

Developing Succession Planning Capacity within Caltrans

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A Research Report from the Pacific Southwest
Region University Transportation Center

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About the Pacific Southwest Region University Transportation Center

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The Pacific Southwest Region UTC conducts an integrated, multidisciplinary program of research, education and technology transfer aimed at *improving the mobility of people and goods throughout the region*. Our program is organized around four themes: 1) technology to address transportation problems and improve mobility; 2) improving mobility for vulnerable populations; 3) Improving resilience and protecting the environment; and 4) managing mobility in high growth areas.

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Disclosure

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Abstract

The Center for International Trade & Transportation (CITT) research team conducted research on previous and current succession planning strategies undertaken by state Departments of Transportation (DOTs) and other organizations to be used by the California Department of Transportation (Caltrans) in developing and updating its own strategies. The CITT research team worked with Caltrans to identify a narrow focus on succession planning for planning and modal programs (including those dedicated to rail, mass transportation, and related research), and this approach proved effective in identifying potential pilot deployments at Caltrans headquarters and targeted divisions. CITT researchers conducted focused interviews with select Caltrans employees and held a peer exchange with representatives from state DOTs in Michigan, Montana, Arizona, Colorado, and California. However, research also revealed more universal insights beyond the scope of the initial focus. Those insights provide a rationale for scaling succession planning efforts beyond the narrowly defined focus for this study on planning and modal programs. Research revealed that succession planning is implicated in recruitment, retention, and the entirety of the employee life cycle and involves employees who may never take up a formal leadership position. The research team concluded the report with recommendations for a proposed series of pilot programs intended to help integrate this new perspective into succession planning activities at Caltrans.

Developing Succession Planning Capacity Within Caltrans

Executive Summary

The purpose of this project is to conduct research on previous and current succession planning strategies undertaken by state Departments of Transportation (DOTs) and other organizations to be used by California Department of Transportation (Caltrans) in developing and updating its own strategies for application in planning and modal programs. Planning and modal programs include focuses on rail, mass transportation and related research. With the transportation workforce steadily aging, state DOT leaders will need to introduce workforce strategies that will prepare candidates to fill new vacancies. Prior work by Caltrans in this area (2015) indicated that about 10,300 of the DOT's full-time employees (which constituted approximately 50% of the full-time workforce) were eligible for retirement.¹ These impending vacancies will present a large gap in transportation knowledge as well as the skills that are required to maintain consistent research, management, and performance standards within the agency.

Potentially losing half of the workforce would be more than losing loyal and valued employees; it would represent a loss of the knowledge, skills, and abilities (KSAs) that have accumulated over the 15 plus years each employee has experienced as a part of a state transportation agency. To maintain the integrity and dissemination of these vital perspectives within state DOTs, succession planning and knowledge management strategy implementation has become paramount. The implementation of these strategies will require a new interdisciplinary system for coaching, mentoring, and long-term succession planning within state DOTs. The aging workforce seen in the transportation industry makes the implementation of succession plans of vital importance for organizations such as Caltrans, and this is compounded by difficulties in recruiting and retaining new employees for key positions.

The project began with an analysis of the existing succession plans implemented by state DOTs and other related organizations. This task focused on how state DOTs and other related organizations articulate their mission, the resources available to achieve that mission and the management of those resources when it comes to workforce and succession planning. In support of this project, the Center for International Trade & Transportation (CITT) research team reviewed the 2012 Knowledge Transfer Guidebook and assessed its use via targeted interviews with select Caltrans employees. The CITT research team also discussed the success of existing succession planning efforts at Caltrans and the difficulties encountered by members of various teams and offices. This information was summarized and discussed in meetings with the Caltrans panel assigned to the project. CITT then hosted a peer exchange with representatives from DOTs in Michigan, Montana, Arizona, and Colorado.

In its engagement with Caltrans, the CITT research team expanded its definition of succession planning to include more holistic approaches: Effective succession planning and knowledge management concerns a Caltrans employee at every phase in their career – from entry-level to C-Suite executive – to not only ensure that more senior leadership relays important institutional knowledge but that the next generation of leadership is developed from day one. As a state DOT peer exchange participant described it, the knowledge that employees possess and develop over the length of a career is as important to a DOT as the physical infrastructure in its inventory. These observations apply universally, beyond the initial focus on planning and modal programs – and apply not just to Caltrans but to all state DOTs across the country. This research concludes with the recommendation of three pilot programs that would promote a more holistic, institutional approach to succession planning.

In-depth interviews with Caltrans and external subject matter experts revealed a general consensus that succession planning programs are critical for state DOT success and the ability of a state DOT to recruit, retain, upskill, and train its workforce, though the implementation of such programs remains a challenge. Accordingly, CITT researchers recommended the development of measurement and tracking methodologies to make it possible to longitudinally track succession planning outcomes over a five- and ten-year period. Using longitudinal analysis, Caltrans could develop a return-on-investment (ROI) model to help leadership gauge the efficacy of investments in succession planning.

Introduction

The purpose of this project is to conduct research on previous and current succession planning strategies undertaken by state Departments of Transportation (DOT)s and other organizations to be used by the California Department of Transportation (Caltrans) in developing and updating its own strategies. With the workforce steadily aging, state DOT leaders will need to introduce workforce strategies that will prepare candidates to fill new vacancies. Prior work by Caltrans in this area (2015) indicated that about 10,300 of the DOT's full-time employees (which included approximately 50% of the full-time workforce) were eligible for retirement.¹ These impending vacancies will present a large gap in transportation knowledge as well as the skills that are required to maintain consistent research, management, and performance standards within the agency.

The Center for International Trade & Transportation (CITT) research team worked with Caltrans to identify a narrow focus on succession planning for planning and modal programs (including those dedicated to rail, mass transportation, research, and aviation), and this approach proved effective in identifying potential pilot deployments at Caltrans headquarters and targeted divisions. However, research also revealed more universalizable insights beyond the scope of

¹ Malcolm Dougherty to Brian Kelly, "Department of Transportation 2015 SLAA REPORT," 2015, https://www.library.ca.gov/wp-content/uploads/slaa/SLAA_dot_2015.pdf.

the initial focus. These universal insights provide a rationale for scaling succession planning efforts beyond the narrowly defined focus for this study on planning and modal programs.

CITT researchers began the study by discussing succession planning with the Caltrans staff panel and conducting a review of succession planning materials published by other state DOTs. The goal was to analyze the progress, success and shortcomings of previous succession plans implemented by state DOTs and other related organizations. This task will focus on how State DOTs and other related organizations articulate their mission, the resources available to achieve that mission and the management of those resources when it comes to workforce and succession planning. During this initial period, CITT researchers refined initial research questions:

- Phase 1: Why is succession planning difficult?
- Phase 2: Why is the management of tacit knowledge difficult?
- Phase 3: Why is it difficult to consistently implement tacit knowledge strategies such as cross-training, expert interviews, leadership programs, and/or phased retirements?

With this focus identified, CITT researchers conducted interviews with select Caltrans employees to discuss their knowledge of and experiences with succession planning programs. The research team also documented difficulties and complications associated with implementing succession planning programs. CITT researchers then held a peer exchange with representatives from DOTs in Michigan, Montana, Colorado, and Arizona. The outcomes of the peer exchange were reviewed by the Caltrans panel in tandem with CITT researchers and follow-up activities were identified.

Research Focus Summary

Most agencies with developed succession planning efforts make use of similar methods and deploy related worksheets, documents, scoring mechanisms, and other tools and methods to address succession planning and knowledge management needs. Many DOTs develop such materials directly from what other state DOTs or other government agencies elsewhere have previously adopted, or have developed these materials from similar sources. For example, the Oregon Department of Transportation's Individual Development Plan is similar to that in use at Caltrans, and the Montana Department of Transportation's Critical Role Identification sheet (see fig. 6, page 22). is very similar to the Critical Position Worksheet in use at the Missouri

Department of Transportation.² While the desire for formal measurement and tracking of the success of succession planning efforts was expressed by both Caltrans and other state DOTs, it did not appear from a review of the literature and focus group interviews that DOTs had made significant progress in designing and/or implementing the relevant tools to accomplish this task.³ Overall, CITT research found that effective and consistent succession planning has much to do with workplace culture, and this proved to be the case at agencies with formal, developed succession planning processes and those that did not yet have any formal plan at all. The importance of workplace culture introduces an important *qualitative* component to succession planning efforts, which makes the measurement and tracking of succession planning more complex in turn. In other words, tracking time-to-fill vacancies, the number of employees eligible for retirement, and other more obviously quantitative metrics are necessary but not sufficient for effective succession planning.

All state DOTs have a variety of bureaucratic hurdles to manage while also competing with other state agencies (both within and outside the state), the private sector, and city governments. Many effective succession planning strategies (such as transitional training) are difficult if not impossible to implement on a consistent basis. In addition to preparing for the already identified surge in retirements as the Baby Boomer generation exits the workforce, state DOTs must work to identify themselves as an employer of choice for younger workers who possess (or could come to possess over the course of their careers) the variety of skills, abilities, and knowledge expertise required by a large transportation agency.⁴ State DOTs across the country have more in common than not, and close collaboration will prove to be mutually beneficial. This collaboration will have less to do with discovering new methods and approaches to succession planning and knowledge management, and more to do with determining the best means of incentivizing, recognizing, and ultimately institutionalizing workforce participation in existing efforts.

To address the eventual research question regarding tacit knowledge management strategies, CITT conducted a review of the literature from other state DOTs.⁵ CITT then conducted

² “Department of Administrative Services : Succession Planning : Chief Human Resources Office : State of Oregon,” accessed July 2, 2024, <https://www.oregon.gov/das/HR/Pages/success-plan.aspx>; Ashley Buechter et al., “Succession Planning Playbook” (Missouri Leadership Academy Capstone Team, 2020), <https://leadershipacademy.mo.gov/documents/Class3/20200203%20MLA%20-%20Class%203%20-%20Capstone%20Team%20B%20-%20Playbook.pdf>.

³ For example, see: Romila Singh et al., “WisDOT Workforce Development and Readiness Project,” Final Report (Institute for Physical Infrastructure and Transportation (University of Wisconsin-Milwaukee), January 2022), Wisconsin Department of Transportation Research & Library Unit, p.5, <https://wisconsin-dot.gov/documents2/research/0092-21-62-final-report.pdf>.

⁴ [Staff Editor], “Finding the Future Workforce for State DOTs Becoming Tougher,” *American Association of State Highway and Transportation Officials (AASHTO) Journal*, August 17, 2018, <https://aashtojournal.org/2018/08/17/finding-the-future-workforce-for-state-dots-becoming-tougher/>.

⁵ “Oregon DOT Succession Plan Guide,” n.d., <https://www.oregon.gov/das/HR/Documents/sp-SP%20Guide.pdf>; “State of Texas Workforce Planning Guide” (Texas: State Auditor’s Office, August 2017),

interviews with a variety of Caltrans staff members recommended by the Caltrans team and discussed our findings and observation with Caltrans. Finally, CITT conducted a peer exchange with representatives from the departments of transportation in the states of Arizona, Michigan, Minnesota, Colorado, and Caltrans.

CITT research indicated that Caltrans faces the most difficulty with consistently implementing tacit knowledge management strategies, which coheres with the focus of the Caltrans Knowledge Transfer Guidebook.⁶ These strategies tend to involve activities which are voluntary and require employee buy-in from the start, such as a mentorship program. These strategies also frequently entail an additional workload for managers and supervisors. Caltrans staff consistently and enthusiastically lauded leadership buy-in at the executive level, but noted that this did not always replicate at lower levels within the agency as a whole. Moreover, such buy-in must be cultivated; it is not a given. It is also important to identify a means of measuring and tracking the success of any particular effort, particularly if Caltrans needs to solicit state support for the allocation of additional time, resources, and staff. While the mentorship program tracks participation by year, district, and division, other efforts had less data available. Additionally, *quantity* of participation does not necessarily reflect the *quality* of participation, and qualitative reports by agency staff can be easily dismissed as anecdotal. Quantitative information – such as the number of employees eligible for retirement in the next ten years or the average time it takes to fill positions or retention – is valuable to Caltrans’s ability to effectively conduct workforce planning, knowledge management, and succession planning. However, much of succession planning concerns information that is qualitative in nature. Research methods that can render this qualitative information quantitatively are much needed.

<http://www.sao.texas.gov/reports/main/17-708.pdf>; Doug A. Ringler, “Workforce and Succession Planning System: Michigan Department of Transportation,” Preliminary Survey Summary (Lansing, MI: Office of the Auditor General, November 2021), <https://audgen.michigan.gov/wp-content/uploads/2021/11/r591042322-4244.pdf>; Robert A. Perkins, “Serving Future Transportation Needs: Succession Planning for a State Department of Transportation Organization, Its People & Mission,” Final (Fairbanks, AK: Alaska University Transportation Center, Alaska Department of Transportation and Public Facilities, June 2011), <http://hdl.handle.net/11122/7477>; Roger Millar and Jeff Pelton, “Report on Agency Succession Planning & Leadership Training” (Washington State Department of Transportation, December 26, 2018), https://wsdot.wa.gov/publications/fulltext/LegReports/17-19/WSDOT_LeadershipDevelopmentSuccessionPlanningReport.pdf; Ashley Buechter et al., “Succession Planning Playbook” (Missouri Leadership Academy Capstone Team, 2020), <https://leadershipacademy.mo.gov/documents/Class3/20200203%20MLA%20-%20Class%203%20-%20Capstone%20Team%20B%20-%20Playbook.pdf>; Robert A. Perkins and F. Lawrence Bennett, “Knowledge Transfer Needs and Methods” (Fairbanks, AK: Alaska University Transportation Center and Alaska Department of Transportation, December 2012), https://dot.alaska.gov/stwddes/research/assets/pdf/fhwa_ak_rd_12_26.pdf; Romila Singh et al., “WisDOT Workforce Development and Readiness Project,” Final Report (Institute for Physical Infrastructure and Transportation (University of Wisconsin-Milwaukee), January 2022), Wisconsin Department of Transportation Research & Library Unit, <https://wisconsinidot.gov/documents2/research/0092-21-62-final-report.pdf>.

⁶ “Caltrans Knowledge Transfer Guidebook 10-2017,” October 2017, <https://humanresources.transportation.org/wp-content/uploads/sites/15/2018/08/CT-Knowledge-Transfer-Guidebook-10-2017.pdf>.

Our research indicated that many DOTs across the country are in situations similar to Caltrans in one way or another.⁷ State DOTs with smaller workforces and less developed succession plans are most dissimilar to Caltrans, but some core issues remain. For example, the Montana Department of Transportation (MDT) also struggles with determining an effective and permissible means of planning in advance for imminent employee retirements. Older employees at many state DOTs assume that they need to “fly under the radar” with regards to retirement (or, alternatively, may note that indications they have made of their plans to retire have gone unnoticed). Yet, Caltrans has developed succession planning methods and processes, and has many employees who are well aware of the importance of succession planning. Caltrans has a succession planning system that is in fact more mature and developed than that of many state DOTs. Of the DOTs that CITT researched and interviewed, the State of Michigan’s Department of Transportation (MDOT) is the best candidate to learn from and emulate. This assessment was met with agreement by Caltrans staff who participated in and reviewed the peer exchange. MDOT has launched a comprehensive workforce and knowledge management system dubbed the MDOT House (see Appendix A) that would be a valuable source of inspiration for Caltrans.

⁷ See prior research, such as: Ernie Witter and Teresa Adams, “Best Practices in Guidance for Workforce Transition and Succession Planning,” Final (Madison, WI: National Center for Freight & Infrastructure Research & Education and Wisconsin Department of Transportation Research & Library Unit, April 2011), <https://wisconsindot.gov/documents2/research/WisDOT-Policy-Research-0092-10-15-final-report.pdf>; Romila Singh et al., “WisDOT Workforce Development and Readiness Project,” Final Report (Institute for Physical Infrastructure and Transportation (University of Wisconsin-Milwaukee), January 2022), Wisconsin Department of Transportation Research & Library Unit, <https://wisconsindot.gov/documents2/research/0092-21-62-final-report.pdf>; Robert A. Perkins and F. Lawrence Bennett, “Knowledge Transfer Needs and Methods” (Fairbanks, AK: Alaska University Transportation Center and Alaska Department of Transportation, December 2012), https://dot.alaska.gov/stwddes/research/assets/pdf/fhwa_ak_rd_12_26.pdf.

Report on Knowledge Transfer Guidebook

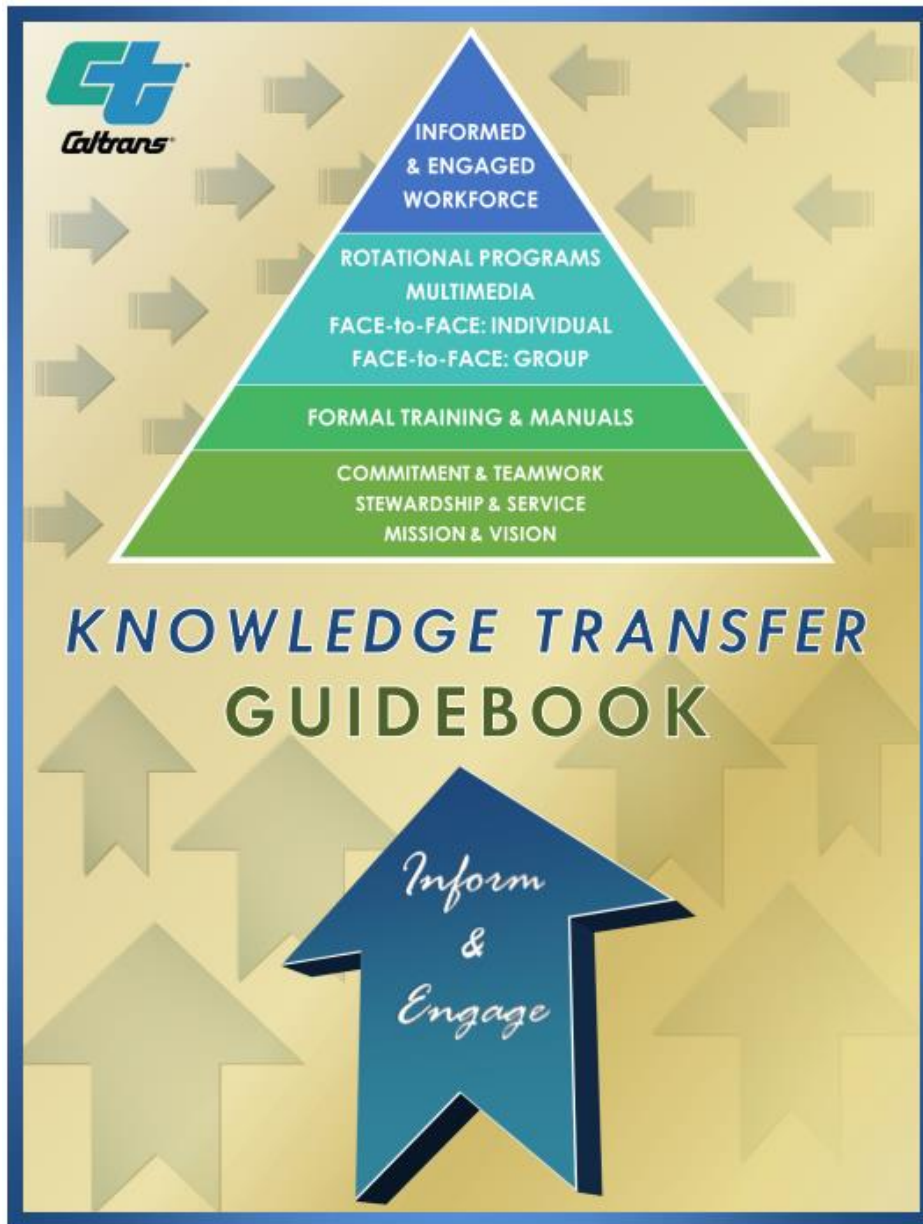


Figure 1 - Caltrans Knowledge Transfer Guidebook (cover)

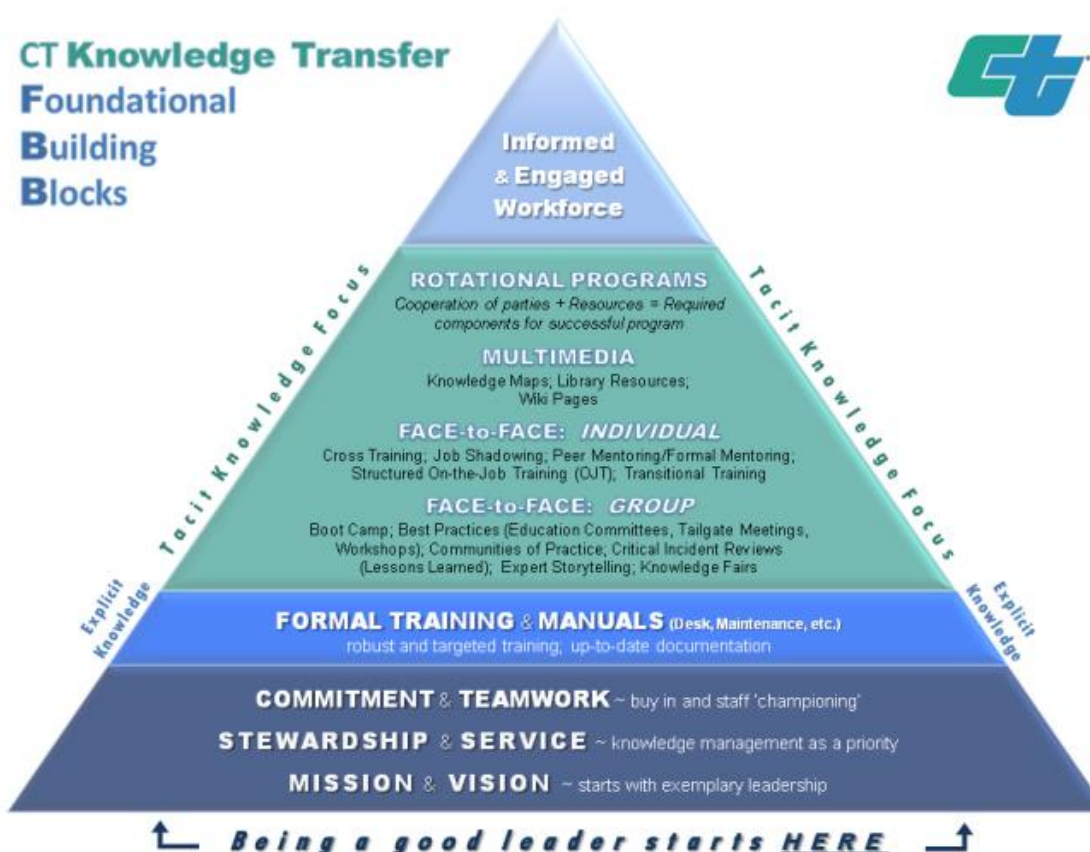


Figure 2 - Caltrans Knowledge Transfer Foundational Building Blocks, Knowledge Transfer Guidebook

Caltrans interviewees reported that the use of Caltrans's existing Knowledge Management Guidebook was not widespread. The agency's workforce is massive and geographically dispersed, and districts tend to be independently-minded. Anecdotally, one Caltrans interviewee mentioned that they frequently found that some districts and divisions were entirely unfamiliar with materials that their office has helped to produce and distribute over the past few years. Caltrans headquarters has little ability to coerce participation.

The Guidebook does not reflect which tactics are used most often and are most viable at Caltrans. For example, many interviewees mentioned the use of retired annuitants, a program which was not mentioned in the Guidebook.⁸ While perhaps not the ideal method, it is one which Caltrans districts and divisions have been able to successfully implement. The Guidebook also mentions tactics which are very difficult to implement, such as transitional training. Furthermore, some workforce engagement tools already in use may not be used for succession

⁸ "Retired Annuitant," CalPERS, accessed June 27, 2024, <https://www.calpers.ca.gov/page/retirees/working-after-retirement/retired-annuitant>.

planning *specifically*, but either are or could be effective as part of a succession planning strategy (such as Toolbox Tuesday or mentorship programs).

Preliminary Review of Knowledge Transfer Guidebook

Table 1: Preliminary Review of Methods Included in Knowledge Transfer Guidebook

Category	Strategy	Suitable for Management / Leadership?	Suitable for Employees?
Face-to-Face: Group	Boot Camps	Potentially effective, if instructor is an experienced leader, others can learn from his experience and be prepared for future leadership roles Should be one-on-one to maximize effectiveness.	Simple and cost-efficient way of teaching, expert can teach a large group of people at the same time But: The larger the group, the lower the learning effect for each participant
	Best Practice Meetings	Not very effective for leadership positions, as there usually is a small number of leaders in each department with different responsibilities	Very effective way of standardizing processes and procedures in an organization. If everyone follows the same guidelines, new hires can learn easier and resignations/retirements can be addressed more quickly
	Communities of Practice	Not practical, as there usually is a small number of leaders in each department with different responsibilities	Difficult to implement due to the absence of a formal team
	Critical Incident Review	Can be an effective way to “learn from your mistakes”. Incidents are analyzed to prevent the same mistake from happening again.	Can be an effective way to “learn from your mistakes”. Incidents are analyzed to prevent the same mistake from happening again. Even more effective if an entire group of people is informed. Could also be combined with best practice meetings
	Expert Interviews	Effective way to learn from other leaders, makes tacit knowledge	Potentially effective, gives a group of employees the chance to learn from

Category	Strategy	Suitable for Management / Leadership?	Suitable for Employees?
		more explicit: What was done and why?	more experienced colleagues / leaders
	Knowledge Fairs	Not effective	Can be effective, similar to boot camps
Face-to-Face: Individual	Cross-Training	Very effective, if work is not too different from each other's position. Allows organizations to better handle resignations / vacancies, leaders can be replaced more easily	Very effective, if employees can do their colleagues' work as well, absences or vacancies have less of an effect on work efficiency
	Job-Shadowing	Similar to cross-training. Effective if new hires (leadership positions) can learn from existing managers	Similar to cross-training. Very effective for new hires to learn the processes
	Mentoring Program	Effective to develop a new generation of leaders	Not as effective / efficient as job-shadowing
	Structured on-the-job training	Should be standard for new hires	Should be standard for new hires
	Transitional training	Can be effective if it is known that a person is going to leave, transitional training as a way to introduce a new person into that position. Combine with job-shadowing	Can be effective if it is known that a person is going to leave, transitional training as a way to introduce a new person into that position. Combine with job-shadowing
Multimedia	Expert interviews	Efficient tool since interviews can be recorded and shown to employees over and over again. But must be kept up to date! But: Video format does not allow questions	Efficient for new hires, standard procedures and general guidelines of the workplace can be shown in a video, does not require an instructor. But: Video format does not allow questions

Category	Strategy	Suitable for Management / Leadership?	Suitable for Employees?
	Knowledge map	Not effective	Interesting in theory but seems impractical. Is it actually being used?
	Wiki	Good way of explaining industry-specific terms, abbreviations etc.	Good way of explaining industry-specific terms, abbreviations etc.
Rotational Programs	Job Rotation	Not effective	Ideal for new hires: Can rotate through different teams / departments to learn more about the organization

Knowledge Transfer Guidebook – Discussion Themes

In discussing the Knowledge Transfer Guidebook with Caltrans interviewees and with the Caltrans panel during quarterly meetings, CITT researchers noted a number of broad themes:

Awareness

Caltrans staff reported that not all recent professional development, career preparedness, succession planning, etc. materials had actually been reviewed across Caltrans districts and departments, including the Knowledge Transfer Guidebook. As such, not all departments are equally aware of the programs and strategies available. Interviewees often spoke very approvingly of the mentorship program, but also claimed that it did not appear that awareness of or participation in these programs was widespread across *all* departments and districts. Interviewees were unsure of how to ensure that all districts and divisions become familiar with the Knowledge Transfer Guidebook (or other related materials).

Language

The same objective can be accomplished with slight modifications to the phrasing and language that will avoid paperwork and bureaucratic hurdles. Significantly, more senior employees are more likely to understand the proper language to deploy than more junior employees – and this knowledge can be lost as employees retire. This is not a topic that is addressed in the Knowledge Transfer Guidebook, but it is an element of succession planning that could be captured via many strategies that are included in the Guidebook.

Coordination and Accountability

Given Caltrans' size and scope, it is difficult to ensure widespread use of succession planning materials or coordinate succession planning efforts. As previously mentioned, succession planning is often something that districts do independently. This applies not only to succession planning, but to all workforce management and professional development efforts. Some districts are aware of successful succession planning strategies, while others are not. Some districts and departments make ample use of a given method, while others do not. Simply because of their region's demographic composition, some districts may struggle to meet state mandated directives regarding recruitment and hiring, which can complicate the use of strategies outlined in the Knowledge Transfer Guidebook. However, there are ways of mitigating coordination issues, at least if they are posed by geographic barriers. For example, following the pandemic-era lockdowns, many more employees are familiar with the ins-and-outs of videotelephony and online chat services such as Zoom and Microsoft Teams, and this has made it easier to coordinate some succession planning activities by eliminating geographic barriers. As a result, it is now far easier to pair a mentee from District 7 with a mentor from District 3.

Frameworks of Trust

In an era where Diversity, Equity, Inclusion, and Accessibility (DEIA) principles have gained widespread adherence, State DOTs must move beyond the adoption of organizational values and find practical and self-evident practices that build frameworks of trust between executive leadership, management, and the collective state DOT workforces. Examples of instantiating DEIA principles through frameworks of trust would include the development of intentional engagement with employees that goes beyond annual reviews to make clear that employees are rewarded for sharing their thoughts on the workforce, recruitment, retention, and career advancement. Representatives from Michigan and Arizona noted in the peer exchange that workplace culture lays the foundation for effective succession planning. Informal "water cooler" relationships between junior and senior employees are an integral component of day-to-day succession planning, because they garner support among employees for important succession planning efforts that may not entail additional compensation and may in fact take time away from other duties of the job. While these observations were borne out by the research process, they are absent from the Knowledge Transfer Guidebook.

Assessment of Caltrans Interviews

Summary of Findings from Interviews

In discussion with Caltrans employees, CITT identified a number of difficulties Caltrans faces in developing and implementing tacit knowledge management strategies:

- **Lack of standardization:** Succession planning is often handled by the district, and is not standardized. Caltrans is so large that it is difficult to implement agency-wide processes and ensure uniform compliance.
- **Individual Development Plans (IDPs):** Caltrans staff had initially created IDPs to assist employees in identifying and participating in professional and career development opportunities at the agency. However, IDPs were often perceived as a performance review (with a negative connotation). Participation was thus lackluster. At present, Caltrans staff are piloting a replacement process entitled Employee Development Plans (discussed below).
- **Shift to remote work:** Interviewees noted that COVID work-from-home mandates posed difficulties, particularly in onboarding and training new employees. This has continued as remote work has become more common after the end of pandemic-era restrictions. Remote work makes it difficult to replicate the shadowing and hands-on training experiences that are possible in an office environment. These are crucial to “informal” means of knowledge management and succession planning, which depend on consistent face-to-face interactions and the development of relationships in the workplace.
- **Navigating demographic changes:** Interviewees noted the impact of the pandemic on retirement rates and the organization's efforts to navigate these changes through various planning and development initiatives.
- **Diversity and recruitment challenges:** Human Resources (HR) procedures can complicate succession planning. Districts that serve homogenous populations face greater difficulty in meeting diversity goals and requirements. Additionally, the State Leadership Accountability Act (SLAA) and Equal Employment Opportunity (EEO) can increase workload for HR staff. This complicates recruiting, which in turns complicates succession planning.
- **Younger leadership:** It has become more common for younger workers to attain leadership positions in districts, but they may still need the guidance of older workers (even if those workers are not in management or leadership).
- **Mentorship program:** Interviewees indicated that the Caltrans mentorship program been very successful, but it depends on employee self-selection, which cannot be guaranteed.
- **Turnover:** Succession planning and knowledge management is especially difficult for positions with a high rate of turnover. Departing employees take their institutional knowledge with them, but short-tenure jobs leave incumbent employees with very limited time to acquire broad and substantive tacit knowledge – and without the ability to pass that knowledge on. Caltrans staff noted that issues with retention are tied to the

pay across the board: Employees with particular in-demand skillsets are able to attain employment with a greater wage elsewhere. It was also noted that it is also difficult to implement plans in an agency with many opportunities for mobility: Employees frequently take advantage of opportunities for career advancement and exploration, which is not conducive to stability or the development long-term workplace relationships in a particular office.

- **Procedural hurdles:** Caltrans's strict adherence to the civil service system presents complications that are not present in the private sector. Elements of the Caltrans workforce are unionized and governed by collective bargaining agreements. This makes nontraditional pathways or apprenticeships difficult. Moreover, changing classifications and minimum qualifications to reflect changes in the workforce is difficult, because Caltrans must attain the approval of other agencies within the state government, such as the California Department of Human Resources (CalHR) and the State Personnel Board.
- **Enforcement and Accountability:** staff do not have the authority to force compliance with plans that facilitate effective knowledge management.

Strategies in Use at Caltrans

The following strategies were those mentioned most by Caltrans employees in interviews and email correspondence. Interestingly, not all of these strategies are succession planning approaches *per se*. They do not necessarily address technical skills or knowledge, and they may not address the sorts of material found in typical position descriptions. However, they are important in the facilitation of tacit knowledge management. Additionally, Caltrans staff did not self-report as many difficulties with the management of knowledge associated with technical skills, so a focus on tacit knowledge management strategies was appropriate.

Mentorship

Over the past decade, the mentorship program at Caltrans has experienced steady growth in participation (fig. 3). Because of the expansion of videotelephony software during and after the COVID-19 pandemic, the Caltrans staff member who oversees the mentor program has been able to pair mentors and mentees across the entire agency without geographic restrictions. The mentorship program allows for the direct transfer of knowledge from senior to junior employees.

The mentorship program relies on self-selection: An employee must be proactive and seek out participation as a mentor or mentee. Yet, that having been said, the relevant staff members report that repeat participation in the program is common: Those who participate in one season of the mentorship program are more likely to participate in subsequent seasons. The Caltrans employee who oversees the mentorship program noted that maintenance employees did not initially see the utility of the mentorship program for their workforce needs, but have

since become top adopters. Because the mentorship program is driven by mentor and mentee interests, it is easy to tailor the program to meet participant needs.

While successful, the mentorship program is of course not a panacea. As one Caltrans interviewee noted, there is no guarantee that participants will not experience personality clashes or unprofessional behavior as either a mentee or mentor. The mentorship program is less applicable in occupations with high rates of turnover, for the simple reason that it is difficult to source employees adequately prepared to service as mentors and potential mentees are less likely to stay with the agency long enough to seek a mentor. Moreover, participation is not uniform across districts and divisions (fig. 1 and 2). This is in some part due to the size of a district or division's workforce, but particular divisions or departments may simply decline the opportunity to participate.

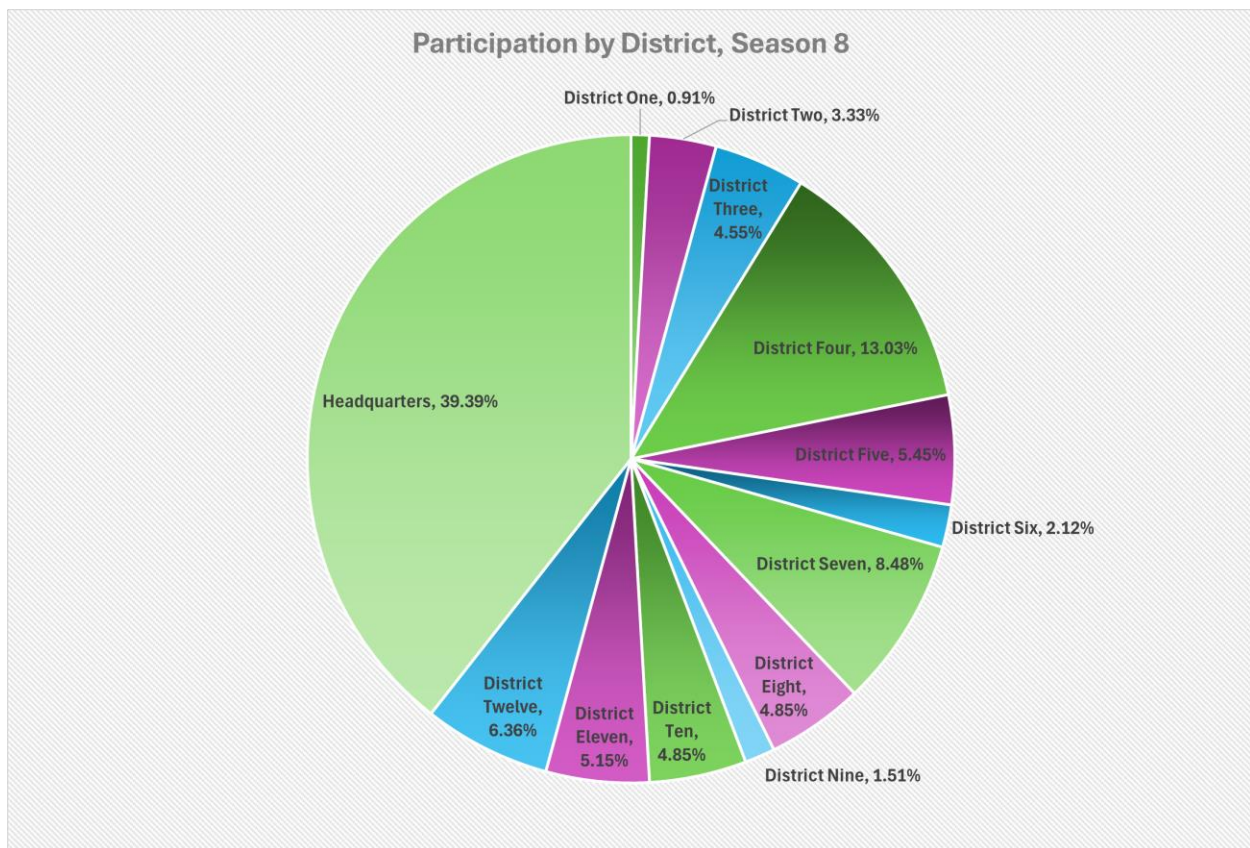


Figure 3 - Mentorship Program Participation by District, Season 8

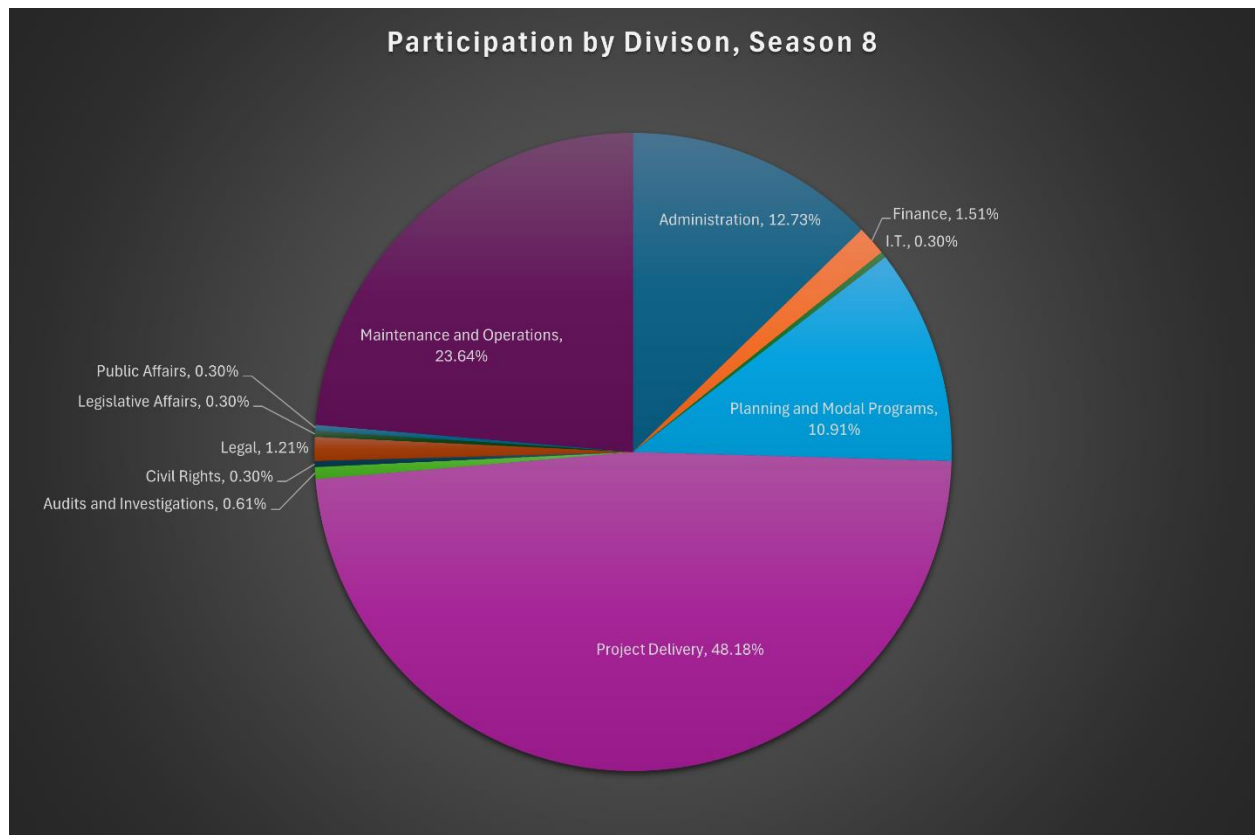


Figure 4 - Mentorship Program Participation by Division, Season 8

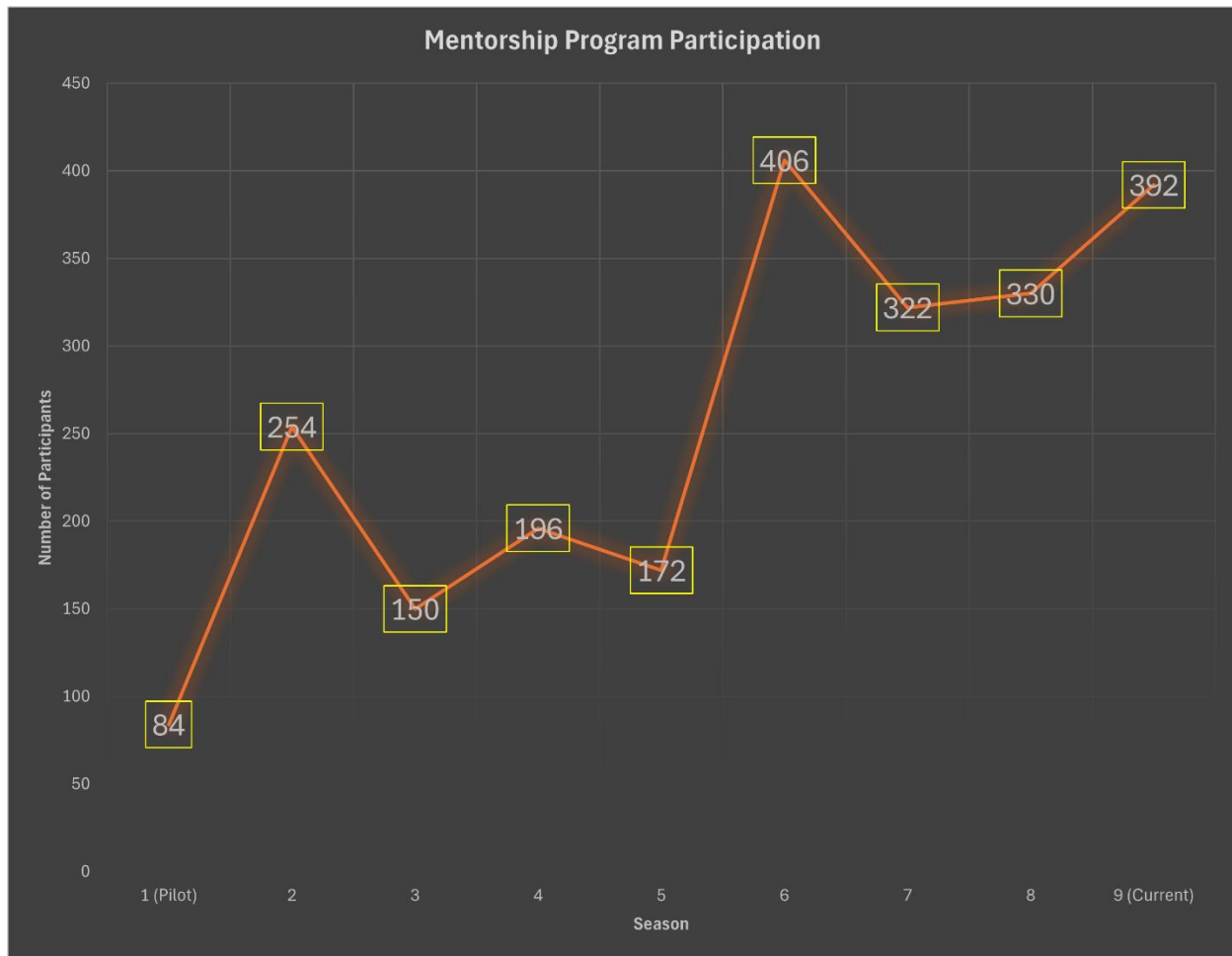


Figure 5 - Mentorship Program Participation Over Time

Retired Annuitants

The term “retired annuitant” refers to “a CalPERS retiree who, without applying for Reinstatement From Retirement, returns to work with a CalPERS employer in a designated retired annuitant position.”⁹ This allows retired employees to be hired back on a limited basis so that they can provide tacit knowledge and know-how that may be at risk after they have retired.

The retired annuitant program can provide much of what is provided by methods such as transitional training or phased retirements, but does not involve as many bureaucratic hurdles. It provides retirees with an opportunity to contribute – and those who serve as retired annuitants actively want to be involved. However, a retiree cannot begin service as a retired annuitant until 180 days after retirement and there can be no written or verbal agreement

⁹ “Retired Annuitant,” CalPERS, accessed June 27, 2024, <https://www.calpers.ca.gov/page/retirees/working-after-retirement/retired-annuitant>.

stating that a soon-to-be retired employee will serve as tried annuitant. For these reasons, relying on the retired annuitant program as a succession planning tool is less than desirable.

Determining a way of more effectively (but respectfully) planning for an employee's retirement will help Caltrans rally the proper talent and knowledge management tools to address the gap left by a retiring employee. This includes two important but distinct areas of inquiry: First, the knowledge, skills, and abilities an employee possesses that are *not* captured by a position description; Secondly, the knowledge, skills, and abilities an employee possesses that *are* crucial to the technical components of the position.

Toolbox Tuesday

Toolbox Tuesday is a monthly forum for managers and supervisors that provides tools, tips, and information needed to build and support teams. It provides an opportunity to expose staff at all levels to various leadership philosophies, tools and lessons learned by Caltrans leadership through their experience. It is a means for communication and collaboration across districts and divisions, and fosters a sense of membership within a large and geographically dispersed organization. Additionally, it generates an archive of videos covering a variety of topics.

Employee Development Plans (EDPs)

Caltrans staff are currently in the process of piloting Employee Development Plans (EDPs), which will replace the previous Individual Development Plans (IDPs). The EDP is a professional development document completed by employee and supervisor and can assist employees in moving into a particular classification if desired. It provides a grade for various skills, certifications, etc. and a SMART goal system for helping employee improve competencies. Employees determine target goals with corresponding completion date. It also includes accompanying module, LinkedIn learning courses and other supplemental materials. The EDP system could be modified to better with human resources and workforce development divisions internally. From an employee perspective, EDPs could be modified into a "passport" concept.

EDPs are still in the pilot phase and cannot yet be evaluated. However, if EDPs could succeed in addressing the *talent* management side of succession planning for *individuals*, a corresponding development plan could be developed for the *knowledge* associated with roles and positions for the *agency*. Such plans do exist at other state agencies. Montana's far less developed succession planning materials include a critical role identification module (fig. 4) and similar documents are in use in Missouri.¹⁰ The Michigan Department of Transportation (MDOT) explicitly separates talent management from knowledge management, and addresses the two subjects at different times on an annual basis (fig. 5). EDPs could be integrated as part of an

¹⁰ Ashley Buechter et al., "Succession Planning Playbook" (Missouri Leadership Academy Capstone Team, 2020), <https://leadershipacademy.mo.gov/documents/Class3/20200203%20MLA%20-%20Class%203%20-%20Capstone%20Team%20B%20-%20Playbook.pdf>.

analogue to the Talent Review Process and Employee Life Cycle pillars of the MDOT House, while a corresponding knowledge and role management would serve as an analogue to the Knowledge Management System and Role Assessment Model pillars.

Critical Role Identification						
SCORING	1 = Not true for this role		2 = Moderately true for this role		3 = Extremely true for this role	
ROLE	URGENCY This role is likely to be vacant in < 12 months	IMPACT A vacancy would immediately impact business	SKILLS Role requires specialized /technical knowledge, training and/or certification	INTERNAL TALENT No internal candidates are ready for this role	EXTERNAL TALENT Hiring externally for this role would be difficult	TOTAL
Position 1	2	2	3	2	1	10
Position 2	2	2	2	2	2	10
Position 3	2	1	2	1	1	7
Position 4	2	1	2	1	1	7
Position 5	2	1	2	2	2	9
Position 6	2	3	2	3	2	12
						0

Figure 6 - Montana Department of Transportation Critical Role Identification Sheet

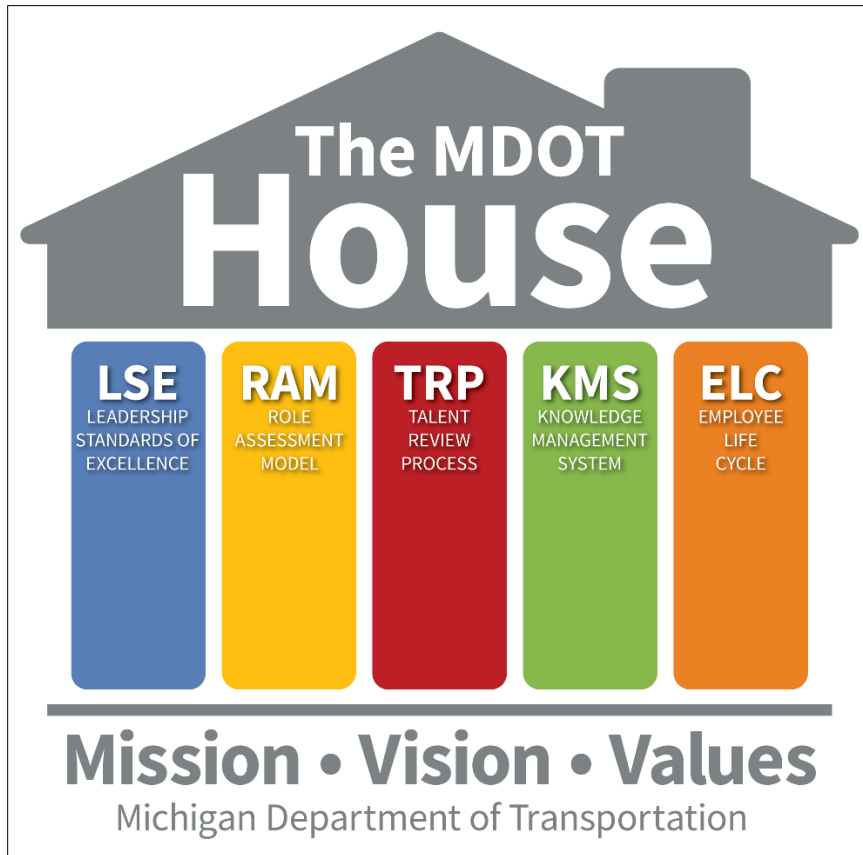


Figure 7- The MDOT House Infographic

Peer Exchange Summary



As a part of the project, CITT researchers were to conduct a virtual peer exchange involving representatives from state DOTs, transportation agencies and other organizations who have undertaken or demonstrated leadership in succession planning and knowledge management. Participants articulated their perspectives on both current and future succession planning strategies. Peer exchange materials from external state DOTs can be found in Appendix A below. Further supplemental materials from the Michigan and Arizona departments of transportation can be found in Appendix B.

The hour-long peer exchange featured participants from Michigan, Montana, Colorado, Arizona, and Caltrans, followed by a discussion of the peer exchange with the Caltrans panel. While it may seem at first glance that succession planning primarily concerns the “passing of the torch” from retiring senior management to their successors, the state DOT representatives tasked with implementing succession planning did not find this to be the case. Rather, succession planning is implicated in recruitment, retention, and the entirety of the employee life cycle and involves employees who may never take up a formal leadership position.

State DOTs were at different stages of succession planning, with some having developed a comprehensive workforce planning and knowledge management structure (Michigan) and others in the very beginning stages (Montana). More experienced state DOTs noted the foundational importance of workplace culture, which is vital for ensuring participation in succession planning activities. Younger workers tend to lack a working familiarity with the hire-to-retire civil service model, and were difficult to retain if the DOT did not provide clear career pathways and opportunities to make an impact through their employment. DOTs struggled between either accommodating high turnover or attempting to mitigate it, but largely found the latter preferable if and when it is possible. Legislatively-set salaries make it difficult for state DOTs to be as nimble as private sector employers or municipal governments regarding employee compensation, which is not an issue that can be sidestepped. Rather, DOTs must

make their workplaces desirable by other means. State DOTs also noted difficulties with effective planning for employee retirements when incumbent retirees do not feel comfortable providing the advance notice necessary. In order to address these issues, state DOT representatives emphasized the importance of a well-staffed and innovative human resources department.

Conclusions and Recommendations

Project Assessment and Takeaways

In its engagement with Caltrans, the CITT research team has expanded its definition of succession planning to include a holistic approach: Effective succession planning and knowledge management concerns a Caltrans employee at every phase in their career – from entry-level to C-Suite executive – to not only ensure that more senior leadership relays important institutional knowledge but that the next generation of leadership is developed from day one. As the representative from Michigan described it, the knowledge that employees possess and develop over the length of a career is as important to a DOT as the physical infrastructure in its inventory. These observations apply universally, beyond the initial focus on planning and modal programs.

In-depth interviews with Caltrans and external subject matter experts revealed a general consensus that succession planning programs are critical for state DOT success and the ability of a state DOT to recruit, retain, upskill, and train its workforce, though the implementation of such programs remains a challenge.

Recommendations and Next Steps

The CITT research team recommends the following initiatives and pilot programs for Caltrans to use in modifying, updating and developing Succession Planning and Management Practices for planning, modal and research programs.

External Collaboration and Partnership

In agreement with the assessment of the Caltrans team, the CITT research team recommends modeling Caltrans succession planning efforts after the MDOT House. MDOT has built the House and its branding into position descriptions for occupations and includes the associated phraseology in its strategic plans and materials published by the state as a whole.¹¹ MDOT would also benefit from collaboration with Caltrans. The CITT research team proposes a series of workshops between Caltrans and MDOT. Those efforts could be applied to collaborations

¹¹ “PD TRAENGED15R Trans Eng 9-P11 P & C Oakland” (State of Michigan Civil Service Commission), accessed June 27, 2024, <https://mcsc.state.mi.us/AgencyPDFs/PD%20TRAENGED15R%20Trans%20Eng%209-P11%20P%20&%20C%20Oakland.pdf>.

and partnerships with other state DOTs in the future to maintain an ongoing peer exchange of best practices in succession planning.

Internal Collaboration and Partnership

Caltrans should enrich and expand upon existing internal programs and initiatives that support succession planning, rather than focus on launching new programs. In short, shine a spotlight on successes and foster greater participation and allocation of resources. Caltrans employees shared stories of employees and interns who have become the agency's leaders. These stories demonstrate to younger employees (or potential employees) that Caltrans is a place where individuals can make a difference and find a career. Correspondingly, these stories highlight the expectation that Caltrans employees will be an active participant in the careers of others. Relatedly, it is important to institutionalize succession planning and knowledge management by developing branding and phraseology that is included in strategic plans and position descriptions.

Developing Measurement and Tracking Tools Through Targeted Pilot Programs

The CITT research team recommends the deployment of targeted pilot programs to develop measurement and tracking methodologies to make it possible to longitudinally track succession planning outcomes over a five- and ten-year period. Using longitudinal analysis, Caltrans could develop a return-on-investment (ROI) model to help leadership gauge the efficacy of investments in succession planning. To accomplish these objectives, the CITT research team recommends three pilot succession planning deployments for Caltrans headquarters and two other districts to be determined.

Caltrans should seek to expand and enrich existing strategies which have already proven successful. For example, the mentorship program has seen consistent growth and participation data has already been collected from the current and past seasons. Additionally, given its success to date, the mentorship program could play a role as an incubator: Findings from a pilot program conducted within the mentorship program could serve as a source for future succession planning materials. Significantly, the mentorship program can serve as a testbed for piloting the measurement and tracking of qualitative components that could be applied to other succession planning efforts in the future. The Caltrans Leadership Criteria should be included as important reference point for all pilot programs that target employees and their professional development, and should be built into survey and interview components (see table below).

Table 2: Caltrans Leadership Competencies

<i>Competency</i>	Description	Criteria
<i>Change Commitment</i>	Approaches change as an opportunity to promote excellence and innovation at Caltrans.	Drives change to push Caltrans in a positive direction.; Responds well and supports change with little notice; Provides bold and transformational approaches that lead to creative solutions; Operates quickly with confidence when facing uncertainty; Encourages Caltrans staff to take innovative approaches; Identifies and addresses associated risks.
<i>Risk Appetite</i>	Takes risks after thoughtful and deliberate planning.	Looks for opportunities to take agreed upon risks that are best for Caltrans and the public's interest; Steps outside of comfort zone when it is in the best interest of Caltrans and the public's interest; Acts resiliently and persists after failures; Creates a safe, encouraging culture for making mistakes and learning from them; Accepts consequences for personal failures; Engages in informed and thoughtful decision-making.
<i>Self-Development/Growth</i>	Seeks areas for personal growth.	Remains aware of personal blind spots and biases; Models a consistent focus on improving self; Inspires others to be their personal best; Supports the growth of others in all areas; Imparts information and knowledge to others through mentoring and coaching; Requests feedback from peers and staff to improve performance; Promotes learning for self and others; Learns from others by asking questions.
<i>Conflict Management</i>	Reduces tensions to promote good outcomes for all parties.	Anticipates challenging situations and responds in a way that reduces tension; Mediates conflict between others; Identifies when to involve others for resolution; Maintains focus on Caltrans' Core Values; Provides constructive feedback that focuses on performance and not character; Finds common ground to achieve consensus on issues; Conducts open discussions with staff, peers, partners, and stakeholders to resolve complex problems; Engages and collaborates with partners to address sensitive situations; Perceives conflict as an opportunity to seek greater understanding; Maintains confidentiality to retain and build trust; Seeks to understand other's perspective.
<i>Relationship Building</i>	Identifies what is important to others, and the department, and develops trust to create meaningful relationships.	Maintains personal integrity in all relationships; Interacts with others in a positive, open way that builds lasting relationships; Shows humility and compassion for others; Listens actively to understand the needs and views of others; Assigns team roles based on the strengths of individuals; Promotes cohesiveness among staff, peers, partners, and stakeholders; Works across Headquarters

		and Districts to promote collaboration and share knowledge; Recognizes and celebrates the achievements of others; Respects all individuals and different points of view; Encourages diversity, inclusion, and engagements; Builds external, collaborative relationships with stakeholders and partners.
<i>Organizational Awareness</i>	Understands how Caltrans relates to and impacts the community	Understands the relationship between Caltrans' social, political, policy, and technology systems, including the flow of data and information; Makes decisions based on the impact to the Department as a whole and not just the immediate function or issue; Understands how Caltrans best engages and resonates with other agencies, customers, stakeholders, the media, elected officials, and the public; Anticipates the impact a decision will have on Caltrans, its workforce, partner agencies, and community stakeholders; Recognizes biases and blind spots, individually and in the Department; Manages resources responsibly; Promotes learning for self and others; Takes action in an ethical and transparent manner that builds trust.
<i>Communication</i>	Listens carefully to understand and respectfully explains ideas and objectives clearly to others.	Embraces that the purpose of communication is to advance relationships and understanding; Drives conversations to decision or consensus; Presents complex thoughts or topics clearly; Expresses objectives clearly and respectfully in verbal and written communications; Engages in active listening; Recognizes the non-verbal cues of others and considers them when responding; Shares how input from others will be addressed; Tailors communication to the needs of the audience; Asks for feedback to determine if the message is understood as it is intended; Understands that technology is not a replacement for one-on-one communication; Understands the sensitivity of information sharing.
<i>Strategic Perspective</i>	Considers the future and a broad perspective when developing goals and planning.	Promotes alignment with Caltrans' mission, vision, goals, and values; Analyzes how the economy, legislation, workforce, transportation trends, and system performance will impact Caltrans' mission; Understands Caltrans' strengths and weaknesses, including external influences and constraints; Considers stakeholders, partners, traveling public, social issues, and impacts; Takes advantage of opportunities to develop Caltrans' position as a leader in transportation; Prepares for the unknown by staying informed on trends; Motivates others to turn ideas into action; Identifies ways for Caltrans to be

		more agile and nimble in the delivery of projects and services.
<i>Results Driven</i>	Understands what is needed for Caltrans to succeed and produces demonstrable progress through data-proven results.	Establishes effective objectives to focus resources to achieve mission, vision, and goals; Focuses on achieving results that can be measured with data; Drives progress for critical objectives that are not easily measured; Anticipates the needs and expectations of the Department, stakeholders, and partners; Holds self and staff accountable for delivering quality services and products; Works to meet the needs of Caltrans' workforce, partner organizations, and the public in a way consistent with Caltrans' mission, vision, goals, and values.

Pilot #1: Mentorship Program

As mentioned in this report, Caltrans has a very successful mentorship program. While a mentorship program is not a succession plan in and of itself, a successful mentorship program could serve as a means of developing and improving areas of need in the overall succession plan. For example, if Caltrans staff have stated that the agencywide workforce is often unfamiliar with provided succession planning and knowledge management materials, the mentorship program may serve as a good vehicle for rectifying this problem. The initial focus should center on identifying the gaps in succession planning that could be met by enriching and expanding the mentorship program. For example, if workplace culture is foundational for succession planning, are there potential mentors who excel at generating a workplace culture in which knowledge sharing (as opposed to knowledge hoarding) is the norm? If a position has a high rate of turnover, is it possible to counteract this via the mentorship program?

While a mentorship program is not itself a succession plan, it could play an important foundational role in assessing talent management gaps and the career and professional interests of younger employees – and determining synergies between the two. The Foundational Building Blocks outlined in the Knowledge Transfer Guidebook (fig. 2 on p. 9) begin with Commitment & Teamwork, Stewardship & Service, and Mission & Vision, all of which build towards an Informed & Engaged Workforce. Within the mentorship program, pre- and post-interviews and surveys of mentors and mentees could assess to what degree the mentorship is succeeding (or failing to succeed) in cultivating the bottom building blocks of the pyramid. For example, how confident do mentees and mentors alike feel about their capacity for leadership in the organization, before and after the mentorship experience? How familiar are mentors and mentees with the Caltrans Mission & Vision before and after participation?

Surveys and interviews with both open-ended and Likert scale questions could contribute an important qualitative element to existing metrics tracked by the Caltrans staff members who lead the implementation of the mentorship program.

Criteria for interviews and surveys could include (but not limited to) mentor and mentees assessment of how their knowledge, skills, and abilities match up with the Caltrans Leadership Competencies, and how familiar they are with the Competencies emphasized by Caltrans. Caltrans Leadership Competencies not only prepare employees to be leaders, but also help assess the quality of the workplace culture.

Phase 1 of the pilot could take place at Caltrans Headquarters, where participation in the mentorship program is already well-established. In preparation for this pilot program, leaders in the organization will focus on first steps, strategies, funding needs, etc. associated with expanding the pilot program to other Caltrans districts and departments.

Phase 2 of the pilot could take place within District 7, an area with above average participation and a wealth of Planning and Modal Program issues to tackle within the next decade (and therefore a place in need of succession planning if such issues are to be handled effectively and thoroughly).

Phase 3 of the pilot could take place in a district with less participation in the mentorship program.

Pilot #2: Retirement Preparation

From interviews with Caltrans employees, the retired annuitant program often takes the place of other potential retirement preparation activities (such as transitional training) but features unavoidable drawbacks. Principally, a retiree cannot begin service as a retired annuitant until 180 days after retirement and there can be no written or verbal agreement stating that a soon-to-be retired employee will serve as retired annuitant.¹³ This obviously introduces inefficiencies. Caltrans needs to develop a retirement preparation program that addresses the need addressed by the retired annuitant program, but without the corresponding inefficiencies.

As mentioned in this report, determining a way of more effectively – and respectfully – planning for an employee’s retirement will help Caltrans rally the proper talent and knowledge management tools to address the gap left by a retiring employee. This includes two important but distinct areas of inquiry: First, the knowledge, skills, and abilities an employee possesses that are not captured by a position description; Secondly, the knowledge, skills, and abilities an employee possesses that are crucial to the technical components of the position. This is one area where Caltrans will likely have to develop a new program or make significant alterations to an existing process. Caltrans should recruit broadly among more senior employees for the retirement preparation program.

In preparation for a pilot program, Caltrans could develop an overview of what the retired annuitant program offers to retirees and the offices they retire from. They should also speak with current retired annuitants to discuss their experiences of the retirement process, from casual discussions with coworkers to formal announcements. This will serve to provide a gap analysis that will provide Caltrans with a clear understanding of what a putative retirement preparation program would aim to accomplish and what pitfalls it should strive to avoid.

The pilot program should consist of conducting interviews with employees who have contributed many years of service to Caltrans. Worksheets completed by these employees should track what concerns soon-to-be retirees have about their retirement – What knowledge (tacit and technical) and skills might their office, department, or division lose upon their retirement? What about the technical and cultural role does the retiree contribute that they believe may not be captured by a position description? As an aggregate whole, this will help Caltrans assess the gaps in knowledge that are at risk of becoming a critical issue for Caltrans in the near future, which will inform the organization on how best to mobilize various succession planning, workforce planning, and knowledge management activities in order to prepare for impending retirements (such as mentorships, Toolbox Tuesday, communities of practice, expert storytelling, workshops, etc.).

As a corollary, the offices or divisions in which this program is piloted should compose a list of the processes, procedures, and programs carried out by staff on a daily, weekly, yearly, and multi-annual basis. It is important to assess the confidence of younger employees in carrying out these activities.

Pilot #3: Complementary Tools for Employee Development Program

As mentioned earlier, EDPs are meant to address the *talent* management side of succession planning for individuals. Caltrans could develop and pilot a corresponding development plan for the *knowledge* associated with roles and positions for the agency. Such plans do exist at other state agencies. Montana's far less developed succession planning materials include a critical role identification module (see fig. 4 above) and similar documents are in use in Missouri.¹⁴ This pilot program would consist of developing a critical position identification worksheet modeled after the EDP materials, and to subsequently pilot this worksheet in a similar manner.

The Michigan Department of Transportation (MDOT) explicitly separates talent management from knowledge management, and addresses the two subjects at different times on an annual basis (see fig. 5 above). EDPs could be integrated as part of an analogue to the Talent Review Process and Employee Life Cycle pillars of the MDOT House, while a corresponding knowledge and role management would serve as an analogue to the Knowledge Management System and Role Assessment Model pillars.

The Role Assessment Model considers the DOT's positions and the role they play, rather than the individuals who currently occupy the role. It considers the positions that receive the most applications and those that receive the least, and takes into account important external factors, such as the degrees pursued by potential applicants. The Knowledge Management System focuses on "capturing, sharing, and applying information and wisdom" because it is "vital that our intellectual capital purposely flows within and across MDOT and be readily accessible to employees."¹⁵

In preparation for a pilot program, Caltrans could develop a set of competencies regarding knowledge that correspond to the existing competencies regarding leadership. This could also serve as the foundational document for Caltrans' development of documents and programs that serve role assessment and knowledge management functions that are (as mentioned earlier) related to but distinct from talent management and career development. Caltrans could also track the degree and credential programs pursued by applicants and current employees, to assess if this has changed over time and how. Additionally, although Caltrans is an engineering-focused agency, it is worth assessing the pool of employees and applicants with different educational and credential backgrounds who provide (or could provide) important contributions to the organization as a whole.

The Caltrans succession planning team could convene a review of each pilot deployment to consider what worked, what requires revision, and which programs that could be scaled beyond planning and modal programs to other mission-critical Caltrans divisions.

Appendix A: State Departments of Transportation Peer Exchange Presentation Materials

Michigan Department of Transportation (MDOT)



Workforce and Succession Planning System

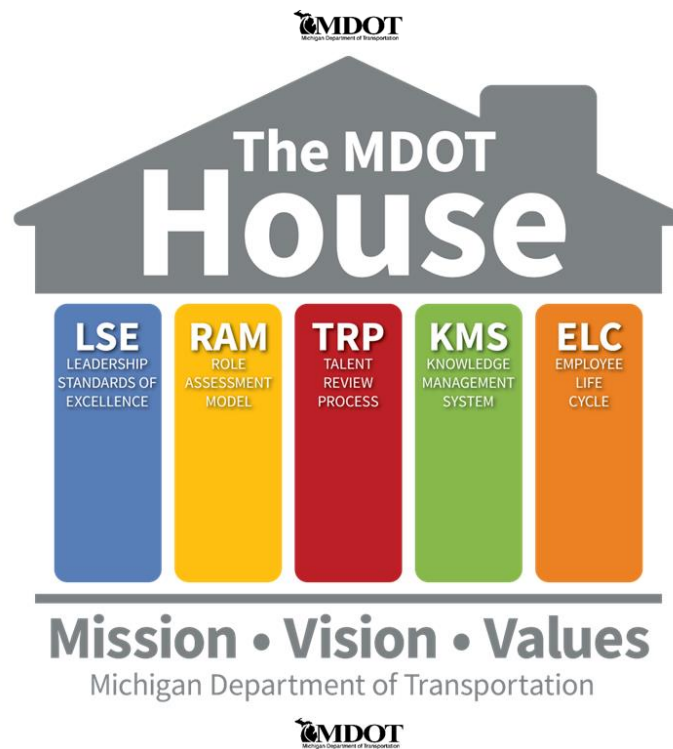
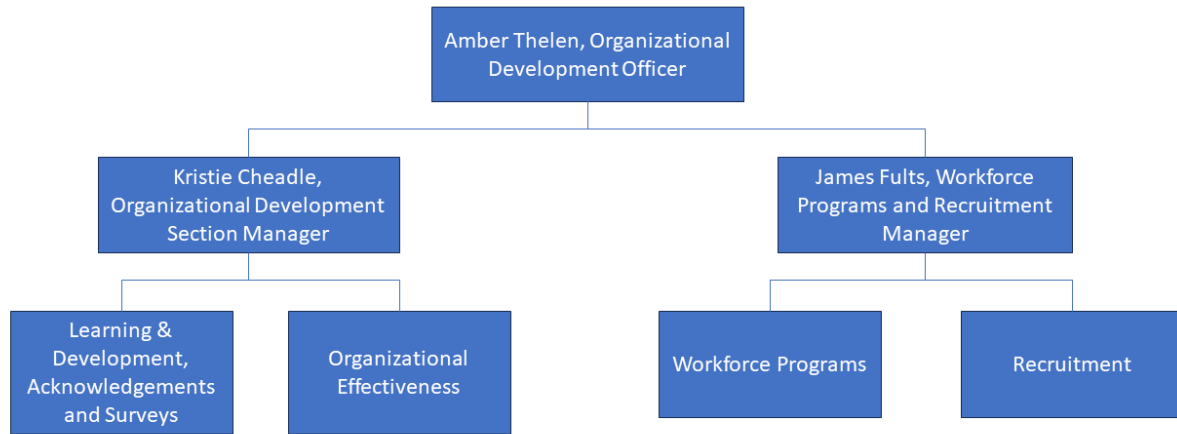


MDOT Overview

- 3,000 employees
- Central Office (Lansing) + strong regional presence
 - 7 region offices
 - 22 Transportation Service Centers
 - Multiple maintenance garages, welcome centers, rest areas, 2 International Crossings, etc.
- Statewide civil service structure



Office of Organizational Development



Montana Department of Transportation (MDT)



Succession Planning at MDT – Peer Exchange

James Sutcliffe
Project Manager and Data Analyst
 Director's Office
 (formerly of Human Resources and Occupational Safety Division)

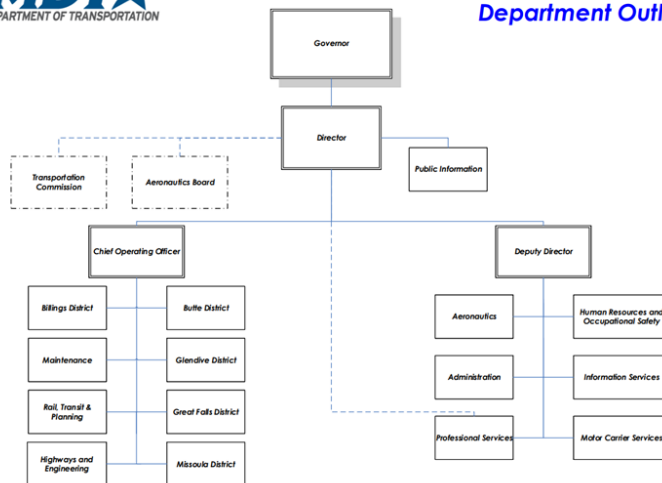
On behalf of:
 Renae Lang
 Workforce Planning Manager, HROS
 &
 Tamuna Cullison,
 HROS Division Administrator, Acting



MDT Organizational Structure

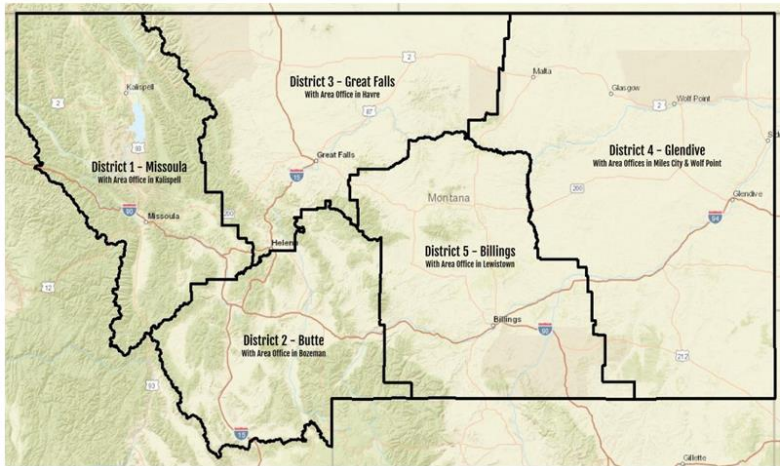


Montana Department of Transportation Department Outline



- 9 Centralized Divisions in Helena
- ~2,000 employees (~1,900 full-time, permanent)

MDT Geographic Organization – 5 Districts



- State population: 1.1M
- ~25,000 state-operated lane miles (mostly rural)

Retirement Projections of 2021 Workforce: Eligibility and Likelihood

All MDT Staff	Retirement Eligible 2021	Retirement Eligible 2022	Retirement Eligible 2023	Retirement Eligible 2024	Retirement Eligible 2025	Retirement Eligible 2026	Retirement Eligible 2031	Early Retirement Eligible 2021	Early Retirement Eligible within 5 Years
	283	353	412	474	543	603	917	661	1110
	14.2%	17.7%	20.7%	23.8%	27.3%	30.3%	46.0%	33.2%	55.7%

On average, an additional 3.1 percent of the MDT workforce becomes retirement eligible each year

Division	Retirement Eligible 2021	Retirement Eligible 2022	Retirement Eligible 2023	Retirement Eligible 2024	Retirement Eligible 2025	Retirement Eligible 2026	Retirement Eligible 2031	Early Retirement Eligible 2021	Early Retirement Eligible within 5 Years
Administration Division	7	8	10	13	15	18	26	19	27
	15.6%	17.8%	22.2%	28.9%	33.3%	40.0%	57.8%	42.2%	60.0%
Aeronautics Division	1	1	1	1	1	1	1	1	2
	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	12.5%	25.0%
Director's Office*	3	4	4	4	4	4	4	4	4
	50.0%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Engineering Division	30	40	48	54	59	65	103	71	110
	13.0%	17.4%	20.9%	23.5%	25.7%	28.3%	44.8%	30.9%	47.8%
HRIS Division	7	8	9	10	10	10	13	12	16
	21.9%	25.0%	28.1%	31.3%	31.3%	31.3%	40.6%	37.5%	50.0%
ISD	12	13	14	18	21	23	39	24	43
	18.5%	20.0%	21.5%	27.7%	32.3%	35.4%	60.0%	36.9%	66.2%
Helena Maintenance	9	16	17	21	22	23	39	25	44
	11.4%	20.3%	21.5%	26.6%	27.8%	29.1%	49.4%	31.6%	55.7%
MCS Division**	15	20	25	27	31	38	50	64	97
	12.9%	17.2%	21.6%	23.3%	26.7%	32.8%	43.1%	25.0%	42.2%
Planning Division	12	16	18	22	26	28	49	30	50
	13.3%	17.8%	20.0%	24.4%	28.9%	31.1%	54.4%	33.3%	55.6%
Professional Services Division	5	5	6	7	7	9	13	8	16
	14.7%	14.7%	17.6%	20.6%	20.6%	26.5%	38.2%	23.5%	47.1%

	Employee Age	Employee YOS
Median	49	12
Average	47.1	13.0

Critical Role Identification

Critical Role Identification						
SCORING	1 = Not true for this role	2 = Moderately true for this role	3 = Extremely true for this role			
ROLE	URGENCY This role is likely to be vacant in < 12 months	IMPACT A vacancy would immediately impact business	SKILLS Role requires specialized /technical knowledge, training and/or certification	INTERNAL TALENT No internal candidates are ready for this role	EXTERNAL TALENT Hiring externally for this role would be difficult	TOTAL
Position 1	2	2	3	2	1	10
Position 2	2	2	2	2	2	10
Position 3	2	1	2	1	1	7
Position 4	2	1	2	1	1	7
Position 5	2	1	2	2	2	9
Position 6	2	3	2	3	2	12
						0

- Identify the most critical positions to proactively address
- Start with Division and District Administrators assessing their direct reports, then filter down

Formal Succession Planning? Not there yet...

- Laid the groundwork for developing Succession Planning by gathering data
- Ironically, turnover in HROS Administrator position has stalled our work
- No defined, agency-wide structure or resources for planning for and managing transitions (cross-training, double-filling, knowledge management resources, etc.)
- Department leadership recognizes the importance of proactive strategic planning, intend to improve workforce planning and management to ameliorate agency's agility and efficiency

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Colorado Department of Transportation (CDOT)

CDOT Introduction

Erin Hardin, Talent Acquisition Supervisor

CDOT HR – 48 Employees

- Talent Acquisition & Compensation
- Employee Development
- Employee Relations
- Labor Relations
- Benefits
- HRIS

- 3556 Total Positions
 - 757 Engineering
 - 1883 Maintenance
 - 916 Program/Project Support
- 384 Vacant Positions - 10.8%
 - 114 Engineering - 17.7%
 - 197 Maintenance - 10.4%
 - 83 Program Support - 9%

Current Recruitment & Retention Efforts

- Increased recruitment sources
- Maintenance apprenticeship program & CDL training program
- Expanding work-based learning programs
- Retention focus in Engineering
 - Actively communicating benefits
 - Competency pay increase
- Active partnerships to anticipate/fill vacancies, minimizing vacancy time
- S positions to allow retiring employee to train new employee
- Individual managers preparing employees to take on next level
- Robust leadership training program
- Robust technical engineering training program
- Housing stipends and newly built employee housing in higher cost locations

CDOT by the Numbers

- Maintains, repairs and plows over 23,000 total lane miles of highway
- Maintains 3,447 bridges
- Oversees 28 billion miles of vehicle travel annually
- Plows about 6 million lane miles each year
- Spends \$69 million annually on snow removal
- Keeps over 35 mountain passes open year-round
- Monitors 278 of 522 avalanche paths
- Administers about \$11 million in federal grants for transit operators and \$41 million in federal aviation grants for airports
- Manages over \$5 million in federal grants for safe driving program

Arizona Department of Transportation (ADOT)

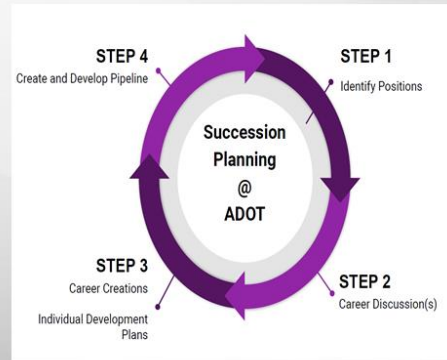
ADOT

ARIZONA DEPARTMENT OF TRANSPORTATION

2018 Focus and Project Scope

- Create a succession planning process that plans for employee absences, retirements, separation, and advancement.
- Focus on Exempt positions, replacements for open positions, growth within, retirees, and identify best practices.

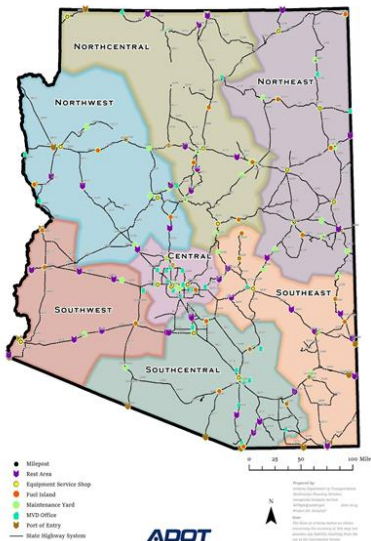
Implementation Steps



ADOT

ARIZONA DEPARTMENT OF TRANSPORTATION

ADOT Facilities with Engineering Districts



ADOT Workforce - 3,618 Transportation - 1,693

Transportation Division	FTEs
Infrastructure Delivery and Operations Division (IDO)	1260
Alternative Delivery & Major Projects	11
Multimodal Planning Division	84
State Engineer's Office	74
Transportation Systems Management and Operations (TSMO)	264

<div> <div>ADOT</div> <div>ARIZONA DEPARTMENT OF TRANSPORTATION</div> </div>	
Successes	Challenges
Developed Succession Planning Steps	Supervisory/Employee Support (willingness/professional development self-motivation)
Identified mission critical positions	Lack of standard work to retain knowledge of the person leaving
Findings played key role on succession planning in the employee learning development plan	Implementation

Appendix B: External State DOT Supplemental Materials

Michigan Department of Transportation (MDOT) House – Additional Resources


Employee Engagement

The Michigan Department of Transportation (MDOT) is currently preparing for their 2024 employee engagement survey which will take place in September 2024. Below is MDOT's employee engagement resources, including the survey, department action, and resources for managers and employees.

SharePoint | Search this site | Thelen, Amber (MDOT)


InsideMDOT | Life and Career | Work | About | Regions | MDOT Apps | SOM Tech Support

MS | MDOT-SPC-Employee-Engagement | Home | 2022 Liasons | CA-SP-GuestAccess-NonManagedFull | Not following




Employee Engagement is critical for inspiring quality work, commitment, and value. Effective engagement leads to an awesome experience for employees and management. This site is created to give information about the 2022 State of Michigan Employee Engagement Survey, as well as provide suggestions to help leaders create a culture that fosters effective engagement.

MDOT Employee Survey Results Reports (Year)
[2022](#) - [2020](#) - [2018](#) - [2017](#) - [2015](#) - [More](#)



Survey 2022 Action Item List

Tips 4 Management Tools - Managers and Supervisors



STATE OF MICHIGAN
EMPLOYEE ENGAGEMENT
SURVEY

CURRENT – 82%
GOAL – 70%


Help MDOT reach its goal!

Complete your Employee Engagement Survey by Oct. 24. Progress will be updated every Wednesday and Friday.


State of Michigan Employee Engagement Survey. Help MDOT reach its goal of 70%. Current progress is 82%.



8 Employee Engagement Strategies That Actually Work ...




10 employee engagement strategies that every manager...



Understanding the Manager's Role in Employee Engagement



Oct. 3-24
2022 Employee Engagement Poster



Engagement Participation Bracket



Employee Engagement Resources


Department Achievement Levels

Gold		Silver		Bronze	
Title	% par	Title	% par	Title	% par
Office of Business Development	100%	Bureau of Development	91%	Bay Region	82%
Office of Commission Audits	100%	Bureau of Planning	90%	Bureau of Bridges & Structures	81%
Office of Economic Development	100%	Office of Aeronautics	95%	Bureau of Field Services	82%
		Office of Communications	91%	Bureau of Finance	84%
		Office of Passenger Transportation	91%		
		Office of Rail	91%		


We are very proud of the achievements made by many of the program areas within the department. View the full chart to see those areas who went above the department goal of 70%.

[See All Program Areas Above 70%](#)


ENGAGEMENT SURVEY AIDS




Leadership



Immediate Supervisor



Communications



Time to Engage

Positive Workplace Culture and Environment

MDOT believes that a positive workplace culture and environment is integral to the House. Work environments where employees can be at their best is an important piece of MDOT's workforce and succession planning system. You will hear it discussed briefly in these House videos.

- What is the MDOT House: <https://youtu.be/T4NSB3ETY5M>
- Introducing the MDOT House: <https://www.youtube.com/watch?v=-YJTWqihOvI>
- The House – Why: <https://youtu.be/zLVXNl1PBuU>

Psychological Safety

MDOT's Equity and Inclusion Office has compiled some helpful information, and shared various articles and employee communications. Additionally, the office offers fireside chats regarding psychological safety, what it means, and how it is critical to a healthy, innovative and inclusive workplace. The resources are all on the MDOT internal SharePoint page (as seen below in the screen capture).

46

Arizona Department of Transportation (ADOT) – Leadership and Professional Development Programs

Leadership Development

Lead From Anywhere Gathering

Monthly Virtual Gathering - All Levels of Leadership - Leaders all around ADOT gather together each month in a remote collaborative environment with activities designed for them to learn from each other and share their expertise and knowledge in leadership and leading a remote workforce.

- Connects and engages supervisors and managers across ADOT
- Expands networks and enables dialogue between different work groups and levels of leadership
- Stimulates curiosity - Creates learning and nurtures new knowledge
- Opportunities to share challenges and collaborate to gather multiple perspectives.

#ADOTLeads Program

ADOTLeads is ADOT's Leadership Development learning experience program with 6 different series for each leadership level. The design and experience of this program is not a training event or a traditional training class. Instead, imagine experiencing self paced collaborative learning integrated into your work with built in opportunities to apply it on the job.

#ADOTLeads Demonstrated Organizational Results

- Improved awareness and utilization of management and leadership competencies
- Increased internal promotion rate and employee retention
- Promote a culture of highly engaged employees
- Improve employee engagement score

ACTIVE programs:

Leading Self Series - The ADOTLeads Leading Self is a self paced learning experience designed for all employees, including leadership and executives, to realize their leadership and professional potential regardless of title or position, provides tools for learning resources and cultivates the mindset of the importance of continuous personal/professional growth and development by leading oneself.

Aspire to Lead Series - Non-Supervisory Positions - The ADOTLeads Aspire to Lead is a 4 month learning experience designed for employees to determine if leadership is the career path for them. Employees can take advantage of this proactive leadership development series and learn more about leadership and proactively develop their leadership skills and mindset.

Leading Others Series - Front Line Supervisors - The international award-winning ADOTLeads Leading Others Series is a 5 month learning experience designed for frontline leaders that will take them on a learning journey that propels their leadership skills to new heights, opportunities to collaborate with leaders across ADOT and integrates them into the role of a Leader.

ADOTLeads Series In Development:

Leading Leaders Series - Managers of Managers - The ADOTLeads Leading Leaders Series is dedicated to enhancing the current skills of managers overseeing multiple levels of managers and teams and proactively develop and prepare higher leadership roles within the agency.

Leading Organizations Series - Managers of Units/Divisions - The ADOTLeads Leading Organizations Series is designed specifically for senior leaders and executives who manage multiple Units or divisions within the agency.

Legacy Leaders Series - Close to Retirement - The ADOTLeads Legacy Leaders Series is designed for those who want to leave a mark on the agency and share their legacy as they prepare for retirement, whatever that looks like for each individual.

Workforce Development/Knowledge Sharing

Knowledge Sharing - A scalable program and process that identifies critical “Targeted” positions across the organization and records institutional knowledge and processes for those positions to ensure business sustainability and continuity.

- Consult with Division Leaders to identify positions critical to their business sustainability
- Provide guidance, tips, tools and processes for leaders to record knowledge for identified critical “targeted” positions to retain institutional knowledge
- Work closely with leaders to continue to identify targeted positions, collect and manage institutional knowledge for business sustainability and continuity
- Recoded knowledge and processes is housed in a centralized repository

Workforce Development - A systematic sustainable consulting and business partnership program and process that will expand employee skills and professional development by helping leaders prioritize learning and development for themselves and their team and proactively building a pipeline and bench strength of qualified individuals ready to compete for open positions at ADOT. This is designed to promote a strong culture of highly engaged employees,

increase the internal mobility, promote cross-training, stretch assignments, and reduce one point of failure to ensure business continuity.

- *Partner with and educate* division leaders how to utilize and implement learning and development tools, including the Workforce Development and Knowledge Sharing tools through collaborative, ongoing conversations
- *Business Partnership:* Educating, Influencing, and consulting division leaders how to build a learning and development environment for everyone
 - Grow leadership mindset and behavior to promote cross-training collaboration within their areas to remove all single-points of failure within their area teams and positions.
 - Expand leadership mindset and behavior to support, prioritize and drive professional and career growth and development for themselves, as well as all employees and leaders within their area.

LPD Workforce Development and Knowledge Sharing Responsibilities

- Manage and grow a pipeline of internal employee talent and interest in both targeted positions and all other positions within ADOT
- Manage ADOT's talent pool of employees that have identified their career path in critical positions as well as other positions at ADOT
- Manage and update Workforce Development and Knowledge Sharing tools, resources and dashboards.

Workforce Development and Knowledge Sharing Organizational Results

- Increase employee retention throughout the organization
- Decrease in recruitment time and cost
- Increase in area-specific business impact metrics and performance
- ADOT meeting and exceeding its short-term and long-term goals because it'll have the right competent people in the right positions with little turnover

Career Creations

Maintaining a dual focus on the organization's vision and career development, this process provides the opportunity and the resources for everyone at ADOT to continuously develop their skills for their career growth and future. Career Creations utilizes the tools to build a candidate pipeline, and a dashboard to measure bench strength.

- Job Search Tool - This tool is the gateway to viewing ADOT job classifications. The Job Search tool is a browsing tool to provide employees line of sight to the jobs at ADOT.

- Jump in The Pool Tool - Dashboard of employees who have expressed interest in developing for the position(s) to build their future career. Provides ADOT line of sight to the bench strength for critical "target positions" and other positions across the agency.

Career Creations Organizational Results

- Cultivating a growth mindset across ADOT
- Identify the knowledge and skills that align with career goals
- Learn the art of intentionally seeking and receiving feedback for maximum career growth
- Gain line of sight to all job classifications available at ADOT and choose a career path
- Create your set of personalized development goals that will align with a chosen ADOT career path

Career Development

Currently in Development- 94% of people say they would stay longer at a company if it invested in their learning and development

LPD Career Development is designed to promote and prioritize Employee Career Development and provide an organized, systematic approach for people to efficiently learn about a topic in an organized, effective way. In addition, Career Development will connect people to the useful resources for both personal and professional development, and teach them how to adopt a variety of approaches to invest in their development.

Career Development Organizational Results

- Improved prioritization and engagement with learning and development as part of ADOT culture
- Increase in employee retention
- Employee upskilling and cross functional development
- Increased internal promotions and lateral moves for career growth

LinkedIn Learning 3 Series Program - ADOT employees view LinkedIn Learning as a place they access through the LDC to watch a training video from time to time. Career Development will drive the utilization of this resource to its maximum potential:

- LinkedIn's Skills Assessments - gauge the strength of skills in a particular domain and to validate those skills with badges on LinkedIn profiles
- Learning Paths - curated series of learning that delve deeply into a specific topic, like project management.

- LinkedIn Learning Professional Certificates - with topics like Customer Service
- LinkedIn profile - an online professional presence that will serve their career growth

Career Development Tools and Resources

Interactive collaboration Learning Experiences that immerse people in the variety of tools and resources ADOT has for personal and professional development to enhance or advance in their career.

- Social Learning Community to develop and support a mindset and approach to career development
- Communication Communities for all employees to share how they can and have best utilized the tools and resources to develop themselves however they like.
- Monthly learning calendars. Each month will focus on a particular theme for both personal and professional development.
- Resume writing /Interview skills practice
- Monitor and update Employees Talent Pools for various positions ensuring their continued development, readiness and line of sight to compete for critical positions in the near future when they come available.

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