and felt was feasible would be given the "green light" to implement in the organization.

  - *Momentum* – Our agency has a weekly newsletter that highlights innovation and outstanding performance throughout our organization.

  - **Excellerator** – This is an internal meeting with all MDOT SHA Transportation Business Units that is held to discuss various standards that MDOT SHA requires the employees to always meet and to develop innovative ideas on how to improve performance in these key areas.

  - **Maryland Quality Initiative** – This is a conference that brings together MDOT SHA employees and other organizations in the private industry that helps lead innovation in transportation project delivery. At this event, MDOT SHA employees are recognized on stage with other private industry leaders for their work in innovation and project delivery.

- **ARDOT** – Feedback rewards/badges for innovative ideas, teamwork, helping others, etc.

- **MnDOT** – Above and Beyond Awards for going above and beyond job duties and achievement awards (a monetary lump sum) allowed under our collective bargaining agreements for work that falls under the criteria of our policy (outstanding performance).

Succession Planning

How does your agency anticipate and plan for future needs and key staff positions?

- **PennDOT** – Retirement eligibility projection reports are prepared/reviewed semiannually. A written and electronic career development planning tool has been distributed to foster dialogue between employees and supervisors.

- **Alaska DOT&PF** – Retirement projections by job function/discipline help to pinpoint vulnerable areas/positions. Collective bargaining places restrictions on succession planning activities.

- **MDOT SHA**

- **Rudimentary** – We interview hundreds of candidates through a standardized process, map their potential placement in the organization, and fill hundreds of current and future vacancies. This allows us to keep a constant list of candidates to immediately address staffing needs as they arise.

- **Advanced** – HR business partners meet with hiring managers to help them plan for future talent needs, fill in key competency and career progression gaps, and solve salary challenges to increase retention for current and future employees

- **Cross-training** – We have implemented rotation programs throughout certain parts of the agency that allow individuals to gain knowledge to grow and fill gaps within the organization as they occur.

- **ARDOT** is in the process of analyzing critical positions now.

- **MnDOT** – We run retirement eligibility projections on targeted jobs of where we will see the highest retirement rates. We utilize mobility/stretch assignments to give employees different experiences. We have many "grow your own" programs where we try to grow talent within the organization.

Onboarding

What techniques have proved successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

- **Pennsylvania DOT (PennDOT)** – An electronic tool is used to automatically provide the necessary overview and paperwork to complete. In addition, designated coordinators conduct face-to-face sessions.

- **Alaska DOT P&F** – A custom interactive online onboarding system brings employees up to speed on the department culture and mission quickly.

- **MDOT SHA**

  - New employee orientation training includes a full day where new employees meet staff throughout the organization. They learn the mission statement, understand the organizational structure, and learn the benefits provided in the organization (e.g., promotion opportunities and leave).

  - Onboarding has been revamped. All tools are online for supervisors.

  - Two major things: creating awareness of tools and resources and providing a check-in to see how they are helping.

  - What did not get past the pilot phase was surveying the employees (i.e., a 30-day check-in).

  - Still in data collection phase to determine if it has changed anything.

  - Has sent survey to employees who started January 1.

  - Training on onboarding will be implemented into our Supervisor Training Program.

  - Emphasize the e-learning component in Cornerstone for individuals who have already completed supervisor training so they do not have to take it again.

- **ARDOT** – We recently launched an updated new employee orientation program where new hires receive historical information about the agency and are assigned a "buddy" to show them the ropes for the first few months. Some of our onboarding is now done electronically through our hiring management system. Some of our information-sharing is done through Achieving Career Excellence (ACE) electronically, such as having employees sign off on new policies or indicate their understanding of a large change in our processes.

- **MnDOT** – Virtual new employee orientation for the information a new employee needs to know in a short period. Supervisory checklists for before hire, within 30 days, 60 days, etc., up to the first six months of employment. In some areas where retention has been more difficult, they have incorporated the engagement interview approach every three, six, and nine months up to the end of the probationary period with different interviewers (e.g., immediate supervisor, HR, manager).

Modern Work Environment

How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

- **PennDOT** - Nursing rooms, telework, alternate work schedules, remote supervision, workforce diversity and inclusion training, modern meeting rooms, PC refresh, and optional benefits (e.g., pet insurance) have been introduced to employees.

- **Alaska DOT&PF** - Increased alternate workweek schedules and teleworking opportunities.

- **MDOT SHA:**

  - Telework

  - Leave Bank

  - Virtual teams – Microsoft teams allows us to work remotely across the entire state. Our interviews always incorporate an element of measuring a candidates' affinity toward working in a diverse and inclusive environment, which speaks to the value our organization holds toward diversity in the workplace.

- **ARDOT** – We are amid a pilot Infant-at-Work program now. We allow limited telework in specific situations. We promote workplace diversity, inclusion, and civility through training programs that all employees are required to attend. We are also in the process of developing a workplace violence prevention program that is intended to be proactive in reducing the likelihood of a workplace violence incident at ARDOT. We are moving more systems to the cloud to allow people to work anytime, anywhere, and on any device.

- **MnDOT** – Lactation rooms, quiet rooms (e.g., for prayer or rest or if having a minor headache), telework, flexible schedules, employee resource groups, paid parental leave (state law).
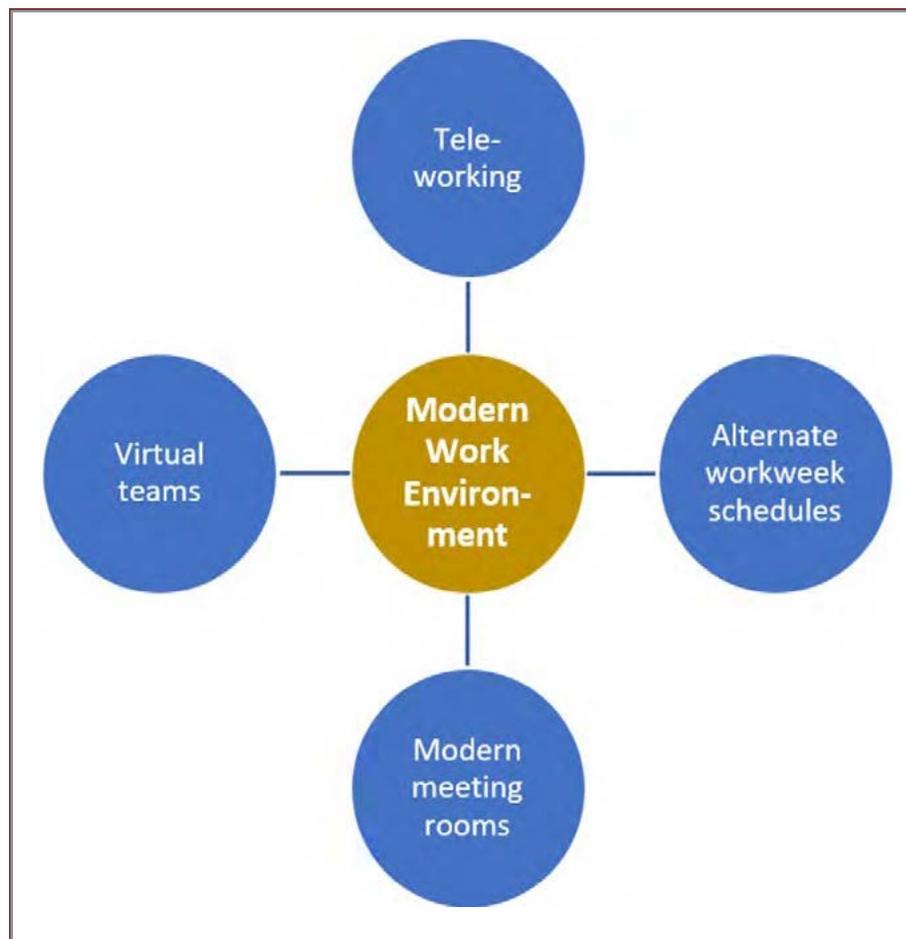
Figure 2-1. Modern work environment and components

Scan Meetings

Presentations, Findings, and Conclusions

This section provides a summary of the presentations delivered during Weeks One and Two, results of discussions following each day's and week's presentations, and the team's findings and conclusions resulting from the two weeks of information sharing. It also provides a suggested SWMP model for organizations to adopt that are considering implementing an SWMP.

Week One Summary of Presentations

The following section summarizes the host state presentations during week one. Each invited host delivered a presentation on strategic workforce planning efforts. The SME made an abbreviated presentation for Missouri DOT (MoDOT) and Virginia DOT (VDOT); the VDOT HR director phoned in following the presentation and answered questions regarding VDOT's workforce planning implementation.

Day 1
Colorado

CDOT representatives shared information on its change management programs. CDOT has successfully implemented progressive change and redefined how CDOT manages change.

CDOT employs 3,100 people. Its values include people, integrity, customer service, excellence, respect, and safety. Employees maintain 9,104 centerline miles of highway.

Employees are encouraged to take advantage of the multiple opportunities for growth and development. The opportunities include training through the Office of Employee Development, a Maintenance Training Academy, a Transportation Engineering Training Program, and educational and professional development reimbursement.

> *Change Agent Network (CAN) works across silos, does not supplant leadership, and consists of four roles of participation: 1) employees, 2) sponsors, 3) managers, and 4) change agents. CAN prepares participants through targeted role-based classes; training for each role (employee, sponsor, manager, change agent) is provided.*

According to Gary Vansuch, Director, Office of Process Improvement, change management is a key element of SWM, particularly in these times of frequent and substantial organizational transformation.

CDOT showcased its work to integrate process improvement and change management capabilities. The outcome of this effort led to a robust change management plan with multiple objectives including:

> *"1. Integrating change management as a key enabler of top-priority strategic initiatives*
>
> *2. Adopting the Prosci ADKAR® Model to build a common language for change management*
>
> *3. Training change managers, frontline managers, executives, and employees in change management capability*
>
> *4. Promoting change management capability through a Change Agent Network"*

(CDOT presentation slide 31)

Multiple elements make-up the overall change management program, including:

- A three-day change management course
- A change agent network (CAN)
- Communication plans
- Process improvement teams
- Executive sponsor individual development and training
- Coaching and mentoring

CDOT's CAN generated a lot of interest among those present at the meeting. The program works across silos, does not supplant leadership, and consists of four roles of participation: employees, sponsors, managers, and change agents. Vansuch reported that CAN prepares participants through targeted role-based classes; training for each role (e.g., employee, sponsor, manager, and change agent) is provided.

The CAN started in 2012 with 12 change agents. Initially centralized, CDOT determined that the best model is a decentralized one.

CDOT implemented Prosci methodology to facilitate its overall change management plan.

Georgia

GDOT has approximately 4,000 employees across seven districts and 35 offices. Georgia is a "right-to-work" and "at-will" state.

GDOT's agency goals include utilizing a performance-based management system to deliver its mission. To support this goal GDOT tied its overall mission to its district/office metrics and down to the individual employee's performance metrics. Examples of HR metrics are average number of days to fill a vacancy, percent of department end strength per authorized staffing level, and percent of relevant job courses reviewed.
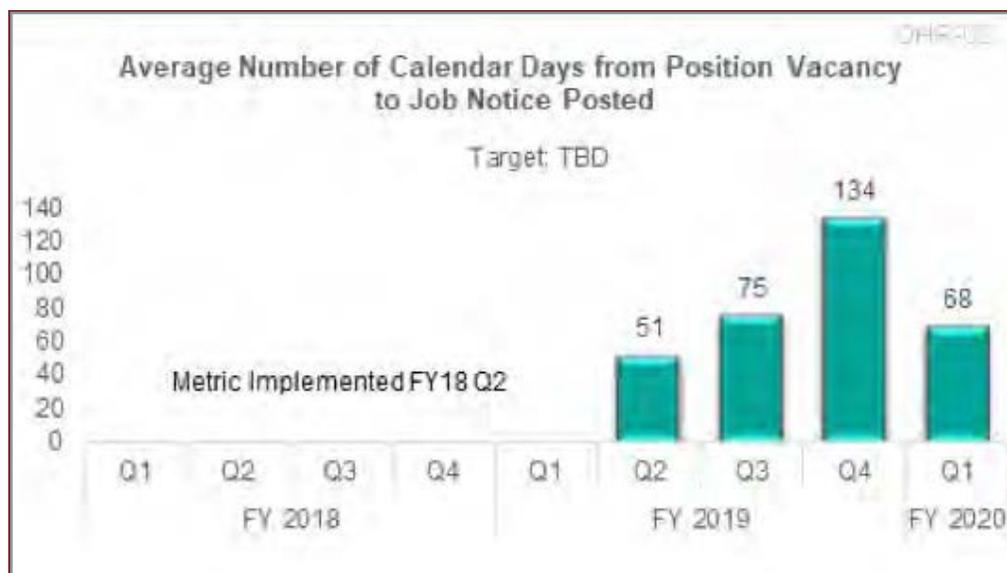
Figure 2-2. Example GDOT metrics

The presentation included information on national workforce trends and their impact to GDOT. A trend discussed and common to most DOTs is an increase in the number of employees eligible for retirement. Also mentioned is that employees entering the workforce today are interested in multiple careers throughout their work life, which is a shift from the "traditional" 30- to 40-year DOT career employee.

Information was shared concerning GDOT's workforce planning efforts underway since 2013. Efforts include forecasting – identifying the number of employees required to meet strategic objectives with a focus on delivering a transportation program with a smaller workforce.

Use of Workforce Data Analysis Tool to analyze retirement and turnover data and perform risk assessment, retirement projections, and network analysis.

GDOT shared information regarding its succession planning and knowledge transfer strategies. Strategies include new employee bootcamps, supervisor/manager development programs, and academies for foreman, area managers, and project engineers.

It was shared that GDOT worked with Georgia Tech (Georgia Institute of Technology) to develop a workforce data analysis tool. The tool allows GDOT to analyze retirement and turnover data and perform risk assessment, retirement projections, and network analysis. Analysis results aid in developing KM activities, succession planning efforts, recruitment plans, and performing other activities critical to strategic workforce planning.

Name	District-Area	Working Title	<0	0-1	1-3	3-5	5-10	>10	Tenure at Position	EIT	PE	Pay Grade	KLR-1
Abbott,Scott M	0-0	IT Support Specialist 3	1	0	0	0	0	0	5-10	No	No	K	Med
Abernathy,Doris Annette	0-0	Transportation Specialist 2	0	0	1	0	0	0	1-3	No	No	J	Low
Abikoye,Abolanle Kafayatu	0-0	Env Transportation Spec 3	0	0	0	0	0	1	1-3	No	No	J	Low
Adams,Archie Warren	0-0	Transportation Tech 4	0	0	0	0	0	1	5-10	No	No	H	Low
Adams,Edward D.	0-0	Mgr 1, Transport Specialist	0	0	0	1	0	0	1-3	No	No	N	Low
Adcock,Gary L.	0-0	Transportation Specialist 1	1	0	0	0	0	0	1-3	No	No	I	Med
Adejumo,Michelle Victoria	0-0	Civil Engineering 2	0	0	0	0	0	1	1-3	No	No	J	Low
Adelakun,Adebola Adebisi	0-0	Civil Engineering 3	0	0	0	0	0	1	1-3	Yes	Yes	K	Low
Adewale,Adesoji A	0-0	Program Mgr (Non-IT) 2	1	0	0	0	0	0	1-3	No	Yes	O	Med
Adkins Jr, Michael T.	0-0	Transportation Specialist 1	0	0	0	1	0	0	1-3	No	No	I	Low
Adkins,Cody Allen	0-0	HERO Tech 2	0	0	0	0	0	1	3-5	No	No	F	Low
Ahmed,Nasim	0-0	Info Security Analyst Spv	0	1	0	0	0	0	1-3	No	No	N	High
Ahmed,Yusuf Haui	0-0	Civil Engineering 3	0	0	0	0	0	1	1-3	Yes	No	K	Low
Ainsworth,Ronald J.	0-0	IT Support Specialist 3	0	0	0	0	0	1	3-5	No	No	K	Low
Total			275	200	197	283	814	2048					

Figure 2-3. Retirement projections from Georgia DOT's workforce data analysis tool

Day 2

California

Caltrans is the second largest organization in the State of California. Caltrans has oversight from the California State Transportation Agency, with over 20,000 employees, and is responsible for California's multimodal transportation system. Its workforce comprises four generations: traditional, Baby Boomers, Generation X, and Millennials (Generation Y). The largest generational representation are the Gen-Xers, followed closely by the Millennials. The state is divided into 12 districts. Unions have a strong presence in the state, with 21 different bargaining units.

It is worth noting that SWM at Caltrans is impacted by the strong union presence. With 14 out of 21 bargaining units represented, it is critical to coordinate workforce management efforts with the various unions.

Caltrans uses a cross-functional approach to workforce planning. Several business units have a role, including the Executive Office, the HR Office, Learning & Development, the Equal Employment Opportunity Program, and other groups.

Caltrans reported on an organizational health assessment that was conducted. The assessment's aim was to identify organizational strengths and weaknesses, evaluate employee perceptions and level of satisfaction, establish benchmark comparisons, and develop a list of findings and recommendations.

Additionally, Caltrans representatives reported they conduct an annual employee satisfaction survey, which tracks trends over a five year period and has a 25 to 30% response rate.

Caltrans shared information concerning a rapid hiring strategy it developed. The steps to rapid hiring are to post an advertisement to the examination and certification online system for 10 business days for various recruitments, create and distribute a flyer to universities and schools announcing the hiring effort, develop innovative interview questions based on organizational values, conduct a pre interview day to pre screen candidates, host an interview day, and host an after-event to complete the pre-employment documentation.

Other strategic activities discussed include:

- The Transportation Management Symposium.

- Career counseling – The goal is to establish a relationship, empower employees and work together to help them accomplish their career goals Additionally, career counseling helps employees identify career options and career opportunities.

- Six-month voluntary mentor program

- Leadership Interview Series – Highlights executives' journey to leadership and lessons learned.

Organizational Excellence

Be a national leader in delivering quality service through excellent employee performance, public communication, and accountability.

Promote a positive work environment and implement a management system to maximize accomplishments, encourage innovation and creativity, and ensure staff performance is aligned with Department and State strategic goals.

Improve internal and external communication to better demonstrate professionalism and service levels to the public and other stakeholders and positively affect employee morale.

Cultivate an environment that encourages proper identification, management, and communication and makes intelligent decisions based on that analysis.

Figure 2-4. California DOT presentation, March 2019

Arkansas

ARDOT employs approximately 3,750 full-time employees. Of those, 75% are in Operations, which has a 12% turnover rate. The Arkansas State Highway Commission appoints the DOT director.

ARDOT's Human Resources Division focused on process efficiencies and employee engagement by implementing the following initiatives:

- Converted from a paper-based application tracking/hiring system to an electronic one. Under the new hiring system, the requisition approval was reduced from eight days to one and approval to hire was reduced from five days to one.

- Implemented the ACE program in a multi-phased fashion to address the lack of salary increases to reward good performance. Additional outcomes of the program's implementation included the consolidation of job titles and the creation of a select performance system.
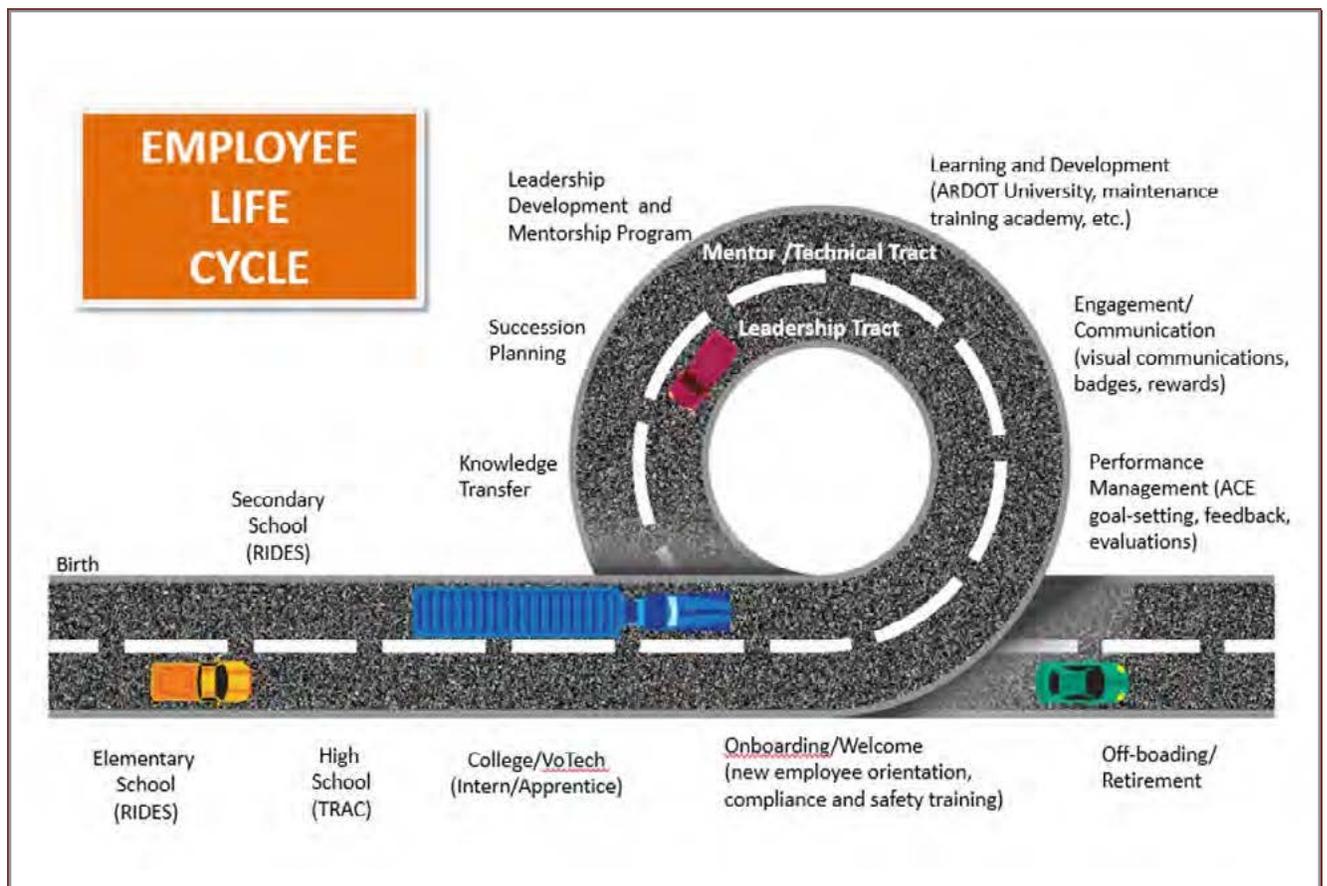
Figure 2-5. Employee life cycle

- Developed and implemented an employee engagement plan and employee life cycle. Output from this effort included 10 engagement strategies ranging from the use of project teams on internally focused projects (e.g., scholarship program, Infant-at-Work pilot, rewards, and recognition) to the use of social media and technology to the development and implementation of the Employee Life Cycle.

The Employee Life Cycle graphically depicts employee activities focused on recruitment, the hiring process, onboarding, performance, engagement, communication, learning and development, leadership development and mentorship, succession planning, knowledge transfer, and offboarding. In other words, the Employee Life Cycle represents the career of a typical ARDOT employee from recruitment to retirement. Employees have an opportunity to choose between a technical or leadership path.

ARDOT has some great "modern work environment" examples. For example, it has a wellness coordinator who plans and incorporates fitness and wellness challenges into the workplace. A skin cancer awareness program, gym discounts, and other examples were also mentioned.

Day 3
Maryland

MD SHA has about 3,000 employees and a functional organizational structure. Its structure's leadership comprises an administrator and three deputy administrators over three different areas of the organization (Planning, Operations, and Administration). Offices fall under one of the three deputy administrator areas; directors run the offices. Within each office is generally a structure that allows for division chiefs, assistant division chiefs, team leaders, and non-supervisory employees.

> *Communication efforts on workforce planning on initiatives: challenge across the agency; number of employees, locations, culture pockets*

MDOT SHA recently completed an organizational modernization and workforce assessment led by the University of Baltimore Schaefer Center for Public Policy. The results serve as the foundation for the agency's strategic approach. The steering committee establishes priorities in partnership with its work groups. Project task teams are organized to design, develop, and implement identified initiatives.

One employee development initiative that was discussed is the department's two-phase maintenance training program. The program includes a weekend event titled Office of Administration Facility Maintenance Technician Camp. Attended by new hires, team leaders, and district engineers, it outlines the MDOT SHA mission and career program attendees participate in introspective activities to engage employees. SMEs in Operations developed the second half of the development program. The program helps employees learn the skills they need to grow in the organization.

MDOT SHA's presentation included information on the following SWM activities:

- Statewide recruitment (Operations)
- Retention strategies (Operations)
- Statewide recruitment (Engineering)
- Reorganization efforts
- Vacancy management
- Future of workforce planning

MDOT SHA "elevated" the role and practice of SWM. For example, positions were approved for Human Resource Business Partners with a focus on the workforce planning. Individuals in those positions are responsible for organizational "optimization," which includes system modernization, organization structure, business process innovation, change management, and KM.

MDOT SHA standardized its recruitment efforts. These changes in recruitment led to single job postings, the use of multiple interview panels across the state, a single interview packet, standardized training for employees participating in the recruitment process, and auditing of interview packets. At the time of the San Diego session, Maryland had standardized statewide recruitment in the Operations

and Engineering divisions, with other divisions under consideration for standardization.

In addition to standardizing recruitment efforts, the Maryland presentation included a discussion of its Vacancy Management System. The highlight of this system is its Personal Identification Number (PIN) Pool Policy, which addresses vacancies older than nine months. A PIN Pool committee and a full-time Vacancy Manager administer the policy, which includes prerequisites such as a 5% or lower vacancy rate and active recruiting efforts. Additionally, the policy requires PIN requests to come through the HR Office.

Minnesota

MnDOT is the second largest agency in the state and employs 5,300 employees in eight districts. It is a data-driven organization that has experienced growth in its workforce since FY2008. MnDOT operates from a five-year strategic operating plan that is intended to "provide leadership direction to advance the Strategic Operating Plan (SOP) Workforce Excellence goal and strategies."

MnDOT representatives shared information regarding its HR – Customer-Centered Culture project. The project produced three checklists, one each for HR hiring, orientation, and position posting.
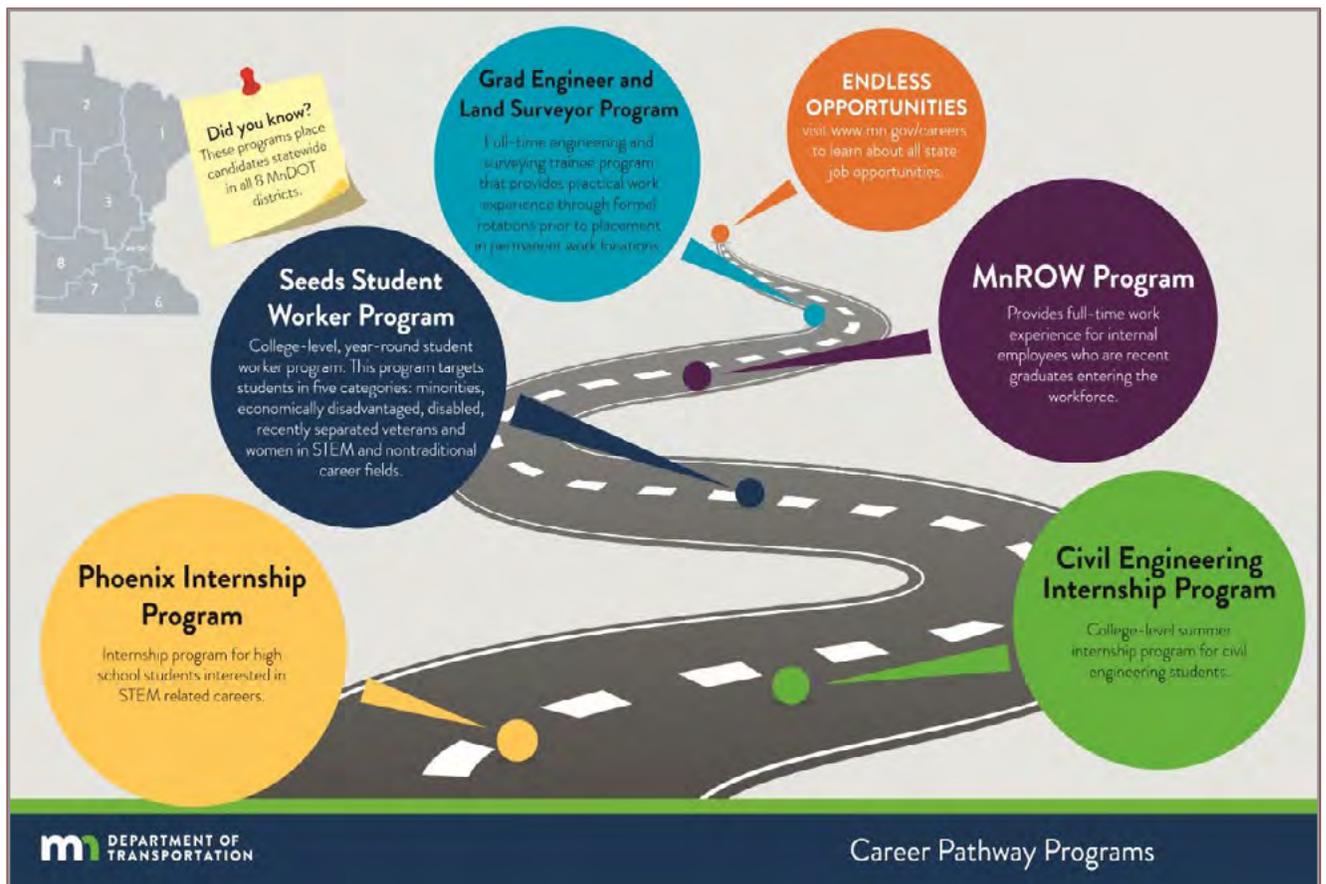
Figure 2-6. Minnesota DOT's Career Pathways programs

Minnesota presented information on its Career Pathway Programs[17]. Like many of the presenting host agencies, MnDOT's recruitment strategies (programs) target urban youth, entry-level roadway/maintenance workers, high school students, college-level civil engineering students, graduate civil engineers, graduate land surveyors, and internal employees. MnDOT stands apart from other DOTs in its efforts to recruit minorities and women with its Seed Student Worker Program. The program aims to recruit students in five predefined categories: minorities, economically disadvantaged, persons with disabilities, recently separated veterans, and women in STEM and nontraditional career fields.

Additional topics covered in MnDOT's workforce planning presentation include:

- Employee engagement

- Engagement survey

- Leadership development

- Diversity and inclusion

- Employee resource groups

- Career paths

- Applicant sourcing and referrals

- Recruitment/retention incentives (e.g., signing bonus and metro night differential) for hard-to-fill positions with geographic constraints

- Exit interviews

- Future possibilities (retirement risk assessment)

- Mobility program for cross-training/career exploration

Day 4

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17 Minnesota Department of Transportation,
    http://www.dot.state.mn.us/careers/student-grad.html
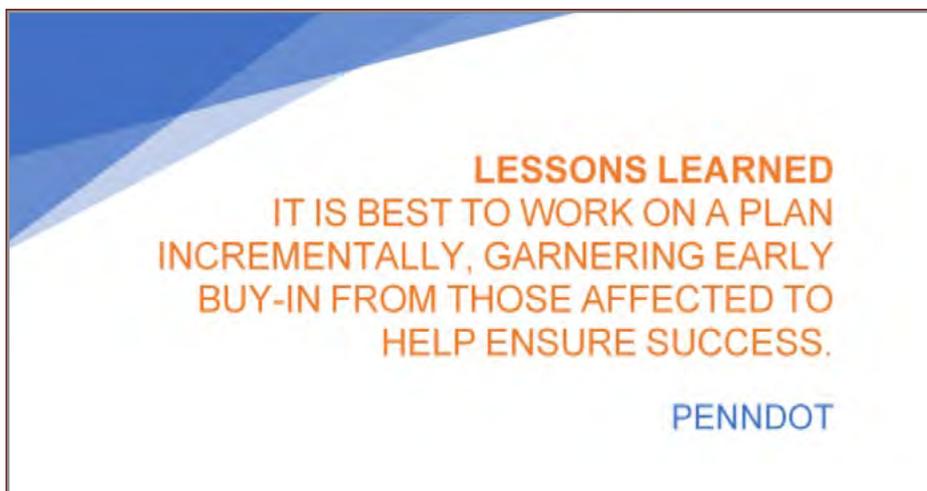
Pennsylvania

PennDOT has 11,500 permanent employees with a workforce that encompasses four generations (Traditional, Baby Boomers, Gen X, and Gen Y) and is responsible for the fifth largest state-owned roadway system. In addition, PennDOT manages approximately 2,000 wage positions that fluctuate between seasons.

The agency's presentation emphasized various recruitment activities PennDOT employs, including student outreach job shadow, secondary school intern program (School to Employment at PennDOT), college summer internship program, and summer and winter maintenance programs.

The department's strategic recruitment plan has as its primary goals:

- Increase participation in career fairs

- Increase the hiring of women and minorities

- Increase the use of social media

- Modernize the marketing approach to recruitment

- Increase the use of marketing literature (high-quality brochures, etc.)

- Capture demographic and contact information on job fair attendees and applicants

PennDOT has produced a video "This is PennDOT"[18] to aid in its recruitment efforts and has a winter recruitment video. Video segments are available that inform potential employees of various positions in the department.

The programs offer activities, education, and career opportunities, such as job shadowing, career exploration events, onsite tours, and presenters in the classroom, for students from grades 3 through 12. The summer maintenance program, for example, "Provides summer seasonal employment to post-high school students (age 18 and above), or upcoming college freshman, and adults." The internship program stands out as a model program as it has produced over 5,000 interns over the past five years.

PennDOT offers workforce/succession planning training to supervisors and managers that includes key elements, such as defining workforce planning and succession planning, and strategies for managing your agency's workforce. In addition, other elements include planning your agency's workforce and completing a career development plan. A web-based course is available as refresher and instruction for new supervisors and managers.

Vermont

The Vermont Agency of Transportation (VTrans) employs 1,271 full-time professionals responsible for designing, building, maintaining, and operating 10 state airports, 600 miles of rail, 208 miles of paved roads, 96 facilities, and plowing 2.6 million lane miles.

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18 This Is PennDOT, 2018, 03:15–05:21

VTrans representatives delivered Part 1 of a two-part presentation at the San Diego meeting. Part 2 was delivered during the second week in October 2020.

The Office of Organizational Development and the Office of Civil Rights & Labor Compliance work closely together to develop and implement VTrans's SWMP, which was approved in the spring of 2019. The SWMP establishes that the organization's number one goal is to promote organizational excellence, which is achieved by attracting, developing, and retaining a talented, diverse, and engaged workforce.

One outcome was the establishment of eight workforce committees:

- Managers & Supervisors
- Learning & Development
- Employee Engagement
- Customer Service
- Employee Retention & Quality of Life
- Civility & Respect
- Onboarding
- Outreach, Recruitment & Hiring

Information was shared regarding VTrans's civility policies, practices, and training initiatives. The agency mainstreamed civil rights into all workforce planning activities, including, outreach, recruitment, hiring, onboarding, and civility training. A workplace civility and unconscious bias course was delivered in 2019, with approximately 75% of employees participating.

As with other transportation agencies, outreach programs are critical to the success of VTrans's recruitment efforts. The presentation highlighted various outreach programs, including:

- National Summer Transportation Institute
- Intern Maintenance Worker Program
- Women Can Do!
- Community-Based Learning
- Job Shadows
- Facilities Tours
- Mock Interviews
- Construction Career Days

Figure 2-7. 2019 Vermont DOT's Women Can Do Program

To facilitate recruitment efforts, VTrans produced a recruitment video[19] and employs recruitment pages its external recruiting website[20] .

The presentation also covered information regarding activities focused on other key workforce activities, such as the proactive interview and hiring process, (e.g., the use of neutral parties on interview panels and mandatory interviews for all eligible candidates in underrepresented/underutilized job classes), comprehensive onboarding, and new employee welcome program. The new onboarding process includes a roadmap for the first 180 days of employment. The use of a competency model for analyzing position requirements, job specifications, interview questions, classification, and selection competencies in the hiring process have served to strengthen the department's hiring process.

Day 5
Missouri and Virginia

The SME delivered a presentation in which information was shared regarding strategic workforce planning activities at MoDOT and VDOT. Following the presentation, Cynthia Bullock, VDOT's Human Resources Director/Division Administrator, called in to answer questions asked of her by the scan team and others present.

Scan team members and participants heard that nearly half of MoDOT's employees will be eligible for retirement in 10 years and that the salaries for key MoDOT positions, such as Maintenance Crew Leader, Maintenance Supervisor, and Civil Engineer, are below private sector salaries. In 2017, MoDOT's turnover rate was 10 percent which is the equivalent of a completely new workforce every 10 years. MoDOT ranks among the top 20 DOTs in the nation in terms of cost-effectiveness per lane mile.

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19 Working at VTrans, 2016, 03:15–05:21
20 Vermont Agency of Transportation, https://vtrans.vermont.gov/careers

MoDOT operates an apprenticeship program that is recognized by the U.S. Department of Labor. Program participants receive a Registered Apprenticeship certificate provided by the U.S. Department of Labor that is nationally recognized. In some cases, veterans are eligible for a monthly stipend in addition to their MoDOT wages.

MoDOT fosters a culture of diversity through its diversity education events, diversity task forces, and Employee Advisory Council. Of note are MoDOT's diversity and inclusion factors in its employee engagement survey.

VDOT worked with Deloitte to develop and implement its SWMP. The plan initially identified 10 strategic initiatives:

- Tech fluency
- Cyber-risk awareness
- Two-way mentoring
- Interactive field-based learning
- Bot management
- Future skills building
- Information technology strategy
- Innovation strategy
- Data science hub
- Future workplace
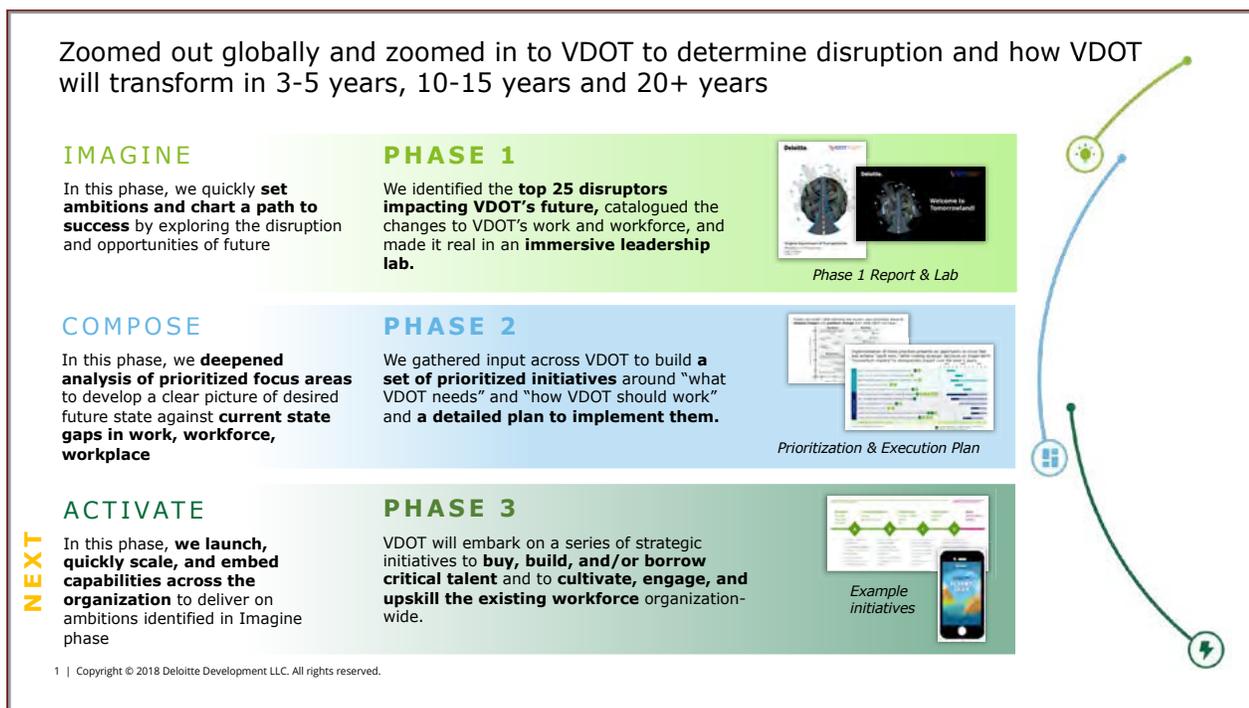
Figure 2-8. Virginia DOT presentation, May 2019

Each year, as required by the Code of Virginia, VDOT completes a Workforce Plan for key personnel, executive positions, and employees nearing retirement. The purpose is to "facilitate the activities of Workforce Planning, including understanding and interpreting internal and external workforce metrics, comparing the work and workforce needs of tomorrow to the present, identifying the gaps, and supporting the creation and implementation of a plan to close those gaps." The annual plan ensures programs and development opportunities are in place to proactively address anticipated workforce gaps.

VDOT has in place several workforce plan elements listed in Table 2-4, Key Workforce Plan Elements:

- Employee Engagement Strategies
- Workforce Analysis
- Recruitment Programs
- Leadership Development Programs
- Learning and Development
- KM
- Mentor Program
- Retention Strategies

Week One Rose, Bud, Thorn Sessions

Each day ended in a group discussion using the design thinking framework Rose (positive), Thorn (challenging), Bud (opportunity) methodology[21] for identifying findings A Rose is something positive, a Thorn is something that is more of a challenge (difficult to overcome) and a Bud is a new goal, insight, or possibility. The Rose, Thorn, Bud exercise helped the scan team gather input from all team members, facilitate productive discussion, and identify findings and key elements and insights.

Each participant shared a Rose, Thorn, or Bud with the group drawn from information shared during the day's presentations. An example of a Rose is one agency's encouragement of women in the workplace; an example of a Thorn is one agency's approach to narrowing down the employment pool; an example of a Bud is one agency's approach to soliciting ideas from employees and implementing them.

21 Rose, Bud, Thorn (Design Thinking Activity), https://spin.atomicobject.com/2018/04/03/design-thinking-rose-bud-thorn/

Sample of Day One
Rose: *"Change agent network"*
Thorn: *"Getting people to recognize the investment in training and development"*
Bud: *"Align retirement projections geographically"*

Sample of Day Two
Rose: *"Career counseling"*
Thorn: *"Crafting SWMP for organizations of different sizes"*
Bud: *"Leadership opportunities open to non-engineers"*

Sample of Day Three
Rose: *"SME focus groups for benchmarking"*
Thorn: *"Rotation programs"*
Bud: *"Employee engagement interviews"*

Sample of Day Four
Rose: *"Strategic workforce committees"*
Thorn: *"Challenge of working with schools on student outreach"*
Bud: *"Using landing pages for job announcements"*

Sample of Day Five
Rose: *"Engagement surveys include diversion and inclusion factors"*
Thorn: *"Sustaining strategic workforce management through the change of administration"*
Bud: *"Screening for six human skills"*

Table 2-1. Sample of daily Roses, Thorns, Buds - Week 1

Organizing Information into Categories

At the end of Week One, participants organized the Roses, Thorns, and Buds into categories. The exercise organized the collected information and resulted in the following categories.

- Strategic alignment/framework/strategic planning/ foundation (laying the groundwork) x factors – considerations for everyone

- Organizational culture

- Workforce acquisition

- Workforce development

- Workforce retention

- Workforce analytics

- Resources

- Sustainable workforce

> *Consider integrating Workforce Plan into your Agency's Strategic Plan*

At the end of Week Two, the team reviewed the categories developed at the end of week one and edited the category titles. The following categories reflect the changes:

- Strategic alignment

- Organizational culture

- Workforce acquisition

- Workforce learning and development

- Workforce analytics

- Resources

- Workforce continuity

Table 2-2 presents the categories and subcategories identified at the end of the first session and revised at the end of the second session.

Categories	Subcategories
Strategic Alignment	- Policy - Governance - Formal structure/authorization - Alignment to mission/agency strategic plan - Change management - Stakeholder analysis - Business case for workforce management (various levels: c suite, senior managers, front-line supervisors, and employees) - Communication strategies
Organizational Culture	- Diversity and inclusion - Environmental/external trends and realities surrounding the organization that impact workforce (e.g., technology challenges and environmental factors) - Clearly defined – transparent/fair access – for any sort of development activities: mentor, stretch, and assignment - Employee responsibility - Organizational health assessment
Workforce Acquisition	- Standardized hiring - Competencies (used for hiring, performance management, and development) - Engaging students (internships and work-based learning) - Recruitment programs - Partnerships with educators and other external organization to support workforce needs and goals - Retention - Innovation (employee engagement/foundation/x factor) - What employees want/need to be successful, fulfilled, happy/satisfied - Employee engagement

Categories	Subcategories
Workforce Learning and Development	• Employee development • Mentor program • Training for managers/supervisors on workforce planning and why it is important • Leader development program • Buddy program (onboarding) • Skills gap analysis
Modern Work Environment	• Retention • Innovation (employee engagement/foundation/x factor) • What employees want/need to be successful, fulfilled and happy/satisfied • Employee engagement
Workforce Analytics	• Performance measures • Forecasting • Ability to have good data – projections, forecasting, and good data make good decisions. • Data/demographics • Measuring outcomes • Break down trends, needs, and strategies by occupational groups and geographic areas • Performance metrics • Compensation analysis/salary studies • How is data collected? What data is need? How is data used?
Resources	• Glossary of terms • Reading/resource list • Equipment • Staffing
Workforce Continuity	• Position management (define) • Succession planning • Knowledge management and transfer • Talent management • Classification • Redefining core disciplines, evolving from civil-engineering-centric professions • Gap identification and analysis (current versus future state) • Accelerated evaluation of education/cleanup of classifications

Table 2-2. Categories and subcategories

Week Two Summary of Presentations

Day 1

Alaska

Alaska DOT&PF has 776 public facilities occupied by 17 state and local agencies. The DOT&PF consists of 3,388 permanent full-time and part-time and non-permanent employees in eight labor unions in 85 locations throughout the state. It is responsible for the maintenance and operations of 239 airports, two international airports, 10 ferries, 35 ferry terminals, 19 harbors, 837 bridges, and a 2.5-mile tunnel (the longest in North America).

Figure 2-9. Alaska DOT&PF Workforce Management Vison from presentation October 26

Alaska DOT&PF operates using a results-based approach. Core and direct services are linked through the work of the department to its statutory and regulatory requirements. From this linkage, roadway priorities and performance targets are set.

The presentation included information concerning its vision for SWM. Information shared included a discussion on the guiding principles of workforce management. Organizational culture, theories on vertical and horizontal differentiation, and decision making were the key principles discussed. The theory of vertical and horizontal differentiation explains how organizational activities, reporting structures, and decision-making processes impact organizational effectiveness, while the theory of decision making explains the importance of routines to manager productivity.

Alaska DOT&PF's presentation included a discussion of the SWM efforts in the organization and the many elements that go into the development of an SWMP. The elements include:

- KM

- Modern work environment

- Succession planning

- Workforce development

- Employee recognition

- Employee wellness and engagement

- Workforce forecasting

Figure 2-10. Alaska DOT&PF workforce plan elements

Several of the plan elements were discussed at the individual strategy level. For example, modern work environment includes infants in the workplace, telecommuting, team rooms, and a virtual workplace, to name a few.

Alaska DOT&PF's workforce management journey was a multiyear effort beginning in 2010 with its first plan up to 2019, with an updated plan in 2013, 2015, and 2018. Along the way there were updates to the plan, implementation of leadership development programs, implementation of position management, and conclusion of organizational reviews. Alaska developed its first SWMP through a peer exchange with Iowa DOT.

Lessons were learned from Alaska DOT&PF's efforts. One lesson shared involved keeping an open mind, having a modern culture, having midlevel allies, conducting a workforce analysis, and leveraging all available resources, including internal and national.

Day 2

Vermont

VTrans employees 1,163 classified employees, 12 exempt employees, and 49 temporary employees. It is a multimodal organization divided into eight districts and maintains and operates 10 state airports, 11 Department of Motor Vehicles locations, and 96 facilities.

VTrans has two high-level, workforce-oriented strategic goals: "Promote organizational excellence by attracting, developing, and retaining a talented, diverse, and engaged workforce" and "Modernize and improve government efficiency through innovation, continuous improvement, and quality customer service."

Screening for six human skills: 1) Adaptive mindset, 2) Teamwork, 3) Problem solving, 4) Leadership, 5) Curiosity, and 6) Communication

Part 2 of VTrans's presentation focused on SWM practices. Unlike other state DOTs in the scan, VTrans used a peer exchange to kick-off its workforce plan development process. VTrans and Alaska DOT&PF collaborated at multiple levels, including leadership, districts, and human resources.

A predefined set of topics guided discussions and information sharing. Topics included workforce planning, recruitment strategy review, KM programming, and employee recognition programs, to name a few. Information sharing was not limited to workforce management. The exchange included safety, leadership, maintenance, and engineering topics.

In addition to Alaska DOT&PF, VTrans examined strategic workforce reports from Caltrans, WSDOT, TxDOT and MoDOT.

VTrans presented information on topics important in the development of its SWMP, including identifying critical workforce trends (internal and external factors), developing strategic goals, and aligning cultural priorities with VTrans's organizational strategic goals.

Cultural priorities for VTrans include civility and respect, safety, customer service, employee engagement, and quality of life. The presentation reported on how VTrans is performing in these areas and how it plans to improve on current performance levels.

Current strategic workforce activities are focused on the following areas:
- Outreach
- Talent acquisition
- Employee onboarding
- Competencies
- Learning and development
- Managers and supervisors
- KM
- Employee retention
- Employee offboarding

VTrans is also focusing efforts on the following modern workforce initiatives:
- Telecommuting
- Infants in the workplace
- Civility commitment and mandated unconscious bias training
- Expansion of Microsoft Teams
- Open workspace environment
- Annual employees' engagement survey

VTrans presentation concluded with a section devoted to its learning and development programs and safety and health programs.

Private Sector Presentations

Day 2 of the second week included presentations from two private sector organizations. The presentations addressed a leading practice in SWM and a useful tool to be integrated into SWM.

In the case of a leading practice, the driving factor was change. The showcase organization was experiencing business growth. The effort focused on changing the organization to a human resource shared services model.

The second presentation focused on aligning the workforce with the organization's strategic priorities. Using Mural[22], an application designed for virtual collaboration, the team members used the application to walk a volunteer participant through the SWM framework. The volunteer identified the organization's strategic priorities, documented their work tasks, and estimated the amount of time performed on each task; aligned the tasks to the strategic priorities; and determined which activities to stop, start, or continue given the alignment or misalignment with the strategic priorities. The result was a framework that provided structure for the employee on where they needed to spend their time and energy to achieve organizational results.

The second presentation focused on the use of an application designed to facilitate collaboration. In this demonstration, team members used the application to identify tasks an employee performs and how much time is spent on each task. The analysis is then used to make decisions on which tasks to stop, start, or continue to better allocate the employee's time.

As it relates to SWM, the presenter discussed the difference between change management and journey management, stressing that journey management prepares for the entire process and focuses on organizational alignment and including employees throughout the process/change effort.

Day 3

Texas

TxDOT employees 12,527 full-time equivalents. Texas has 254 counties; TxDOT has 25 districts. The agency's focus is on the maintenance and expansion of multimodal transportation systems. TxDOT operations uses a design-build model.

LESSONS LEARNED

- INCLUDE IN ANALYSIS OF SUPPLY, DEMAND AND WORKFORCE GAPS THE AGING WORKFORCE DATA AND DECLINING LABOR FORCE PARTICIPANT RATE.

Texas DOT

The Texas legislature mandates TxDOT to develop workforce plans with its strategic plan. Texas and Georgia are two states the scan team identified that are mandated by their respective legislatures to have a workforce management plan.

TxDOT's workforce management plan includes an analysis that looks at supply, demand, and workforce gaps. Analysis of available data includes an aging workforce and a declining labor force participant rate.
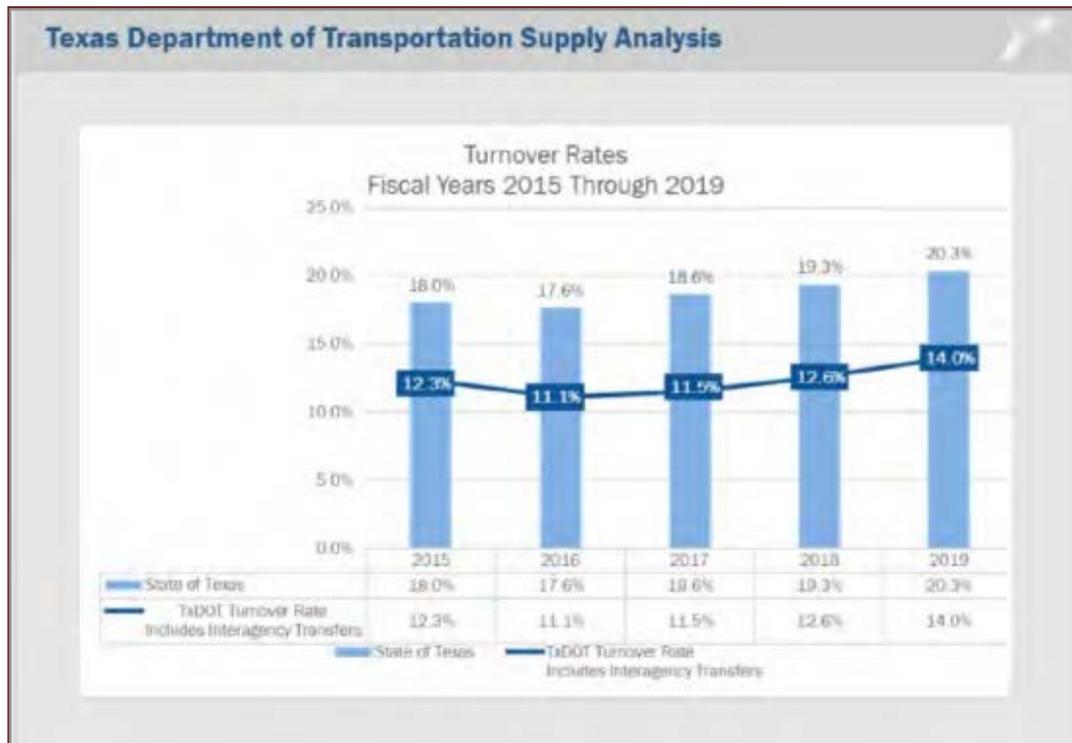
Figure 2-11. Sample strategic workforce management plan data

The TxDOT presentation included a discussion of its philosophy of focusing on taking a wholistic approach to empowering and developing its employees. Some of its notable employee centered strategies include employee diversity, equity, and inclusion program; safety; training and career development programs; a wellness program; flexible work strategies; and work-life balance.

TxDOT's summer internship program is vital to cultivating a qualified workforce. The program provides opportunities to engage interns in critical operations. Interns learn what to expect from a career with TxDOT and gain a sense of what we do. Many participants return following their initial experience.

Washington

In FY20, WSDOT has 6,302 employees. Recent employee engagement surveys indicate 76% of employees are satisfied with their jobs, which is up from 71% in the previous engagement survey taken.

Figure 2-12. Washington State DOT workforce development model

The latest employee engagement survey also revealed that the majority of WSDOT respondents (84%) never or rarely teleworked before the pandemic. WSDOT was able to convert over 93% of respondents' positions to telework to keep their employees at home and reduce their exposure to COVID-19.

WSDOT also shared that its strategic plan has been instrumental in handling other challenges that have arisen from the COVID-19 virus. Both their strategic plan and their workforce development plan were in place at the time of the outbreak.

The stated goal for workforce development at WSDOT is to, "Be an employer of choice, creating a modern workforce while attracting and retaining quality workers to deliver our legislative, regulatory, and service requirements." The presentation included information on key strategies from the plan, including talent pipelines, workforce analysis and growth, retention, employee engagement, the modern work environment, and talent development.

Each strategy was discussed in detail. For example, for WSDOT recruiting is critical to the development of its talent pipelines. Prior to the COVID 19 virus pandemic, WSDOT participated in 97 recruitment events. WSDOT reported that it exceeded its entry-level Highway Maintenance Worker job class goals for attracting diverse talent. Due to the outbreak of the virus, recruitment efforts will include attending virtual career fairs.

Creating a modern work environment may be a workforce strategy that is unique to WSDOT. This strategy involves reducing office space, increasing teleworking, and creating workspaces for employees to collaborate and take advantage of the benefits today's mobile technology.

Establish strategic workforce committees (examples):
- *Managers and Supervisors*
- *Employee Engagement*
- *Customer Service*
- *Employee Retention and Quality of Life*
- *Civility and Respect*
- *Onboarding*

Day 4

U.S. Geological Survey

The briefing on the U.S. Geological Survey's (USGS's) workforce planning model[23] provided information on the organizational factors that went into the development of a government agency's workforce plan.

USGS's model comprises a five-step process including a set strategic direction; supply, demand, discrepancies; develop action plan; implement action plan; and monitor, evaluate, revise.
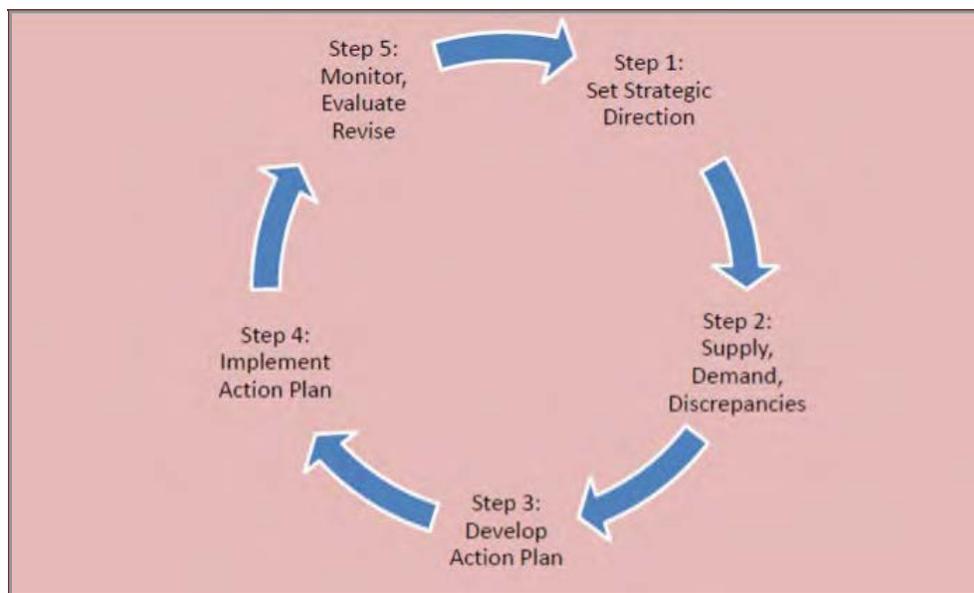
Figure 2-13. U.S. Geological Survey workforce planning model

Development of the plan was a multiyear effort beginning at the business unit level and concluding with leadership.

The briefing also included information on the workforce planning tool kit USGS developed and made available to its employees.

USGS's planning activities follow activities common to workforce planning, including an analysis of the current and future states, performing a gap analysis, the development and implementation of an action plan, and an evaluation process.

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23 U.S. Geological Survey, https://www.usgs.gov/media/images/usgs-workforce-planning-model

Leadership Development Session

Whole and intentional leader development was the topic of a private sector presentation the afternoon of Day 4. The interactive session walked the team through the process of identifying leadership qualities in employees to begin the leader development process. Participants were given the tools necessary to duplicate the day's activities in their agency, including tools they can use in their organizations.

Week Two Rose, Bud, Thorn Sessions
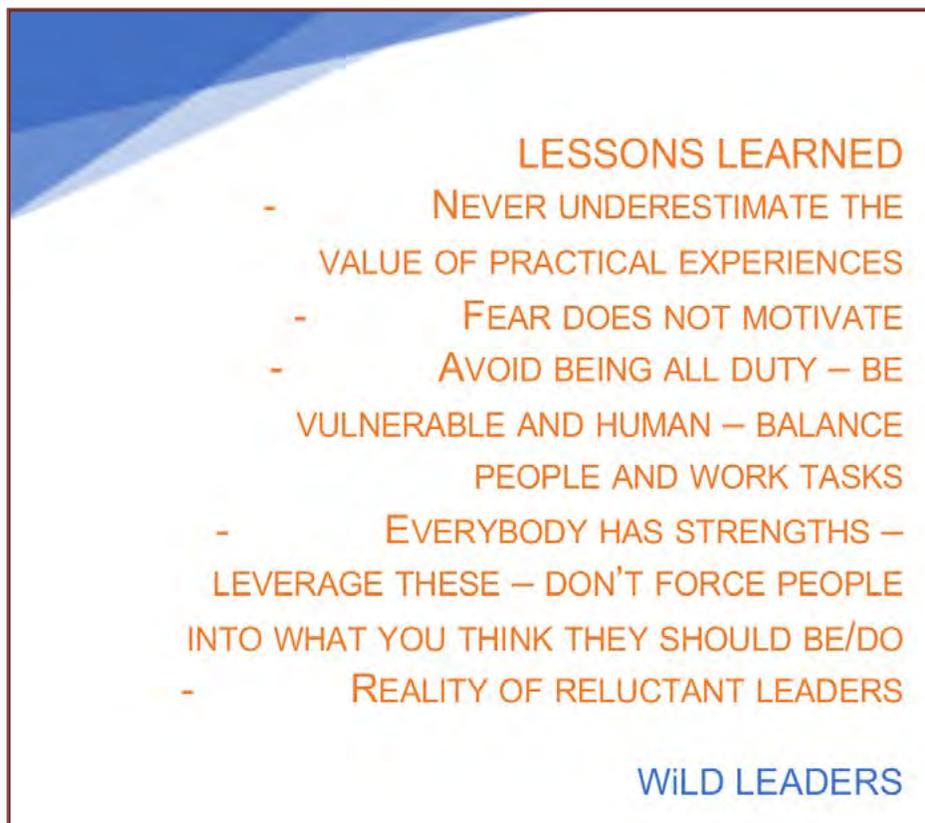
Each day ended in a group discussion using the Rose, Thorn, Bud method for identifying findings as positive, negative, or having potential. The Rose, Thorn, Bud exercise helped the scan team gather input from all team members, facilitate productive discussion, and identify findings and key elements and insights.

Sample of Day One
Rose: *"Value of peer exchange for workforce management"*
Thorn: *"Diversity in a homogenous state – outreach, etc."*
Bud: *"Using technology to get feedback from large groups"*

Sample of Day Two
Rose: *"Career counseling"*
Thorn: *"Crafting SWMP for organizations of different sizes"*
Bud: *"Leadership opportunities open to non-engineers"*

Sample of Day Three
Rose: *"Internship program presented in both presentations"*
Thorn: *"Do not utilize consultants in HR; rely on permanent staff for everything"*
Bud: *"Learning how to extend our culture into the telework workforce"*

Sample of Day Four
Rose: *"USGS presentation – like that it looked at internal and external factors and how they impact the organization"*
Thorn: *"Setting up developmental readiness in the organization"*
Bud: *"Liked the activity around picking a pressure strategy; could be easily completed in a staff meeting that helps with awareness"*

Table 2-3. Sample of daily Roses, Thorns, Buds – Week 2

Recommended Strategic Workforce Management Plan Model

The following section is the result of the scan team's extensive discussions as to what an SWMP model should look like. This section introduces an SWMP model. Numerous models are available. The scan revealed that some states with an SWMP adapted models from another organization. For example, the Federal Office of Personnel Management's Model has been adapted by at least one state DOT. Some states may be operating without an SWMP model even though they have employed key elements of an SWMP.
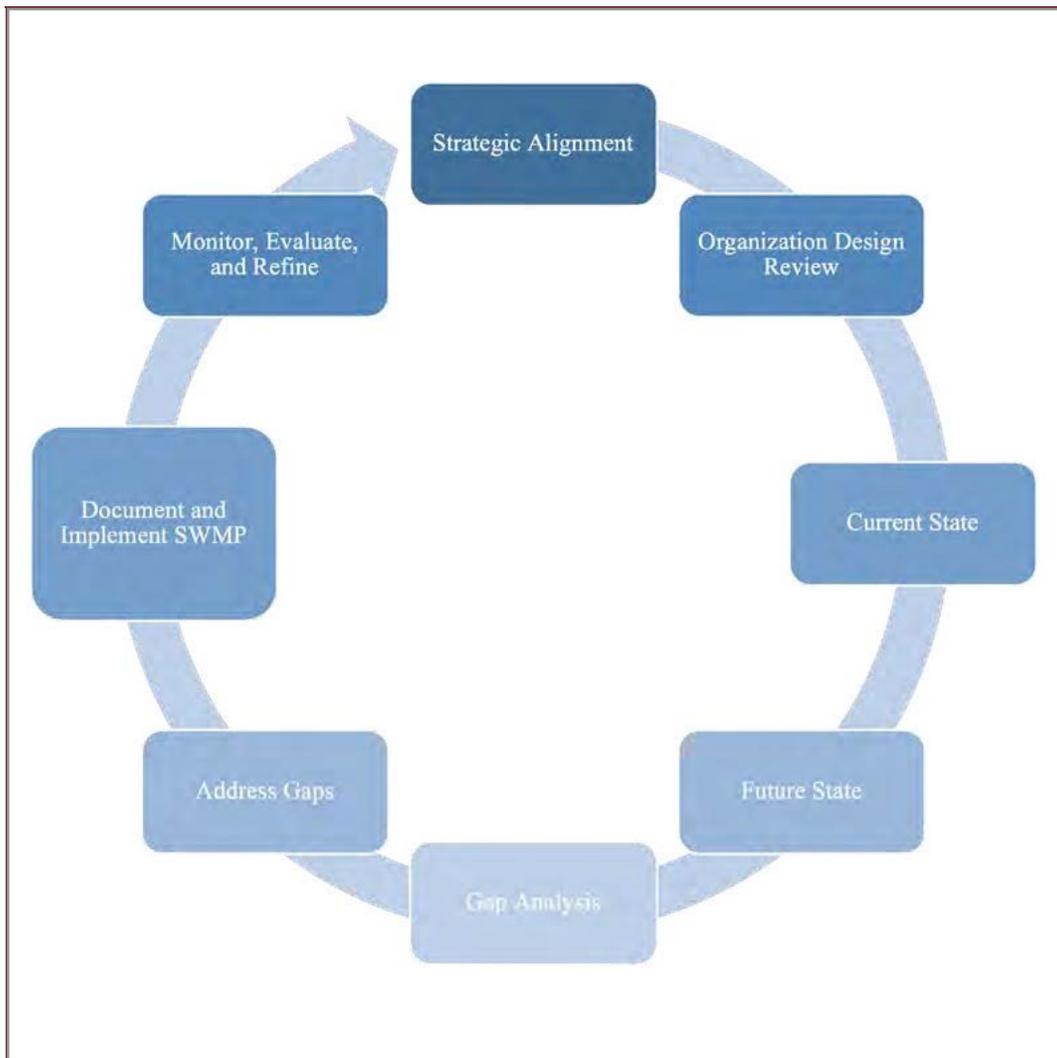
Figure 2-14. Strategic Workforce Planning Model

The team identified key elements for states to consider when developing an SWMP model. These steps were gleaned from presentations made during the two one-week sessions, discussions among the team members, and information collected from the desk scan.

Strategic Workforce Management Plan Model
Workforce Management Planning Steps

1. **Align with strategic direction**

   Actions within this step could include:

   ■ Perform SWOT analysis.

   ■ Conduct risk assessment.

   ■ Develop communication and collaboration strategies.

2. **Conduct organizational design review**

   Actions within this step could include:

   - Identify role designation (e.g., mission critical).

   - Identify areas of above-average success and places where cost and/or productivity savings or greater efficiency could be realized.

   - Define current organization condition and structure.

   - Inventory policies and directives.

   - Conduct organizational health assessment.

   Value of Peer Exchange as first step in strategic workforce management planning

3. **Define current state of work, workforce, and workplace**

   Actions within this step could include:

   - Analyze retirement, turnover, and retention data.

   - Analyze internal factors such as organizational culture and education and skills development.

   - Conduct employee engagement surveys.

   - Perform role designation (e.g., mission essential, mission critical, mission core, and misaligned).

4. **Identify future state of work, workforce, and workplace**

   Actions within this step could include:

   - Identify top workforce and industry trends and disruptors impacting agency's future (e.g., remote work, technology, traveling public's expectations, etc.).

   - Analyze external factors, such as pending legislation, new technologies, and shifting societal priorities.

   - Analyze internal factors, such as turnover and retirement predictions, skill development, career progression, and department mission and objectives.

   - Identify skills, roles, workplace environment, and other elements that will be needed in the future to increase agency success.

5. **Perform gap analysis between current and future states**

   Actions within this step could include:

   - Prioritize the organization's business and workforce needs.

   - Identify gaps between the current state and desired future state (e.g., technology, skills, and roles).

- Identify the best places to deploy resources and focus energy to close the gaps.

6. **Develop strategies to address identified gaps**

   Actions within this step could include:

   - Develop recruitment and retention programs, succession planning activities, and learning and development events to address the priorities and activities identified in Step 5 to close the gaps.

   - Engage employees at all levels.

   - Develop communication and collaboration strategies.

7. **Document and implement the SWMP**

   Actions within this step could include:

   - Develop implementation timeline to support Step 6; look for areas that will have the greatest impact.

   - Identify champions across the organization.

   - Establish midlevel allies.

   - Organize strategic workforce committees.

   - Provide training in the activities outlined in the WMP to support the agency and increase benefits.

8. **Monitor, evaluate, report, and refine the SWMP**

   Actions within this step could include:

   - Monitor, track, and record outcomes and results from the various elements of the SWMP (e.g., promotion and retention rates, recruitment outcomes, performance results from learning, and development opportunities).

   - Report results and outcomes from the SWMP, including established performance metrics, on a recurring schedule such as quarterly.

   - Establish governance function to ensure lessons learned are applied; the SWMP is addressing agency priorities; and to identify next steps, plan revisions, and continuous improvement opportunities.

   - Assign responsibility to appropriate personnel.

Key Workforce Plan Elements – Standard and Unique

The scan identified several key workforce plan elements that are common to SWMPs of the state DOTs that participated in the scan. The scan also identified key elements that are unique to specific DOTS. The following tables identify those common and unique elements and the states that employ them in their agency's WMP.

Common Workforce Plan Elements	Workforce Management Planning Step	State DOT Activity
Employee Engagement Strategies (e.g., employee survey, health, and wellness initiatives)	Step 3	ArDOT, Caltrans, PennDOT, VDOT, VTrans, WSDOT
Workforce analysis (i.e., HR metrics)	Step 7	GDOT, PennDOT, VDOT, WSDOT
Recruitment programs (targeting all candidate groups from elementary school through undergraduate and underserved groups; internships)	Step 6	ArDOT, GDOT, PennDOT, TxDOT, VTrans, WSDOT
Leadership development programs	Step 6	Alaska DOT&PF, ArDOT, Caltrans, GDOT, PennDOT, VDOT, VTrans
Learning and development (e.g., online learning, academies, and rotational programs)	Step 6	ArDOT, WSDOT, GDOT, PennDOT, VDOT, VTrans
Succession planning	Step 5 Step 6	Caltrans, GDOT, PennDOT, VDOT, VTrans
Knowledge management	Step 6	Alaska DOT&PF, ArDOT, Caltrans, GDOT, VDOT, VTrans
Mentor program	Step 6	Caltrans, GDOT, PennDOT, VDOT, VTrans
Peer exchange	Step 1	Iowa DOT, VTrans
Change management	Step 1 Step 6	CDOT, VTrans
Retention strategies (e.g., teleworking/ telecommuting and infants in the workplace)	Step 6	ArDOT, GDOT, PennDOT, TxDOT, VDOT, VTrans, WSDOT

Unique Strategic Workforce Plan Elements	Workforce Management Planning Step	State DOT Activity
Career counseling	Step 6	Caltrans
Vacancy management system (PIN assignment)	Step 6	MDOT
Workforce/succession planning training	Step 6	PennDOT
Modern work environment	Step 6	WSDOT
Fully automated applicant tracking/hiring system	Step 6	ArDOT, VDOT
Talent management symposium	Step 6	Caltrans
Rapid hiring	Step 6	Caltrans

Table 2-4. Key workforce plan elements

Overall Findings and Conclusions

On the last day of the session, the Team reviewed all information from two weeks of presentations, identified overall findings, drew conclusions from the overall findings (Table 2.5), and developed recommendations.

Overall Findings and Conclusions	
Findings	**Conclusions**
- Identify elements of workforce plan (Alaska DOT&PF, WSDOT, USGS, TxDOT, Caltrans) - Work, workforce, workplace: Expand thinking to include all dimensions; it is bigger than HR and includes the whole org (VDOT Deloitte, WSDOT) - No "one size fits all" approach to workforce management (evident by all the presentations; small state example ArDOT) - Need to be strategic in the approach to workforce management (MD SHA PIN policy, PennDOT videos) - Developing and implementing an SWM plan requires effective change management (CDOT, Splunk, VTrans) - Language shapes our outcomes, so we need to use care in our terminology, for example, "high potential," "high performers," "training," and "learning and development" (WiLD Leaders, VTrans) - Peer exchange is a good way to kick off a workforce management plan (VTrans, Alaska DOT&PF, WSDOT) - Recruiting for DOT positions is becoming more difficult for every state (MnDOT, MD SHA, WSDOT, VTrans, and PennDOT have innovative strategies) - Technology plays a key role in workforce management (PennDOT uses NeoGov strategically, GDOT built data visualization, Splunk, Tandem Motion, ArDOT converted hiring from paper to electronic) - Need executive onboarding due to external hiring (WSDOT) - Modern work environment includes considerations for recruitment, engagement, retention, and facilities as well as strategies for workplace flexibility (e.g., telework) (WSDOT, Deloitte presentation) - Presenting organizations are all doing some elements of a workforce plan (all presentations) - It is important to have key metrics to measure the plan's success (WSDOT, MnDOT, GDOT, TxDOT, Alaska DOT&PF, Splunk, and PennDOT identifying metrics and HR working on dashboards)	- Develop elements of workforce plan (Alaska DOT&PF, WSDOT, USGS, TxDOT, Caltrans) - There is a need to include diversity to get the skills we need in the workforce (VTrans, TxDOT, MoDOT, MnDOT, PennDOT) - Peer exchanges should be promoted (AASHTO, CDOT, Alaska DOT&PF, VTrans, WSDOT, Tri-State meetings [Vermont, Maine, New Hampshire] ramping up, Caltrans within state government) - A strategic, comprehensive workforce plan will be more effective than a haphazard one (Alaska DOT&PF, VTrans, WSDOT) - Data-driven decision making helps drive strategic plan, including strategic workforce initiatives (WSDOT, GDOT, and VDOT developed data science hub; PennDOT in the process of implementing) - Effective leadership needs to be promoted through training and feedback (Caltrans, GDOT, MnDOT, WSDOT succession, VTrans pre-supervisor training) - Develop a communication plan early (CDOT) - Need for context-sensitive solutions, for example unions, demographics, social unrest, legislative constraints, turnover at top of the organization, wide diversity in type of work, geographic differences, budget/resource constraints, access to tech - Apply transportation planning approach (short and long term) to workforce management planning. - Approach like asset management to help leadership understand, for example, business value analysis, quantify cost of investment in hiring/talent management (MD SHA working on this)

- **Involve employees at all levels when developing a workforce management plan (Alaska DOT&PF included employees in plan, MnDOT and VTrans Employee Resource Groups, MoDOT Employee Council for Equal Employment Opportunity)**
- **Developmental readiness may be a better predictor and more useful approach than performance management (WiLD Leaders)**
- **Engaged employees are the best recruitment tool (Caltrans, VTrans, WSDOT, MnDOT, ARDOT engagement plan thru McLean)**
- **50% of leader emergence is due to personality, the other 50% is open to development (WiLD Leaders)**
- **Leadership outcomes are the result of potential and experiences and their derived lessons (WiLD Leaders)**
- **Leadership plays a key role in workforce management (Alaska leader sponsorship, Texas legislative direction, Georgia includes workforce plan in legislative report, Missouri)**
- **Many organizations are using internships, career fairs, and other types of programs to introduce and retain young employees to their agencies (MnDOT, VTrans, PennDOT, WSDOT, TxDOT, Caltrans)**
- **Competency models are essentially derived from the lessons of leadership through experience (WiLD Leaders)**
- **Context matters (most presentations mentioned unique circumstances)**
- **Workforce asset management – employees are most valuable asset, if not retained we lose that investment (MD SHA, Caltrans Planning Division)**
- **Retention strategies are needed for current workforce (MD SHA, MnDOT, WSDOT, VTrans)**
- **Competency models assist with recruiting and career path (UDOT, Caltrans duty statements)**

Table 2-5. Overall findings and conclusions

Strategic Workforce Management – Conclusions and Recommendations

The team drew conclusions from its findings and developed recommendations through a process involving a detailed discussion of each finding followed by discussions connecting each finding to its obvious conclusion. These discussions resulted in a list of conclusions. From the conclusions, the team developed its recommendations. The recommendations were also developed with a perspective resulting from each team member's knowledge and experience of the scan's topic: strategic workforce management.

Not only has the team developed, through its work, a set of strong recommendations, it also has created an SWMP framework based on information collected through the scan process and based on each individual member's professional knowledge of and experience with the topic. The framework is supported by eight elements identified in the development of the amplifying questions and four key activities elements that revealed themselves through the information collection process.

The scan team is aware that there is no "one size fits all" approach to SWM. Therefore, it is important to present a thorough set of tools and recommendations to state DOTs that are considering implementing an SWMP or implementing individual activities that will serve to assist in the strategic management of their workforce.

Critical Categories of a Strategic Workforce Management Plan

In developing amplifying questions, the scan team identified nine critical categories that should be considered when developing an SWMP:

- Human capital

- Design and development

- Implementation

- Performance measures/management

- Organization

- Forecasting

- Plan elements

- Resources

Each category was supported by a set of questions designed to solicit and capture from host agencies a DOT's experience working with each category.

At the end of the first scan meeting, the team updated and refined the initial set of categories with information collected from the first scan meeting. The new list is composed of five critical categories: strategic alignment, organizational culture, workforce acquisition, workforce learning, modern work environment, workforce analytics, resources, and sustainable workforce.

Key Activities

The stated purpose of the scan is "to examine innovative strategic workforce management (SWM) practices state departments of transportation (DOTs) are implementing, particularly those activities that can quickly be adopted and implemented to recruit, develop, and retain the workforce they need today and for the future."[24] Activities carried out under this scan identified numerous activities currently employed by state DOTs and other participating organizations.

Several categories of activities where identified that are common to DOTs and would be easily adapted and organized into an SWMP. These activities include employee engagement strategies, workforce analysis, recruitment programs, leadership development programs, learning and development programs, succession planning, KM, mentor programs, peer exchanges, change management, and retention strategies.

Perhaps the most common activities among the host agencies and other participating organizations include employee recognition, succession planning, onboarding, and modern work elements. Less common activities among the participating agencies include career counseling, a vacancy management system, a modern work environment, a fully automated applicant tracking/hiring system, a talent management symposium, and rapid hiring.

Some of these so-called key activities lend themselves to a multilevel set of activities. For example, the larger category of employee retention comprises activities such as infants in the workplace and teleworking. The larger category of recruitment is composed of strategic activities such as an intern maintenance worker program or recruitment programs that target prospective candidate groups from elementary school through undergraduate and underserved groups.

Strategic Workforce Management Framework

The SWMP model presented in Chapter 2, Scan Findings, is the result of information that the scan team collected and discussions it conducted. It includes elements commonly found in SWMPs utilized by state DOTs and the federal government.

Recommendations

The team developed recommendations from the findings and conclusions on the last day of the second week. The recommendations are presented here in the following bulleted list:

- **Organizations should develop an SWMP using the elements in the report (Alaska, Washington, USGS, Texas, California)** – Having reviewed the information collected through the desk scan and from the two scan workshops, the team believes that the elements and plans

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24 Original problem statement

of Alaska, Washington, USGS, Texas and California were the most representative of plans and elements that other agencies could easily adapt.

- **Align the workforce plan to the organization's mission and goals to achieve strategic objectives.**

- **Investigate external resources to support development of SWM.**

  - Raise awareness of peer exchange options (e.g., State Planning and Research and the AASHTO Research & Innovation group).

  - States interested in developing a workforce plan may engage in formal peer exchange (based on the model with Vermont and Alaska).

  - Optimize AASHTO (Portal), National Transportation Training Directors[25] (Base Camp), and the Society for Human Resource Management (SHRM)[26] online knowledge sharing and meeting opportunities.

  - Conduct leader development programs (e.g., AASHTO and the Western Association of State Highway Transportation Officials)[27].

  - FHWA Region Transportation Workforce Centers[28]

  - National Network for Transportation Workforce[29]

- **Develop the business case (risk, cost, responsive to change)** for a long-term, durable strategy that leadership can support even through turnover/changing circumstances.

- **Recognize that people are the most important resource**. Planning and managing that resource is key to organization's success. Prioritize workforce management with the same sense of urgency as traditional enterprise asset management.

- **Organizations should identify who is responsible for SWM**. (Make sure it has a home. Who is champion [based on context]?)

- **Establish an AASHTO Workforce Management task force:**

  - Review the role of workforce asset management and its function in organizations.

  - Incorporate SWM into AASHTO formal leadership development.

- **AASHTO should develop and publish an SWM guidebook for DOTs.**

25 National Transportation Training Directors, http://nttdonline.net/

26 Society of Human Resource Management, https://shrm.org/

27 Western Association of State Highway Transportation Officials, https://www.washto.org

28 FHWA Region Transportation Workforce Centers, Professional/Practitioner Development, Center for Transportation Workforce Development, https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/tabular_data.aspx

29 National Network for Transportation Workforce, https://www.nntw.org/

Dissemination Strategies and Actions

The scan team identified strategies and actions that scan team members, state DOTs, and other organizations can pursue to disseminate the results of this scan. These strategies and actions are listed in this section. Many of the recommended actions were initiated directly following the scan meeting and are ongoing.

Actions to Foster Scan Report Awareness

Federal Highway Administration

- Facilitated peer exchanges

Transportation Research Board

- Production of a webinar - National Cooperative Highway Research Program (NCHRP) Domestic Scan 19-02, Strategic Workforce Management TRB Webinar; TRB Committee Sponsor: AJE45 – Committee on Information and Knowledge Management – in partnership with the NCHRP 19-02 Domestic Scan Team

Presentations

Delivery of Scan results presentation at national, state, and local organization meetings including:

- AASHTO

- American Road & Transportation Builders Association

- Local Technical Assistance Program

- National Transportation Training Directors

- PIARC (World Road Association)

Research/Standard Development

- Develop a workforce planning guidebook

- Conduct a new Domestic Scan: "Agency Resilience During Periods of Disruption"

Appendix A
Glossary

Alignment (strategic) – The positioning of the human capital system's policies, practices, and strategies in relationship to the agency's strategic plan and performance plan so what is done in the system is in direct support of the agency's mission, goals, and objectives.

Competency – An observable, measurable pattern of knowledge, skills, abilities, behaviors, and other characteristics needed to perform work roles or occupational functions successfully.

Forecasting – The process of determining or predicting the needs of the company by means of data and models. Forecasting is used to understand the skills and performance level of the current staff to help identify any gaps where hiring or restructuring needs to occur.

Gap (competency) – The difference between the current proficiency and target proficiency of a given competency for an occupational series of interest.

Gap (skills) – Identified skills, abilities, or knowledge that is below the level needed to perform a job.

Gap analysis – An analysis of the difference between desired and actual measures (e.g., competency, skills, or workforce climate) for an occupational series of interest.

Human capital – Refers to the education, knowledge, skills, and competencies of an agency's personnel.

Human capital plan/strategy – A central pillar in the strategic management of human capital is the alignment of human capital strategies with agency mission, goals, and objectives through analysis, planning, investment, and management of human capital programs. Human capital planning is the method by which an agency designs a coherent framework of human capital policies, programs, and practices to achieve a shared vision integrated with the agency's strategic plan.[30]

Knowledge management – Knowledge management (KM) is a collection of policies, processes, and practices relating to the cultivation, identification and documentation, utilization, sharing, and retention of intellectual/knowledge-based assets in an organization. It is a management practice that fosters collaboration across organizational and disciplinary boundaries and links people who have the requisite knowledge with those who need it to do their job. (AASHTO Committee on Knowledge Management[31] briefing paper, 2018)

Leading practice – A practice that is effective, innovative, sustainable, and forward looking.

Modern work environment – A secure, productive, and collaborative workplace that encourages employees to work anywhere, anytime, on any device.

Proficiency – Degree of competence or skill, expertise, or ability.

Strategic plan (agency) – A formal description of how an agency will carry out its mission over a period. The strategic plan must include the agency's mission, its strategic goals, the strategies to be used to achieve the goals (including workforce adjustments, staff skills, and human resource programs), a description of the relationship between annual program performance goals and the

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30 Source https://www.opm.gov/policy-data-oversight/human-capital-framework/reference-materials/strategic-alignment/keycomponents.pdf
31 AASHTO Committee on Knowledge Management, https://km.transportation.org/

agency's strategic framework, key factors that could affect the achievement of strategic goals, and a description of program evaluations used in preparing the strategic plan.

Strategic workforce management – A systematic approach used to predict, prepare for, and manage workforce needs. It aligns the needs and priorities of an organization with those of its workforce to place the agency in the best position for ongoing success. The most common elements of SWM include forecasting, succession planning, workforce development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion, and change management.

Strategic workforce plan – A plan that sets forth how the agency's workforce management strategies will be aligned with the agency's mission, goals, and objectives through analysis, planning, investment, and management of human capital programs. Broadly stated, the plan describes what the agency will do to ensure its employees have the mission-critical competencies required to carry out the agency's strategic goals. This includes workforce planning and deployment, including succession planning, recruiting and retaining talent, achieving performance goals, and addressing unique programmatic challenges.

Succession planning – A process for identifying and developing new leaders who can replace existing leaders when they leave or retire.

Workforce development – Workforce development is the coordination of public-sector and private-sector policies and programs that provides individuals with the opportunity for a sustainable livelihood and helps organizations achieve exemplary goals, consistent with the societal context. Source: https://www.stlouisfed.org/publications/bridges/spring-2010/what-is-workforce-development

Workforce management plan – A methodical process of analyzing the current workforce, determining future workforce needs, identifying the gap between the present and future, and implementing solutions so that the organization can accomplish its mission, goals, and objectives.

Workforce planning team – The team tasked with the development of a strategic workforce plan. This team may include an accountable executive and SMEs (e.g., HR, financial management, competency development professionals, and workforce analytics professionals) with strategic insight for the scope of the intended workforce plan.

Appendix B
Scan Team Contact Information

Amanda Holland – Team Chair
Acting Commissioner
Department of Administration State of Alaska
Phone: (907) 419-4328
E-mail: amanda.holland@alaska.gov

Karen A. Bobo
Director, Center for Transportation Workforce Development
Federal Highway Administration
Phone: (202) 366-1333
E-mail: karen.bobo@dot.gov

Brian Brown
Deputy Director of Human Resources
Division of Human Resources
Ohio Department of Transportation
1980 W. Broad Street, 1st Floor.
Columbus, OH 43223
Phone: (614) 466-5869
E-mail: brian.brown@dot.ohio.gov

Kendra M. Campbell, MSIS, PHR, SHRM-CP
Texas Department of Transportation
HRD-Compensation and HRIS Manager
Phone: (512) 486-5081
E-mail: kendra.campbell@txdot.gov

Craig Crick
Employee Development Manager
Project Delivery
Nevada Department of Transportation
Phone: (775) 888-7819
E-mail: ccrick@dot.nv.gov

Lorri Economy

Chief Learning Officer

Utah Department of Transportation

4501 South 2700 West

PO Box 148460

Salt Lake City, UT 84114

Phone: (435) 632-8756

E-mail: leconomy@utah.gov

Amanda Henry

Strategic HR Business Partner

Maryland Department of Transportation State Highway Administration

Phone: (410) 545-5566

E-mail: ahenry@mdot.maryland.gov

John L. Hibbard, PE

Operations Division Director

Georgia Department of Transportation

600 W. Peachtree Street NW

10th Floor

Atlanta, GA 30308

Phone: (404) 631-1401

E-mail: jhibbard@dot.ga.gov

William R. Lambert, PE

Traffic Engineer/Administrator

Bureau of Traffic

New Hampshire Department of Transportation

PO Box 483, 18 Smokey Bear Boulevard

Concord, NH 03302-0483

Phone: (603) 271-1679

E-mail: william.lambert@dot.nh.gov

Alexis Martin
Administrator, Bureau of Human Resources
New Hampshire Department of Transportation
Room 140, JOM Building
PO Box 483, Hazen Drive
Concord, NH 03302-0483
Phone: (603) 271-8313
E-mail: alexis.martin@dot.nh.gov

Tammy J. Roberts
Project Manager
Leadership Program Review
Safety and Management Services
California Department of Transportation
Phone: (916) 628-4600
E-mail: tammy.roberts@dot.ca.gov

Brian Robinson
Deputy Human Resources Director
Georgia Department of Transportation
Office of Human Resources
600 W. Peachtree Street NW
Atlanta, GA 30308
Phone: (404) 631-1516
E-mail: brobinson@dot.ga.gov

Rob Wight
Operations Director
Utah Department of Transportation
Phone: (801) 965-4111
E-mail: rwight@utah.gov

Lee Wilkinson
Director, Administrative Services Division
Iowa Department of Transportation
800 Lincoln Way
Ames, IA 50010
Phone: (515) 239-1340
E-mail: lee.wilkinson@iowadot.us

Rick A. Smith, MSHRM, SPHR – SME
910 Wiregrass Way
Hardeeville, SC 29927
E-mail: rixter2015@gmail.com

Appendix C: Scan Team Biographical Sketches

AMANDA HOLLAND (Team Chair) has 12 years of experience in the Alaska Department of Transportation and Public Facilities, where she served as Human Resources manager, Administrative Services director, and deputy commissioner. She championed knowledge management, strategic workforce management, leader development, and engineering automation while with the agency. In 2015, she launched a leader development program that has been recognized by the American Association of State Highway and Transportation Officials and the Transportation Research Board. Holland uses her degrees in industrial/organizational psychology and organizational leadership to help state agencies realize operational efficiencies and build workforce resilience. Workforce readiness, the integration of data, knowledge, and workforce management, the future of work, and healthy work environments are the cornerstones of Holland's expertise. She currently serves as acting commissioner for the Alaska Department of Administration, is a member of one TRB and three AASHTO committees, and actively participates in National Cooperative Highway Research Program studies involving workforce and organizational leadership issues.

KAREN A BOBO became the Federal Highway Administration director – Center for Transportation Workforce Development in May 2019. Prior to taking this position, she served as the division administrator in the FHWA – Iowa Division from 2015 to May 2019. Before going to Iowa, she was the assistant division administrator in the FHWA – Indiana Division from 2011 – 2015 and the director – Local Agency Programs in the FHWA – California Division from 2009 - 2011. Bobo has held other leadership and technical positions throughout her career and has over 30 years of experience with FHWA, beginning with the Highway Engineer Training Program. She has a bachelor's degree in civil engineering from Clemson University.

BRAIN BROWN has spent almost all of his professional career in human resources in both the private and public sector. He has worked at The Ohio DOT since 2004 in a number of Human Resources positions. Since 2016, he has served as the chief HR officer, overseeing all HR functions for the agency. He holds a bachelor's degree om business administration with a focus in HR and a master's degree in public policy and management, both from The Ohio State University. He is also a Society for Human Resource Management senior-certified professional. In his free time, he enjoys spending time with his wife and their three children. He is active in his church and his children's activities, serving in a number of capacities, including youth group leader, religion schoolteacher, and baseball coach.

KENDRA M. CAMPBELL is the Human Resource Development-Compensation and Human Resource Management System manager of Texas DOT. She has been at TxDOT since January 2017 and has over 27 years of experience with the State of Texas, the majority of which has been in classification and compensation. Campbell obtained from Texas State University a master's degree in interdisciplinary studies that focused on human resources-related concepts. She also earned and continues to maintain a professional human resource certification and a Society for Human Resource Management-certified professional certification.

CRAIG CRICK is an employee development manager for the Nevada DOT. His primary responsibilities include supporting the learning and development needs of NDOT's project delivery staff. Crick's recent projects include leading agencywide initiatives in the areas of change management, strategic planning, leadership development, and employee onboarding. He also serves on the American Association of State Highway and Transportation Officials Committee on Performance-Based Management's Organizational Management Subcommittee, Transportation Research Board Workforce Development & Organizational Excellence Committee (AJE15), and AASHTO's Committee on Knowledge Management Research Subcommittee. Before joining NDOT in 2013, he served in a variety of learning, leadership, and organizational development roles within the private and public sectors. Crick is a Prosci-certified change practitioner and holds a bachelor's degree from California State University, Sacramento, along with an MBA from the University of Nevada, Reno.

LORRI ECONOMY is the director of Employee Development and directs all employee development and employee safety functions within the Utah DOT. Employee Development is focused on creating and executing a comprehensive learning and development strategy and a quality employee experience in alignment with the department's mission, vision, and strategic goals. She is passionate about creating organizational development strategies that inspire individuals within the organization to learn something new every day. She enjoys focusing on and evaluating key organizational strategic initiatives in professional development and lifelong learning programs. Economy earned two master's degrees, one in public administration with an emphasis in public policy and the second in organizational performance and change. Before being named as Employee Development director, she served as a training manager for UDOT, overseeing learning and development programs for the maintenance and construction divisions with a focus on improvements in the Transportation Technician Education Program. She comes to UDOT with over 10 years of experience in learning and development and is passionate about program improvement and organizational development. Before working at UDOT, Economy was a training manager for Family Dollar Distribution, worked as a program specialist for the Department of Workforce Services, and also worked for the National Park Service at the beginning of her career.

AMANDA HENRY is the manager for the Maryland DOT State Highway Administration's Strategic Projects Division within the Office of Administration. She oversees human resource projects that span the involvement of multiple areas of HR to improve MDOT SHA's recruitment and retention strategies. Further, her division is responsible for building and implementing MDOT SHA's workforce planning program to include scenario planning, personnel resource allocation, and organizational restructures, which directly relates to the purpose of this scan. Previously, Henry has worked as a classification analyst and an HR business partner in MDOT SHA, which has allowed her to understand the organizational makeup to better serve the workforce planning program. Henry is a graduate of the University of Baltimore, where she earned a master's degree in industrial organizational psychology. Currently, she is a member of the American Association of State Highway and Transportation Officials Knowledge Management Committee.

JOHN HIBBARD is the Operations Division director for Georgia DOT. His responsibilities include the oversight and direction of the State Maintenance Office, the State Utilities Office, the Office of Traffic Operations, and the Office of Transportation Data. John's 30-year career includes stops at Atkins, TransCore, Cobb County (GA) DOT, and started with Kimley-Horn in Dallas in the mid-1980s. Hibbard is a graduate of Georgia Tech, where he earned bachelor's and master's degrees in civil engineering. He is a registered professional engineer in Georgia. He is the vice-chair of the Signals Technical Committee, one of the technical committees that is part of the committee that edits the Federal Highway Administration's Manual on Uniform Traffic Control Devices. Hibbard is also on the leadership team of the American Association of State Highway and Transportation Officials Committee on Transportation Systems Operations and directs Georgia DOT's implementation of connected vehicle technologies.

WILLIAM "BILL" LAMBERT is the state traffic engineer/Bureau of Traffic administrator for the New Hampshire DOT. The Bureau of Traffic is responsible for traffic signals, highway signs, and pavement markings on all state highways in New Hampshire, including the commissioner's delegated authority for regulating said highways. He is responsible for a bureau of more than 60 full-time professional and operational employees, along with up to 30 seasonal and part-time employees. Lambert is a member of the American Association of State Transportation and Highway Officials Committee on Traffic Engineering and the National Committee on Uniform Traffic Control Devices, where he currently serves as the vice chair of Programs. He is a past-president of the New Hampshire Section of the American Society of Civil Engineers and is a member of the Institute of Transportation Engineers. He earned a bachelor's degree in civil engineering from Worcester Polytechnic Institute and is a licensed professional engineer in New Hampshire.

ALEXIS MARTIN is the administrator of Human Resources for the New Hampshire DOT. She is responsible for directing and administering all agency activities, programs, and functions in meeting agency objectives by planning short- and long-term strategies for the overall human resource and occupational health and safety functions. The NHDOT Human Resources team actively employs strategic workforce management principles, working with agency managers with strategic methods for addressing present and anticipated workforce issues. Workforce goals are strategically tied to the mission of the agency, trend information is analyzed, potential solutions are discussed, and strategies are implemented and measured. Martin joined the agency in 2005 as part of the Occupational Health and Safety Team and was promoted to her current position in 2015. She holds a bachelor's degree in occupational safety and a master's degree in public policy.

TAMMY ROBERTS is the chief of staff for the California DOT's Administration Program, where she helps to drive change in the department. She has worked extensively in strategic planning and innovation for Caltrans over the last six years. She managed the department's year-long leadership program review, assessing current and future states to develop strategies for the agency's strategic talent management efforts. She is a Lean 6-Sigma Green Belt and has taught and certified Lean White Belt practitioners for Caltrans. She managed and administered the department's annual employee survey, helping executives tie their team's performance to their ongoing strategies for improvements.

BRIAN ROBINSON is the deputy Human Resources director for the Georgia DOT. In this role, he oversees the areas of employee safety, classification and compensation, employee relations, policy and compliance, workforce planning, and HR field services. He earned a bachelor's degree in business administration from Berry College and a master of public administration degree from the University of Georgia. He has worked for GDOT for over 15 years, holding a variety of positions in Human Resources and District Administration. Robinson began his career in the Office of Intermodal Programs before moving into HR, where he has served as a recruiter, HR analyst, employee management relations specialist, district administrative officer and deputy HR director. He currently serves on the AASHTO Committee on Human Resources and is a member of the AASHTO Joint Subcommittee on Work Zones.

ROB WIGHT currently serves as the director of Region 1 for the Utah DOT. In this capacity, he leads a team delivering projects and serving customers in the six northernmost counties of Utah. Recruiting and developing employees has been an interest to Wight throughout his 25-year career with UDOT. He has participated in many employee improvement teams looking to expand competence and improve opportunities for employees in maintenance and construction. He understands that employee engagement and development is a one-on-one effort. Rob holds a bachelor's degree in civil and environmental engineering and engineering management from Brigham Young University. He is a licensed structural engineer in Utah.

LEE WILKINSON is the Administrative Services Division director, Iowa DOT. He began his Iowa DOT career in 1996 as an Area Maintenance manager in District 6. In 2000, he was promoted to director of the Office of Maintenance. He was named director of the Administrative Services Division in December 2006. Prior to coming to the department, Wilkingson worked at the Iowa Department of Personnel from 1991 to 1996 as a personnel officer and labor relations specialist. The Iowa DOT was one of the agencies he assisted while in this position. From 1989 to 1991, he also served as a management analyst in the Iowa Department of Revenue and Finance. Wilkinson is a graduate of the University of Northern Iowa with a degree in public administration with an emphasis in personnel. Currently he serves as chair of the AASHTO Committee on Human Resources and is a regional representative for the American Association of State Highway and Transportation Officials Agency Administration Committee.

RICK A. SMITH is the subject matter expert for the scan. In this position, he serves as the lead researcher. Smith is responsible for collecting, organizing, and presenting relevant data and information to the scan team; for documenting the information-sharing sessions; and is the lead author of the report. Prior to Domestic Scan 19-02, Smith served as the SME on Domestic Scan 13-01, *Leading Management Practices for Developing a Cross-Trained Workforce*, and Domestic Scan 15-01, *Developing and Maintaining Construction Inspection Competence*. Smith is retired from the Georgia DOT with over 25 years of experience in the transportation industry and in training program development and delivery. Before retiring, he served as GDOT's training director. During his time as training director, Smith served as president of the National Transportation Training Directors. He was also a member of the Transportation Research Board's Knowledge Management Task Force. He earned a bachelor's degree in civil engineering technology from the University of North Carolina-Charlotte. He has a master of business administration degree with a concentration in project management and a masterof science degree in human resources management. Smith's research interests include learning transfer and knowledge management.

Appendix D:
Desk Scan Results

Background

Scope of Desk Scan

The scope of the desk scan followed the scope presented in the original Domestic Scan proposal submitted in September 2018. The desk scan looked at agencies and organizations that have conducted or are actively conducting activities identified in the original proposal as common elements of SWM, such as workforce development, succession planning, and forecasting.

To aid in conducting the desk scan, individuals of the scan team provided the SME with leads to DOTs and individuals who could provide information on their department's work related to workforce management and related activities. Scan team participants offered valuable information regarding their specific DOT's workforce management planning efforts.

The desk scan scope was not limited to DOTs. In addition to state DOTs, federal organizations and professional associations were examined to identify the most innovative and beneficial elements that could be easily adapted and implemented. Additionally, leads provided by team members prompted the SME to reach out to organizations such as Google, Facebook, and Microsoft.

The SME has not investigated workforce management programs that target the general community, such as those operated by cities and counties or those developed by FHWA and that are designed to serve elementary through college communities.

Workforce Management Versus Workforce Planning

When undertaking a study topic such as SWM, it is always best to start with an agreed upon definition of the topic. A review of the practice within the state transportation industry reveals three terms commonly used: workforce management, workforce planning, and human capital management. The terms are interchangeable, each describing a collection of activities that leads to an agency's success.

According to Wikipedia, workforce management is an institutional process that maximizes performance levels and competency for an organization. It addresses all the activities needed to maintain a productive workforce, such as human resource management, performance and training management, data collection, recruiting, budgeting, forecasting, scheduling, and analytics ("Workforce Management," n.d.). In comparison, workforce planning is related to the systematic identification and analysis of what an organization is going to need in terms of the size, type, experience, knowledge, and the skills of its workforce to achieve its objectives.

The U.S. Office of Personnel Management's website features a straightforward description of Workforce Planning:

> "Simply stated, workforce planning is the process of ensuring that the right people are in the right place, and at the right time to accomplish the mission of the agency. More specifically, workforce planning is a systematic process for identifying and addressing the gaps between the workforce of today and the human capital needs of tomorrow."

Georgia's Department of Administrative Services defines workforce planning as a systematic, proactive process, which aligns strategic planning, human capital, and budgeting to meet organizational goals and objectives through:

- Forecasting mission critical talent needs

- Analyzing current workforce and talent supply

- Developing, implementing, and evaluating strategies to close gaps (Georgia Department of Administrative Services, n.d.)

The most widely used definition of workforce planning is having the right number of people, with the right skills, working in the right jobs, at the right time.

To be consistent with the title of the scan, the SME is using workforce management as the key term instead of workforce planning, human capital management, or some other derivative.

Methodology

The SME used scan team referrals, outreach methods, and environmental scanning techniques including extensive Internet searches using key terms, and targeted interviews constructed around amplifying questions to identify organizations practicing recognized elements of SWM or SWM in totality.

The various sources of information include government documents, Internet postings, government agencies, interviews, referrals, and websites.

Literature Review

Summary of Relevant Information

Practices and Innovations

The following is a list of practices and innovations identified through the literature process.

- **WSDOT Recruitment and Retention Strategies: Infant-at-Work program**. The Infant-at-Work program allows some employees to bring their babies to work when they are six weeks old until the infant turns six months old or they become mobile. (WSDOTBlog, 04/09/2018)

- **NCHRP's Workforce Toolkit**. The outcome of *NCHRP 20-72: Tools to Aid State DOTs in Responding to Workforce Challenges* is a website with a storehouse holding exemplary strategies and case studies, measurement instruments, knowledge-transfer techniques, and organizational models for DOTs. (Workforce Toolkit, n.d.)

- VTrans has developed a strong collaborative relationship between the **VTrans Transportation Center staff and the Civil Rights Unit** in its workforce management efforts.

- **The National Institute of Health's workforce planning toolkit** is extensive. It is organized around the various elements of human resources and includes how-to guides and surveys. (Search Toolkit by HR Area, n.d.)

- Several DOTs discuss **knowledge transfer** in their workforce management plans, including Alaska, Georgia, Iowa, and Texas. TxDOT may be the most active in this area. Its workforce management plan includes a specific strategy targeting KM/knowledge transfer.

- **Sponsor contracts** are being used to get support from agency leadership for workforce management efforts. Iowa DOT is one example.

- MD SHA is working with USDOT Volpe Center to develop a means to **identify innovative career pipeline strategies to ensure workforce continuity within mission critical positions.**

- Several DOTs conduct **employee engagement surveys.**

- Several DOTs have **work-life/wellness programs** including WSDOT and TxDOT.

- State DOTs are following a **workforce management model**.

The following DOTs have a clearly defined SWMP. Each DOT has either developed its own or adopted a workforce management model.

Alaska

Alaska DOT&PF published its first agency workforce plan in March 2013. Alaska DOT&PF leadership began work on its Workforce Excellence program in FY2012. The workforce plan uses a four-phase approach: Acceptance, Sponsorship and Strategic Direction; Supply, Demand, and Gap Analysis; Develop and Implement Action Plan; and Monitor, Evaluate and Revise. The 2019 workforce management plan integrates six elements:

- Employee recognition

- Employee wellness and engagement

- KM

- Modern work environment

- Succession planning

- Workforce development

Alaska DOT&PF's workforce management team used the USDOT's Human Capital Management Guide to Workforce Planning as a guide.

Alaska's Division of Personnel and Labor Relations has developed guidance, tools, and other resources for state agencies to use in the development of their own workforce plans. The division uses a four-phase model that includes defining the future; analyzing the current workforce; closing the gap; and monitoring, evaluating, and revising.

California

The Caltrans Department of HR provides workforce management support through guidance, a toolkit, and training. California uses a five-phase model that includes setting strategic direction, gathering and analyzing department data, developing workforce strategies and plan, implementing strategies, and evaluating the workforce plan. A workforce plan for limited occupations was implemented in 2010. It follows a seven-phase model that includes reviewing the strategic plan, identifying work functions, identifying staffing requirements, projecting workforce supply, analyzing workforce gaps, developing priorities, implementing implement solutions, and evaluating the plan.

Georgia

GDOT's workforce management efforts are unique in that state regulations require that state agencies develop a workforce plan as part of their strategic plan, "Each agency shall develop a workforce plan as a component of the strategic plan, as required by Georgia Code, Section 45-12-177." The Georgia Department of Administrative Services provides its agencies with WFP resources, including a WFP checklist, WFP guidelines, WFP Model, and a WFP training presentation. The WFP is a simplified model with four phases: forecast, analyze, develop, and implement, and evaluate. GDOT has adapted the simplified model. HR staff works with individual offices managers to determine staffing gaps and develop staffing strategies and training and development strategies. (Department of Administrative Services, (n.d.).

Illinois

Illinois DOT developed and implemented a human capital strategic plan in 2014. The agency adapted the Federal Office of Personnel Management's Human Capital Assessment and Accountability Framework. At the time of the writing of the draft desk scan, it is unclear whether Illinois DOT has continued to implement its plan. The SME was unable to reach the Bureau of Personnel Management Chief for updated information.

Illinois DOT's human capital planning process includes internal/external analysis, a gap analysis ("IDOT Human Capital Strategic Plan[32]," 2014)

Maryland

MD SHA is partnering with the Schaefer Center for Public Policy at the University of Baltimore College of Public Affairs to develop its SWP. The process involves several phases, including forming a steering committee, conducting an SWOT analysis, and conducting staffing and job analysis. The workforce management model includes the following areas:

- Business planning
- Strategic staffing
- Succession planning
- KM
- The SHA University

MD SHA's workforce management efforts are discussed in a report written by Ann Cotton, Director, Schaefer Center for Public Policy, University of Baltimore (Cotton, 2007).

As of January 2018, MDOT SHA had begun:

- Forming the MDOT SHA Organizational Modernization Steering Committee
- Conducting an SWOT (strengths, weaknesses, opportunities, threats) analysis of senior management
- Reviewing highway administration structures and staffing in Maryland and across the U.S.
- Assessing office/district-level staffing

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32   Illinois DOT Human Capital Strategic Plan, https://idot.illinois.gov/Assets/uploads/files/About-IDOT/News/Press-Releases/IDOT%20Human%20 Captital%20Strategic%20Plan.pdf

- Assessing office/district-level organization

- Completing staffing and job analysis based on the organizational assessments

- Creating an MDOT SHA organizational assessment

- Reporting the findings *(Momentum (currently Northbound News)*, January 2018)

Texas

TxDOT has an agency workforce plan that is incorporated into the agency's strategic plan. Among other activities, TxDOT conducts an employee engagement survey and offers a work-life balance/ wellness program. Additionally, Texas' model includes supply analysis and demand analysis. Its analysis includes critical functions and competency needs. Included in its workforce management strategies to close the gaps are strategies to address organizational structure, strategic staffing and recruiting, compensation, knowledge transfer, surplus or shortage of workers or skills, leadership and business development, and operations. ("2019-2023 Strategic Plan," June 8, 2018)

State DOTs Employing Elements of SWM

The following DOTs employ recognized elements of a workforce management plan without a unifying workforce management model.

- Arkansas – ARDOT's workforce plan is an integral element of the agency's strategic plan.

- Colorado – Beyond the basic elements of SWM, CDOT employs a robust change management program.

Minnesota

MnDOT is currently focused on its future workforce. Rather than a workforce management model approach, MnDOT's workforce plan is integrated into the agency's strategic operating plan. The agency's approach to adapting its workforce to the changing environment involves employing elements typically included in a workforce plan. Activities include:

- Internal workforce analysis

- Expand on strategic staffing efforts

- Develop career paths and developmental plans

- Establish a workforce management council

- Assess environmental trends and prepare for changes

- Workforce Development

- Employee Engagement

- Retention

- Strategic recruitment

Beyond the basic elements of SWM, MnDOT has established a diverse set of programs. Individual programs that address the recruitment, development, and retention needs of MnDOT have been established under the umbrella of its Career Pathways program.

Washington

WSDOT does not have a specific workforce management model it follows. However, according to Jeff Pelton, director of the agency's Office of Human Resources & Safety, WSDOT is on its fifth iteration of its workforce development strategies. Strategies WSDOT employs include strengthening its talent pipeline, workforce analysis and growth, employee engagement, creating a modern work environment, and talent development.

Non-DOT organizations with developed resource guides and/or tool kits

Center for Energy Workforce Development

Publication Name: Essential Elements of Strategic Workforce Planning
http://www.cewd.org/documents/wizard/documents/WorkforcePlanning-Overview.pdf
Source: https://cewd.org/about/strategies-initiatives/

International Public Management Association for Human Resources

Publication Name: Workforce Planning Resource Guide
Source: https://www.ipma-hr.org/docs/default-source/public-docs/importdocuments/pdf/hrcenter/workforceplanning/cpr-wforce-plan.pdf?sfvrsn=4f892a78_0

Office of Personnel Management

Source: https://www.opm.gov/workforceplanning/index.htm

National Institutes of Health, Office of Human Resources

Source: https://hr.nih.gov/workforce/workforce-planning
E-mail: NIH-WORKFORCE-PLANNING@od.nih.gov

USDA Office of Human Resources Management

USDA Human Capital Planning
Source: https://www.dm.usda.gov/employ/strategy/hcplanning.htm
Contact: Tiffany.Chavez@dm.usda.gov

USDA Farm and Foreign Agricultural Services

USDA Workforce Planning & Succession Planning Guidance
Source: https://www.fsa.usda.gov/Internet/FSA_File/wfp_succession_guidance.html

U.S. Nuclear Regulatory Commission

U.S. Nuclear Regulatory Commission Strategic Workforce Plan (February 6, 2016)
Source: https://www.nrc.gov/docs/ML1614/ML16145A376.pdf
Enhanced Strategic Workforce Planning Pilot – Lessons-Learned Report (June 8, 2018)
Source: https://www.nrc.gov/docs/ML1816/ML18162A051.pdf

National Academy of Public Administration

Department of Transportation Workforce Planning Project November 15, 2017
Summary: A contracted ongoing study by the USDOT and Department of Human Resources to assess "mission critical occupations of DOT Operating Administrations." Assessment will include current and future capabilities, hiring and retention, and succession planning.
Source: https://www.napawash.org/studies/academy-studies/department-of-transporta-tion-workforce-planning-project
Contact: Brenna Isman, program area director, at (202) 204-3625 or bisman@napawash.org

U.S. Geological Survey

USGS Workforce Plan 2015-2020
PDF version: https://www.usgs.gov/atom/54890
Source: https://www.usgs.gov/about/organization/science-support/human-capital/usgs-work-force-plan-2015-2020

Overlap and time elapsed since previous scan(s) on a similar topic.

This section includes a list of NCHRP reports and syntheses published on topics that have common connection with the elements of workforce management, such as employee recruitment and retention and employee development. These reports and syntheses include recommendations that should be considered as part of any workforce management plan.

- NCHRP 08-125 [Active], Attracting, Retaining, and Developing the Transportation Workforce: Transportation Planners – One study objective is to provide guidance on how agencies can attract, develop, manage, and retain planning talent.

- Cronin, B., et al., NCHRP Report 693, Attracting, Recruiting, and Retaining Skilled Staff for Transportation System Operations and Management, Transportation Research Board, National Research Council, Washington, D.C., 2012

- Laffey, N. NCHRP Synthesis 503, Leveraging Technologies for Transportation Agency Workforce Development and Training, Transportation Research Board, National Research Council, Washington, D.C., 2017

- Laffey, N. & Zimmerman, K.A. NCHRP Synthesis 483, Training and Certification of Highway Maintenance Workers, Transportation Research Board, National Research Council, Washington, D.C., 2015

- Martin, B. NCHRP Report 636, Tools to Aid State DOTs in Responding to Workforce Challenges, Transportation Research Board, National Research Council, Washington, D.C., 2009

- NCHRP Synthesis 20-05/Topic 49-10 [Active (Synthesis)], Transportation Workforce Planning and Development Strategies

- Rahn, Toole, et al., European Practices in Transportation Workforce Development, USDOT FHWA, June 2003

- Special Report 275, The Workforce Challenge: Recruiting, Training, and Retaining Qualified Workers for Transportation and Transit Agencies. Transportation Research Board, National Research Council, Washington, D.C., 2003

- Warne, T.R., NCHRP Synthesis 323, Recruiting and Retaining Individuals in State Transportation Agencies, Transportation Research Board, National Research Council, Washington, D.C.,2003.

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Reporter's Assessments

After reviewing numerous DOT websites and talking with several DOT HR directors and training professionals, it is evident that several DOTs have implemented SWM to some degree. The difference being that some have either developed or adapted a model to unify their efforts while other DOTs continue to focus on individual workforce management elements, such as training and development, succession planning, and strategic recruitment and retention.

In some cases, a state was found to have a state-level workforce management planning guide, usually put out by the state's HR Division, but the DOT did not have a WMP. This could be attributed a change in state-level or department-level leadership. Other states, California for example, have well-defined workforce management guidelines, tools, and training and Caltrans actively pursues workforce management.

Federal agencies have been conducting workforce management for some time. Many have well-established planning functions with successful models and tools that DOTs can adapt. Some states have adopted the Federal Office of Personnel Management's workforce management model.

Non-transportation groups are active in this area. The International Public Management Association for Human Resources and the Center for Energy Workforce Development are two examples.

Recommended Candidate Agencies for Inclusion in the Scan

- State DOTs

  - Alaska

  - Arkansas

  - California

  - Colorado

  - Georgia

  - Maryland

  - Minnesota

  - Missouri

  - Pennsylvania

  - Texas

  - Vermont

- Virginia
- Washington
- Federal Agency
  - U.S. Geological Survey
- Private Sector Organizations
  - Tandem Motion
  - WiLD Leaders
  - Splunk

Contacts and Consultations

A list of institutions, agencies, and/or individuals contacted or consulted, including name, position, date of contact, telephone, fax, e-mail, and/or website.

Departments of Transportation

Arkansas

Crystal Woods
Division Head Human Resources
Arkansas Department of Transportation
10324 Interstate 30
Little Rock, AR 72209
Office: (501) 569-2076
E-mail: crystal.woods@ardot.gov
Note: Recommend inviting

Colorado

Michelle Malloy
Senior Program Manager - Strategy, Business Improvement and Change Management
E-mail: michelle.malloy@state.co.us
Date: October 11, 2019
Phone: (719) 924-3071
Medium: Phone call; e-mail
Note: Recommend inviting

Maryland

Bill Barnard, EdD
Manager, Workforce Planning and Organizational Development
Date: September 9, 2019
Phone: (410) 545-0337
E-mail: bbarnard@mdot.maryland.gov
Medium: Phone call; e-mail
Note: Recommend inviting

Minnesota

Karin L Van Dyck
Human Resources Director
Date: September 10, 2019
Phone: (651) 366-3385
E-mail: karin.van.dyck@state.mn.us
Attempts: E-mail August 27, 2019; phone call September 5, 2019
Note: Phone consult scheduled for Friday, September 13, 2019

Missouri

Steve Meystrik
Human Resources Director
Phone: (573) 526-7644
E-mail: stephen.meystrik@modot.mo.gov

Oregon

Jennifer Schoorl
Human Resources Director (Administrative Support: Amanda Cross)
Date: September 8, 2019
Phone: (503) 986-3120

John Whitfield
Workforce Solutions Manager
Date: September 10, 2019
Phone: (503) 373-1639
Fax: (503) 986-3895
Note: ODOT is in the early stages of implementing its adopted strategic business plan
            2018 -2022. Will be focusing on an innovative leadership development program in 2020.

Vermont

Christine Hetzel

VTrans Training Center Program Manager

Colleen Montague

Employee Development Branch Manager

Date: September 4, 2019

Medium: Conference Call; E-mail

Phone: (802) 249-6197

E-mail: christine.hetzel@vermont.gov

Washington DOT

Jeff Pelton

Director, Office of Human Resources & Safety

Date: August 30, 2019

Medium: Conference Call

Phone: (360) 705-7388

E-mail: peltonj@wsdot.wa.gov

OTHER INSTITUTIONS

U.S. Geological Survey

Jill Nissan

Workforce Planning Program Manager

Date: September 3, 2019

Medium: Phone call

E-mail: jnissan@usgs.gov

Phone: (703) 648-4626

Website: https://www.usgs.gov/about/organization/science-support/human-capital/work-force-succession-planning

International Public Management Association for Human Resources

Marie Villarreal, Researcher

Date: September 9, 2019

Medium: Phone call/e-mail

Phone: (703) 549-7100

E-mail: mvillarreal@ipma-hr.org

Website: https://www.ipma-hr.org/

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Appendix E:
Key Contact Information

Arkansas

Crystal Woods
Division Head of Human Resources
Arkansas Department of Transportation
Phone: (501) 569-2076
E-mail: crystal.woods@ardot.gov

Alicia Hunt
Assistant Division Head of Human Resources
Arkansas Department of Transportation
E-mail: alicia.hunt@ardot.gov

California

Ashley McGuckin
Division Chief
Department of Transportation
Phone: (916) 708-7194
E-mail: ashley.mcguckin@dot.ca.gov

Tom Hicks
Assistant Division Chief
California Department of Transportation
Phone: (916) 307-1513
E-mail: tom.hicks@dot.ca.gov

Colorado

Gary Vansuch
Director of Process Improvement
Colorado Department of Transportation
2829 W Howard Place, Suite 435
Denver, CO 80204
Phone: (303) 757-9017
E-mail: gary.vansuch@state.co.us
Websites: www.codot.gov, www.cotrip.org

Michelle Mallory
Senior Program Manager
Strategy, Business Improvement and Change Management Program Services
Colorado Department of Transportation
829 W Howard Place
Denver, CO 80204
Phone: (719) 924-3071
E-mail: michelle.malloy@state.co.us
Websites: www.codot.gov, www.cotrip.org

Minnesota

Karin Van Dyck
Human Resources
Minnesota Department of Transportation
395 John Ireland Boulevard, Mail Stop 200
St Paul, MN 55155-1901
E-mail: karin.van.dyck@state.mn.us

Bonnie Wohlberg
Staffing Manager
Minnesota Department of Transportation
395 John Ireland Boulevard, Mail Stop 200
St Paul, MN 55155-1901
Phone: (651) 366-3382
E-mail: bonnie.wohlberg@state.mn.us

Pennsylvania

John A. Soubik, MPA
Chief, Employee Services Division
Delivery Center Complement Manager
Pennsylvania Office of Administration
Human Resources and Management
Infrastructure and Economic Development Delivery Center
400 North Street, 5th Floor
Harrisburg, PA 17120
Phone: (717) 783-2687
E-mail: jsoubik@pa.gov
Website: www.oa.pa.gov

Vermont

Lori Valburn
Civil Rights Chief
Vermont Agency of Transportation
219 North Main Street
Barre, VT 05641
Phone: (802) 777-6262
E-mail: lori.valburn@vermont.gov
Website: vtranscivilrights.vermont.gov

Christine Hetzel, PMP
Gallup Strengths Coach
VTrans Training Center
Director of Organizational Development
Vermont Agency of Transportation
Phone: (802) 828-5833
E-mail: christine.hetzel@vermont.gov
Websites: http://vtrans.vermont.gov/training-center

Virginia

Cynthia D. Bullock
Human Resources Director/Division Administrator
Human Resources Division
Virginia Department of Transportation
Phone: (804) 371-6791
E-mail: cynthiad.bullock@vdot.virginia.gov

Washington

Jeff Pelton
Director, Office of Human Resources & Safety
Washington State Department of Transportation
}Phone: (360) 705-7388
E-mail: peltonj@wsdot.wa.gov

Appendix F: Scan Workshop Agenda

		Sunday 1-Mar	Monday 2-Mar	Tuesday 3-Mar	Wed 4-Mar	Thurs 5-Mar	Friday 6-Mar	Saturday 7-Mar
Meeting Room								
Breakfast								
Morning		Travel day	* 8:00 am- 8:45am Introduction --PI --Team Chair --Self introduction for all participants *8:45am - 9:00am Break *9:00am-12:00pm Colorado DOT Presentation (need webinar support) (10am -1pm Mountain Time) Meeting number: 790 079 659 Password: J5rPXMBRZ36 (55779627 from phones and video systems) https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=m52c62f3d5077fd77e5992e3a4745f99a Join by phone +1-408-418-9388 United States Toll Access code: 790 079 659	*8:00am - 10:00am California DOT presentation *10:00am - 10:15am Break *10:15am - 12:15pm California DOT presentation (cont')	*8:00am - 10:00am Maryland DOT presentation *10:00am - 10:15am Break *10:15am - 12:15pm Maryland DOT presentation (cont')	*8:00am - 10:00am Pennsylvania DOT presentation *10:00am - 10:15am Break *10:15am - 12:15pm Pennsylvania DOT presentation (cont')	*8:00am - 10:00am Briefing on Virginia DOT and Missouri DOT programs by Rick Smith *10:00am - 10:15am Break *10:15am - 12:15pm Group Discussion: findings and recommendation	Scan team meeting (8am - 12pm) (scan team only) (Invited participants travel home)
Lunch			12pm - 1pm Lunch	12:15pm - 1pm Lunch	12:15pm - 1pm Lunch	12:15 pm - 1:00pm Lunch	12:15 pm - 1:00pm Lunch	
Afternoon		Travel day	*1:00pm -2:00pm Colorado DOT Presentation (cont') (need webinar support) (2pm - 3pm Mountain Time) 2:00pm - 4:00pm Georgia DOT presentation (need webinar support) (5pm -9:15pm Eastern Time) Meeting number: 790 136 329 Password: 64bpES7P3nc (64273777 from phones and video systems) https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=md754aa9e4e74e3c1f1ecc516403b1b3f Join by phone +1-408-418-9388 United States Toll Access code: 790 136 329 *4:00pm - 4:15pm Break *4:15pm - 6:15pm Georgia DOT presentation (cont') *6:15pm - 6:30pm Daily Wrap up	*1:00pm - 3:00pm Arkansas DOT presentation *3:00pm - 3:15pm Break *3:15pm - 5:15pm Arkansas DOT presentation (cont') *5:15pm - 5:45pm Daily Wrap up	*1:00pm - 3:00pm Minnesota DOT presentation *3:00pm - 3:15pm Break *3:15pm - 5:15pm Minnesota DOT presentation (cont') *5:15pm - 5:45pm Daily Wrap up	*1:00pm - 3:00pm Vermont DOT presentation Part 1 *3:00pm - 3:15pm Break *3:15pm - 5:15pm Vermont DOT presentation Part 1 (cont') *5:15pm - 5:45pm Daily Wrap up	*1:00pm - 3:00pm Group Discussion: findings and recommendation *3:00pm - 3:15pm Break *3:15pm - 5:15pm Group Discussion: findings and recommendation *5:15pm - 5:45pm Daily Wrap up	Travel day
		*7pm – 8pm Scan Team kick off meeting (scan team only)					(Invited participants travel home)	

Monday 26-Oct	Day 1	Tuesday 27-Oct	Day 2	Wednesday 28-Oct	Day 3	Thursday 29-Oct	Day 4	Friday 30-Oct	Day 5
Time	Speaker	Time	Speaker	Time	Speaker	Time	Speaker	Time	TEAM ONLY
WEBEX LINK	https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=m39711bbbe5192dd39e0743fea206e7b7	WEBEX LINK	https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php=m39711bbbe5192dd39e0743fea206e7b7	WEBEX LINK	https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=m39711bbbe5192dd39e0743fea206e7b7	WEBEX LINK	https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=m39711bbbe5192dd39e0743fea206e7b7	WEBEX LINK	https://aroraandassociates.my.webex.com/aroraandassociates.my/j.php?MTID=m39711bbbe5192dd39e0743fea206e7b7
* 10:00 am- 10:30am ET (9-9:30 am CT, 8-8:30 am MT, 7-7:30am PT, 6-6:30am Alaska T)	Opening comments and roll call	* 10:00 am- 12:30pm ET (9-11:30am CT, 8-10:30am MT, 7-9:30am PT, 6-8:30am AT)	Vermont Agency of Transportation Presentation By Christine Hetzel Session Moderator: Bill Lambert	* 10:00 am- 12:30pm ET (9-11:30am CT, 8-10:30am MT, 7-9:30am PT, 6-8:30am AT)	Texas DOT Presentation By Kendra M. Campbell	* 10:00 am- 12:30pm ET (9-11:30am CT, 8-10:30am MT, 7-9:30am PT, 6-8:30am AT)	Briefing on USGS Workforce Plan by Rick Smith	* 11:00 am- 11:30am ET (10am - 10:30CT, 9-9:30am MT, 8-8:30am PT, 7-7:30am AT)	*Principal Investigator Opeing comments *Team Chair and SME comments
* 10:30 am- 12:30pm ET (9:30-11:30am CT, 8:30-10:30am MT, 7:30-9:30am PT, 6:30-8:30am AT)	Alaska State Presentation Presentation By Amanda Holland							*11:30am - 12:30pm ET (10:30am -11:30am CT, 9:30-11:30am MT, 8:30-10:30am PT, 7:30-9:30am AT)	Scan Team discussion and finalization of Significant Findings, Conclusions and Recommendations
12:30 pm - 1:00 pm ET (11:30am -12pm CT, 10:30am -11am MT, 9:30am -10am PT, 8:30am - 9am AT)	Break	12:30 pm - 1:00 pm ET (11:30am -12pm CT, 10:30am -11am MT, 9:30am -10am PT, 8:30am - 9am AT)	Break	12:30 pm - 1:00 pm ET (11:30am -12pm CT, 10:30am -11am MT, 9:30am -10am PT, 8:30am - 9am AT)		12:30 pm - 1:00 pm ET (11:30am -12pm CT, 10:30am -11am MT, 9:30am -10am PT, 8:30am - 9am AT)	Break	12:30 pm - 1:00 pm ET (11:30am -12pm CT, 10:30am -11am MT, 9:30am -10am PT, 8:30am - 9am AT)	Break
*1:00pm - 2:30pm ET (12pm - 1:30pm CT, 11am-12:30pm MT, 10am-11:30am PT, 9am -10:30am AT)	Alaska presentation (continue) By Amanda Holland	*1:00pm - 2:30pm ET (12pm-1:30pm CT, 11am-12:30pm MT, 10-11:30am PT, 9-10:30am AT)	Private sector presentation By Eugeniya Kirovskaya Session Moderator: Rick Smith	*1:00pm - 2:30pm ET (12pm-1:30pm CT, 11am-12:30pm MT, 10-11:30am PT, 9-10:30am AT)	Washington State DOT presentation By Jeff Pelton Session Moderator: Brian Brown	*1:00pm - 2:30pm ET (12pm-1:30pm CT, 11am-12:30pm MT, 10-11:30am PT, 9-10:30am AT)	Attention!! This session will use following Zoom link: https://zoom.us/j/97169082912 Private sector presentation-WiLD Leaders By Dr. Rob McKenna, Dr. Daniel Hallak, Megan Lawrence, Claire Jenkins Session Moderator: Amanda Holland	*1:00pm - 2:30pm ET (12pm-1:30pm CT, 11am-12:30pm MT, 10-11:30am PT, 9-10:30am AT)	Scan Team - Development of Report Outline
*2:30pm - 3:00pm ET (1:30pm - 2:00pm CT, 12:30 pm-1:00pm MT, 11:30am-12:00pm PT, 10:30am - 11am AT)	Break	*2:30pm - 3:00pm ET (1:30pm - 2:00pm CT, 12:30 pm-1:00pm MT, 11:30am-12:00pm PT, 10:30am - 11am AT) Break	Break	*2:30pm - 3:00pm ET (1:30pm - 2:00pm CT, 12:30 pm-1:00pm MT, 11:30am-12:00pm PT, 10:30am - 11am AT) Break	Break	*2:30pm - 3:00pm ET (1:30pm - 2:00pm CT, 12:30 pm-1:00pm MT, 11:30am-12:00pm PT, 10:30am - 11am AT) Break	Break	*2:30pm - 3:00pm ET (1:30pm - 2:00pm CT, 12:30 pm-1:00pm MT, 11:30am-12:00pm PT, 10:30am - 11am AT) Break	Break
*3:00pm - 4:00pm ET (2:00pm -3:00pm CT, 1:00pm-2:00pm MT, 12:00pm-1:00pm PT, 11am - 12pm AT)	Alaska State presentation (continue) By Amanda Holland	*3:00pm - 5:00pm ET (2:00pm - 4:00pm CT, 1:00pm-3:00pm MT, 12:00pm-2:00pm PT, 11am - 1pm AT)	Private sector presentation By Cara Griffith, Tandem Motion Session Moderator: Amanda Holland Special Note: You will received an invitation from Mural for this session	*3:00pm - 4:30pm ET (2:00pm -3:30pm CT, 1:00pm-2:30pm MT, 12:00pm-1:30pm PT, 11am - 12:30pm AT)	Washington State DOT presentation (Continue) By Jeff Pelton Session Moderator: Brian Brown	*3:00pm - 4:30pm ET (2:00pm -3:30pm CT, 1:00pm-2:30pm MT, 12:00pm-1:30pm PT, 11am - 12:30pm AT)	Attention!! This session will use following Zoom link: https://zoom.us/j/97169082912 Private sector presentation-WiLD Leaders By Dr. Rob McKenna, Dr. Daniel Hallak, Megan Lawrence, Claire Jenkins Session Moderator: Amanda Holland	*3:00pm - 4:00pm ET (2:00-3:00pm CT, 1:00-2:00pm MT, 12:00-1:00pm PT, 11am-12pm AT)	Scan Team - Development of Report Outline (continue)
*4:00pm - 5pm (3:00pm - 4:00pm CT, 2:00pm-3:00pm MT, 1:00pm-2:00pm PT, 12pm -1pm AT)	Daily Wrap up (roundtable)	*5:00pm - 6:00pm (4:00pm - 5:00pm CT, 3:00pm-4:00pm MT, 2:00pm-3:00pm PT)	Daily Wrap up (roundtable)	*4:30pm - 5:30pm (3:30pm - 4:30pm CT, 2:30pm-3:30pm MT, 1:30pm-2:30pm PT, 12:30 -1:30pm AT)	Daily Wrap up (roundtable)	*4:30pm - 5:30pm (3:30pm - 4:30pm CT, 2:30pm-3:30pm MT, 1:30pm-2:30pm PT, 12:30 -1:30pm AT)	Daily Wrap up (roundtable) Adjorn the Workshop	*4:00pm - 5:45pm ET (3:00-4:45pm CT, 2:00-3:45pm MT, 1:00-2:45pm PT, 12-1:45pm AT)	Scan Team - Development of Draft Dissemination Plan
								*5:45pm -6pm ET (4:45pm - 5pm CT, 3:45 -4pm MT, 2:45-3pm PT, 1:45-2pm AT)	Adjorn the Workshop

Appendix G:
Amplifying Questions

Following are the amplifying questions the scan team developed. Each scan host agency was asked to provide responses to these questions before the scan meeting and to orient its scan meeting presentation around aspects of these questions.

Introduction

Thank you for taking time to respond to the following amplifying questions (AQ). There are 52 questions organized into nine broad topic areas:

- General

- Human Capital

- Design/Development

- Implementation

- Performance Measures/Management

- Organizational

- Forecasting

- Plan Elements

- Resources

The scan team encourages agencies to develop answers to the AQ in a PowerPoint presentation. Additionally, agencies are encouraged to circulate the AQ throughout their headquarters, field districts, and individual business units. If your agency (or some of your business units) has a particularly successful practice to share, please provide a more in-depth description of the practice.

General

1. Agency information:

   a. Agency size and organizational structure; relevant workforce demographic data

   b. Y/N – Has a comprehensive strategic workforce management plan.

   c. Related regulations, policies, etc.

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management (KM), workforce development, role designation)?

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

3. How are human capital strategies administered?

4. Who is the agency's point of contact on workforce management and human capital strategies?

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

3. What process did you use to develop your strategic workforce management plan?

4. How did you determine which elements to include in your strategic workforce management plan?

5. What factors prompted the development of a strategic workforce management plan?

6. Is your plan impacted by collective bargaining? Please explain.

7. Do you have targeted human capital strategies, or do you have one strategy that applies to all employees?

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain.

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

Implementation

1. How did you implement the strategic workforce management plan?

2. What lessons were learned implementing the plan? Please describe.

3. Who takes ownership after implementation?

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is it automatic?

Performance Measures/Management

1. 1. What were your goals when you began?

2. How did you measure success?

3. What worked? What did not work?

4. What would you do differently?

5. What unexpected results did you realize?

6. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

2. How has senior management been involved?

3. How has the plan been received at all levels and all disciplines of the organization?

4. How do you sustain or institutionalize workforce management?

5. What are your plans (e.g., expansion, abolishment, status quo)?

6. What obstacles did you overcome in order to have a successful plan?

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

Forecasting

1. What are the critical workforce trends your agency is monitoring/addressing?

2. What skills and competencies will be needed for future program delivery?

3. What is the turnover in each critical job family and why?

4. Where will new employees and new skills come from (e.g., in-house development, contract)?

5. Has your agency developed a set of competency standards for critical positions?

6. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

7. What other agencies do you partner with for information? What sources of data do you use or have access to?

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

2. Which element/activity did not go as planned? What happened? Any ideas why?

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

4. **Employee Recognition:** In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

5. **Succession Planning**: How does your agency anticipate and plan for future needs and key staff positions?

6. **Onboarding**: What techniques have proved successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

7. **Modern Work Environment**: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

8. Do you have examples of other plan elements? Please describe.

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

3. How much staff time is spent administering the plan?

4. What are the costs associated with the plan?

5. Is the plan an ongoing budget expense or do you need to request funding every year?

6. What type of technology is used in the plan?

Appendix H: Scan Participant Scan Participant Responses to Amplifying Questions

"This appendix was developed largely based on material submitted by scan participants and has been selectively edited for clarity. The main report body includes extracts from this material to illustrate key scan findings. Questions for which there were no responses have been omitted."

Alaska

General

1. Agency information:

    a. Agency size and organizational structure, relevant workforce demographic data

Please see power point slides

    b. Y/N – Has a comprehensive strategic workforce management plan.

    2011: First strategic workforce management plan was adopted – called the Workforce Excellence Program (copy of draft plan provided in cloud drive folder)

    2013: Workforce plan was updated; can be found here: https://humanresources.transportation.org/resources/

    2018: Workforce plan was revised; incorporated knowledge management (copy of draft plan provided in cloud drive folder)

    c. Related regulations, policies, etc.

    State of Alaska, Division of Personnel & Labor Relations policy, and procedure: the standard operating procedures address certain aspects of strategic workforce planning such as recruitment and classification but there are currently no SOPs specifically for workforce planning.

    DOT&PF strategic plan initiative: One DOTPF – this project calls for workforce planning and organizational review.

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management (KM), workforce development, role designation)?

    The current DOTPF workforce plan contains the following elements:

    1. **Employee Recognition**- Communication between co-workers, management, employees, stakeholders which rewards individuals or teams for high quality results in the workplace. Recognizing or honoring employees acknowledges their contributions, fosters employee engagement, and encourages continued excellence.

        a. Formal recognition program

        b. Routine performance feedback

        c. Incentives program

2. **Employee Wellness and Engagement** – Employee wellness focuses on improving the health of individuals in the workforce. Employees who feel engaged in the workplace often experience improved communication, trust, and morale while at work. They tend to be healthier overall and have greater job satisfaction and retention.

   a. Annual employee engagement survey

   b. Wellness program

   c. CREW program (civility, respect, engagement)

3. **Knowledge Management** – Knowledge management (KM) is a collection of policies, processes, and practices relating to the cultivation, identification and documentation, utilization, sharing, and retention of intellectual/knowledge-based assets in an organization. It is a management practice that fosters collaboration across organizational and disciplinary boundaries and links people who have the requisite knowledge with those who need it to do their jobs.

   a. Steering committee

   b. Integrated

   c. Core competencies

   d. Technology

4. **Modern Work Environment** – Employee engagement, retention, wellness, and performance can be enhanced when employees are satisfied with their work environment.

   a. Infants in the workplace

   b. Flexible hours/workweeks

   c. Telecommuting

   d. Ergonomic workstations

   e. Team rooms

   f. Break rooms

   g. Virtual workplace

   h. BYOD (bring your own device) to work

5. **Succession Planning** – Succession planning focuses on developing employees to increase the likelihood of their success in future jobs within the department. It is designed to increase the availability of experienced and capable employees who are prepared to assume higher level or more complex positions when those positions become vacant.

     a.   Strategic recruitment

     b.   Employee retention program

     c.   Mentoring/coaching

     d.   Stretch assignments

     e.   Resources/references

6. **Workforce Development** – Workforce development focuses on professional and personal development at the individual, team, and organizational level in order to keep an agency's workforce current with best practices, research findings, and business processes. Robust workforce development programs can increase innovation, employee engagement, job satisfaction, productivity, and retention.

     a.   Supervision/leadership

     b.   Department competencies

     c.   Technical training

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

   The elements are included in the workforce management plan based on departmental feedback (e.g., SWOT analysis, workforce demographics, etc.) and current business needs. For example, one year the department's SWOT analysis identified a need for increased project management training and development opportunities. This need was then incorporated into the workforce management plan's workforce development element.

   The strategic workforce management plan is part of the department's strategic plan, which is updated annually.

3. How are human capital strategies administered?

   The strategies are administered through the Commissioner's Office by a combination of department executives and HR professionals, depending on the element and the nature of the action items. For example, department executives coordinated and oversaw portions of the organizational review while HR professionals focused on the strategic recruitment action items. In addition, some action learning teams from the leadership development program were also assigned elements of the workforce management plan.

4. Who is the agency's point of contact on workforce management and human capital strategies?

   Point of contacts: HR Manager Dana Phillips and Deputy Admin Director Sunny Haight

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

   DOTPF used two primary models for its workforce plan: Iowa DOT and the Human Capital Institute (HCI)- https://www.hci.org/

   2010 – Attended the Human Capital Institute's strategic workforce planning certification program; developed a business case for workforce plan and gained executive support.

   2010/11 – Peer exchange with Iowa DOT – Iowa came to Alaska and provided hands-on training to interview focus groups, gather and analyze data, and develop the first draft workforce plan. We had several virtual follow-up meetings to refine and finalize the first workforce plan.

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

   The workforce management plan is completely aligned with the agency's strategic plan. In fact, the agency's strategic plan informs the workforce management plan. The workforce plan is developed and issued on the same timeline as the agency's strategic plan; progress reports for the workforce plan are part of the regular agency strategic plan progress reports.

3. What process did you use to develop your strategic workforce management plan?

   We started with the HCI workforce planning model and walked through an agency analysis using the HCI process. Then we worked with Iowa DOT to fine tune and customize the workforce plan so it aligned more closely with DOTPF. We monitored successes and lessons learned annually, then modified the workforce plan as the agency's strategic plan adjusted. The most recent workforce plan incorporated knowledge management. Each iteration of the workforce plan followed the initial template that was a combination of HCI and Iowa DOT processes.

4. How did you determine which elements to include in your strategic workforce management plan?

   Elements were included based on department feedback. Supervisors, managers, subject matter experts, and executives were interviewed and surveyed to help determine the department's workforce needs and competency gaps. We provided a list of potential elements based on information from SHRM and HCI and then edited the list as we received department-specific feedback. For example, we added civility training based on department feedback; it was not part of the SHRM or HCI standard example.

5. What factors prompted the development of a strategic workforce management plan?

   In 2010, DOTPF did a workforce demographics analysis and identified job classes and disciplines/fields where there was high turnover, high retirement eligibility, and large competency gaps. This analysis demonstrated the need for a comprehensive workforce plan

with a focus on the most vulnerable areas of the organization's workforce (e.g., masters, mates, and pilots in the Alaska Marine Highway System). The department then established a temporary project position to establish the workforce plan, including an implementation plan that would integrate workforce planning into the permanent workforce. The temporary position was on staff for six months.

6. Is your plan impacted by collective bargaining? Please explain.

   Yes, DOTPF has seven different collective bargaining agreements, all of which must be taken into consideration when developing the workforce plan. Some elements and practices are not possible in the union environment. Other elements must be developed and rolled out in accordance with collective bargaining stipulations.

7. Do you have targeted human capital strategies or do you have one strategy that applies to all employees?

   The workforce plan is built to be flexible enough to apply to some targeted areas as well as to apply to all employees. For example, in the Workforce Development element, there is targeted leader and technical training and there is core competency training that applies to all employees.

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain?

   Yes, the plan is comprehensive across the department and there are elements that cross disciplines, job functions, and/or divisions. For example, the employee recognition program is for outstanding work, regardless of discipline, role, or location. In fact, the team segment of the recognition program can include members from a variety of fields and divisions who formed a nominated team.

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

   The strategies were primarily developed in-house. Some, however, required an expertise we did not have in-house, such as the Leadership Development program and the CREW program. In those instances, we hired a contractor/consultant, but always with the idea of figuring out how we could learn/develop the skills needed so that future offerings could be provided in-house.

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

   2018 marked the year DOTPF focused on a more comprehensive KM program. A department task force was established, and a steering committee was formed to govern KM and data. The KM effort waned in 2019 and while the department remains interested in KM, it is not currently committing the resources needed for an agencywide KM program.

Implementation

1. How did you implement the strategic workforce management plan?

   First, we built a business case for workforce management, using workforce demographics that were tied to the department's strategic plan. The commissioner was most interested in recruitment strategies for difficult-to-fill vacancies. After providing workforce data and some targeted recruitment strategies, we branched out to show how additional elements like training and development, retention, and employee engagement could augment the strategic recruitment efforts. Between 2008 and 2010, we focused on immediate recruitment results and broadening human capital strategies. In 2010, we received permission to develop the first fully comprehensive workforce management plan.

   Upon receiving permission from the commissioner and the executive leadership team, we obtained a workforce planning certification from HCI and began reaching out to sister agencies through AASHTO to find a DOT mentor. Iowa DOT agreed to help us conduct our first complete workforce analysis and then develop our first plan.

   Once the plan was developed, the agency's leadership team endorsed it and we began implementing the plan, with regular reports to the leadership team.

   The plan has been updated and revised over time to reflect the agency's needs and to eliminate or add elements, depending on successes and lessons learned through implementation.

2. What lessons were learned implementing the plan? Please describe.

   The PowerPoint slide deck lists the key lessons learned (slide 42). Other lessons include:

   - Organizational culture/mindset – Building the business case for strategic workforce management is critical and it should address the burning workforce issues the department is currently experiencing.

   - Organizational review – DOTs may have the desire but not the skill sets to conduct an effective organizational review. Data should be collected in an organized and intentional manner that ensure the right questions are being asked and answered.

   - Workforce management plans often have more long-term benefits than short-term "wins" – This can make it difficult to maintain momentum as the workforce plan is implemented. Agencies may implement the elements they see as most critical or urgent but then fail to dedicate resources to finish the implementation.

   - Developing that first plan is much easier and more effective when you have a sister DOT to help/mentor your workforce planning team. That said, a hybrid plan that incorporates private sector processes and research with an experienced DOT's processes will provide an even better plan.

   - People have a tendency to talk and think about workforce challenges, offering wonderful ideas and insights. Unfortunately, those same people often fail to go beyond the problem definition stage and take action. One reason may be that it can require more dedication and resources than expected to implement those ideas effectively.

3. Who takes ownership after implementation?

    HR, with executive support from the Commissioner's Office and the agency's strategic plan.

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is it automatic?

    Ideally, on an annual basis in conjunction with the department strategic plan. The plans often stretch across two to three years, particularly during a potential administration change. This helps maintain continuity for the long-term portions of the plan.

    Triggers – Annual strategic planning process and significant workforce disruptions (like a pandemic, disaster, economic changes, etc.).

Performance Measures/Management

1. What were your goals when you began?

    Excerpt from 2010 plan (full plan was provided in the cloud drive folder):

    ### EXECUTIVE SUMMARY

    The Alaska Department of Transportation & Public Facilities (DOT&PF) is committed to the creation and implementation of a strategic workforce development plan that provides for the recruitment, retention, and professional growth of its workforce through a multi-pronged approach. The department's vision, mission, and strategic plan support proactive workforce development.

    Vision: A Department of Transportation and Public Facilities that plans, designs, constructs, operates and maintains quality, safe, efficient sustainable transportation and public facilities that meet the needs of Alaska's diverse population, geography, and growing economy.

    Mission: The mission of the Alaska Department of Transportation and Public Facilities is to provide for the safe movement of people and goods and the delivery of state services.

    The department's business philosophy includes: to provide employee satisfaction and to have fun doing it. Goal #5 of the strategic plan states: **Promote career growth and safety of all staff.**

    DOT&PF has adopted an eight-stage workforce planning model that ties the workforce development plan directly to the strategic plan. This ensures employee development and growth opportunities support the current and projected future workforce needs of the agency.

    Departments of Transportation across the nation have identified the need for strategic workforce development plans. The NCHRP Workforce Toolkit identifies the Top Ten 2010 DOT workforce needs:

1. Strategic Workforce Planning

2. Attracting and Retaining Talent

3. Retooling the Workforce to Meet Evolving Business Needs

4. Grooming the Next Generation of Leaders

5. Downsizing

6. Preserving Institutional Knowledge

7. Employee Conflicts and Performance Issues

8. Outsourcing

9. Organizational Change – Reengineering and Reorganization

10. Improving Efficiency and Effectiveness of the HR Function

2. How did you measure success?

   Provided quarterly, annual reports on progress and accomplishments – see sample report below:

Alaska Department of Transportation and Public Facilities
Workforce Excellence December 2011

2011 Major Accomplishments

Available online at the Employee Intranet*

- DOT&PF Custom New Employee Orientation
  - Introduction to DOT&PF mission and structure
  - Quick reference guide

- ○ Includes employee entrance survey
- ○ Located on the "Human Resource Services for DOT&PF" home page
- ■ DOT&PF Supervisor Toolkit
  - ○ Introduction to DOT&PF supervisory role and responsibility
  - ○ Quick reference guide
  - ○ Located on the "Human Resource Services for DOT&PF" website, under "For Supervisors"
- ■ STARS (state training and reporting system)
  - ○ Learning management system
  - ○ Maintains training records and transcripts
  - ○ More functions will roll out in 2012
  - ○ Click on the STARS button located on the employee intranet
- ■ Updated Nepotism and Ethics P&P
  - ○ Located on the "Administrative Services" website, under "Policies & Procedures"
- ■ Workforce Excellence Website
  - ○ Program web pages, timelines, and references
  - ○ Located on the "Administrative Services" website, under "Workforce Excellence"

Coming Soon: 2012

- ■ Mentorship Program (January)
  - ○ Website currently in beta testing
  - ○ Scheduled launch department-wide 4 Jan 2012
- ■ Core Value Samples (January)
  - ○ Includes interview questions and performance evaluation wording
  - ○ Available on Workforce Excellence website 6 Jan 2012
- ■ Updated Training P&P (February)
- ■ Leadership Development Program (April)
  - ○ Custom to DOT&PF

*To access the DOT&PF Employee Intranet, simply scroll to the bottom of the DOT&PF home page. Choose "Links for DOT&PF Staff" and then choose "Employee Intranet." After entering your LDAP username and password, click the button that says, "Enter DOT&PF Intranet" near the top of the page.

3. What worked? What did not work?

- Annual employee engagement survey was successful. It provided valuable feedback for modifying the workforce management plan and provided stable numerical data for annual comparisons.

- Promotion rates for graduates of the Leadership Development Program were valuable and meaningful in demonstrating the effectiveness of the program.

- Recruitment and retention data was spotty and inconsistent. It did not provide the information we were expecting and so it was challenging to pinpoint root causes for continued issues.

- Employee recognition program data was effective and informative.

4. What would you do differently?

- Establish baseline information up front so that it is easier to measure the impact of the workforce management plan over time.

- Measure productivity savings to illustrate the efficiencies that were gained.

- Establish a more interactive communication plan – for example, hold quarterly all-staff virtual town halls to gather feedback and raise awareness and use of the plan.

5. What unexpected results did you realize?

- Many employees wanted to be a part of the workforce plan. We had hundreds of employees volunteer to help with developing the plan and implementing its elements. A workforce plan that is an integral part of many employees' workday has a much better chance of success and sustainability.

6. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

- Communicate plan through Commissioner newsletter, website, and quarterly staff meetings

- Annual employee engagement survey indicates employee awareness (to some extent); another way to measure is recommended

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

   The plan was driven by the executive leadership team and then it was developed through a lot of employee input and feedback.

2. How has senior management been involved?

- Executive sponsorship of the plan; inclusion in the agency's strategic plan

- Executives were assigned different portions of the organizational review

- Executive leadership team reviews employee engagement survey results and incorporates them into the strategic plan and workforce plan

3. How has the plan been received at all levels and all disciplines of the organization?

    It has received varied responses. All levels were interested in the concept; not all were receptive to including their discipline in the plan (it was fine for others). Most common request was for more information, frequent communication, and additional opportunities for feedback.

4. How do you sustain or institutionalize workforce management?

    - Keep it part of the annual strategic plan

    - Incorporate elements into daily work of the agency

5. What are your plans (e.g., expansion, abolishment, status quo)?

    Status quo for 2020. It is possible that certain elements of the plan will be postponed due to budget challenges.

6. What obstacles did you overcome in order to have a successful plan?

    Manager and supervisor buy-in, especially for the call on resources to implement the plan and for employees to participate in the plan.

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

    Working to include KM into the workforce management plan

Forecasting

NOTE: The State of Alaska recently changed Enterprise Resource Planners and the current system does not allow for workforce demographics or people analytics. We are working to get a system in place that will support effective people analytics.

1. What are the critical workforce trends your agency is monitoring/addressing?

    Diversity, retirement eligibility, years of service

2. What skills and competencies will be needed for future program delivery?

    Data analytics skills, people analytics skills

3. What is the turnover in each critical job family and why?

    Data not currently available

4. Where will new employees and new skills come from (e.g., in-house development, contract)?

    Colleges and universities, in-house, and contract

5. Has your agency developed a set of competency standards for critical positions?

    Currently in process

6. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

> Currently in process; have some regional documentation as well as some statewide environmental engineering documentation that can be provided on request

7. What other agencies do you partner with for information? What sources of data do you use or have access to?

State's Division of Personnel and Labor Relations; owns the Human Resource system

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

> Leadership Development Program: nationally recognized, innovative, and effective (see slide deck)

2. Which element/activity did not go as planned? What happened? Any ideas why?

> Mentorship program – difficult to get volunteer mentors

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

> Leadership development program, organizational review, CREW program

4. **Employee Recognition**: In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

> DOTPF has several internal awards such as the Extra Mile Award; there is also a governor-sponsored enterprise-wide recognition program, the Denali Peak Performance program.

5. **Succession Planning**: How does your agency anticipate and plan for future needs and key staff positions?

> Retirement projections by job function/discipline help to pinpoint vulnerable areas/positions. Collective bargaining places restrictions on succession planning activities.

6. **Onboarding**: What techniques have proved successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

> Custom interactive online onboarding system brings employees up to speed on the department culture and mission quickly

7. **Modern Work Environment**: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

> Increased alternate workweek schedules and teleworking opportunities

8. Do you have examples of other plan elements? Please describe.

   Plan elements are available in the workforce plans that are included in the cloud drive folder.

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

   HR business partner/manager position with some support; total effort is roughly two full time employees FTEs spread over four to five positions.

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

   Initial plan was developed by the temporary project position, then moved to HR and the Commissioner's Office.

3. How much staff time is spent administering the plan?

   .5 to 1 FTE

4. What are the costs associated with the plan?

   Staff time, consultant for certain aspects of leadership development, travel costs

5. Is the plan an ongoing budget expense or do you need to request funding every year?

   It became an ongoing expense in 2014.

6. What type of technology is used in the plan?

   The state's HR management system and DOTPF's in-house SharePoint site. In the future, an enterprise-wide onboarding system will be available, as well as a learning management system and performance management system.

Arkansas

General

1. Agency information:

   a. Agency size and organizational structure, relevant workforce demographic data

      ARDOT has approximately 3750 full-time regular employees. With seasonal help during the summer months, the total number increases to approximately 3850.

Occupation Category	Count
Administrative Officials	38
Professionals	789
Technicians	564
Protective Services	121
Office Clerical	351
Skilled Craft	1432
Service/Maintenance	448
Grand Total	3743

b. Y/N – Has a comprehensive strategic workforce management plan

Our SWMP consists of multiple elements tied directly to our agency's strategic plan.

c. Related regulations, policies, etc.

N/A

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management, workforce development, role designation)?

Succession planning and knowledge management – We are currently in a pilot program for knowledge management that will also include an element of succession planning as the program matures. Our current succession planning efforts are focused mainly on filling critical positions several months in advance of the departing employee's retirement to facilitate knowledge transfer and do some on-the-job training.

Employee development – ACE program

Employee wellness – We have increased our efforts in wellness to include on-site cardiovascular screenings, cancer screenings, lunch and learns with health professionals, a monthly heart-healthy food truck, etc.

Engagement – We have developed an engagement strategy to address pain points identified in our employee engagement surveys from 2015, 2017, and 2019. We plan to conduct another survey in 2021.

Employee recognition – Our long-standing recognition programs include annual bonuses for employees with 10 or more years of service, service certificates for every five years of employment, and, prior to the implementation of performance-based pay, employees were awarded merit raises for exceptional performance. A few years ago, we replaced the merit

raises with performance-based pay and implemented the ACE program, which includes a feedback tool for frequent recognition throughout the year. We have also implemented new recognition initiatives that include the Director's Diamond Award, new feedback badges in ACE, and several other nonmonetary awards.

Recruitment – Several years ago we implemented an automated hiring/applicant tracking system that increased our applicant pool by 200%. We also began advertising on more social media sites, such as LinkedIn. We have recently expanded our recruiting efforts with additional professional staff to include not only recruiting for engineers at colleges, but other sources such as nonprofit job fairs, high schools, trade schools, partnering with the Arkansas Department of Workforce Services to host job fairs, etc. We also recently increased entry-level salaries and plan to increase them again in December to correspond with two minimum wage increases and to help with recruitment.

Retention – ACE program and performance-based pay (see "Employee recognition" above)

Diversity and inclusion – Workforce diversity training and employee engagement initiatives

Change management – We are working with other ARDOT personnel to develop more effective communications strategies, including a visual communications system pilot.

Leader development – Since 2015, we have invested nearly $1 million in leadership development and training through the Dale Carnegie leadership development program. We are currently developing our own in-house leadership development program with a goal to implement by summer.

Workforce development – Our leadership development program, investment in online learning content, and a newly developed maintenance training academy are just a few of our major efforts in workforce development.

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

   Prioritization is determined based on the needs and resources available. HR Division management, in coordination with top management, analyzes employee feedback (received mostly through engagement surveys, new hire surveys, and exit surveys) to determine and prioritize critical needs. Yes, all our initiatives are tied to ARDOT's strategic plan and the objectives are heavily oriented toward human capital.

3. How are human capital strategies administered?

   Through cooperation and communication among the HR management team, HR professional staff, the ARDOT management team, and cooperation from managers in the field at all levels.

4. Who is the agency's point of contact on workforce management and human capital strategies?

   HR Division Head Crystal Woods and/or HR Assistant Division Head Alicia Hunt.

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

   All our plans, projects, programs, and initiatives have come from multiple sources, including our own vision and our management team's vision for the workforce of the future. We utilize research and information gathered from SHRM, Central Arkansas Human Resources Association (Arkansas SHRM Chapter), other DOTs, private sector companies, etc. We also have a consultant firm, McLean & Company, that assists us with the development of our HR Strategies.

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

   Several of our agency's strategic goals and objectives are tied directly to human capital. All our initiatives are designed to support those goals and objectives, either directly or indirectly.

3. What process did you use to develop your strategic workforce management plan?

   The development of our plan was not a single process, but a series of processes, discussions, surveys, training, etc., that led us to where we are today.

4. How did you determine which elements to include in your strategic workforce management plan?

   Through collaboration with top management to analyze our engagement surveys, communication surveys, and other feedback from employees and managers, as well as trends in the workforce, helped us prioritize our efforts.

5. What factors prompted the development of a strategic workforce management plan?

   A changing workforce and the need to plan. Our average tenure has dropped from 16 to 11 years just in the last five years. As many baby boomers are retired, the next generation is beginning to retire, and the needs of our workforce are changing rapidly. Low unemployment in Arkansas is another driving factor. We must be able to compete to recruit and retain a skilled workforce, and we must take a more formal approach. The days of the attractiveness of the stability and benefits offered by the public sector are fading, and we must plan and react accordingly.

6. Is your plan impacted by collective bargaining? Please explain.

No.

7. Do you have targeted human capital strategies, or do you have one strategy that applies to all

employees?

> Some of our strategies are focused on a segment of our employee population (e.g., leadership development, Infant-at-Work program, increasing entry-level salaries), but our overall strategies are aimed at all employees.

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain.

> Yes, one example is our knowledge management strategy, which includes establishing communities of practice in specific disciplines and in cross-functional disciplines. Almost all our initiatives are intended to cross job functions, disciplines, and organizational segments.

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

> HR Division management worked closely with top management to identify areas where we needed to focus our strategic development. We also work with a consultant to provide guidance and input on our HR strategy.

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

> Formal KM is a new strategy for ARDOT. We have many informal knowledge transfer techniques in place. We are working on formal development of communities of practice, mentoring, and other initiatives aside from the traditional on-the-job training of the past. We are developing plans to implement a formal KM library. We have formal onboarding, new employee orientation, job aids, and other manuals available for knowledge transfer.

Implementation

1. How did you implement the strategic workforce management plan?

> Each program and initiative was implemented or is to be implemented individually as opposed to implementing the entire plan at once.

2. What lessons were learned implementing the plan? Please describe.

> We learn lessons each time we implement something new, most of which center around the need for better change management and communication.

3. Who takes ownership after implementation?

> HR

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is automatic?

> We consider our plan to be organic, constantly changing, growing, and developing as we receive input from managers, employees, external resources, etc. There are no specific

triggers. If we find something is not working, we adjust accordingly. We do an employee engagement survey every other year. These surveys have proven to be valuable tools in helping us review and update where adjustments to our strategies may be necessary.

Performance Measures/Management

1. What were your goals when you began?

   One overall, overarching goal is to achieve a level of employee engagement that meets the benchmarks established by our consultant.

2. How did you measure success?

   Through employee engagement surveys and other methods of employee feedback.

3. What worked? What did not work?

   Our work-life balance initiatives appear to have worked well; our changes to the pay plan/pay grades have not been well-received.

4. What would you do differently?

   More time to implement changes to pay plan/pay grades in a more methodical, scientific manner and to communicate the changes/manage the employee perceptions better.

5. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

   That is the problem; we have not communicated it well so far and as a result, there is little awareness.

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

   The plan was driven by both HR management and top management.

2. How has senior management been involved?

   Our senior management team has been involved every step of the way. The team provides input, feedback, and shares its vision. HR works to see the team's vision through to fruition.

3. How has the plan been received at all levels and all disciplines of the organization?

   Some elements are better received than others. Any time there is change, there is resistance. Implementing formal performance evaluations was one of our biggest challenges since we had not done them in almost 30 years. Most of our managers had never conducted a performance evaluation and many of our employees were not accustomed to being evaluated in a formal manner.

4. How do you sustain or institutionalize workforce management?

   We try to promote a consistent message in all that we do. We have HR professionals in the field who help drive the points home to the field managers and our workforce.

5. What are your plans (e.g., expansion, abolishment, status quo)?

> We plan to continue the trajectory we have been on. We intend to implement all the key components of our employee life cycle and our HR strategic plan. We will continue to solicit feedback and evaluate the needs of our workforce when adjusting the plan.

6. What obstacles did you overcome in order to have a successful plan?

> The biggest obstacle has been resistance to change. We are still developing strategies to address skepticism among employees who do not believe some of our initiatives will last the long haul, like performance-based pay.

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

> It is not a defined part of the KM strategy yet, although there are elements implied in succession planning, knowledge transfer, and leadership development. Alicia Hunt is our KM contact person and agency representative on the AASHTO KM Committee.

Forecasting

1. What are the critical workforce trends your agency is monitoring/addressing?

> Turnover, pay, telecommuting

2. What skills and competencies will be needed for future program delivery?

> Adaptability, innovation, decision making.

3. What is the turnover in each critical job family and why?

> Turnover is high in service/maintenance and skilled craft categories due to low pay.

4. Where will new employees and new skills come from (e.g., in-house development, contract)?

> In-house development

5. Has your agency developed a set of competency standards for critical positions?

> In the process of doing so

6. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

> No

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

> Performance-based pay because it was so needed for so long.

2. Which element/activity did not go as planned? What happened? Any ideas why?

Adjustments to pay plan/pay grades in preparation for performance-based pay were not well received and are widely misunderstood due to lack of communication/change management.

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

Our leadership development program is a long-term progressive program that will theoretically take a self-identified "future leader" all the way through his or her entire career, culminating in a top management leadership position and building higher level leadership skills along the way.

4. Employee Recognition: In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

Feedback rewards/badges for innovative ideas, teamwork, helping others, etc.

5. Succession Planning: How does your agency anticipate and plan for future needs and key staff positions?

In the process of analyzing critical positions now.

6. Onboarding: What techniques have proven successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

We recently launched an updated new employee orientation program where new hires receive historical information about the agency, are assigned a "buddy" to show them the ropes for the first few months, etc. Some of our onboarding is now done electronically through our hiring management system. Some of our information-sharing is done through ACE electronically, such as having employees sign off on new policies or indicate their understanding of a large change in our processes.

7. Modern Work Environment: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

We are amid a pilot Infant-at-Work program now. We allow limited telework in specific situations. We promote workplace diversity, inclusion, and civility through training programs that all employees are required to attend. We are also in the process of developing a workplace violence prevention program that is intended to be proactive in reducing the likelihood of a workplace violence incident at ARDOT. We are moving more systems to the cloud to allow people to work anytime, anywhere, and on any device.

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

No, unless you consider the entire HR Division to be a dedicated unit/team to oversee the plan.

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

    N/A

3. How much staff time is spent administering the plan?

    Not enough!

4. Is the plan an ongoing budget expense or do you need to request funding every year?

    Depends on new initiatives.

5. What type of technology is used in the plan?

    Learning management/performance management/compensation management system, partnership with LinkedIn Learning, automated engagement/new hire/exit surveys through HR consultant, visual communications system

Maryland

General

1. Agency information:

    a. Agency size and organizational structure, relevant workforce demographic data

        About 3,000 employees and a functional organization structure

        We have an administrator, three deputy administrators over three different areas of the organization (Planning, Operations, and Administration). We then have offices that fall under one of the three deputy administrator areas.

        These offices are run by directors. Within each office there is generally a structure that allows for division chiefs, assistant division chiefs, team leaders, and nonsupervisory employees. Each office is set up slightly different.

    b. Y/N – Has a comprehensive strategic workforce management plan

        We do not have a developed plan; however, we do have focal areas for workforce management. Currently, our two priority focal areas are recruitment and retention. For recruitment, our plan is mass hire for blanket positions within the organization. For retention, our plan is to target trainings and academies to the unique needs of different job functions to make everyone feel included in the organization and supported.

    c. Related regulations, policies, etc.

        N/A

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management (KM), workforce development, role designation)?

    Employee development (organizational development)

    Employee wellness (health and wellness initiative)

    Employee recognition (training and recognition days)

    Recruitment (centralized recruitments)

    Retention (onboarding)

    Change management (certified change manager on staff)

    Leader development (developmental programs for employees in each leg of their supervisory journey)

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

    Recruitment is our priority. Our onboarding has just been revamped. We have an entire organizational development OD staff dedicated toward development. Recently, leadership and onboarding camps have been developed to target previously underdeveloped groups in the organization with high turnover. They are tied to our strategic mission of mass hire for blanket positions across the agency and target retention to the unique needs of different job classifications.

3. How are human capital strategies administered?

    The elements identified for needing a human capital strategy were identified through turnover data and a public policy research center report. They are then administered through a specialized group whose focus is administering a human capital strategy for the issue identified.

4. Who is the agency's point of contact on workforce management and human capital strategies?

    Workforce planning manager under the deputy administrator of Administration. Currently being transferred to the strategic project manager in the Office of Administration.

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

Modeled based on the agency's unique needs and available resources. No outside plan was used as a model. We are continuing to evolve the plan.

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

Always putting people first. Customer service has always been a focus of our previous and current administrators. When we made these plans, we looked at the people versus the numbers to better our strategies, which is where our organizational development team has been highly concentrated. We implement a feedback loop system to keep internal customers/stakeholders engaged and change management through a dedicated office under the administrator.

3. What process did you use to develop your strategic workforce management plan?

SME review process and senior leadership meetings to identify key pain points in workforce management and future vision of how to bring these goals into reality.

4. How did you determine which elements to include in your strategic workforce management plan?

Through a grass roots process. Identified which elements to use by analyzing the pain points identified through the previously mentioned SME and senior leadership meetings. Included the elements that would maximize our leadership's long-term goals and limit our risk of failure.

5. What factors prompted the development of a strategic workforce management plan?

Union concerns (at first), employee feedback, high turnover rate, low retention,

6. Is your plan impacted by collective bargaining? Please Explain

Yes. Because the union is so involved with the positions we have targeted for our centralized recruitment efforts, we always make decisions based on data that allow us to objectively recommend decisions and explain to the union why they were made.

7. Do you have targeted human capital strategies, or do you have one strategy that applies to all employees?

Organizational development efforts are targeted to meet the needs of the different positions. Recruitment efforts have been targeted based on employee groups. A recruiter has been brought on staff to target engineering career fairs as this is one of the positions we hire the most of in the organization. As we grow, we will utilize surveys to measure differences in culture and key performance indicators for change management and recruitment efforts.

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain.

Yes, see the answer to question 7 (above).

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

    Developed in-house.

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

    Onboarding, mentoring, rotation programs, office dedicated to maintenance standard operating procedure storage

Implementation

1. How did you implement the strategic workforce management plan?

    Upper management facilitated the initial roll-out of the plan. Project managers facilitated participation and buy-in and gathered feedback through an open feedback system.

2. What lessons were learned implementing the plan? Please describe.

    Gathering SME feedback before mandating a plan is important for buy-in and to learn details of the process that will ensure its success. Oversight of back-end part of process (niche knowledge that was not shared) that delayed our initial roll-out. This lesson taught us to better identify key stakeholders and their roles in the process. We ran into resistance from internal stakeholders and did not factor in the extent of participation we would need on their end to successfully roll out the plan.

3. Who takes ownership after implementation?

    Project managers in each key area are responsible for the project that is developed for the plan (e.g., recruitment strategies under recruitment and examination; onboarding under organizational development).

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is automatic?

    It is a living plan based on needs and experience. We treat it as an organism in an open environment, constantly adapting to better thrive as an agency. We review the plan regularly as the elements being implemented are not a once-a-year implementation. We have constant SME feedback meetings and open communication with stakeholders to ensure the plan is meeting their needs.

Performance Measures/Management

1. What were your goals when you began?

    To reduce favoritism, to reduce vacancy rate, to increase retention, to pass on knowledge, to implement a training program to allow internal growth.

2. How did you measure success?

    Objective data on vacancy rates through HR Information Systems and subjective feedback loop through stakeholders

3. What worked? What did not work?

    Recruitment: Front end of process worked. Back-end, timing of process, and confidentiality needed adjustments from original roll-out.

    Onboarding: Program worked. Internal communication needed improvement between HR staff.

    Change management: Learned that we needed a team for change management as it is not a widely understood concept throughout the agency; a dedicated team needs to help implement the understanding.

4. What would you do differently?

    We would improve communication internally and better identify key stakeholders and gain buy-in; better training of new staff who are responsible for these elements.

5. What unexpected results did you realize?

    Both programs we have implemented through this workforce plan (i.e., centralized recruitment and Organizational Development Academy/Training Camp) have had better results than expected through extreme satisfaction of candidates and employees impacted.

    Recruitment: Filled more positions than expected (we exhaust candidate lists faster than originally planned for)

    Training Camp/Academy: Received positive feedback from employees and supervisors after initial resistance

6. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

    Communicated through memorandums and standard operating procedure documents. Measure employee awareness of organizational development OD programs through participation rates and recruitment awareness through employee feedback meetings.

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

    Our plan was driven by management (deputy administrators).

2. How has senior management been involved?

Senior management has outlined its vision and goals to the project managers and encouraged a grassroots effort on the project managers' end to develop the best plans for success.

3. How has the plan been received at all levels and all disciplines of the organization?

Mixed reviews. This has helped us identify that change management is largely needed throughout the organization. The deputy administrators are pleased with the efforts and are in full support of expansion. The senior management team (directors of each office) provided slight resistance but has helped in the participation and has grown to trust the processes. Office staff members impacted by the plan had resistance but have also grown to trust the process as they understand how the programs work and experience the results for themselves.

4. How do you sustain or institutionalize workforce management?

The Office of Administration has developed a division specifically focused on sustaining the centralized recruitment efforts and identifying future workforce management implementation. There is already an existing office for all organizational development plans. There is an office under the administrator focused on organizational improvement through change management; it will be expanding to include knowledge management.

5. What are your plans (e.g., expansion, abolishment, status quo)?

Expansion of workforce management efforts through a dedicated unit in Office of Administration

6. What obstacles did you overcome in order to have a successful plan?

Please refer to the answer to Implementation question 2, where we identified lessons learned, which also includes the obstacles we overcame.

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

We do not have a formal KM plan as knowledge management is currently siloed in the respective disciplines/offices. Our workforce management plan is not currently part of the knowledge management efforts within our organization.

We are in the process of developing an office to house formal knowledge management. This office will work with the Strategic Projects Division in the Office of Administration (OOA) to loop in the strategic workforce management plan.

Forecasting

1. What skills and competencies will be needed for future program delivery?

Better communication throughout the organization; strategic planning competencies from administrative employees, less transaction work

2. What is the turnover in each critical job family and why?

   Maintenance Positions – Lower level maintenance has high turnover. Higher level maintenance has less turnover. Lower level maintenance is low pay and physical work. Higher level maintenance is supervisory level, less physical outdoor work.

   Transportation Engineers – High turnover in the midlevel positions (Transportation Engineer IV and V) due to salary and current generation's desire to move between jobs every few years.

   *The reasons listed above are a best guess. We do not have data to demonstrate that salary, physical work, or generational differences are the main causes of turnover.

3. Where will new employees and new skills come from (e.g., in-house development, contract)?

   New employees and skills for program development in workforce planning will be recruited externally. Skills for leadership among critical job families, such as engineering and maintenance, will be developed in-house.

4. Has your agency developed a set of competency standards for critical positions?

   Yes, through interview selection plans we have identified competencies that we use to identify people for key positions.

5. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

   Yes, for certain job families. We have proficiency progression series built into engineering and maintenance positions, which allows individuals to grow over time without interviewing for a new position each time. Once the position reaches a certain level (team leader and above), individuals are required to interview for the job. A career progression is still identified within that job series, but the progression becomes competitive. Other positions do not have a career progression ladder (e.g., administrative positions and planner positions).

6. What other agencies do you partner with for information? What sources of data do you use or have access to?

   Other agencies within MDOT SHA and other DOTs as needed.

   Certain policies and procedures are regulated through Maryland Department of Budget and Management.

   Internal data – HR Information Systems

   External data – Bureau of Labor Statistics

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

    Centralized recruitment effort and organizational development academies and training camps

2. Which element/activity did not go as planned? What happened? Any ideas why?

    Succession Planning – Did not dedicate proper resources (e.g., staff and time) to follow-up and support the requests and needs of the organization.

    Change Management – Lack of understanding among management and lack of training for individuals who are required to implement change management.

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

    Our recruitment element is sustainable as it reduces time and resources for filling vacant positions. Rather than developing multiple postings managed by multiple hiring managers, HR has taken control of ensuring standardization and control over postings for standardized positions throughout the organization. This also enhances the applicants' experience as they interview one time and will then be considered for hire throughout the entire state.

4. **Employee Recognition**: In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

    Project Green Light: Our previous administrator implemented a program called Project Green Light. This allowed any employee in the organization to submit an idea and present it to the administrator personally on a dedicated day of the year. Any idea that the administrator liked and felt was feasible would be given the "green light" to implement in the organization.

    Momentum: Our agency has a weekly newsletter that highlights innovation and outstanding performance throughout our organization.

    Excellerator: This is an internal meeting with all MDOT SHA transportation business units that discusses various standards that MDOT SHA requires the employees always to meet and continuously develop innovative ideas on how to improve performance in these key areas.

    Maryland Quality Initiative: This is a conference that brings together MDOT SHA employees and other organizations in the private industry that helps lead innovation in transportation project delivery. At this event, MDOT SHA employees are recognized on stage with other private industry leaders for their work in innovation and project delivery.

5. **Succession Planning**: How does your agency anticipate and plan for future needs and key staff positions?

> Rudimentary: We interview hundreds of candidates through a standardized process, map their potential placement in the organization, and fill hundreds of current and future vacancies. This allows us to keep a constant list of candidates to immediately address staffing needs as they arise.

> Advanced: HR business partners meet with hiring managers to help them plan for future talent needs, fill in key competency and career progression gaps, and solve salary challenges to increase retention for current and future employees.

> Cross-training: We have implemented rotation programs throughout certain parts of the agency that allow individuals to gain knowledge to grow and fill gaps within the organization as they occur.

6. **Onboarding**: What techniques have proved successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

> New employee orientation training: Full day where new employees meet staff throughout the organization. They learn the mission statement, understand the organizational structure, and learn the benefits provided in the organization (promotion opportunities, leave, etc.)

> Onboarding has been revamped. All tools are online for supervisors.

> Two major things: creating awareness of tools and resources and providing a check-in to see how they are helping.

> What did not get past the pilot phase was surveying employees – 30-day check-in

> Still in data collection phase to determine if it has changed anything.

> Has sent survey to employees who started January 1st.

> Training on onboarding will be implemented into our supervisor training program

> Emphasize the e-learning component in Cornerstone for individuals who already completed supervisor training so they would not go through it again.

7. Modern Work Environment: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

> Telework, leave bank. virtual teams (Microsoft Teams allows us to work remotely across the entire state.)

> Our interviews always incorporate an element of measuring a candidates' affinity towards working in a diverse and inclusive environment, which speaks to the value our organization holds toward diversity in the workplace.

8. Do you have examples of other plan elements? Please describe.

> No

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

> We are currently in the process of developing a unit that will oversee all workforce development efforts

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

> Our workforce planning team will be under the Office of Administration, which also houses HR.

3. How much staff time is spent administering the plan?

> Biweekly meetings will be held with the key stakeholders to develop and advance the plan. The workforce management team will be focused on administering the plan full-time.

4. What are the costs associated with the plan?

> At this time there are no costs associated. Future employee salaries will be determined as the unit grows.

5. Is the plan an ongoing budget expense or do you need to request funding every year?

> It will be an ongoing budget expense.

6. What type of technology is used in the plan?

> Human resource data, metrics and dashboards, Cornerstone (online onboarding and training application), NeoGov (online recruiting application)

Pennsylvania

General

1. Agency information:

   a. Agency size and organizational structure, relevant workforce demographic data

   > See PowerPoint for details.

   b. Y/N – Has a comprehensive strategic workforce management plan.

   > A generalized strategic workforce management plan exists, but PennDOT's strategic recruitment plan is more comprehensive and specific to managing workforce needs.

   c. Related regulations, policies, etc.

   > Varies by initiative; includes both enterprise and PennDOT-specific governance.

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management (KM), workforce development, role designation)?

   Skills assessments, forecasting, succession planning, employee development, diversity and inclusion, leader development, workforce development, and role designation

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

   Yes, to the extent possible. Elements of the agency business plan are considered in developing the workforce plan and the strategic recruitment plan.

3. How are human capital strategies administered?

   Through the agency and the governor's Office of Administration HR.

4. Who is the agency's point of contact on workforce management and human capital strategies?

   Executive staff, Policy Office, individual deputates, and HR.

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

   No, it was designed internally.

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

   Elements are included based on HR implications.

3. What process did you use to develop your strategic workforce management plan?

   Considerations were given to priority operational needs, executive priorities, directions from the governor's office and the governor's Office of Administration HR, and feedback from legislators.

4. How did you determine which elements to include in your strategic workforce management plan?

   Generally, it is based on operational needs and priorities.

5. What factors prompted the development of a strategic workforce management plan?

   Good management practice; operational need; and to capture historical initiatives, accomplishments, and drawbacks.

6. Is your plan impacted by collective bargaining? Please explain.

    To some extent, yes, based on the initiative and union implications.

7. Do you have targeted human capital strategies, or do you have one strategy that applies to all employees?

    Targeted for the most part. A broader employee impact may occur depending on the initiative.

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain.

    Yes. Pennsylvania is reorganizing its HR organization to OneHR. All functions in central and field locations are considered, including remote supervision. This culminates in greater cross-functional collaboration.

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

    Developed in-house.

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

    Formal mentoring and job shadow programs are in place, cross-agency committees and collaborative groups are engaged, and agency best practices are considered in formulating policies and procedures.

Implementation

1. How did you implement the strategic workforce management plan?

    Implementing the full scope of a plan all at once is unrealistic; therefore, priority needs and anticipated successes are typically addressed first, as well as executive priorities.

2. What lessons were learned implementing the plan? Please describe.

    It is best to work on a plan incrementally, garnering early buy-in from those affected to help ensure success.

3. Who takes ownership after implementation?

    HR and program offices.

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is automatic?

    Annually. Automatic; emergency issues are addressed as needed.

Performance Measures/Management

1. What were your goals when you began?

   Varies by issue being addressed. Increased succession planning, recruitment, and retention.

2. How did you measure success?

   Data analytics, operational improvements, and constructive feedback from supervisory and executive staff, governor's Office of Administration HR, legislators, and the public.

3. What worked? What did not work?

   Varies by issue being addressed.

4. What would you do differently?

   Varies by issue being addressed. Generally, formulate sound, reasonable, and doable goals; anticipate impacts, expected results, and resulting resource needs (e.g., staffing, scheduling, funding, priorities, impact on regular work, etc.) prior to implementation; be inclusive of employees at all levels; garner union buy-in if needed.

5. What unexpected results did you realize?

   Varies by issue being addressed.

6. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

   Electronic and discussion. Generally reserved for management. Some managers decide to discuss results with employees. Aside from career development planning, most employees are not directly affected. Employees do have the opportunity and are encouraged to participate in climate surveys where results are considered in developing planning documents.

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

   Management, operational need, good management practice.

2. How has senior management been involved?

   Yes, as initiators, reviewers, and approvers.

3. How has the plan been received at all levels and all disciplines of the organization?

   Generally, from HR and above.

4. How do you sustain or institutionalize workforce management?

   Dedicated workforce planner to routinely distribute retirement projections and mobility information to managers for action.

5. What are your plans (e.g., expansion, abolishment, status quo)?

    Grow on previous efforts.

6. What obstacles did you overcome to have a successful plan?

    Varies by issue being addressed.

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

    Not explicitly. Being considered during reorganization at this time.

Forecasting

1. What are the critical workforce trends your agency is monitoring/addressing?

    Equipment operators (CDL), trade occupations, inspectors, real estate appraisers, and some civil engineering jobs.

2. What skills and competencies will be needed for future program delivery?

    CDL operators, skilled trades, and licensed professionals

3. What is the turnover in each critical job family and why?

    Varies depending on job class.

4. Where will new employees and new skills come from (e.g., in-house development, contract)?

    Internal and external candidates, grow your own, contractors, and interns

5. Has your agency developed a set of competency standards for critical positions?

    Not specifically for workforce management purposes. A team has begun working on this concept for select jobs.

6. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

    For some job area, yes. Six career pathway booklets have been published thus far, including Engineering, Commercial Driver License, Real Estate Careers, Information Technology Generalists, Winter Maintenance Program, and Summer Employment Program. Several trifold brochures have been created for recruitment purposes, including Driver License Career Pathways.

7. What other agencies do you partner with for information? What sources of data do you use or have access to?

    Enterprise Office of Administration. All HR-related data is available through an internal database (internal enterprise database of HR information(IRIS) and System Analysis Program Development (SAP).

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

   STEP High School Program, college intern programs, trainee programs, recruitment program, student outreach, pay adjustments for difficult to attract-fill-retain jobs

2. Which element/activity did not go as planned? What happened? Any ideas why?

   HR Regionalization – Engineering Districts relinquished supervisory control of local HR support during the pilot. Historically, each district office had dedicated HR staff; with regionalization, HR staff members supported multiple districts and executives no longer had immediate access to HR support. It was decided to not pursue regionalization after the pilot.

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

   STEP/student outreach, internships, trainee programs, job shadowing programs, open house events, and job studies

4. **Employee Recognition**: In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

   Governor's Award for Excellence, Star of Excellence, IdeaLink, longevity, exceptional pay increases, individual organization recognition.

5. **Succession Planning**: How does your agency anticipate and plan for future needs and key staff positions?

   Retirement eligibility projection reports are prepared/reviewed semiannually. A written and electronic career development planning tool has been distributed to foster dialogue between employees and supervisors.

6. **Onboarding:** What techniques have proved successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

   An electronic tool is used to automatically provide the necessary overview and paperwork to complete. In addition, designated coordinators conduct face-to-face sessions.

7. **Modern Work Environment**: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

   Nursing rooms; telework; alternate work schedules; remote supervision; workforce diversity and inclusion training; modern meeting rooms; PC refresh; and optional benefits, such as pet insurance, for example, have been introduced to employees.

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

   Employee Services at this time.

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

   Upon approval by executive staff.

3. How much staff time is spent administering the plan?

   Not captured.

4. What are the costs associated with the plan?

   Not captured.

5. Is the plan an ongoing budget expense or do you need to request funding every year?

   Incorporated in daily expenditures.

6. What type of technology is used in the plan?

   Standard business technology, SAP, IRIS (internal enterprise database of HR information).

Texas

General

1. Agency information:

   a. Agency size and organizational structure, relevant workforce demographic data

   TxDOT currently has a full-time equivalent (FTE) cap of 12,527.

Texas Department of Transportation Fiscal Year 2019	
State Classification Plan - Occupational Category	Percentage of TxDOT Workforce
Accounting, Auditing, and Finance	2.8%
Administrative Support	5.3%
*Engineering and Design	52.1%
Human Resources	1.0%
Information and Communication	1.4%
Information Technology	1.8%
Inspectors and Investigators	0.3%
Land Surveying, Appraising, and Utilities	1.4%
Legal	0.4%
Library and Records	0.2%
Maintenance	13.7%
Natural Resources	1.3%

Texas Department of Transportation Fiscal Year 2019	
State Classification Plan - Occupational Category	Percentage of TxDOT Workforce
Office Services	0.2%
Planning, Research, and Statistics	1.1%
Program Management	12.5%
Property Management and Procurement	3.8%
Safety	0.6%

Source: State Auditor's Office's State Classification Team's Electronic Classification Analysis System (E-Class) onltine system – classified regular full-time and part-time employees

*Engineering and Design includes general transportation technicians performing routine maintenance work.

b. Y/N – Has a comprehensive strategic workforce management plan

Yes.

c. Related regulations, policies, etc.

Yes. In 2002, the Texas legislature mandated that state agencies develop workforce plans as a part of their strategic plan.

Human Capital

1. What human capital elements are included in your workforce management plan and/or activities (e.g., skills metrics, forecasting, succession planning, employee development, employee wellness and engagement, employee recognition, recruitment, retention, diversity and inclusion change management, leader development, knowledge management (KM), workforce development, role designation)?

Succession planning and knowledge management – TxDOT has a Career Development program that is TxDOT's succession planning program.

Employee development – Career development program includes education, development, and certification programs; training; and other development opportunities.

Employee wellness – The Texas legislature authorized state agencies or institutions of higher education to develop a wellness program. TxDOT's wellness program is robust, offering programs such as the Exercising During the Day Program, the Well Check Program, and onsite wellness seminars and activities.

Engagement – TxDOT uses the Survey of Employee Engagement tool administrated by The University of Texas at Austin Institute for Organizational Excellence.

Employee recognition –TxDOT has an employee recognition program that includes a wide variety of service awards.

Recruitment – Several years ago we implemented an automated hiring/applicant tracking

system that offers seamless recruitment and hiring. We also began advertising on more social media sites and at virtual recruitment events. TxDOT has a summer internship program that exposes interns to TxDOT; we hope that their experience will be fulfilling and that they return to TxDOT to begin their careers.

Retention – Strategies and programs targeting retention include Employee Wellness and Equity and Inclusion, and flexible work strategies.

Diversity and inclusion – TxDOT's Diversity, Equity, and Inclusion section is responsible for developing new employee-focused diversity, equity, and inclusion workplace initiatives and innovations to create an environment where all employees feel welcomed and valued.

Change management – TxDOT does not have a formal change management program.

Leader development – TxDOT has a leadership program designed to develop leadership skills and understand how the role of management has a place in the organization. The goal of the program is to allow participants to gain the skills, competencies, and values necessary to lead employees effectively to achieve personal mastery and promote a meaningful culture within TxDOT.

Workforce development – TxDOT offers a variety of professional development opportunities, such as the GED Program, Engineering Assistant Career Development Program, Continuing Education for Professional Engineers, and Surveyor Career Development Program.

2. How are the human capital elements prioritized or targeted for use? Are they tied to the agency's strategic plan or mission? Please describe.

    TxDOT Leadership establishes position allocations among the districts and the divisions to address mission-critical initiatives.

    Yes, all TxDOT's initiatives are tied to TxDOT's strategic plan and the objectives that are heavily oriented toward human capital.

3. How are human capital strategies administered?

    Through cooperation and communication among the HR management team, HR professional staff, districts, and divisions, and in compliance with TxDOT's leadership team's direction.

4. Who is the agency's point-of-contact on workforce management and human capital strategies?

    Paul Summerbell, HR Statewide Support Section director, who is a part of the HR Department's senior leadership.

Design/Development

1. Did you model your plan after another organization's plan (e.g., Department of Transportation, Society of Human Resource Management, International Public Management Association for Human Resources, Federal Office of Personnel Management)?

    TxDOT's plan has primary elements focused on the Workforce Planning Guide issued by the State Auditor's Office's State Classification Team. TxDOT also includes elements of other states and comparable state agencies.

2. How does your workforce management plan align with your agency's strategic plan? Please explain.

    TxDOT's workforce plan is a part of the TxDOT's strategic plan.

3. What process did you use to develop your strategic workforce management plan?

    TxDOT's workforce plan is a series of conversations and collaboration with HR Department senior leaders, districts engineers, division directors, and TxDOT leadership.

4. How did you determine which elements to include in your strategic workforce management plan?

    Collaboration with top management to analyze our engagement surveys, communication surveys, and other feedback from employees and managers, as well as trends in the workforce, helped us prioritize our efforts.

5. What factors prompted the development of a strategic workforce management plan?

    A changing workforce, the need to plan for the future, and a mandate by the Texas legislature

6. Is your plan impacted by collective bargaining? Please explain.

    No.

7. Do you have targeted human capital strategies, or do you have one strategy that applies to all employees?

    Some of our strategies are focused on a segment of our employee population (e.g., leadership development, Infant-at-Work program, increasing entry-level salaries); however, our overall strategies are aimed at all employees.

8. Does your plan cross job functions, disciplines, or organizational divisions? If so, please explain.

    Yes, the plan covers all functions across the department.

9. How did you develop your human capital strategies (e.g., contractor/consultant, developed in-house, off-the-shelf purchase)?

    HR senior leaders worked closely with districts and division management, as well as TxDOT leaders, to identify areas where we needed to focus our strategic development.

10. Does your agency use any knowledge management or knowledge transfer techniques (e.g., communities of practice, onboarding, mentoring, job shadowing, job aids)? If yes, please describe.

Yes. TxDOT implemented a knowledge management program that is still in its early stages.

Implementation

1. How did you implement the strategic workforce management plan?

The entire plan was written and implemented and is reviewed periodically as a part of the review of TxDOT's strategic plan.

2. What lessons were learned implementing the plan? Please describe.

As we review and update the plan, we have a greater appreciation for its importance in TxDOT's strategic operations.

3. Who takes ownership after implementation?

TxDOT leadership and HRD senior leaders

4. How frequently is the plan reviewed and updated? What are your triggers to review it or is automatic?

Every two years as a part of TxDOT's strategic plan

Performance Measures/Management

1. What were your goals when you began?

To meet legislative intent, comply with legislation, and build our workforce

2. How did you measure success?

Through employee engagement surveys and other methods of employee feedback

3. What worked? What did not work?

Our work-life balance and telecommuting initiatives appear to have worked well. Changes to existing job titles, job families, and/or job classification reviews are traditionally not well-received.

4. What would you do differently?

More time to communicate and implement changes

5. What unexpected results did you realize?

The department's workforce plan has been instrumental in assisting the department in diversifying and growing its workforce; it is not seen as a "mandate."

6. How do you communicate your strategic workforce management plan? How do you measure employee awareness of the plan?

   That is the problem. We have not communicated it well so far and, as a result, there is little awareness.

Organizational Issues

1. Was your plan driven by management or was it a grassroots effort?

   The department's plan is driven by HRD senior leaders' continued contact and collaboration with district engineers, division directors, and other department executive leaders.

2. How has senior management been involved?

   Because the plan is a part of the department's strategic plan, the department's senior leaders are involved in variety of ways.

3. How has the plan been received at all levels and all disciplines of the organization?

   As previously mentioned, as a general rule, employees are not aware of the department's workforce plan; it would only be managers, supervisors, and senior leaders who are involved and aware of the Plan.

4. How do you sustain or institutionalize workforce management?

   In our daily interactions with managers and supervisors, the various areas within the HR Division strive to sustain the workforce.

5. What are your plans (e.g., expansion, abolishment, status quo)?

   We plan to continue the path that we have taken; however, we also understand the importance of reviewing the plan periodically and adjusting it, as necessary.

6. What obstacles did you overcome in order to have a successful plan?

   The biggest obstacle was ensuring that the plan was concise and clear.

7. Is strategic workforce management part of your formal KM plan? If yes, please provide a brief description. Who is the agency's KM contact person?

   The primary contact for KM is the Workforce Development Section director.

Forecasting

1. What are the critical workforce trends your agency is monitoring/addressing?

   Diversifying our workforce and retention

2. What skills and competencies will be needed for future program delivery?

   Communication, problem-solving, self-management, and teamwork, to name a few

3. What is the turnover in each critical job family and why?

    Turnover is relatively low compared to turnover in other Texas state agencies, but we always want to ensure that we continue to focus retention efforts on our maintenance positions.

4. Where will new employees and new skills come from (e.g., in-house development, contract)?

    In-house development

5. Has your agency developed a set of competency standards for critical positions?

    Yes, they are formalized in our plan.

6. Does your agency have a job family matrix or career progression documentation? If yes, please describe.

    No.

7. What other agencies do you partner with for information? What sources of data do you use or have access to?

    The State Auditor's Office's State Classification Team's electronic classification system and various guides to include a Workforce Planning Guide.

Plan Elements

1. Of which element/activity are you the proudest? Please explain.

    Engagement survey responses. It is the department's way of maintaining contact with the "pulse" of its current workforce.

2. Which element/activity did not go as planned? What happened? Any ideas why?

    Knowledge management because it is still relatively new and employees exit the department, especially retirements.

3. Leading practices are effective, innovative, sustainable, and forward looking. Which of your plan elements would you offer up to be included in a national toolkit of leading practices?

    Our leadership development program is the key to developing future leaders.

4. Employee Recognition: In what ways does your agency recognize or reward innovation that results from collaboration and knowledge sharing/from outstanding performance?

    Service awards are primarily used.

5. Succession Planning: How does your agency anticipate and plan for future needs and key staff positions?

    The department does not have a "succession plan"; it the department's robust career development program.

6. Onboarding: What techniques have proven successful in your agency for onboarding new employees and assisting seasoned employees with transitions or large changes?

   We recently improved our onboarding process by ensuring that employees have the access to their computers and other tools to ensure that they can be productive soon after beginning employment. This improvement has also helped alleviate any stress for new employees.

7. Modern Work Environment: How is your agency addressing the increasing demand for modern work environments (e.g., infants in the workplace, telework, virtual teams, workforce diversity, open workspace)?

   The department has robust teleworking and flex schedule options for certain positions. The department is also working toward modernizing its work environment by consolidating various locations into one main campus.

8. Do you have examples of other plan elements? Please describe.

   We continue to conduct environmental scans to ensure that we are flexible and can attract and retain our workforce.

Resources

1. Do you have a dedicated position, unit, or workforce planning team to oversee developing and implementing your strategic workforce management plan?

   A full time employee on the compensation team is responsible for drafting the department's workforce plan and coordinating the review and edits with various members in the HR Division and the department's senior leaders.

2. If you use a workforce planning team, at what point is the plan turned over to HR for management?

   Not applicable.

3. How much staff time is spent administering the plan?

   Not quantifiable.

4. What are the costs associated with the plan?

   None. The department uses existing FTEs and internal resources.

5. Is the plan an ongoing budget expense or do you need to request funding every year?

   See the response to the previous question.

6. What type of technology is used in the plan?

   Learning management, career development, compensation management, employee engagement, etc.

Appendix I:
Reading/Resource List

The scan team has compiled a list books, blogs, online articles, reports, and websites to provide state transportation agencies with additional sources of information on topics related to strategic workforce management. This is not an exhaustive list of the resources that are available. The reading materials are in federal, state, and association categories and NCHRP reports.

FHWA Resources

National Network for Transportation Workforce Development. https://www.nntw.org

Regional Transportation Workforce Center. https://www.fhwa.dot.gov/innovativeprograms/centers/workforce_dev/education_professional_development.aspx#tedp

General Publications

CDOT (n.d.). *Idea Cards*. Colorado Department of Transportation Business Center. https://www.codot.gov/business/process-improvement/idea-cards

CDOT (n.d.). *Lean Everyday Ideas @ CDOT*. Colorado Department of Transportation Business Center. https://www.codot.gov/business/process-improvement/lean-everyday-ideas

CDOT (n.d.). *Change Management*. Colorado Department of Transportation Business Center.

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Johnson, S. (1999). *Who Moved My Cheese?* (8th edition). G.P. Putnam's Sons.

Koenigsberg, N. (2018, September 27). *The Judicial Branch Scrum: Making Software Agile.* Colorado Department of Transportation Business Center. www.codot.gov/business/process-improvement/innovation-beyond/the-judicial-branch-scrum

Malloy, M. (2019, September 16). Organizational Change Management Is a Driver of Employee Engagement. *Govloop*. https://www.govloop.com/community/blog/organizational-change-management-is-a-driver-of-employee-engagement/

Malloy, M. (2019, September 3). Communities of Practice: An Amazing Tool for Your Toolbox. *Govloop*. https://www.govloop.com/community/blog/communities-of-practice-an-amazing-tool-for-your-toolbox/

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McArthur, C. (2019) How to Win the War for Talent. TR News. Retrieved April 26, 2020, from http://onlinepubs.trb.org/onlinepubs/trnews/trnews323.pdf

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NCHRP Publications

NCHRP 08-125 [Active], *Attracting, Retaining, and Developing the Transportation Workforce: Transportation Planners* – One study objective is to provide guidance on how agencies can attract, develop, manage, and retain planning talent.

Cronin, B., et al. (2012). NCHRP Report 693, *Attracting, Recruiting, and Retaining Skilled Staff for Transportation System Operations and Management*, Transportation Research Board, National Research Council, Washington, DC.

Laffey, N. (2017), NCHRP Synthesis 503, *Leveraging Technologies for Transportation Agency Workforce Development and Training*, Transportation Research Board, National Research Council, Washington, DC

Laffey, N. & Zimmerman, K.A. (2015), NCHRP Synthesis 483, *Training and Certification of Highway Maintenance Workers*, Transportation Research Board, National Research Council, Washington, DC.

Martin, B. (2009), NCHRP Report 636, *Tools to Aid State DOTs in Responding to Workforce Challenges*, Transportation Research Board, National Research Council, Washington, DC.

NCHRP Synthesis 20-05/Topic 49-10 [Active (Synthesis)] Transportation Workforce Planning and Development Strategies

Rahn, Toole, et al. (June 2003), *European Practices in Transportation Workforce Development*, USDOT FHWA.

Special Report 275: *The Workforce Challenge: Recruiting, Training, and Retaining Qualified Workers for Transportation and Transit Agencies*, Transportation Research Board, National Research Council, Washington, DC, 2003.

Ward, M. (2007), NCHRP Synthesis 365, *Preserving and Using Institutional Memory Through Knowledge Management Practices*, Transportation Research Board, National Research Council, Washington, DC.

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Videos

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Working at VTrans. (2016, October 31). [Video]. YouTube. https://www.youtube.com/watch?v=yyrtdehfCyE&t=46s

VTrans. (2019, October 31). *Engineer*. Recruiting. https://vtranspdd.github.io/Recruiting/

Websites

Vermont Recruitment landing page (https://vtranspdd.github.io/Recruiting/)

Appendix J:
Rose, Bud, and Thorn Items

Roses

Week One	Week Two
• Consider external and internal resources when developing workforce plan.	• Jeff's entire presentation. Openness of website. Employee engagement results shared on website.
• GDOT mentor program • GDOT HR metrics • CDOT idea cards • CDOT value cards and exercise • CDOT leadership forum	• Projection of workforce needs based on budget projections while capturing how consultants will fill in those peaks and valleys. Liked the visual.
• GDOT end-of-summer feedback gathering • CDOT everyday lean – help accentuate PennDOT idea program • CDOT change agent network • GDOT activities to retain	• Like to hear that we all have similar problems across the DOT even though some people have more efforts in certain areas. Still see problems with turnover and retention.
• Change management supports execution.	• Internship program presented in both presentations.
• LinkedIn learning partnership and connecting training to agency competencies.	• Jeff's approach to succession planning with a focus on bench strength and high-risk positions.
• Importance of consistent message and program – thousands of effective choices – key is to avoid constant switching, which can increase confusion and send conflicting messages.	• TxDOT changing the conversation from performance management to career discussions.
• ArDOT Rookie of the Year award • Caltrans ICF International project – leadership review	• Changing from training to learning and development.
• Caltrans career counseling program • Caltrans ICF project – organizational health assessment • ArDOT company store • ArDOT went from no support to full support from executive team. • ArDOT went from 0 to 60 with HR transformation.	• Quarterly meetings for developing a construction business plan. Bringing everyone into the conversation; data-driven decision making. The approach to workforce development in both TxDOT and WSDOT.
• Caltrans talent management material	• TxDOT workforce development is part of the strategic plan.
• Caltrans and ArDOT – both had scenarios where HR forced to move at a faster rate than planned/ wanted to and still succeeded.	• VTrans extension of new employee welcome. Utilizing technology that we are not fully using the way we could.
• MDOT SHA – SME focus groups to benchmark, validate, and craft interview questions. • MnDOT – lots of data and able to collect it.	• VTrans Pre-supervisor training program. For Vermont, I liked the leadership development program.
• MDOT SHA – what they are doing with their data – analyzing and drawing conclusion. • MnDOT – stretch assignments.	• VTrans 4 levels of Kirkpatrick. Splunk: great slides, surveys, interviews, and Q&A with employees as part of change management plan.

Week One	Week Two
• MnDOT – different employee resource groups – visible and wide variety • MnDOT – urban youth corps • MnDOT – career pathway program	• For Vermont, I also liked how they were working on diversity even though their demographics don't represent a very diverse workforce.
• MDOT SHA – strategic project division • MDOT SHA – PIN pool policy	• VTrans civility commitment and unconscious bias training.
• MnDOT – employee engagement interview form • MDOT SHA – panel composition for applicant interviews • MnDOT – encouragement of women in the workplace/video	• USGS presentation – like that it looked at internal and external factors and how they impact the organization.
• One-on-one conversations across the organization – both DOTs • PennDOT career development plan informs training team on what training it needs to provide.	• Data and research with USGS plan
• Student outreach program – PennDOT	• Liked WiLD Leaders's pressure strategies and feel they are beneficial.
• Job shadow – PennDOT • Future generations and trends • PennDOT – succession planning	• Research backing WiLD Leaders's leader development. • Including national workforce trends in report.
• PennDOT – system built to track succession. • PennDOT – appraisal form to follow through with supervisors – built into expectations. • VTrans video – three things to be successful (we can give you two, you must bring three) • Array of different school-to-work programs PennDOT. • Strategic recruitment plan PennDOT • Maintenance program PennDOT • VTrans strategic workforce committees • VTrans toolbox of fun things to get people engaged (e.g., Ouch, Wheel of Fun, etc.) • VTrans total value compensation page • VTrans Women Can Do event. • Planting seeds program – VTrans • Use of Deloitte to help develop strategy. • MoDOT – Performance measures • Identification of human skills • Tapping into external funding • Want to implement themselves so not completely dependent on Deloitte. • Civil rights and HR partnered on the project. • VDOT – created pattern other DOTs could follow. • VDOT – Information Technology (IT) involved and vested in helping with the effort. • VDOT – prioritization lab – set the tone that it's a lab we are working in. • MoDOT apprenticeship program • MoDOT engagement survey has several diversity and inclusion factors. • VDOT – three-year time frame	

Thorns

Week One	Week Two
• PennDOT – succession planning • PennDOT – system built to track succession	• All still having struggles with retaining our workforce. Jeff's presentation showed a decrease in turnover but still need more focus.
• Using the word "change" even in a positive way can have unexpected resistance.	• Do not utilize consultants in HR well. Rely on permanent staff for everything.
• Scoring of applicants – what other word could be used?	• Resources or lack of resources.
• Non-engineer project managers – no way to pay them the same as engineers – pay equity issue. • Rating but no scoring to better support diversity and inclusion.	• A lot of data available but getting people to buy-into using the data for soft skill areas like HR is a difficult sell.
• Critical to sustainability to continue to connect senior leadership to ongoing programs. • How do we define engagement in a standard format? What does engagement mean that all can agree to? • How do we keep people in the organization while we know the new trend is for people to leave after just a few years?	• Having a communications or marketing plan for the existence of a workforce plan. Presentations demonstrated minimal effort or difficult effort in doing so. • Too many systems to easily pull together data into reports.
• Workforce planning – contracting out as part of the plan – need to consider it is not always state work by state workers.	• Engaging management to complete mural task, difficult to convince staff it's worth the effort.
• Training and seeing how much other agencies are providing training – how to get people to training and to recognize that the investment is worthwhile – managers to let people go as much as people themselves going.	• Mural, fatigue with new software systems in this new virtual environment. • I agree with Brian – we're just getting people used to Microsoft Teams.
• Hearing about PeopleSoft – showed how having an antiquated Human Resourcs HRS system impacts ability to do effective workforce plan.	• What is SNOW?
• HR is not embedded in DOT – challenge to get data and get HR partnering with DOT.	• We have some change fatigue issues right now so trying to limit introducing more new tools.
• Challenge of how to best design/choose elements of plan to realize the best results – how do we craft a guide to help DOTs put an integrated plan together/weave their current elements into one plan.	• Too many software implementations, currently. Finding resources to implement/dedicate to knowledge management
• How to craft workforce management guide for widely varied sized organizations.	• Developmental readiness - some people are not ready and how does leadership address that?
• Caltrans's longevity pay – how to put this in place where it does not already exist.	• Choosing the appropriate development programs to fit the organizational culture.
• Struggle to get data so can do good forecasting.	• Setting up developmental readiness in your organization.

Week One	Week Two
• Quality of HR information system and data analytics capabilities. • Classification system is not our friend – can be the tail wagging the dog. • Vulnerability of HR programs from administration changes – how do we build thoughtful programs, and do it when the iron is hot? • Organizational mindset – so employees feel like they are valued and belong. • Mindset change needed for longer-term, strategic workforce initiatives (changing the way we have always thought). • MDOT SHA – would like more flexible rotation programs – could result in favoritism complaints. • Sometimes in HR we spend so much time developing stuff for the agency, HR forgets to do the same for HR. • To get to the beautiful rose of diversity and inclusion, you must go through the thorns inherent in the conversations. • Employee Resource Groups – can visualize it being a slippery slope and going in a dangerous direction. • State or federal mandated minimum wage increases – impacts DOT budgets and ability to manage the workforce. • Reservations to have a requirement that certain positions must have a professional engineer – or get within a certain amount of time. • Challenge of HR performance measures and parts of the process that aren't done by HR, but HR is held accountable • Data and access to data (antiquated systems or external HR has the data and doesn't share) • Shadow HR that gets started out in the field due to limited HR resources (sucker plants)	
• Equal Employment Opportunity Commission pronouncement that zero tolerance does not work so have to do something else. • E-Verify issues – hiring non-U.S. citizens. • Not having a fair, objective way to narrow down large candidate pools. • Consistent theme – HR is underappreciated – not everyone has a deeper understanding of what goes into HR. • Business units do not know what they don't know so they don't know what to ask HR – HR must take it to them and get them educated. • Challenge of working with schools and getting outreach expanded – getting the resources to do that. • HR playing the long game – strategies to help HR to move through – having to wait to roll things out when you know they are right.	

Week One	Week Two
- Perceived shortage of civil engineering candidates/students - Culture we see sometimes in the field – thorn of trying to acclimate them to this is the workplace and certain behaviors are not okay. - Growing perception that there is a lack of civility and respect in maintenance garages (reflection of society?) - Inherent distrust of hiring manager by HR – not sure they will do the right thing – would like to be partners, not adversaries. - Managers need to know the why – HR wants to be the teacher, not the cop. - HR history of compliance and adversarial relationship - Managers can forget HR role is to mitigate risk/keep out of trouble. - If do not have partnership with other groups, could be hard to develop and implement. - Partnership with governing agency, especially for classification or HR/Information Technology policies (centralized enterprise) - Challenge of deciding where to start (VDOT would have done it differently) - VDOT – 10 areas did not emphasize cultural values as much as it could. - VDOT – large scope and scale – how to resource and manage and implement successfully. - Time it takes to develop a comprehensive plan – two to five years. - Trying to sustain through changes of administration – can lose your way through that. - Cannot afford to go consultant route and may not have skillsets and resources in-house. - Everybody thinks they can do it – can cause challenges for experts. - MoDOT – consider more specific engagement questions (e.g., my work unit rather than my workplace) - Increase in federal and/or state minimum wage creates compensation equity issues unless all pay grades/steps are adjusted – becomes collective bargaining issue. - Communication efforts on workforce planning on initiatives: challenge across the agency; number of employees and locations; culture pockets - Refining what parts of workforce management to take on – varying size of DOTs. - MnDOT Fundamental Engineer /Professional Engineer requirement for all BSCE staff - MnDOT's employee resource groups - Longevity pay in Caltrans.	

Week One	Week Two
- Discussion of perceived reduction in the number of graduating civil engineers due to competitive technology programs and cost of education versus civil engineering salaries in the public sector. - Equal Employment Opportunity Commission's pronouncement that zero tolerance does not work. - Allowing random selection of rotational employees – could lead to feelings of unfairness and favoritism since it is providing an opportunity for experience that could help them qualify for another job. - Facilitating/moderating diversity and inclusion conversations - Caltrans career counseling – employees often lack confidence in themselves or consider themselves as leaders. - Training opportunities are not equal for management versus field operations. - Hiring/recruitment of non-U.S. citizens – E Verify challenges - Not having a fair, objective way to narrow a large candidate pool down for interviews. - Lack of agency support for participation in professional organizations – restricts important networking/ recruiting opportunity. - Providing hiring managers with the names of individuals they are being required to interview – could lead to unconscious bias.	

Buds

Week One	Week Two
Combine LEAN, Agile, and workforce management – data could show areas for improvement – for example, self-governing in GDOT case study, form of Agile practice?	Learning how to extend our culture into the telework workforce.
- Standardizing interview questions and aligning them with job descriptions and strategic plan. - Align retirement projections geographically – great way to show potential vulnerabilities. - New hires and interns often have great ideas and feedback for contributing to workforce management.	- Taking a deeper dive into "eligible" retirees versus "actual" and diving into the six- to 10-year retention. - Entire modernization of HR. Using COVID 19 as an opportunity to demonstrate the benefits of pushing training efforts and modernizing technology efforts.
Empathy is critical to effective change management.	Organizational support and buy-in for workforce development initiatives.

Week One	Week Two
• Change management throughout the organization as a comprehensive program. • Demo of using HR data to improve effectiveness – going beyond anecdotal information.	• Having this final report will help to demonstrate the benefit of investing in an updated and streamlined technology for better monitoring and reporting.
• Ability for HR to be strategic versus tactical – how to increase strategic HR services.	• Rick, now is the time for Mural implementation.
• Ability to take ideas from employees and implement the changes – important to provide resources and make the improvement possible.	• Marketing experience as part of learning experience for senior managers (last presentation).
• Mindset change can really improve retention – does not always have to cost a lot of money.	• I am excited about helping with onboarding and can use what VTrans shared about virtual onboarding.
• Discussion of when a position absolutely must be staffed by an engineer – maybe it doesn't always have to be that way.	• Brain writing versus brain storming. What works best for individuals?
• Integration of approaches in change management program, especially the people side.	• VTrans infants in the workplace. Mentor other organizations.
• Mentor program – make it formal with rotation and dropdown menus, etc.	• VTrans branding state employment over other local, private employers.
• Willingness and openness of everyone in the room to share ideas and discuss possibilities.	• Free session every Friday from WiLD Leaders.
• Blending data with training and development to make more effective – for example, Caltrans's succession planning – shares retirement projections to underscore importance of succession planning.	• Leadership session each week. • One of the quotes that was made: "Invisible things can have visible impacts."
• Leadership opportunities that are open to employees other than engineers.	• Liked the activity around picking a pressure strategy. Could be easily completed in a staff meeting; helps with awareness.
• Caltrans's rapid hiring program • ARDOT one day hiring approval turnaround.	

Week One	Week Two
- Correlation between gender on a crew and the safety accident rate - ARDOT calibration meetings in performance evaluation process - ARDOT feedback system for evaluations - Consider options of commercial off-the-shelf purchase rather than custom built by in-house IT. - ARDOT's two-track system for technical track and leadership track - Full-time position focused on career counseling. - Caltrans's and ARDOT's cohesive leader development - Yammer idea – social media news blasts to improve communication. - ARDOT's visual communication system - MnDOT – demonstrates the possibilities with a robust HRIS and reporting system. - Steal some of MDOT SHA SME panel group to build consensus and effective interview questions. - Restructuring vacancy announcements to be more like MDOT SHA - Employee engagement interviews - Operational excellence and strategy - Adding the extra district (District 8) as the door out of MDOT SHA - Mass recruitment/registry of staff - Snowplow operator training center - MDOT SHA maintenance leadership training program - What do you think of when you hear the term "PennDOT?" – the term "workforce management" – build/expand awareness. - Five- to 10-year bud = civility training in-house and expand content - How to do apprenticeship and internship programs for maintenance shops - Need to do a better job of reaching into the school years to develop and engage future workforce. - A lot of things in common DOTs are dealing with – can really help each other out – some of this scan does not need to be HR – it needs to expand beyond HR. - Opportunity to do an inventory of DOT job classes for a non-engineer project manager. - Respectful workplace commitment from VTrans	

Week One	Week Two
• Make sure we have Department of Labor and Department of Energy at the table with DOT – need to work across agencies.	
• SMEs in the DOT – adjunct professors – get DOT recognized as SMEs externally.	
• Getting a list of all licensed people in the state and e-mail for recruiting	
• NeoGov profiles with employees – PennDOT	
• VTrans landing pages for recruitment – put link on job postings.	
• Spotlight videos to highlight bright spots.	
• Leadership blog on PennDOT – Bold Leaders on Growth (BLOG)	
• Six human skills – curious and adaptive mindset	
• MoDOT bold enough to ask survey question – My workplace is respectful of people's race and ethnicity.	
• Survey results online and public facing.	
• PennDOT classifications evolving away from traditional "clerk typist" to more relevant "administrative assistant."	
• PennDOT promotes supervisor training that emphasizes that HR's role is not to solve bureau level problems that should be addressed by supervisors.	
• Vermont encourages engineers to be adjunct professors in college programs.	
• VTrans – training resources and tools – potential once have a chance to review.	
• Calibration of performance evaluations	
• Caltrans's talent management symposium	
• Devoting time to career counseling.	
• Industrial/organizational psychology – resource not currently included but would provide value.	
• VTrans – under-18 guidelines for intern maintenance and program – look at for STEP.	
• Annual awards program, including opportunity to obtain "agency store" apparel and/or accessories.	
• ARDOT visual communication system	
• VTrans – middle school and high school day camps/residential camps	
• New Hampshire sponsors senior engineering capstone projects, though they need to be interesting and challenging.	

Week One	Week Two
- Opportunity to develop a policy around workforce planning – cool! Good way to put it in the manager's/supervisor's hands and take ownership. - ARDOT's two tracks – one for "manager" – one for "technical" - Leadership opportunities open to classifications other than engineers/eliminate glass ceilings for non-engineers. - ARDOT – one-day hiring approval – wow! Would be great to be able to reduce levels of approvals. - Applying a system that allows efficient periodic feedback to employees creates a more fair and accurate performance evaluation at end of year – this is a new idea to MDOT SHA that could be great to implement. - YouTube channels/DOT "stores" for employees to purchase goods/Yammer. - Implementing Employee Resource Groups would increase the inclusivity in our diversity efforts. This effort could expand our current awareness efforts (Black History Month Day; Pride Parade support). A budding idea because it would need to be expanded to all districts where it may be difficult for people to open up about wanting to be in certain groups. - Exploring with our enterprise the possibility of creating new classification(s) for non-engineer project managers (will inventory DOTs) - MDOT SHA – vacancy management log - PennDOT's spotlight videos - MDOT SHA – concept of "adding a district" to identify the employees who walk out the door for reasons other than retirement (communicating/marketing succession planning to managers and supervisors) - MDOT SHA – maintenance leadership program - Correlation between gender (females) on a crew and accident rates - Not being afraid of changing the status quo, no matter how painful - Caltrans's rapid hiring – possible to consider, especially for jobs requiring a commercial driver's license.	
- Creating a landing page for the different engineering fields can help with candidate experience when applying to the job. We are required to post a standard job posting but can put a link to the landing page on the announcement for applicants to click on. - MDOT SHA – job vacancy announcements	