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Developing an ROI Assessment Model for Employee Development Programs Implemented by California Transit Agencies

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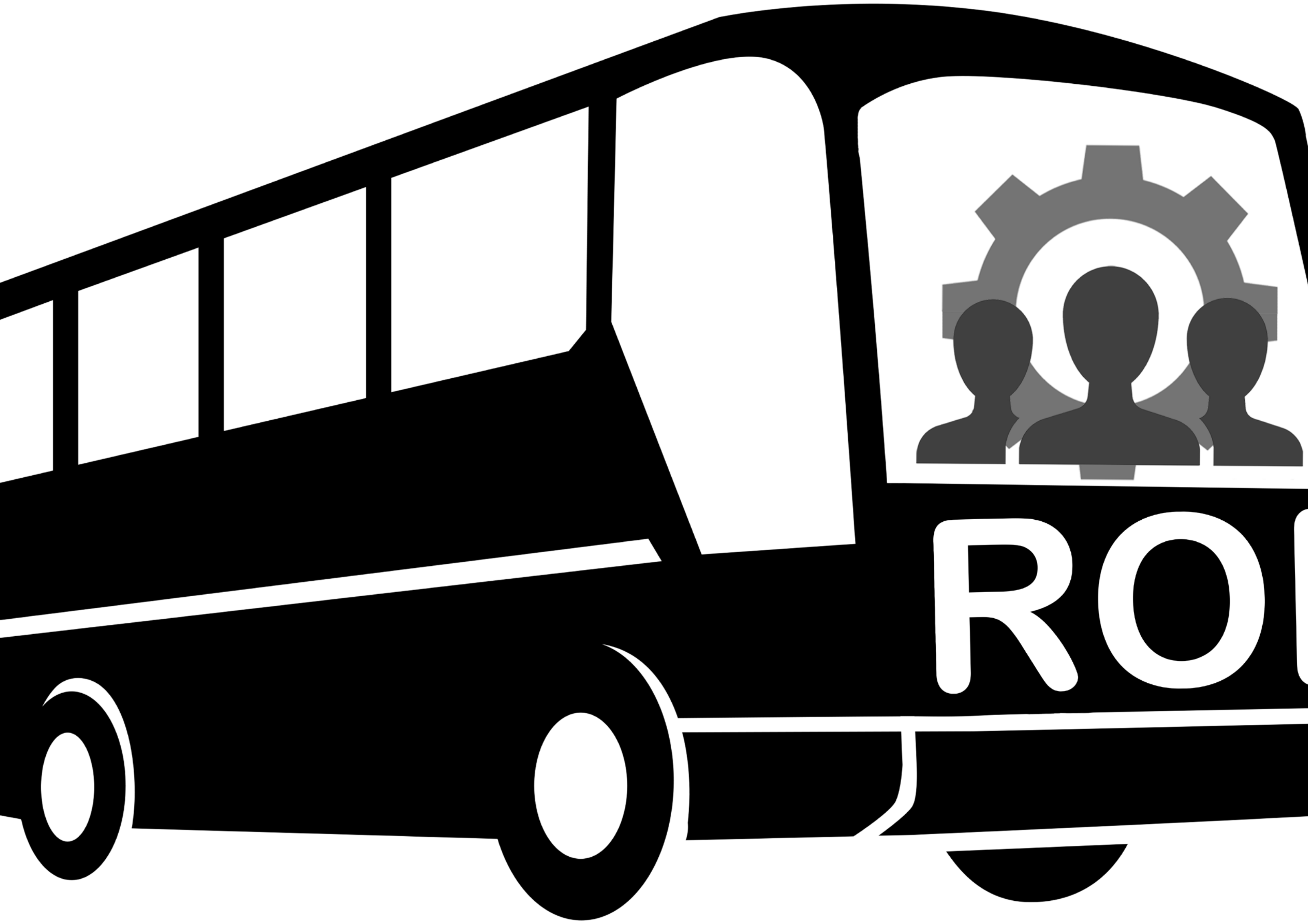

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16. Abstract

The objective of this research is to determine the extent to which transit agencies in California are implementing Return on Investment (ROI) assessments or otherwise evaluating the value and effectiveness of the employee development programs they administer, what cost and performance data they collect and track, and what resources or support are needed to support ROI assessment efforts. Transit agencies will necessarily incur expenses in efforts to improve the recruitment, retention, and morale of employees, but will struggle to solicit adequate funding unless they are able to demonstrate the value of such efforts to a broader audience. Thus, developing and implementing ROI assessments is critical. The literature review, survey, and follow-up interviews conducted by the research team found that program outcome measures and programmatic expense data required for ROI is similar across employee development programs but is not currently being uniformly collected across agencies. The research findings demonstrate the need for technical assistance if transit agencies are to successfully design and implement return on investment models for employee development programs they administer. Interview participants emphasized that transit labor shortages also extend into administrative and human resource divisions. A commonly voiced concern regarding ROI implementation focused on the additional staff capacity and know-how that would be required to systematically collect and analyze the wide range of operational performance metrics, human resource metrics, and expenditure data required to calculate ROI. This challenge is exacerbated by the outdated data systems found at many public transportation agencies. Agency representatives also expressed concern that to obtain meaningful ROI, a widely agreed upon and objective process to translate qualitative metrics like "employee satisfaction" into monetized benefit values is required.

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Executive Summary

Transit agencies face a range of recruitment, retention, and training challenges. An increase in burnout and on-the-job stressors is leading to high turnover and shortages of frontline workers. Transit occupations require industry-specific training and certifications, and the cost of recruiting, onboarding, and training new staff is significant. To address these staffing challenges, transit agencies are implementing a range of employee development programs. Programs offered include employee training, paid internships, registered apprenticeships, mentorship programs, diversity, equity, inclusion, and accessibility (DEIA) programs, and employee health and wellness programs. The programs are designed to create talent pipelines, implement effective training mechanisms, and promote employee morale, well-being, and organizational commitment. Ultimately, the programs are designed to create a more stable and qualified workforce and limit the negative impacts resulting from high turnover. To determine if the programs are effective in achieving these goals, and specifically, whether program benefits exceed program costs, agencies need to collect and assess cost data and performance measures before and after program implementation. The objective of this research is to ascertain the extent to which transit agencies in California are implementing Return on Investment (ROI) assessments or otherwise evaluating the value and effectiveness of the employee development programs they administer, what cost and performance data they collect and track, and what resources or provisions are needed to support ROI assessment efforts. A literature review, survey, and follow-up interviews were conducted by the research team. Findings from the literature review and survey underscore that program outcome measures and programmatic expense data required for ROI calculations are similar across employee development programs but are not currently being uniformly collected across agencies. Common challenges with implementing ROI assessment that were highlighted in the literature review were confirmed by interview participants as major barriers. These challenges related to limited staff capacity, inability to account for qualitative improvements in the ROI calculation, absence of control data for comparison purposes, and lack of data systems to facilitate analysis. Additional guidelines and technical assistance may be needed to facilitate ROI assessment more widely at transit agencies in California.

1. Introduction

1.1 Background

Research highlights a range of recruitment and retention challenges specific to the transit industry, including low pay, difficult work schedules, an increasing prevalence of on-the-job violence or harassment, lack of diversity in supervisory and management positions, and limited investment in employee development and training (Paget-Seekins et al., 2023; Puentes et al., 2023).[1] Additionally, the rate of natural attrition from retirements is expected to be higher for transit than for other industries due to demographics; approximately 43% of transit workers were over the age of 55 in 2022 (Paget-Seekins et al., 2023). As a result, transit agencies are facing significant labor shortages for frontline workers. The ramifications of transit workforce shortages are significant. Severe worker shortages lead to service cuts, amplifying negative impacts throughout communities reliant on transit service. A recent study found that 84% of transit agencies surveyed reported that worker shortages were negatively affecting their ability to provide service (Foursquare Integrated Transportation Planning, 2023).

When an employee leaves a position, or a vacancy goes unfilled, the agency accrues a myriad of costs. The calculation of turnover cost for a specific occupation varies depending on the level of specialized expertise and training needed for the position. One study calculated an average turnover cost equates to 21% of an employee's annual salary (Boushey and Glynn, 2012). A second study found the average expense for employers to fill an open position was over $4,000 across all occupations (Puentes et al., 2023). Some common budget outlays are for temporarily covering vacancies, advertising and filling vacancies, and onboarding and training new staff (Boushey & Glynn, 2012). Turnover calculations typically only consider these types of direct replacement costs and do not capture the full cost of turnover to the organization. Less easily quantifiable turnover costs include productivity losses, loss of institutional knowledge, and negative impacts on employee morale and burnout, as employees take on additional duties to cover shortages (Boushey & Glynn, 2012). Loss of experienced staff can also add unexpected expenditures due to new employee errors. Puentes et al. (2023) noted that more experienced bus drivers with many years on the job have better safety records and fewer traffic accidents than new operators. In sum, employee turnover is costly to employers.

Many transit agencies implement one or more employee development programs to address high turnover and to improve recruitment and retention of qualified staff. Targeted training, internship, mentorship, and apprenticeship programs offer a range of benefits. Diversity, equity, inclusion and

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[1] From 2009 to 2020, there was a "four-fold increase in assaults per unliked passenger trip between 2009 and 2020" nationwide. *See:* Foursquare Integrated Transportation Planning, *Transit Workforce Shortage: Root Causes, Potential Solutions, and the Road Ahead* [Interim Report] (2022), p. 16. *See also:* Lindiwe Rennert, "Assaults on Transit Workers Have Tripled in the Past 15 Years. Income Inequality and Societal Tensions Have Contributed," *Urban Wire* (blog), November 28, 2023, https://www.urban.org/urban-wire/assaults-transit-workers-have-tripled-past-15-years-income-inequality-and-societal.

accessibility (DEIA) initiatives likewise foster positive work environments for diverse staff and can be helpful in attracting applicants from underrepresented groups. Employee health and wellness programs help round out a people-centered human resources approach. Collectively, these types of employee development programs are instrumental in expanding the pool of qualified talent available to fill positions, providing pathways for skills development and career advancement and demonstrating agencies' commitment to employee well-being. Supportive organizational cultures are, in turn, linked to heightened employee engagement and retention (Foursquare Integrated Transportation Planning, 2023; Noland et al., 2021).

Despite the many demonstrated benefits from implementing employee development programs, agencies may find it difficult to justify program implementation costs in the face of budget constraints. Transit agencies could therefore benefit from ROI calculations to provide a data-driven context for long-term workforce planning.

1.2 Research Objectives

The goal of this project was to develop a point of reference for transit agencies in California interested in implementing ROI assessments of employee development programs. Rather than offering a one-size-fits-all model for assessing ROI, the project focused on (1) ascertaining what data transit agencies in the state are currently collecting on the costs and benefits of the various employee development programs they operate and (2) the performance measures they track to assess outcomes from training, internship, mentorship, apprenticeship, employee wellness, and diversity programs. The research findings highlight data, systems, processes, and methodological approaches transit agency leaders can use to advance evidence-based human capital investments. Gaps related to current program data collection and assessment practices are also presented.

1.3 Research Approach

The research utilized three primary approaches to gather information. First, researchers reviewed literature on the following topics:

1. Transit workforce development and worker shortage issues, including challenges related to recruitment, retention, training, diversity and inclusion, and employee health and well-being.

2. Evidence on transit agency employee development strategies and outcomes, specifically focused on training programs, apprenticeships, mentorship programs, and internships.

3. Return on Investment (ROI) methodologies and approaches, particularly with respect to transit workforce development.

Based on the literature review findings, a survey was then developed and distributed to members of the California Transit Training Consortium (CTTC). The survey requested agency-specific information in the following categories:

1. Agency size, type, modes, and service area.

2. Employee training and training assessment practices.

3. Other types of employee development programs in operation at the agency (e.g., apprenticeships, mentorship programs, internships, DEIA programs, or employee health and wellness programs).

4. Organizational goals, performance metrics, and data sources.

5. Information on cost data tracking.

6. Information on ROI calculations for specific employee development programs.

Third, researchers selected transit representatives from survey respondents who indicated willingness to participate in a follow-up interview. The interviews provided more detailed information about select agencies' approaches to assessing costs and benefits of employee development programs. This report presents findings from each of the research components.

2. Literature Review

2.1 Return on Investment (ROI)

Return on Investment (ROI) methods measure overall net benefits resulting from an investment. For-profit industries often use this type of cost-benefit analysis to direct financial investment decisions. ROI is calculated as a percentage of benefit returned for every dollar invested (Kuehn et al., 2022). Typically, "benefit" is defined in monetary terms. However, non-profit and social service providers have expanded on ROI methods to capture broader social, economic, and environmental benefits resulting from targeted investments. The Social Return on Investment (SROI) method incorporates additional measures of social impact that are not apparent when relying solely on financial accounting data to assess benefits (Folger, 2021). The SROI method relies on various methodologies for converting qualitative data into quantitative values for integration into the calculation, such as the Analytic Hierarchy Process (AHP) (Folger, 2021; Kim & Ji, 2020; Saaty, 1984). California Transit Works (CTW) has worked closely with transit operator labor unions in California and has developed methods which may prove useful in converting qualitative data into quantitative values. CTW has implemented affinity diagramming: transit operators discuss and agree upon knowledge, skills, and abilities (KSAs) important to the job, and then they assess their own competencies in those areas via a simple "green, yellow, red" scoring system that could be converted into quantitative values that could be tracked and assessed over time.

There is increasing interest in applying ROI methodologies to assess human resource investments (Buck et al., 2022; Dadd & Hinton, 2023). ROI assessment of employee development interventions, such as enhanced training, rely on more than financial records and, therefore, adapt some approaches from SROI methods. While employee engagement and satisfaction are often associated in the literature with positive organizational benefits, there is no standard process for measuring employee attitudes (Buck et al., 2022). Additionally, human resource applications of ROI methods depend on other evaluative processes being in place. Organizational consensus around desired program outcomes and systems for tracking operational or behavior changes and performance are integral to the ROI process for assessing employee development programs.

Robust systems for tracking and evaluating performance must be in place to attain meaningful ROI measures for human capital investments (Dadd & Hinton, 2023). Transit agencies may not have systems to collect all the evaluative data required for ROI. During one interview, a California transit agency employee claimed the following:

> [T]he retention and attrition rate we can measure, recruitment… We can get there, but we just haven't done it. It's been a struggle just to move from transactional [human resources] to finding the data that justifies why we need another recruiter. […] Getting [agency administrative staff and management] to a point where they think about what data could be useful, even just selfishly for hiring more HR staff, is not there.

Even when adequate data does exist, the data systems agencies possess may silo cost data separately from performance data, making it difficult for staff to access and link different datasets for the purposes of ROI assessment (Helper et al., 2016). To successfully assess ROI, agencies may therefore need to revisit their performance metrics and tracking tools and to invest in upgrades to existing IT and data systems (Gillespie, Brown, & Wang, 2014; Paget-Seekins et al., 2023).

Multiple additional challenges are noted in the literature that impede organizations from effectively implementing ROI assessments of human resource investments. First, there is no universal approach to converting qualitative benefits to cost savings, requiring organizations develop their own methods (Schiavone & Wang, 2011). Similarly, some conversion methods rely on subjective assessments made by supervisors or organizational leaders and may therefore be seen as less reliable indicators (Buck et al., 2022). Organizations also need baseline data from a control group and analysis techniques that link performance (or other organizational improvements) to specific interventions but filter out other contributing factors (Dadd & Hinton, 2023). This can be a challenge for employee development programs that often work in tandem. Apprenticeships, for example, are often coupled with formal mentoring programs, and the targeted benefits that emerge may overlap with improvements sought by other employee development initiatives, such as employee health and wellness programming. All three programs have been credited with improving employee morale, heightening staff loyalty and commitment to an organization, and, ultimately, increasing retention (Bauer et al., 2009; Fowler et al., 2021; Marotta et al., 2022). Isolating benefits emerging from a specific intervention is often difficult for practitioners (Dadd & Hinton, 2023).

Despite the challenges, ROI assessment offers many benefits to transit agencies. The Transit Cooperative Research Program developed assessment guidelines and metrics to include a full ROI metric for the purpose of assessing various workforce practices (Cronin et al., 2013). The ROI metric is designed to assist agencies in identifying programs with the greatest impact and demonstrating their value (Cronin et al., 2013). Evidence of bottom-line financial benefits emerging from employee development programs can help garner support from agency management, and this support can help sustain and expand these programs (Schiavone & Wang, 2011). The ROI process can also help agencies streamline their programs and ensure that limited resources are allocated most effectively (Noland et al., 2021; Schiavone & Wang, 2011).

2.2 Training

Occupations in transit are diverse and require a variety of skillsets and specialized training. Approximately 60% of transit jobs are in front-line vehicle operations, 30% are maintenance positions, and 10% are administrative (Noland et al., 2021). Training for transit staff is likewise diverse, encompassing a variety of topics from employee onboarding, required skills training, safety and compliance, interpersonal and leadership skills, and training on new technologies or processes (Puentes et al., 2023). There is ample evidence in the literature to support the importance of training to transit agencies. Providing professional development to employees supports a positive workplace climate, improves employee relations and engagement, and improves agency resiliency to turnover (Foursquare Integrated Transportation Planning, 2023; Noland et al., 2021). Depending on the intended training outcomes, effective employee training practices can lead to a variety of measurable performance benefits to an organization, including increased productivity, improved quality, accident reductions, and better customer service and satisfaction (Schiavone & Wang, 2011).

Despite the known benefits, investment in transit employee training is low (at 0.5% of payroll expenditures) compared to leading industries, which aim to spend at least eight times more of their payroll on training (Noland et al., 2021; Transportation Learning Center, 2007). Lack of funding and resources to develop training as well as difficulty in scheduling training time are cited as common challenges for agencies (Noland et al., 2021). Surveys of transit agencies also reveal significant variations in training content and length, suggesting that agencies are unsure how to achieve a training "sweet spot" that minimizes time spent while maximizing operational outcomes (Foursquare Integrated Transportation Planning, 2023). Assessing ROI for transit training programs could help agencies confirm whether operational or other organizational gains emerging from training exceed costs, maximize the time allocated to training by removing ineffective components, and communicate training value to staff and management.

Schiavone and Wang (2011) demonstrated methods and processes that could be used to calculate ROI using transit training metrics. The researchers utilized a combined Kirkpatrick-Phillips learning evaluation model to measure five levels of training effectiveness, including ROI. The model fits neatly with training metrics already employed by transit agencies. Level 1 measures initial student reactions, typically through post-training satisfaction surveys. Level 2 measures student learning, typically assessed through pre and/or post-training comparisons of knowledge, skills, and abilities. Level 3 measures behavior or performance changes. These changes can be assessed by comparing efficiency or quality control metrics before and after training. Level 4 measures business impacts of training. Business impacts can encompass a wide range of metrics, depending on the type and purpose of the training. Examples include increased productivity, reduction in accidents, better schedule adherence, reduced unscheduled vehicle maintenance, and better quality of service. Level 5 is a costs and benefits assessment or ROI assessment, which assesses training benefits in monetary terms and takes training costs into consideration (Schiavone & Wang, 2011).

Schiavone and Wang's ROI method requires that agencies have monitoring and accounting systems in place to measure various performance metrics and to compute program costs. Training expenses can fall under different categories that may make them difficult to track in agency budgets (Paget-Seekins et al., 2023). Types of training costs include materials, curriculum design, instructor pay, salary for participants while in training and off the job, and evaluation costs (Schiavone & Wang, 2011). ROI calculations may require the development of a method for converting some training benefits into monetary savings. Noted benefits from training implementation include higher worker morale, improved job satisfaction, and better labor-management relations (Bauer et al., 2009). These types of qualitative improvements are more difficult to incorporate into ROI calculations but are often of greater value to organizations than more easily quantifiable criteria (Kuehn et al., 2022).

2.3 Apprenticeship

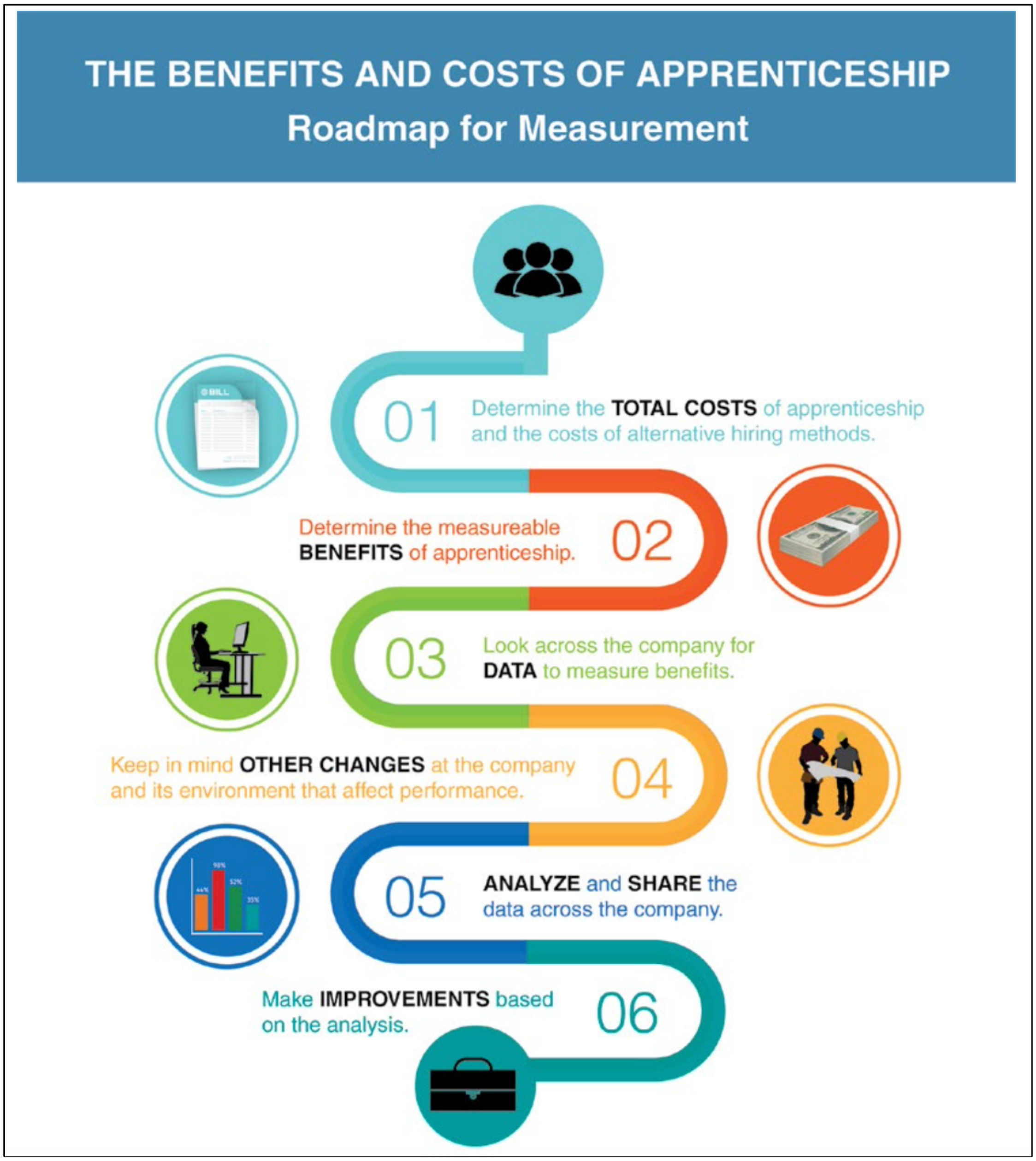
Registered apprenticeships utilize an "earn while you learn" training model, which pairs technical instruction (typically in a classroom) with paid on-the-job learning at a worksite (Kuehn et al., 2022). Over the past decade, transit agencies have increasingly partnered with labor organizations to offer apprenticeships for a wide variety of transit operator and maintenance occupations (Transportation Learning Center, 2017). In particular, the U.S. Department of Labor's American Apprenticeship Initiative (AAI) funded several new joint labor-management apprenticeship programs in California between 2015 and 2020. These programs enhanced talent pipelines for transit coach operators and various bus, rail, signal, and elevator-escalator maintenance positions (Transportation Learning Center, 2017).

The literature provides evidence for a wide variety of benefits from apprenticeships for both employers and employees. Data from AAI grantees indicate that 90% of participants in pre-apprenticeship programs and 70% of apprentices were from underrepresented populations in the workforce (Fumia et al., 2022). Apprentices also experienced faster wage growth and earned more than comparable workers of the same sex, race, ethnicity, age, education level, and state residence (Katz et al., 2022). This was found to be especially true among women apprentices, indicating apprenticeships can be instrumental in closing the gender wage gap (Katz et al., 2022). Apprenticeships can, therefore, provide a useful on-ramp to transit careers for underrepresented groups, reduce pay inequalities, and help agencies increase the diversity of their workforce (Helper et al., 2016).

Employers observe a range of additional direct benefits deriving from apprenticeship programs. The creation of a pipeline for skilled workers is highly valued by employers, as it reduces recruitment and hiring expenses in locations where skilled workers are difficult to find (Helper et al., 2016; Kuehn et al., 2022). Apprentices are also productive staff members during their training, contributing services to the organization while learning on the job (Kuehn et al., 2022). Apprenticeship training programs are credited with producing higher quality workers with specialized skills and an understanding of organizational processes and work culture; this, in turn, serves to reduce errors, enhance productivity, and increase retention (Community Attributes, 2018; Helper et al., 2016). The training structure of apprenticeships, which are often administered through joint labor-management agreements, strengthens training partnerships, reduces curriculum development costs, and creates more cost-effective training processes (Community Attributes, 2018; Helper et al., 2016).

Employers may be reluctant to pursue apprenticeships as an employee development strategy because they are unaware of the benefits, assume they already provide adequate training, or are deterred by paperwork or start-up costs (Trutko et al., 2022). To demonstrate the return on investment of registered apprenticeships, the U.S. Department of Labor evaluated 46 American Apprenticeship Initiative (AAI) grantees to validate net benefits. The key finding from this evaluation was that the median return on investment to employers from apprenticeship implementation was $1.44 for every $1.00 invested (Kuehn et al., 2022). The process utilized in the ROI study is instructive.

Figure 1. Graphic on Measuring Benefits and Costs of Apprenticeships



Source: Helper et al. 2016 (p. 28)

Kuehn et al. (2022) identified two primary and direct (i.e., monetary) benefits of apprenticeships: the value of apprentices' productivity or output to employers and cost reductions to employers in filling a skilled labor position. Talent pipeline development is especially crucial to organizations when traditional recruitment practices are unable to meet demand for needed workers. Helper et al. (2016) note that ROI calculations need to consider the substantial financial impact resulting from an organization's inability to fill vacancies without apprenticeships in place. In this case, the financial benefit of the apprentice to the organization is the entire margin of that employee's work, since the position would otherwise be left vacant.

Costs taken into consideration by Kuehn et al. (2022) in calculating net returns to AAI grantees included wages and benefits paid to apprentices, training costs for technical instruction, program registration costs, supplies, and reduced productivity of staff while providing training. The study utilized an employer survey to gather information on the relative productivity of a reference apprentice when compared to a fully qualified worker in the same position. Researchers noted that indirect benefits associated with apprenticeship programs, such as improved employee morale, were often more highly valued by employers than productivity gains. To monetize the value of indirect benefits, the researchers asked employers to assign a percentage value to these qualitative benefits. For example, if employers indicated they valued gains in employee loyalty 1.5 times more than increases in productivity, the apprentice's productivity gains were multiplied by 150% to attain a monetary value for increased employee loyalty. In this way, the monetized values of both direct benefits (productivity gains) and indirect benefits (employee loyalty) were incorporated into the overall sum of net benefits used in the ROI calculation (Kuehn et al., 2022).

Marotta et al. (2022) administered a survey to identify which indirect apprenticeship benefits were of most value to employers. Over 90% indicated that improved workplace culture, increased employee loyalty, and improved talent pipelines were "very important" outcomes from apprenticeship programs. Although assigning a specific dollar amount to indirect benefits can be challenging, Helper et al. (2016) observed that leaving out difficult-to-measure program benefits is equivalent to assigning their value as "zero." It is also important to note that ROI calculations for apprenticeship programs change over time; as initial start-up costs abate and programs grow, the per-apprentice costs decline (Lerman et al., 2022). Kuehn et al (2022) found that when indirect benefits were added into calculations, apprenticeship programs achieved net positive returns after five years.

As with other types of ROI on employee development programs, apprenticeship ROI requires organizational access to pre-intervention data, such as the cost of attracting, hiring, and training an employee through other channels outside of apprenticeship; and baseline measures of productivity, turnover, or other targeted workforce metrics of interest to employers (Helper et al., 2016). Challenges to ROI implementation encompass lack of data or the absence of data systems that allow for comprehensive analysis of different data sources (Helper et al., 2016). Employers may also face difficulties in quantifying and monetizing productivity and indirect benefit measures (Kuehn et al., 2022).

2.4 Mentorship

Structured mentorship programs are another proven mechanism to improve human resource outcomes. Mentoring programs pair new and tenured employees to foster professional development and one-on-one learning opportunities in formal or informal environments (Puentes et al., 2023). Evaluations of mentorship programs across different industries highlight statistically significant increases in job satisfaction and organizational commitment among participants and decreased intention to leave (Fowler et al., 2021). A nursing mentorship program reduced turnover from 31% to 10% within the first year of implementation (Wine et al., 2020). In the transit industry, mentorship programs are credited with increasing retention, lowering absenteeism, boosting morale, improving skills and customer service, and reducing accidents and customer complaints (Paget-Seekins et al., 2023; Transit Workforce Center, 2023; Transportation Learning Center, 2017).

Transit agencies utilize mentorship programs in different ways but often incorporate them to add value to training or apprenticeship programs. Because mentorship often occurs on the job with experienced senior staff, it provides an avenue for cost-effective, real-world training (Puentes et al., 2023). Rather than removing new staff from the job site for classroom training, mentees gain guidance and oversight as they perform their respective job functions, thereby improving organizational efficiency and safety outcomes (Transportation Learning Center, 2012).

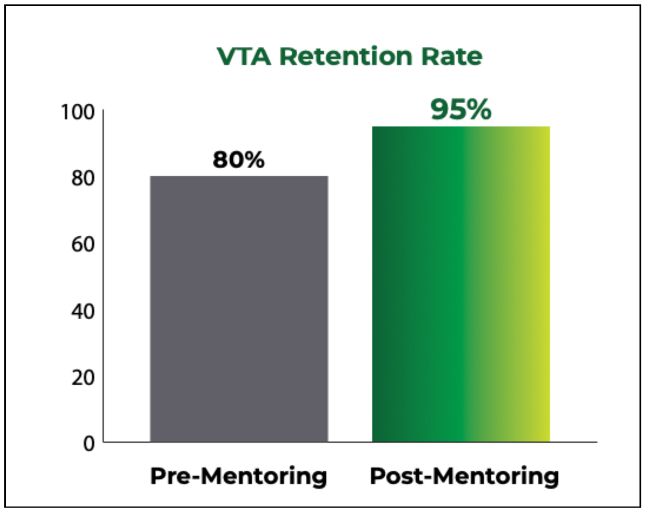
Implementation costs to agencies may include wages for staff time dedicated to mentorship program administration and evaluation, expenses and supplies for training and orientation, and decreased productivity of mentors while engaged in mentoring activities (Fowler et al., 2021). Some agencies may also choose to provide monetary incentives to mentors, as the demands placed on their time can be significant (Transportation Learning Center, 2012). Because mentorship program costs are not insubstantial, transit agencies with limited budgets will want to demonstrate positive returns on the investment.[2]

Recent evaluations of transit mentorship programs demonstrate positive net benefits from formal bus operator mentorship programs that are integrated into registered apprenticeship programs. In California, the Santa Clara Valley Transportation Authority (VTA) reported the following benefits: increased apprentice retention from 80% to 95%, improvements in attendance, and reductions in accidents, grievances, and customer service complaints (Transit Workforce Center, 2023). AC Transit in Oakland also saw improved metrics on retention, absenteeism, customer

[2] "Typically, an organisation will appoint an internal human resources employee or hire an external consultant to implement the program. Co-ordinator tasks may include advertising the program, selecting and matching participants, orientation and training, monitoring the program, and conducting some form of evaluation. There is also a cost to the organisation in the time that mentees and mentors spend on the mentoring program, possibly at the expense of other work. It is reasonable for organisations to expect and to know if there is a return on their investment" (Fowler, et al., 2021).

complaints, and recorded violations after launching a formal mentorship program for bus operators in 2018 (Transit Workforce Center, 2023).

Figure 1. VTA Retention Improvements after Initiating Mentorship Program



Source: Transit Workforce Center 2023; transitworkforcecenter.org

Beyond retention and performance metrics, the literature cites additional reasons why mentorship programs can be instrumental in amplifying and extending the positive benefits resulting from training or apprenticeship programs alone. First, pairing new staff with seasoned employees in the same occupation creates opportunities to share experiences and knowledge of the job beyond the required technical skills (Transit Workforce Center, 2023). This knowledge sharing can extend into career development and advancement topics, help to develop future leaders, and foster organizational commitment (Paget-Seekins, 2023). Second, transit operators increasingly deal with negative social issues—homelessness, drugs, mental illness, and violence—and peer mentors can help new operators develop interpersonal skills and coping strategies to deal with these stresses (Paget-Seekins, 2023; Puentes et al., 2023; Transportation Learning Center, 2017). By providing emotional support and practical approaches to resolving difficult on-the-job challenges, mentorship can result in positive employee health and wellness outcomes and reduce stress-related illness and absenteeism (Puentes et al., 2023; Transportation Learning Center, 2018). Given the positive impact mentorship programs can have on employee health and well-being, performance metrics to assess outcomes from both mentorship and health promotion programs may overlap, and ROI methods can be developed that inform both types of programs.

2.5 Employee Health and Wellness

The increasing social issues and stresses facing frontline transit workers necessitate programs focused on supporting employee well-being (Paget-Seekins et al., 2023). Excessive absenteeism from poor health or worker injury can negatively impact safety (Puentes et al., 2023). Worker

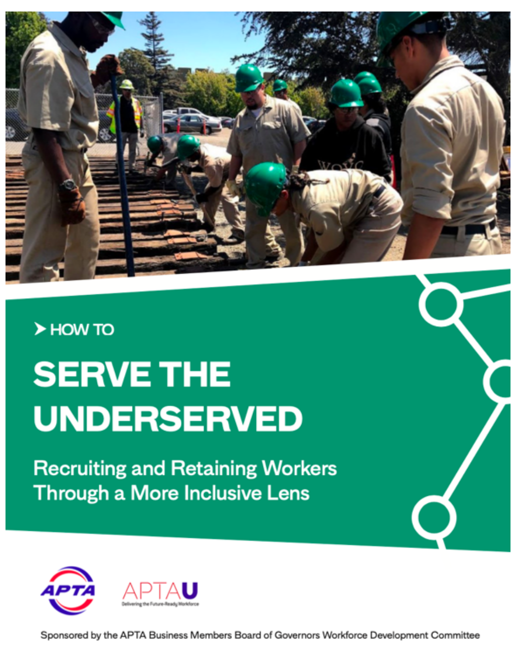
Health Promotion Programs (WHPP) can reduce these negative impacts and create better work environments where employees want to stay.

Gillespie, Brown, and Wang (2014) cited high ROI for WHPPs in the literature and outlined a method to implement ROI assessments for relevant wellness programs. Their research highlighted common cost savings from employee wellness programs, which included reductions in health care premiums, use of sick leave, disability or workers' compensation payments, premature retirements, and insurance costs. Data sources on these metrics include payroll reports on sick time use, OSHA occupational injury logs, accident reports, disability or worker compensation claims, and employee exit interviews. Improved retention, employee morale, and productivity were identified as notable, but less easily monetized, program benefits (Gillespie, Brown, & Wang, 2014).

To assess program ROI, the researchers recommend agencies develop ongoing, data-based evaluation strategies that promote accountability and target agency-specific goals and priorities (Gillespie, Brown, & Wang, 2014). As with other ROI models, implementation challenges involve monetarily quantifying benefits and coordinating both data collection and management systems across functional areas. Isolating multiple effects on common metrics like retention was also an acknowledged challenge for practitioners (Gillespie, Brown, & Wang, 2014).

2.6 Diversity, Equity, Inclusion, and Accessibility (DEIA)

Figure 2. APTA Guide on Inclusive Recruitment and Retention (2023)



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Women continue to be underrepresented in the transit workforce, and people of color disproportionately hold lower paid jobs (Noland et al., 2021). Elevation of diversity, equity, inclusion, and accessibility (DEIA) values in human resources acknowledges that organizations have a responsibility to both employ a workforce that reflects the diversity of the communities where they operate and provide equitable access to opportunities, resources, and respectful workplaces to all employees. A diverse workforce will encompass individuals with different identities, backgrounds, and characteristics. Equity and accessibility in the workforce signify that barriers to just treatment and outcomes have been removed so that everyone has fair access to opportunities and resources. Inclusion implies that individuals, regardless of background, have a voice in decision-making processes and perceive that their input is both respected and valued by the organization (Deloitte, 2013; PRI, 2022).

APTA's Diversity, Equity, and Inclusion Strategic Plan (2019) asserts that diversity and inclusion are essential to achieving the mission and goals of the transit industry. It is increasingly common for transit agencies to develop DEIA-focused strategic plans or to integrate DEIA goals and metrics into organizational planning documents and communications. Strategies and approaches to operationalize DEIA principles through targeted actions, programs, and workforce policies vary. Some agencies implement targeted trainings, such as unconscious bias training, to promote staff behaviors that are in line with DEIA values. Agencies may also form Employee Resource Groups (ERGs), typically made up of staff from marginalized or underrepresented groups, to enhance sense of belonging, engagement, and professional development opportunities. Other activities include development of partnerships with community-based organizations or education providers serving disadvantaged populations. The goal with these activities is to improve communications and develop talent pipelines.

Because DEIA investments can be costly, an ROI analysis could help agencies implement effective programs that best align with organizational goals. Keen et al. (2021) found that transit agencies reported a lack of prioritization and consistency in DEI training implementation, exacerbated by uncertainties regarding the effectiveness of training. Literature on implicit bias training from both the public and private sectors cites inconsistent evidence to support the long-term effectiveness of DEI training on desired workplace behaviors (Colwell, et al., 2020; Paluck et al., 2021). Assessment of diversity and inclusion efforts by transit agencies would help allocate limited resources to programs with proven effectiveness. However, agencies are stymied by a lack of clear working definitions and measurements for inclusion, as well as challenges with implementing consistent data collection and analysis (Keen et al., 2021).

Organizations often focus exclusively on diversity since it presents a comparatively easy metric to measure. Inclusion reflects both individual behaviors and perceptions that are more difficult to capture and quantify (Deloitte, 2013). However, diversity without an inclusive organizational culture that respects and embraces different perspectives and supports full participation by all staff will not achieve desired organizational benefits (Ely & Thomas, 2020; Deloitte, 2013). Workforce strategies that elevate diversity, equity, inclusion, and accessibility as core organizational values and provide welcoming and equitable workplaces to diverse employees are associated with recruitment and retention benefits. A diverse workforce can provide financial value, enhance creativity and innovation, and deliver performance benefits to organizations (Cronin et al., 2022). Retention benefits derive from enhanced employee engagement and sense of well-being which, in turn, promote productivity and performance (Buck et al., 2022). Beyond known benefits, ROI calculations should also account for the risks associated with poor organizational DEIA performance such as negative impacts to reputation and public image, which cascade into recruitment challenges for new talent (Sabattini & Phillips, 2021). Research indicates that younger generations are more attracted to employers that value anti-discrimination and employee well-being, and they actively seek out diverse workplaces when considering potential employers (Buck et al., 2022; Paget-Seekins et al., 2023).

Buck et al. (2022) utilized Social Return on Investment (SROI) principles to develop a framework for determining ROI for diversity, equity, inclusion, and accessibility investments. The framework outlines common costs for DEIA programs, including staff wages for planning, tracking, and evaluation; new data tools or IT infrastructure; and implementation expenses. Expected business benefits include increased productivity, better performance, and lower absenteeism and turnover. Less easily monetized benefits encompass data on employee engagement, satisfaction, and perceptions of workplace inclusivity, fairness, openness, and supportiveness. The researchers suggest an SROI-based approach to monetize these qualitative benefits using subject matter experts (SMEs) and employee survey results. The process engages SMEs to identify targeted organizational outcomes and to assign weights to each benefit; the weighted benefit scores are then incorporated into the ROI analysis (Buck et al., 2022).

2.7 Internships

Internships can make up an important piece of an agency's DEIA strategy, while also serving to attract new talent to the transit workforce. Orange County Transportation Authority (OCTA) and San Francisco Bay Area Rapid Transit (BART) both host internship programs in partnership with community-based organizations serving youth, and OCTA provides additional youth summer programming in partnership with diversity-focused associations like the Women's Transportation Seminar and the Conference of Minority Transportation Officials (COMTO) (APTA, 2021). Beyond expanding diversity, internships can serve a variety of recruitment, training, and talent pool development purposes for agencies.

Monterey-Salinas Transit developed partnerships with local trade schools and community colleges to offer internships for academic credit (APTA, 2021). Education-industry partnerships like this one are recommended by APTA, as they create a local talent pool with transit-specific knowledge, skills, and experiences, which can lower recruitment costs and reduce training expenses post hire (APTA, 2023; Maertz et al., 2014). The National Association of Colleges and Employers (NACE) conducted a survey of employers, in which 85% of respondents indicated internships provided the highest ROI among different recruitment strategies (Gray, 2023). Providing internship experiences to the next generation workforce promotes awareness and career interest in the transit industry, develops industry-specific skills in potential recruits, and provides supervisors with an extended opportunity to evaluate performance before offering a full-time position (APTA, 2023; Maertz et al., 2014).

Internship implementation costs vary widely depending on the format of the program. For structured paid internships, organizational costs include payroll for interns. Unpaid internships will still require salary for program administration and for supervision and management of interns. Supervisory tasks can be extensive if interns lack specific knowledge, skills, and abilities required to perform their assigned duties (Maertz et al., 2014).

Conversion of interns to full-time employees is the desired outcome of internship programs for most employers (Gardner, 2013). Employers need to organize and plan internship experiences carefully to maximize this benefit. High intern-to-permanent-employee conversion rates accrue benefits in the form of cost savings from recruitment, hiring, and training expenses, as well as from increased job satisfaction and its associated retention, production, and performance benefits (Hurst et al., 2012). These criteria can be integrated into an ROI assessment. However, conversion of interns into full-time employees is not the sole benefit of internship programs. There is a gap in the literature exploring methods to undertake a more holistic ROI assessment which captures the additional benefits arising from well-crafted internship programs. ROI methods described for training, apprenticeship, and DEIA programs are instructive to practitioners seeking to develop a framework to explore ROI.

2.8 Literature Review Findings Summary

The literature on ROI methodologies for various employee development programs reveals that there is considerable overlap in the organizational outcomes that the different programs seek to address. Whether targeting training, employee health and wellness, or diversity and inclusion, most programs aim to improve employee performance and productivity, enhance safety and customer service, reduce turnover, increase retention, and advance organizational commitment and loyalty through improvements in workplace climate and worker satisfaction. There is also considerable overlap in the expense data utilized in ROI analyses, including recruitment, hiring, and training costs; cost of vacancies; use of sick leave or worker's compensation claims; and program implementation costs, including wages and benefits of participants. Common organizational challenges to ROI implementation cited in the literature encompassed difficulty with data systems or access, the absence of a uniform method for quantifying and monetizing qualitative program benefits, and impediments in isolating the effects of a single intervention on recruitment or retention outcomes.

3. Survey

Based on the literature review, an online survey was developed in Qualtrics for distribution to California transit agencies. Feedback on draft survey questions was obtained from staff at both the American Public Transportation Association (APTA) and at the International Transportation Learning Center (ITLC). Suggested revisions were incorporated into the survey instrument prior to distribution. Survey distribution was facilitated by the California Transit Training Consortium (CTTC). CTTC forwarded an email invitation, survey link, and a copy of the survey in PDF format to transit agencies in California. The ITLC also included information about the survey and a link in its newsletter.

3.1 Methodology

Survey questions captured information about the transit agency (i.e., size, modes, and coverage areas), as well as information about various employee development programs offered by the agency. Programs queried included employee training, registered apprenticeships, mentorship programs, paid internships, DEIA programs, and employee health and wellness programs.

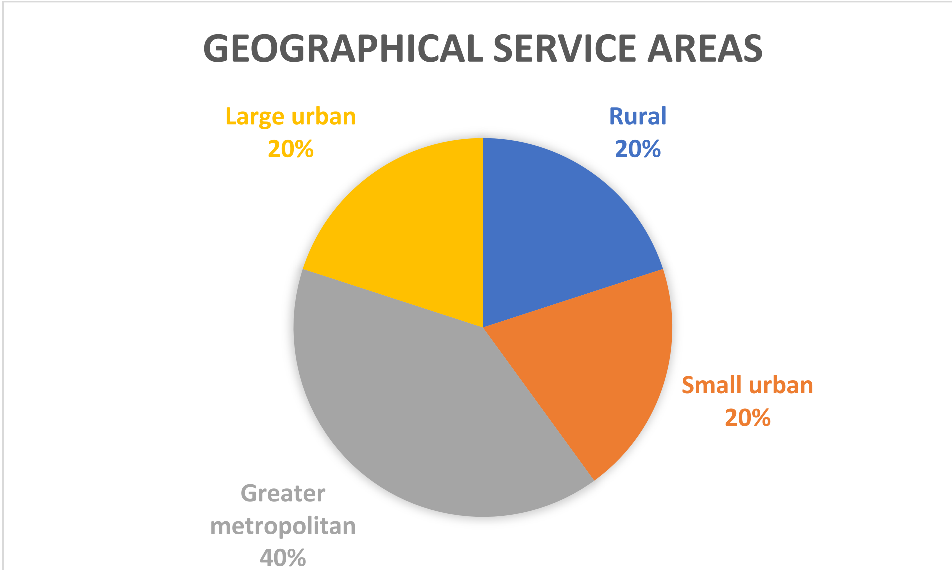
For the programs that the transit agency offered, additional information was collected on desired organizational outcomes the programs aimed to achieve, evaluation methods for training programs, and assessment of subjective program benefits like employee satisfaction. Information was also requested about agency data collection practices including which operational performance metrics, human resource performance metrics, and program expenditure data were tracked. If respondents indicated that their agency calculated ROI for any of its employee development programs, they were asked specific questions about the cost and savings data utilized in the ROI calculation. Respondents were also asked whether they would be willing to participate in a follow-up interview.

3.2 Results: Respondent Characteristics

Survey results from nine transit agencies are presented with redundancies and incomplete responses removed. All but one agency offered fixed-route bus service, seven agencies additionally offered demand-response service, six agencies offered paratransit, two agencies offered light rail service, and one agency offered commuter or heavy rail service. Additional modes offered (one agency respectively per mode) included van pools, micro transit, and subway service.

Each responding agency indicated serving one or more geographic areas, as indicated in figure 4. Service areas were distributed between rural areas (serving populations under 50,000), small urban areas (serving populations between 50,000 and 200,000), greater metropolitan areas (serving populations between 200,000 and 1 million), and large urban areas (serving populations over 1 million).

Figure 4. Geographical Service Areas



Respondents were also asked to indicate the size of their agencies in terms of the number of full-time employees (see Table 1).

Table 1. Agency Workforce Size

Number of full-time employees	Number of agencies
Less than 50	1
51-100	1
101-500	3
501-999	1
More than 1000	3

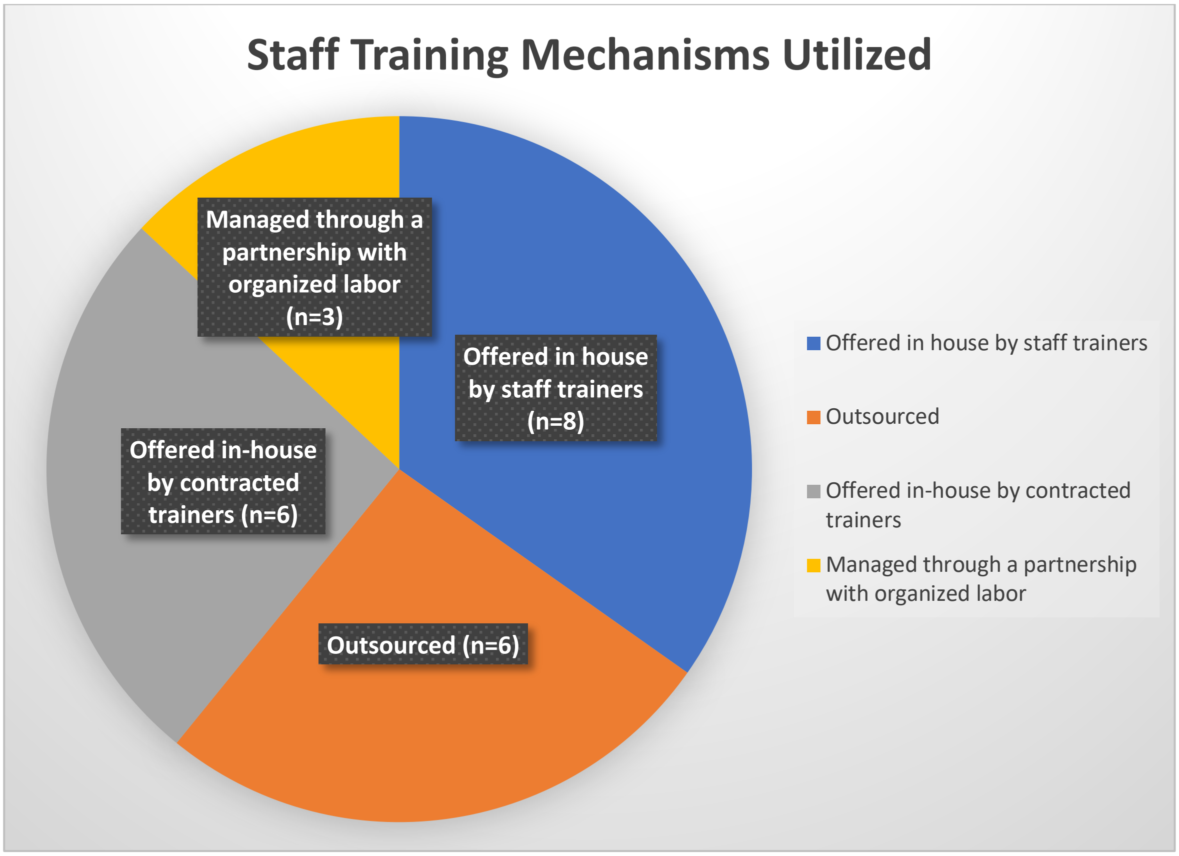
3.3 Results: Employee Development Programs Offered

The survey asked respondents to indicate which types of employee trainings are offered at the agency. All agencies offer new employee training and onboarding ($N = 9$). Most also offered vehicle operator training and emergency response training ($n = 8$) and vehicle maintenance, first-line supervisor, leadership, and diversity, equity, inclusion, and accessibility trainings ($n = 7$). Fewer agencies offer cybersecurity resiliency or train-the-trainer programs ($n = 6$) or trainings on administration and fiscal management, professional communication skills, de-escalation strategies, or training on new technologies ($n = 5$).

Figure 5. Types of Training Offered at Agencies

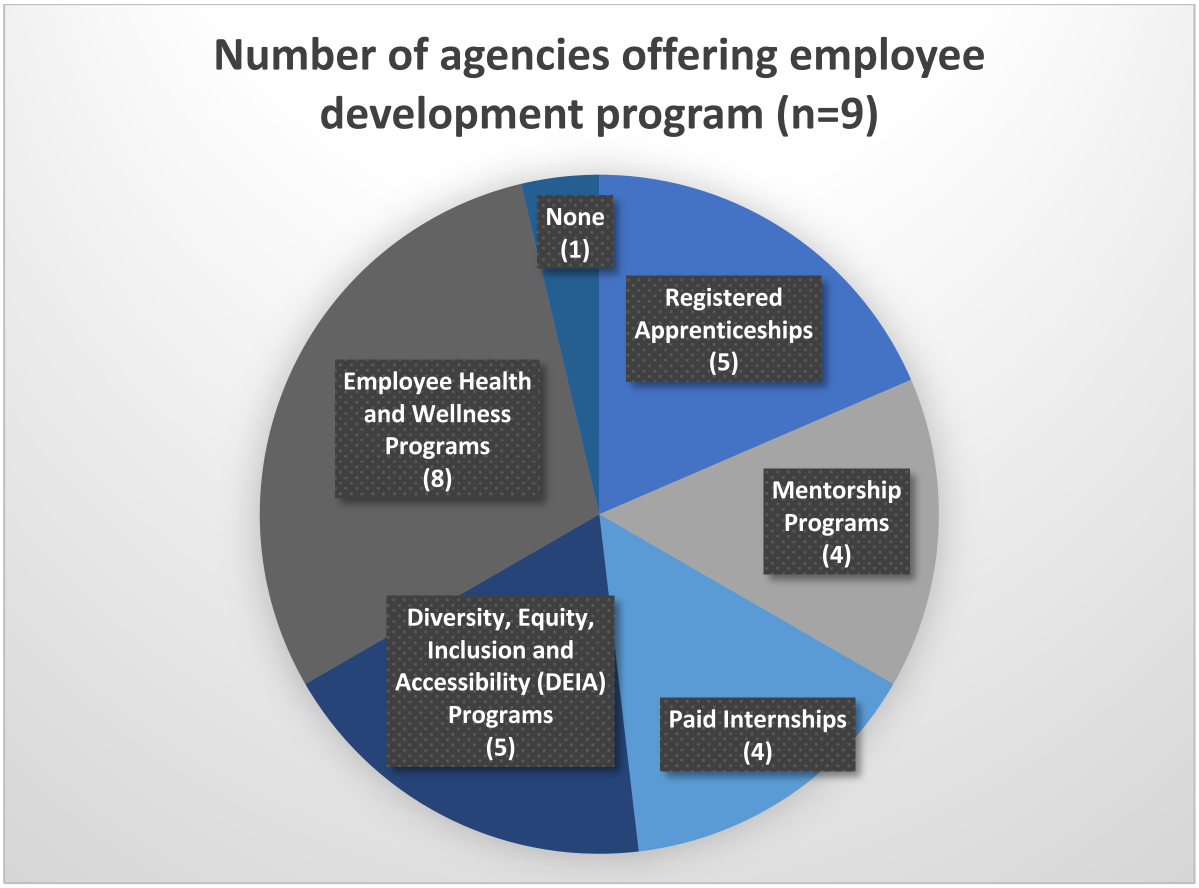
Agencies were then queried on how employee training at the agency is conducted. Most agencies use a combination of different training sources (e.g., using both in-house staff and contracted trainers). Eight agencies responded to this question.

Figure 6. Staff Training Mechanisms Utilized



Agencies were asked to indicate what additional formal employee development programs they manage in addition to staff training programs. All nine agencies responded to the question. Eight out of nine respondents offer an employee health and wellness program, five conduct DEIA programs, and five manage Registered Apprenticeship programs. Four agencies manage a formal mentorship program, and four agencies offer paid internships. Only one agency respondent offers no additional employee development programming beyond staff training.

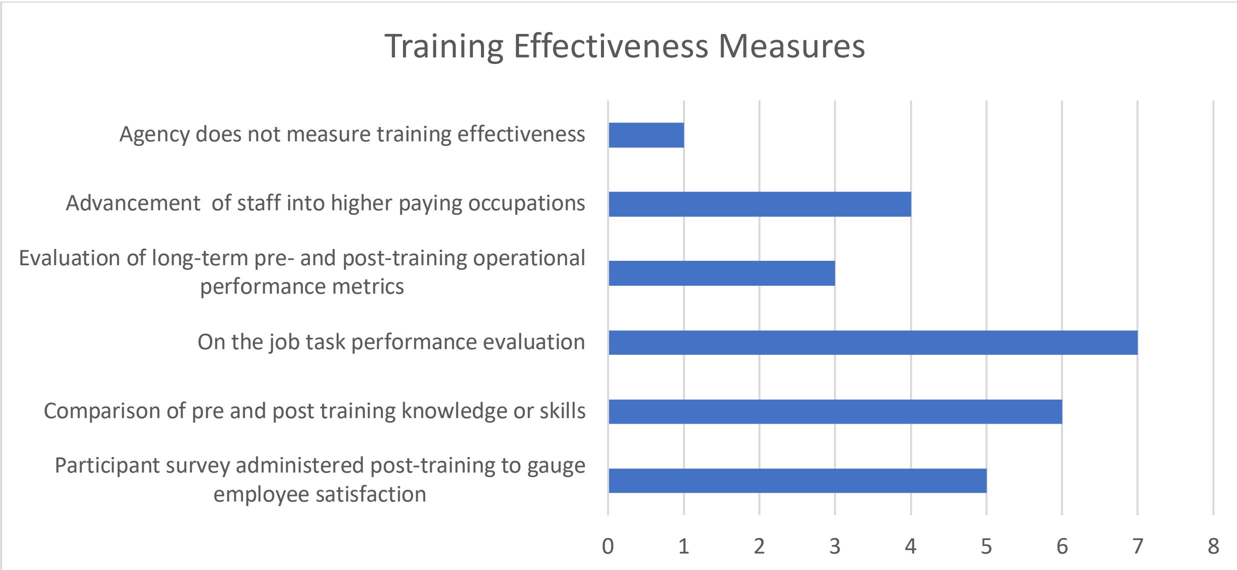
Figure 7. Number of Agencies Offering Employee Development Program



3.4 Results: Assessment and Data Collection Strategies

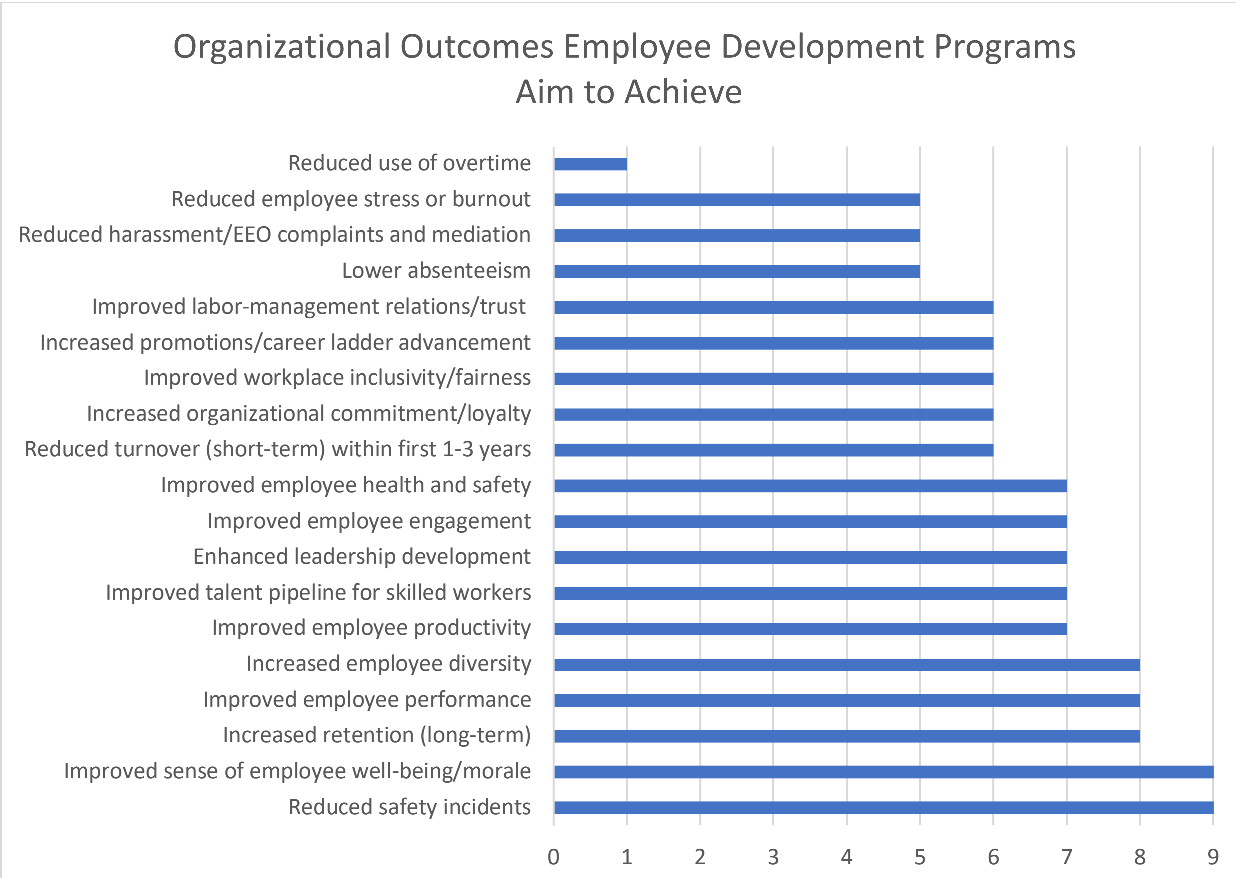
Several survey questions focused on performance metrics and assessment practices related to employee development programs, as well as on the data collection and tracking systems in place at the agency. Respondents were asked, "How does your agency measure training effectiveness?" with an option to make multiple selections as applicable. The most frequently applied training assessment tools among respondents ($N = 9$) were on the job task performance evaluations ($n = 7$), comparison of pre- and post-training knowledge or skills assessment ($n = 6$), and participant surveys administered immediately post-training to gauge employee satisfaction with training ($n = 5$). The least utilized assessment practice was evaluation of long-term pre- and post-training operational performance metrics ($n = 3$). Only one respondent indicated that the agency does not measure training effectiveness.

Figure 8. Training Effectiveness Measures



Survey respondents were then asked, “Which organizational outcomes are the employee development programs your agency offers (including training) designed to achieve?” Responses indicate that most agencies target a wide range of desired outcomes, encompassing both objective measures like turnover, use of overtime, and reductions in safety incidents, as well as subjective measures like improved morale, increased loyalty, and improved employee engagement. The most cited outcomes were reduced safety incidents and improved sense of employee well-being/morale/job satisfaction. (all nine agencies selected these outcomes). Only one respondent selected reduced use of overtime as an outcome of interest.

Figure 9. Organizational Outcomes Employee Development Programs

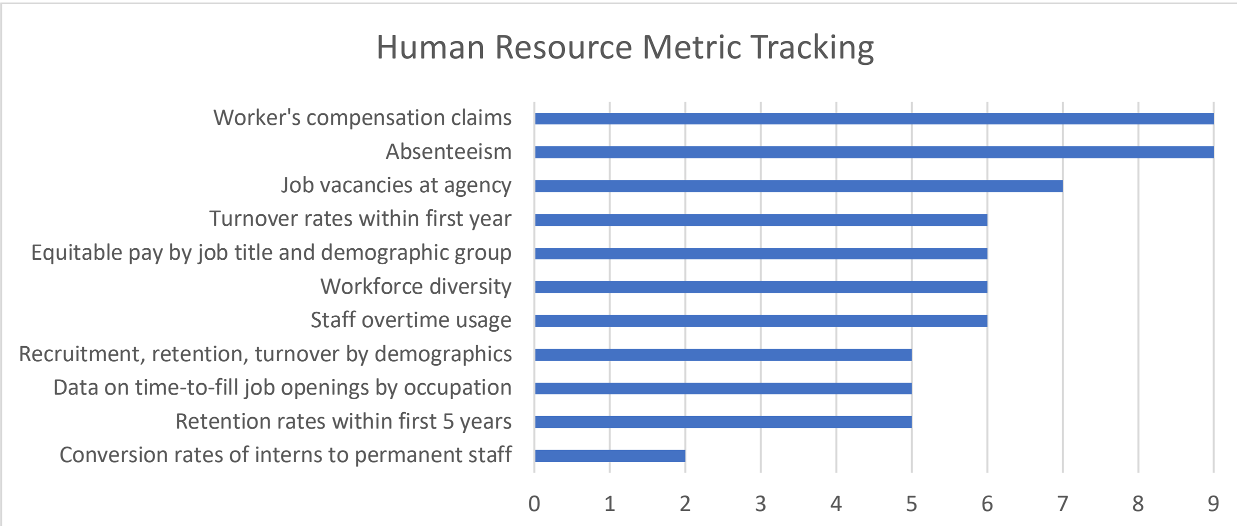


The survey also asked how agencies assess subjective program benefits like improved worker satisfaction or employee engagement. Two agencies used a combination of all four listed assessment tools: employee performance reviews, exit interviews, employee surveys, and targeted outreach/focus groups. One agency relied exclusively on employee performance reviews for assessment purposes, and six agencies used a combination of two or three of the assessment tools listed. The most cited tools were performance reviews (n = 8) and exit interviews (n = 7). Five agencies used employee surveys, and four implement targeted outreach or focus groups. One agency used town halls to gauge subjective metrics.

Survey respondents were asked to indicate which operational performance metrics their agency monitors and tracks from a list of options. All agencies reported tracking accident or safety incident numbers and trends as well as customer service complaints. Eight out of nine respondents indicated they also track employee schedule adherence/on-time task completion, vehicle maintenance trends (e.g., distance between breakdowns), and employee harassment or EEO complaints. Only four indicated monitoring ride time (for paratransit service), reflecting the fact that not all agencies responding to the survey reported offering paratransit service. Overall, reporting agencies track and monitor a range of performance metrics.

Agencies were subsequently given a list of options and asked which human resource metrics their agency monitors and tracks. Worker's compensation claims and absenteeism were tracked by all responding agencies.

Figure 10. Human Resource Metric Tracking

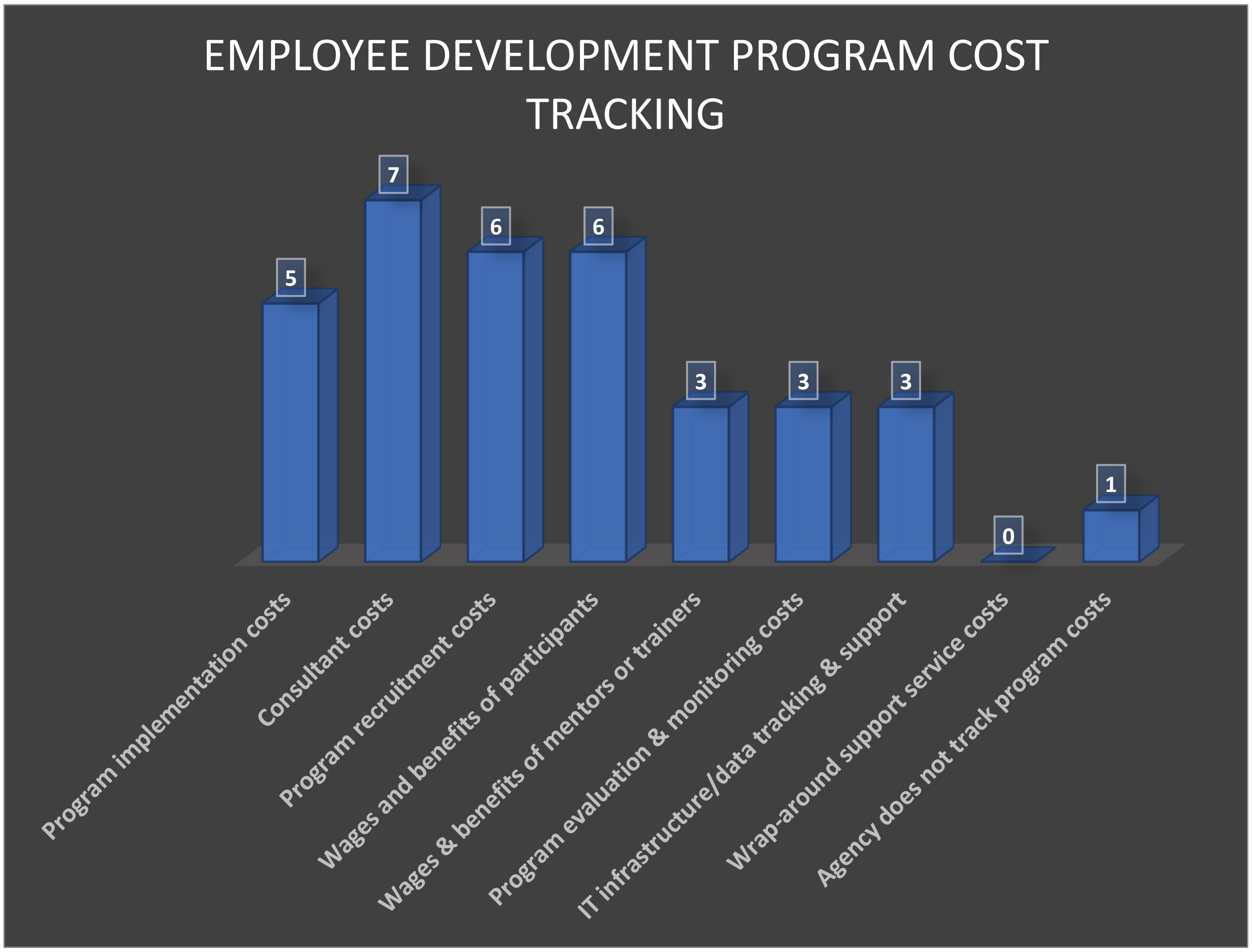


Regarding expenditure data collection and tracking, survey respondents were asked to indicate which employee development program costs their agency tracked. A list of options was presented with examples, which included:

- Program implementation costs (e.g., staff expenses for program management, curriculum development, training supplies, etc.)
- Consultant costs
- Program recruitment costs (providing employee incentives, advertising, etc.)
- Wages and benefits of participants while in program (e.g., apprentice/intern salaries)
- Wages and benefits of mentors or trainers
- Program evaluation and monitoring costs
- IT infrastructure/data tracking systems and support
- Wrap-around support service costs (e.g., childcare, English language learning support, etc.)
- Agency does not track employee development program costs

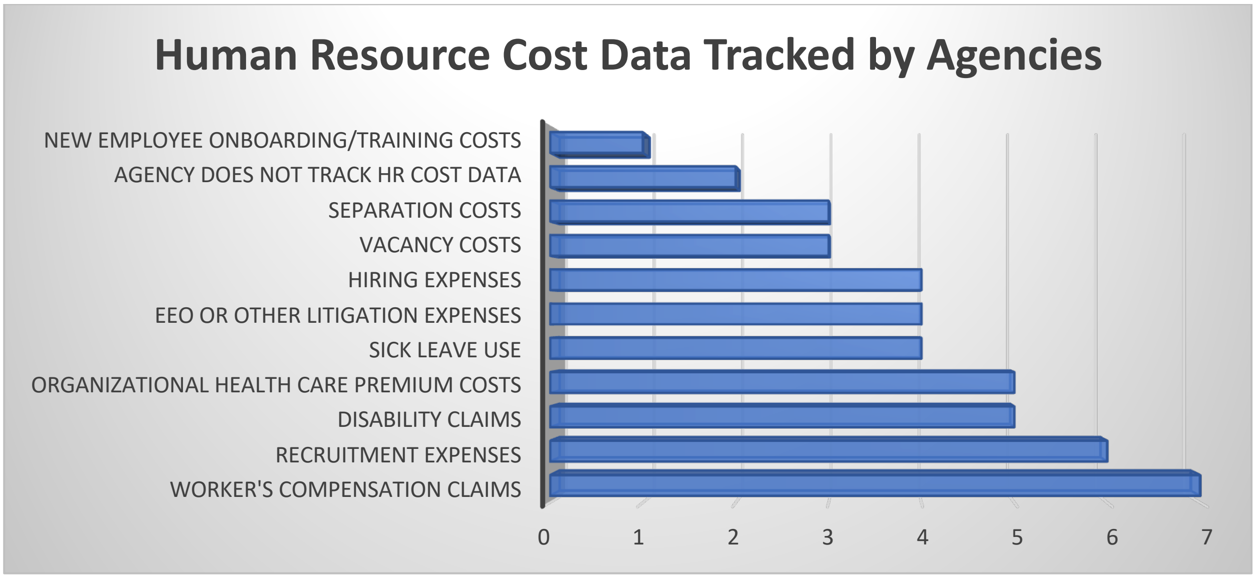
One agency does not track program costs. Most track a combination of one or more program expenses. Consultant costs were most frequently tracked (n = 7) followed by program recruitment costs, and wages and benefits of participants while in the program (n = 6). No agency tracked wrap-around support service costs, perhaps indicating that these services were not provided by the agency. Only a third tracked expenses related to program evaluation or data systems support.

Figure 11. Employee Development Cost Tracking



Survey respondents were additionally asked, "Which human resources cost data does your agency track?" Two agencies reported that they do not track human resource cost data. Other respondents reported a mixture of cost metrics. Worker's compensation claims (7) and recruitment expenses (6) were the most frequently reported expenses tracked. While all nine respondents indicated they offer new employee onboarding and training, only one agency reported tracking expenses for this activity.

Figure 12. Human Resources Cost Data Tracked by Agencies



A potentially useful metric for ROI calculations is turnover cost. The survey asked, "Has your agency calculated turnover cost by job title/occupation?" All nine respondents answered "No" to this question. On the question of whether the agency tracks turnover rates by job title/occupation, five agencies do not track this metric, and four agencies do track this metric. The existence of data systems to track and link expenses and outcomes across different functional groups (e.g., human resources, training, vehicle maintenance and operations, etc.) is also instrumental in facilitating ROI calculations. On the question of whether the agency has data systems in place to track and link expenses and outcomes, 7 out 8 responded that these data systems are not in place at their agency.

3.5 Results: ROI Implementation

The survey asked respondents to indicate whether their agency calculated an ROI for any of the employee development programs it administers (e.g., training, apprenticeship, internship, mentorship, DEIA, and employee health and wellness programs) or for another employee development program which was not listed. Only two agencies reported calculating an ROI. One agency indicated calculating ROI for both training programs and internship programs. However, the respondent did not answer follow-up survey questions on which cost and savings data the ROI calculations are based on.

A second agency reported calculating ROI for its employee health and wellness program. Regarding the cost data, the agency reported program implementation expenses. Savings data supporting the ROI included increased long-term retention, turnover rates, improved sense of well-being and worker satisfaction, reduced safety incidents, improved workplace culture, improved employee engagement, improved employee health and safety, and reduced harassment/EEO complaints/mediation. The agency responded "yes" to a question on whether the ROI process has been helpful in justifying existing or promoting new employee development programs at the agency.

Whether or not their agencies calculate ROIs, all survey respondents were asked if their agency was interested in an ROI calculation for one of the employee development programs it administers or plans to administer. Only five agencies responded to this question and three out of these five indicated no interest in developing an ROI.

The last survey question asked, "What concerns does your agency have about evaluating ROI for employee development programs?" Only four agencies responded to this question. Responses indicate that agencies have multiple concerns about ROI implementation challenges. All four respondents reported concern about the difficulty of calculating cost savings from subjective improvements (like employee engagement). Three out of four also had concerns about lack of "control data" available for comparison purposes and lack of staff capacity or expertise to implement ROI evaluations. One agency additionally reported a concern about lack of data systems in place to access needed financial information.

3.6 Survey Results Summary

The survey garnered fewer agency responses than targeted. Due to the small sample size, no conclusive statements can be made about employee development program offerings, assessment practices, data tracking and monitoring systems, or ROI implementation at transit agencies in California. However, taken as a snapshot, the nine respondents are representative of different modes, geographic service areas, and agency sizes in the state. The survey results, therefore, provide some insight into workforce development goals and assessment practices, and highlight opportunities and challenges common among different transit providers. For instance, not every agency offers the same employee development programs, but there is significant overlap in the organizational outcomes that the programs offered aim to achieve. There are also similarities in the human resource and operational performance metrics each agency tracks. But there is greater variation between agencies in the programmatic and human resource cost data that is tracked and monitored. Monetizing subjective improvements, like employee engagement for the purposes of ROI, was a common concern among respondents. Data systems, staff capacity and expertise, and lack of comparative data were also reported as major challenges to ROI implementation.

4. Focused Interviews

The last question on the survey asked whether the respondent would be open to participating in a follow-up interview. The research team reached out to those indicating openness and conducted interviews with each. Four interviews were conducted. The agency types represented in interviews included two agencies serving greater metropolitan areas with staff sizes between 101 and 500 employees, one agency serving a greater metropolitan area with over 1000 employees, and one agency serving a large urban area with more than 1000 employees. Interviewees were representative of different agency positions and included two CEOs, a general manager, and one director of employee development. Interview questions were designed to garner more detailed information about the agency's interests and motivations related to obtaining ROI data for employee development programs, perceived challenges with ROI implementation, and the technical support or resources that would be most helpful to the agency to facilitate implementation.

An interview was also conducted with California Transit Works (CTW), a consortium of transit agencies, labor unions, and community colleges endeavoring to build worker-centered training partnerships. The interview gathered information about CTW research and projects focused on attaining measurable employee development outcomes.

4.1 Findings - Motivation

While not all survey responses indicated interest in implementing ROI for one or more of the employee development programs the agency offers, all interviewees acknowledged the potential usefulness of ROI data to the agency. The motivation for obtaining this information differed between agencies.

One agency respondent noted that employee development is one of the first components to get cut from transit agency budgets; therefore, quantification of the benefits emerging from these programs could help agencies justify and expand investments in personnel. An additional motivation was clarifying the "true cost" of vacancies or maintenance errors. The interviewee noted that many of the operational and human resource metrics collected miss important cascading impacts on staffing and operations. For instance, traditional vacancy cost measures do not account for the additional burdens placed on personnel who must work overtime to cover open positions. The respondent indicated that measuring burnout rates would therefore be a useful metric for agencies. Another example provided was on the maintenance side. When equipment is down for long periods due to maintenance errors, what is the lost productivity cost of the missing equipment? At a broader societal level, there is also no mechanism to account for impacts from negative public perceptions about transit service or to measure the societal cost of poor service, particularly on transit-dependent populations.

A second agency respondent also observed that a useful outcome from implementing ROI assessment would be capturing a more holistic view of turnover impacts on agencies. She noted that the cost of employee turnover encompasses more than just the onboarding costs for a new employee. Each vacancy takes approximately six months to fill, and vacancies result in productivity losses and decreased employee morale.

Two agency respondents highlighted the importance of data collection and analysis for managing operations and resources efficiently and effectively. Without assessment processes in place, agencies struggle to realize continuous improvement, as it is difficult to identify and fix issues without data. Employee development programs are designed differently. To distinguish the quality components of a program, agencies need to identify the key outcomes they want to see from the program, measure outcomes across time, and make programmatic changes when targeted outcomes are not being met. Data are important in identifying where people are dropping out of programs and why, and they are necessary in implementing and assessing programmatic changes that effectively address issues.

Interviewees observed that ROI data could also provide a useful tool for bolstering external relations with agency boards or local and state governments. Presenting useful data at the opportune moment could help agencies more effectively argue for budget increases. One respondent noted that agency boards are putting more pressure on executives to execute strong workforce development programs because personnel issues are stifling system growth and service delivery.

4.2 Findings - Challenges

The overwhelming challenge facing transit agencies in ROI implementation is staff capacity. All interview participants indicated their agencies were currently struggling with administrative and human resource staffing shortages that prevented managers from asking staff to undertake the additional data collection and analysis tasks required for ROI. Most employee development program assessment data is currently anecdotal, and human resource departments are focused on filling vacancies, rather than on program assessment. Due to staffing shortages, respondents do not feel they have capacity to develop ROI models and metrics from scratch. Agency respondents also highlighted the challenge of establishing objective measures for metrics like "employee morale."

Responses on challenges related to data systems were mixed. One respondent observed that their agency already collected a wide variety of operational and human resource data, and it would not be difficult to access both types of data for the purpose of ROI calculations. A second respondent expressed concerns over the antiquated human resource and payroll/finance systems found at most public agencies. Most transit agencies are still using outdated systems that are not user-friendly, making it especially difficult to access and use data. Other respondents discerned a more elemental challenge in knowing what data to collect. One agency established a team focused on identifying better metrics for training. Another noted that most transit agencies are simply not undertaking the data collection and analysis needed to foster critical thinking and decision-making.

An additional key challenge to ROI implementation, remarked on by two interview participants, was the lack of an objective process for monetizing qualitative metrics and quantifying program benefits. Both agencies reported implementing regular staff surveys that included questions measuring employee satisfaction. However, they noted the staff time and expertise required to implement an ROI analysis on these metrics was lacking.

4.3 Findings – Needed Support Survey Results Summary

Interviewees acknowledged that there is no universal model for ROI implementation at transit agencies given the variations in size, employee development programs offered, specific performance and organizational metrics of interest, and existing data collection and analysis processes in place. However, several noted that general guidelines and training that outline a step-by-step process for ROI implementation would be helpful to agencies, as they do not have time to develop these processes from scratch individually. General guidelines could then be adapted by agencies to address their specific programs and targeted metrics. Recommended components for ROI guidelines, included the following components:

1. Explanation of the value of ROI implementation: Interviewees were aware of the staff capacity constraints at their agencies. ROI implementation will require new mindsets, approaches, and analytical practices that move well beyond transactional hiring processes. Engagement of all departments in continuous improvement analysis will require buy-in from staff across the agency to be successful.

2. Quick-start toolkit: A quick-start toolkit would outline components to be considered in cost and savings calculations; these would include the key elements that encompass a holistic view of turnover cost to the agency.

3. Example metrics: These would include an overview of common organizational outcomes, performance and human resource metrics, and programmatic cost components that can be integrated into an ROI model.

4. Data collection processes: These include examples of non-punitive data collection processes that empower workers to identify and quantify metrics of importance to them.

5. ROI calculation models: These provide an overview of processes to quantify and monetize qualitative program benefits and calculation models that integrate qualitative data.

Relevant to the data collection process is the example of California Transit Works. CTW has worked with a variety of transit agencies and unions to empower worker voices in developing job standards. Focus groups with transit operators were utilized in one project to determine what operators do on a day-to-day basis and what skillsets were required to accomplish job tasks. Utilizing the skills checklist generated through this process, operators implemented a self-assessment of their skills level using a "green, yellow, and red" scale. Longitudinal tracking of these metrics allowed the research team to measure change over time using a methodology that was worker-driven and non-punitive. This process allowed agencies to identify training needs, and it created a tool and pathway for agencies to measure training ROI.

5. Summary and Conclusion

California transit agencies responding to the survey share many of the same organizational outcomes for their employee development programs. They all reported (1) offering employee training and (2) tracking a variety of training effectiveness measures that are in line with the Kirkpatrick-Phillips learning evaluation model employed by Schiavone and Wang (2011). The notable exception is tracking of long-term pre- and post-training operational performance metrics, which are an important component in determining the business impacts of training and training ROI. Collection of human resource metrics and cost data is much more varied across agencies, but no agency reported calculating turnover costs for staff positions, which would be a valuable metric for ROI. While a framework is broadly in place at agencies for ROI, implementation would require more than a “plug and play” spreadsheet.

Findings from the literature review, survey responses, and interviews all point to the need for technical assistance if transit agencies are to successfully design and implement ROI models for their employee development programs. Much of the transit literature focuses on labor shortages for frontline operators and maintenance technicians. However, interview participants emphasized that transit labor shortages also extend into administrative and human resource divisions. A commonly voiced concern regarding ROI implementation focused on the additional staff capacity and expertise that would be required to systematically collect and analyze the wide range of operational performance metrics, human resource metrics, and expenditure data required to calculate ROI. This challenge is exacerbated by the outdated data systems found at many public transportation agencies. Agency representatives also expressed concern that to obtain meaningful ROI, a widely agreed-upon and objective process to translate qualitative metrics like “employee satisfaction” into monetized benefit values is required.

A potential next step in assisting California transit agencies to develop and implement ROI models might be the development of guidelines (inclusive of the components described above) and executive-level training modules. These technical assistance resources could be disseminated by a membership organization like the California Transit Training Consortium (CTTC), which delivers cost-effective transit workforce-focused trainings and technical assistance to California agencies. In developing assessment metrics and ROI analysis methodologies, agencies will be better able to allocate limited resources to programs and monitor their programmatic impact over time.

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