

Innovative Transit Workforce Development Projects of 2011

APRIL 2016

FTA Report No. 0094
Federal Transit Administration

PREPARED BY
Axiom Corporation



COVER PHOTO

Courtesy of Stephanie Lewis, Center for Urban Transportation Research, University of South Florida

DISCLAIMER

This document is disseminated under the sponsorship of the U.S. Department of Transportation in the interest of information exchange. The United States Government assumes no liability for its contents or use thereof. The United States Government does not endorse products or manufacturers. Trade or manufacturers' names appear herein solely because they are considered essential to the objective of this report.

Innovative Transit Workforce Development Projects of 2011

APRIL 2016

FTA Report No. 0094

PREPARED BY

Axiom Corporation
425 Mabry Place NE
Atlanta, GA 30319

SPONSORED BY

Federal Transit Administration
Office of Research, Demonstration and Innovation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

AVAILABLE ONLINE

<http://www.fta.dot.gov/research>

Metric Conversion Table

SYMBOL	WHEN YOU KNOW	MULTIPLY BY	TO FIND	SYMBOL
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liter	L
ft³	cubic feet	0.028	cubic meters	m ³
yd³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C

REPORT DOCUMENTATION PAGE		Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.			
1. AGENCY USE ONLY	2. REPORT DATE April 2016	3. REPORT TYPE AND DATES COVERED Program Evaluation	
4. TITLE AND SUBTITLE Innovative Transit Workforce Development Projects of 2011		5. FUNDING NUMBERS GA-26-7104	
6. AUTHOR(S)			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Axiom Corporation 425 Mabry Place NE Atlanta, GA 30319		8. PERFORMING ORGANIZATION REPORT NUMBER FTA Report No. 0094	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Department of Transportation Federal Transit Administration Office of Research, Demonstration and Innovation East Building 1200 New Jersey Avenue, SE Washington, DC 20590		10. SPONSORING/MONITORING AGENCY REPORT NUMBER FTA Report No. 0094	
11. SUPPLEMENTARY NOTES [http://www.fta.dot.gov/research]			
12A. DISTRIBUTION/AVAILABILITY STATEMENT Available from: National Technical Information Service (NTIS), Springfield, VA 22161. Phone 703.605.6000, Fax 703.605.6900, email [orders@ntis.gov]		12B. DISTRIBUTION CODE TRI-20	
13. ABSTRACT As the first in a series of evaluations, the Federal Transit Administration's (FTA) Innovative Public Transportation Workforce Development Program report will evaluate award recipient in federal fiscal year 2011. As a component of the current Administration's Ladders of Opportunities initiative, the U.S. Department of Transportation (USDOT) and FTA have made workforce development a central area of focus. With the ever-increasing deployment of new technologies and an aging workforce, transit operators across the U.S. are faced with a human capital and knowledge capacity gap. This evaluation report will help provide an overview of the first round of FTA-funded workforce projects, providing important best practices and lessons learned for other transit operators.			
14. SUBJECT TERMS Workforce development, transit, human capital, knowledge gap, transit technologies		15. NUMBER OF PAGES 140	
16. PRICE CODE			
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT

TABLE OF CONTENTS

1	Executive Summary
1	Introduction
2	Methodology
2	Results
4	Conclusions
8	Summary Table of Projects
14	Section 1: Introduction
14	Innovative Transit Workforce Development Program
15	Methodology
17	Section 2: Innovative Transit Workforce Program of Projects
17	Chicago Transit Authority – Transit Leadership Competency Model
27	Denver Regional Transit District – Workforce Initiative Now
38	Florida Department of Transportation – Certified Transit Technician Program
48	Greater Cleveland Regional Transit Authority – Public Transit Management Academy
58	Los Angeles County Metropolitan Transportation Authority – Metro University
67	New Jersey Transit – Transit Academy and Youth Outreach
76	New Orleans Regional Transit Authority – Streetcar Maintenance Training Program
84	Niagara Frontier Transportation Authority – Leadership Training Program
90	Pennsylvania Department of Transportation – Pennsylvania Innovative Leadership Development Program
100	River Cities Public Transit – Center for Transit eLearning
108	UMass Transit Service – Certificate in Transit Management for College Students
118	Utah Transit Authority – Blended Learning Leadership Training Program
127	Section 3: Overall Conclusions and Recommendations
127	Conclusions
129	Attributes of High-Impact Projects

LIST OF FIGURES

32	Figure 2-1:	WIN for Work Website
95	Figure 2-2:	PennTRAIN's PILDP
104	Figure 2-3:	C-TEL Website
111	Figure 2-4:	Brochure for Transit Management Certificate Program
123	Figure 2-5:	Example of Computer-Based Training Module

LIST OF TABLES

3	Table ES-1:	Types of Projects Funded
3	Table ES-2:	Program Outcomes
4	Table ES-3:	Products Developed
4	Table ES-4:	Federal Investment and Matching Funds
10	Table ES-5:	Summary of Projects
20	Table 2-1:	Transit Leadership Competencies
53	Table 2-2:	GCRTA Project Examples
94	Table 2-3:	PILDP Tracks, Courses, and Modules

ABSTRACT

As the first in a series of evaluations, the Federal Transit Administration's (FTA) Innovative Public Transportation Workforce Development Program report will evaluate award recipient in federal fiscal year 2011. As a component of the current Administration's Ladders of Opportunities initiative, the U.S. Department of Transportation (USDOT) and FTA have made workforce development a central area of focus. With the ever-increasing deployment of new technologies and an aging workforce, transit operators across the U.S. are faced with a human capital and knowledge capacity gap. This evaluation report will help provide an overview of the first round of FTA-funded workforce projects, providing important best practices and lessons learned for other transit operators.

Introduction

This report provides the results of the Innovative Transit Workforce Program Evaluation of projects awarded in fiscal year 2011. The U.S. Department of Transportation (USDOT) and the Federal Transit Administration (FTA) believe that developing and maintaining human capital is as important as the investment in physical capital. With the resurgence of public transportation in recent years, transit systems face a number of challenges: rapidly changing technologies (to vehicles, right-of-way, and customer information services), an aging workforce, and increasing ridership. These challenges make attracting and preparing new talent increasingly important.

To help address these challenges, FTA published a Notice of Funding Availability in FY2011 seeking proposals for the Innovative Workforce Grants. Based on a competitive application process, FTA awarded a total of \$3 million for 12 workforce development projects. Recipients were transit authorities that applied with supporting partners (educational institutions, the public workforce investment system, labor organizations, or non-profit organizations). These projects would demonstrate innovative transit workforce development approaches that could serve as models for other transit organizations. Proposed projects could support a number of areas in transportation including:

- Outreach and training to high school and vocational high school students about careers in transportation
- Training for new hires and veterans seeking jobs in transportation
- Creating bus certification programs for college students
- Developing programs to provide skills training (supervisory, technology, leadership, etc.) to incumbent transit employees including mid- and upper-level operations and maintenance employees, bus and rail technicians, etc.

Cost sharing was not required for 2011 applicants but was strongly encouraged, with the potential to affect award selection. The 2011 program was initiated in January 2011 and was scheduled to run for 18 months after execution of the award documents. However, it should be noted that programs were extended, with some concluding in 2014 and one still ongoing at the time of this report. Proposals had to address one or more of the following eligible program activities:

- Track pre-employment training/preparation
- Recruitment and hiring
- Incumbent worker training
- Succession planning/phased retirement

Projects were expected to present one final deliverable to FTA in addition to providing regular performance reporting, as required by the signed award

documents. The results could then be disseminated throughout the industry at no cost to them or FTA. Applicants were asked to specify in their proposals a plan for recording the outcomes of the project in four areas, including:

- Number of individuals affected by the project
- Cost of the project and share of federal investment
- At least one measure of quality
- Project descriptions and statements of applicability to other entities

In 2013, FTA contracted Axiom Corporation to conduct a summative evaluation of the Innovative Transit Workforce Development projects awarded in 2011. The evaluation was to gauge the effectiveness of each project and help justify the federal investment. Axiom Corporation was tasked with reviewing the workforce development projects to determine their goals, the measures of achievement, and the potential impact on local or national transit workforce development needs. Evaluation criteria outlined included the first three outcomes listed above that applicants were expected to include in their proposals and projects.

Methodology

Per the contract, the Innovative Transit Workforce Development evaluation was conducted via two primary methods: document review and telephone interviews with grantees. In addition to applicants' proposals, which outlined goals, expected outcomes, and metrics, the grantees provided periodic updates on their progress to FTA. Each grantee was also expected to provide a final report to FTA. Some grantees planned to conduct surveys of participants or use outside evaluation firms. Axiom reviewed all available documentation provided by FTA related to the grantees' programs as a primary source.

Next, the Principal Investigator conducted telephone interviews with one or more representatives from each project. These semi-structured interviews followed protocols covering a common set of topics for consistency, but questions for each topic reflected the specific and varied nature of the grantees' projects. For example, each protocol covered program implementation, although the questions differed at times to reflect whether the program was a competency modeling effort, a youth outreach project, or a leadership training program. The Principal Investigator took notes, analyzed the data, and summarized it for this report.

Results

Project Types

Of the 12 funded projects, the majority involved the training of incumbent workers; eight provided training aimed at leaders or aspiring leaders (i.e., executives, managers, supervisors) or for existing technicians or line-staff to improve the skills of those already in the transit sector, and two additional

projects were designed to target new hires or entrants into the transit industry. Each recruited, trained, and placed unemployed or underemployed individuals in transit and transit construction jobs.

Table ES-1

Types of Projects Funded

Projects	Project Sponsor and Title
Incumbent Workers 8 projects	Chicago TA – Transit Leadership Competency Model Florida DOT – Certified Transit Technician Program Greater Cleveland RTA – Public Transit Management Academy Los Angeles County MTA – Metro University Niagara Frontier TA – Leadership Training Program Pennsylvania DOT – Innovative Leadership Development Program River Cities Public Transit – Center for Transit eLearning (C-TEL) Utah TA – Blended Learning Leadership Training Program
New Hires/Entrants 2 projects	Denver RTD – Workforce Initiative Now New Orleans RTA – Streetcar Maintenance Training Program
Student Training/Outreach 2 projects	New Jersey Transit – Transit Academy and Youth Outreach UMass Transit – Certificate in Transit Management for College Students

Two projects targeted students, although at different levels. One focused on youth outreach and education to secondary school students, and the other focused on attracting and preparing college students for careers in transit with advanced classes and work experiences.

Overall Project Outcomes

The Innovative Transit Workforce Development projects, as a whole, produced a number of outcomes. These include participants who were trained, placed in employment, promoted, earned certifications, or introduced to transit careers. Note that these are conservative, lower-bound estimates, as some programs did not have tracking in place for all outcomes, and some continued to produce outcomes after the grant period. The following table provides a summary of the outcomes across the 12 projects.

Table ES-2

Program Outcomes

Outcome	Number
Youth introduced to transit industry careers	2,608
Participants trained (leadership and technical)	1,527
Participants who attained a certification	242
Participants placed into employment	183
Participants promoted to a higher position	83
Computer or web-based training courses created	23
Workshops on Public Transit Issues for Industry	2
Web-based training virtual clearinghouse (C-TEL)	1
Succession Planning Software created	1

In addition, a number of products developed under the Innovative Transit Workforce Development projects have been provided to FTA and can be made available to all transit agencies.

Table ES-3
Products Developed

- 20 team project summaries from a Leadership Academy
- 13 computer-based training courses for supervisors
- 6 participant and instructor manuals on supervisory functions
- 1 Succession Planning Toolkit
- 1 Transit Leadership Competency Model
- 1 Guide to Competency Model Development

Federal Investment and Matching

FTA invested \$3 million in federal funds to the 12 Innovative Transit Workforce Development projects of 2011. Grant funding had considerable variability, ranging from a high of \$480,000 (LA County MTA) to a low of \$50,000 (Niagara Frontier TA). The average funding across all 12 grantees was \$250,000.

Although not required, 10 of 12 grantees contributed some level of matching funds or in-kind contributions. Estimates ranged from a high of \$578,560 to a low of \$0, with an average of \$209,287. Matching funds typically were devoted to salaries, benefits, and overhead. In-kind contributions included staff salaries and benefits, existing training programs, evaluations, building space, and materials. The table below summarizes the program totals:

Table ES-4
Federal Investment and Matching Funds

	Amount	% Total
Federal investment in 2011 grantees	\$3,000,000	54%
Total matching and in-kind contributions (estimated)	\$2,511,447	46%
Total for program	\$5,511,447	100%

The total matching and in-kind contribution (a conservative estimate) indicates that despite no requirement, grantees nearly matched the FTA investment.

Conclusions

Based on this evaluation, a number of conclusions can be drawn about the Innovative Transit Workforce Development projects of 2011.

- **Grantees met their goals.** Grantees specified goals in their proposals that they intended to achieve during the project. Although many grantees required additional time, the majority of goals were met or exceeded. The rest were at least partially met. This suggests that the programs funded were generally well planned and executed. Only one goal was not met at all—UTA's intention to reduce training costs with computer-based training. However, even this goal likely will be met in the future, as the technical problem with their learning management system preventing the use of the training has been resolved.

- **The program of projects was successful at identifying promising approaches for workforce development.** The Innovative Transit Workforce Development projects can best be viewed as pilot programs. FTA selected projects that varied in scope and type to explore different avenues for addressing common transit workforce issues. Based on the evaluation results, the projects appear to have identified several promising approaches that are worthy of consideration for further investment or investment on a broader scale.
- **Partnership with colleges was a good way to develop courses; American Job Centers were a good source of recruits.** Several projects partnered with community colleges, four-year colleges, or universities to create courses or certificate programs. This appears to have been a successful approach, bringing academic rigor and innovation to the course development with transit personnel serving as subject matter experts. Likewise, America's Job Centers and the public workforce investment system seem to have been good partners, effective in recruiting unemployed, underemployed, or displaced workers to the programs, providing wrap-around services, or leveraging other programs to fund on-the-job training.
- **eLearning cut overhead and increased access to training.** Several projects developed eLearning courses. These proved successful for cutting travel, time, time away from the office, and other overhead costs. They also create the opportunity for more people to take the courses as there is minimal cost for each additional trainee. eLearning also creates the opportunity to share programs with agencies nationwide. To be effective, eLearning must be well developed, engaging, and make use of best adult learning practices. It is worth more up-front investment to ensure courses are of high quality. Florida DOT's use of Virtual Hands-On Training and 3D modeling, PennDOT's web-based training, or River Cities Public Transit's Wheelchair Securement training are good examples. To stay relevant, eLearning courses require periodic update, particularly for topics that are subject to frequent change such as technology, rules, policies, or laws. Agencies need to plan for these costs.
- **Even programs with moderate impact on important sub-groups can be worthy of investment.** Some programs had limited impact in terms of the number of people affected. However, even moderate impact can be valuable if it affects subgroups that FTA and local transit agencies consider important targets. For instance, transit associations have highlighted the need for an educated workforce. Bringing college graduates to transit is important for developing future leaders. Therefore, the initial success of a program like UMass Transit's Certificate in Transit Management—even in moderate numbers—is potentially worth the investment to bring to a larger scale.
- **Programs with indirect impact can still be high impact.** Most high impact programs were very direct in addressing the workforce problems in

question, such as providing leadership training to develop a leadership talent pool. However, carefully-chosen projects with a more indirect approach can still have a high impact with the necessary support and development. For example, CTA's Transit Leadership Competency Model maybe an indirect way to address workforce challenges relative to other projects. However, such a model is foundational for virtually all human resource activities. The model has reportedly had a high impact on CTA, producing awareness of current staff development gaps, changing the way applicants are screened and selected, opening the CTA to additional job candidates, changing culture, and opening up managers to see how skills from one area of the organization are transferable to others. FTA should continue to fund potentially high-impact projects with indirect approach to workforce development where there is management commitment and a high quality process in place.

Attributes of High Impact Projects

An examination of the evaluation findings across programs brings into relief key attributes of projects that had a larger impact on their organizations or transit agencies. These are provided below to help FTA in evaluating future workforce related grant applications.

- **Leadership buy-in.** Projects in which leadership played a role or took an interest generally had higher impact. Staff often look to leadership to gauge the commitment to, and importance of, an initiative. Where leaders were involved, project accomplished more. For example, executive leadership met with project teams from Greater Cleveland RTA's Public Transit Management Academy to hear their findings and recommendations.
- **Pre-grant progress.** Several of the grant recipients had already begun their projects in some fashion before receiving grant funds. For example, Denver RTD's WIN program had been in the planning and early implementation stages when they received the grant. Florida DOT had already conducted needs analysis, created the Certified Technician curriculum, and attained adult vocational certificate approval. Programs that were already underway had less ground to cover to start achieving outcomes and tended to achieve more during the grant period. Those programs that started from scratch may, of course, improve their outcomes and impact in the future, but they had farther to go during the grant to see results.
- **Strong existing relationships among partners.** All grantees had pre-existing relationships with at least some of the partners. Those with strong prior working relationships to build on, such as those that had engaged in prior similar projects together, had already established trust and understood each other's needs. This minimized confusion and process loss. For example, UTA had already worked with University of Utah on leadership courses before partnering to complete their Certificate Program.

- **Training developed with academics or instructional design experts.** More than three quarters of the projects funded involved training. In general, the most successful projects worked with academics (e.g., college or university) or training design experts (e.g., contractors specializing in eLearning) in developing the training. This ensured the rigor and adherence to best practices required to produce successful programs as well as access to advance technology or research centers.
- **Clear plans that link program outcomes to transit agency needs.** The best projects created a clear model that identified the problem, potential solution, expected outcomes, and how those outcomes would address the identified need. The final link is critical to ensuring success. New Jersey Transit's Youth Academy met all of its goals, but disconnects between program outcomes (interested youth) and agency needs (entry-level recruits with experience and a commercial driver's license) led to little practical impact.
- **Clear, measurable outcomes and a process for measurement.** Research suggests challenging, specific, measurable goals are the most efficacious. Programs that identified specific, measurable goals and a way to measure accomplishment tended to have higher impact. These goals might be short-term (participation, graduation, certification, product creation) or long-term (hires, promotions, operational improvement). No matter how many potential measures were listed in grantee proposals, if they were not measured and tracked, they could not drive results. A few projects may have had more impact than reported, but a lack of tracking prohibited measurement. Grantees should consider the specific goals they propose and how progress will be measured. Note that given the length of the grant programs, broad, long-term goals involving organizational level improvements are unlikely to be measurable.
- **Rigor in all aspects of the program.** High-impact projects maintained high standards for all aspects of the program. This includes planning, course development, pedagogy, and measurement. For instance, planning often was guided by a steering committee that included leadership, academic, and field staff. Projects working with a university to create an official certification had to design the program to rigorous university standards to ensure quality (for example, FDOT Certified Transit Technician and UMass Transit's Transit Management Certificate). Likewise, web-based training programs that adhere to adult learning principles and took advantage of web-design capability might cost more to develop, but likely lead to better outcomes. Careful monitoring to ensure quality was important to program success.
- **Plans to sustain the project after the grant period.** Projects that had a realistic plan for sustainability ultimately may lead to the highest impact over time. Vague plans such as "apply for another grant" depend on outcomes that are not necessarily under grantee control. Grantees that decided to invest further in the program, allow staff to continue working on it, or with a business

plan for self-financing are positioned for long-term program impact compared to those for whom this effort was a one-time effort. All the investment and lessons learned will erode without some means for continuation.

Summary Table of Projects

Table ES-5 provides a brief summary of the results of the evaluation for each project. Included are the name of the grantee, a project summary, and the amount of federal funding received, as well as the percentage of federal funding, which takes into account the grantee's reported "in-kind" or matching contributions to estimate the total funding devoted to the project and, thus, the proportion that was federal grant funds. Also included are the program's goals as drawn from the grantee's proposal (and any changes made during the program) and whether the goals were met or exceeded, partially met, or unmet. An assessment of project impact on the transit agency or the project's intended audience is indicated. The impact is summarized as High, Medium, or Low, and is based on a number of factors, all of which were weighed together to make a summary assessment of the program's impact:

- **Number of people affected by the program** – Programs that reached more people were considered to have had higher impact. For example, New Orleans RTA's Streetcar Maintenance program created a high-quality training program, but it was delivered to only 19 participants, making the program moderate in impact. By contrast, Denver RTD's WIN program trained almost 325, making a higher impact.
- **Reach of the program into the agency** – Some programs affected only participants at a line-staff level or in one location. By contrast, other programs penetrated deeper into the organization, affecting current or future leadership positions involved in decision-making, or training line staff in many locations. Projects with greater reach were considered higher impact. For example, River Cities Public Transit Center for Transit eLearning (C-TEL) project has only two training programs available to date, and both are for line employees, resulting in more modest impact, whereas Greater Cleveland's RTA trained more than 33% of the agency's managerial workforce leading to greater impact.
- **Attainment of program goals** – Each proposal stated a set of program goals, and the evaluation assessed the extent to which programs met these goals. Programs that were not able to meet goals likely had more modest impact. For example, a goal of Utah Transit Authority's Blended Learning Leadership training was to reduce costs of training by creating computer-based training modules. Unfortunately, a problem with its learning management system meant that, to date, the courses have not been launched. This problem led to UTA not meeting this goal and limiting the impact of the computer-based training part of project.
- **Degree to which goal attainment addressed the workforce issues** – To have impact, goals have to be aligned such that attaining them will result in positive outcomes tied to the needs of the agency. If there was a mismatch

between project outcomes and agency needs, even reaching the goals may not have much impact. For example, NJT's Transit Academy for secondary school youth met its goals in program creation, participation, and outreach. Unfortunately, the participants are not old enough to qualify for even entry-level jobs, and the agency has no internship program for placement of interested students. Therefore, despite reaching its goals, the near-term impact was negligible.

- **Plans for sustainability of the program** – All else being equal, programs that are continuing after grant funding, or that have plans to do so, were judged to be higher impact programs compared to those without sustainability plans. Even a very good program conducted just once will have a smaller impact than a program that continues over time. Florida DOT's Certified Transit Technician program initially reached only a modest number of trainees. However, it plans to sustain the program over time, so this impact will grow.

The last column in the table provides a recommendation regarding further FTA investment in other programs modeled on the individual project. This assessment is based on:

- Impact of the program (see above)
- Quality of the program and products, usually based on feedback from participants
- Federal investment relative to impact
- Likelihood of successfully replicating the program elsewhere
- Creation of products that will provide value over time

In the table, a green “up arrow” suggests promise for further investment, a yellow “sideways arrow” suggests promise, but also some reservations (e.g., ability to replicate success, level of impact given costs, etc.) and thus the need for FTA to carefully consider this investment versus others, and a red “down arrow” suggests a program that is not recommended for further investment. A program that is not recommended might have been a worthy effort and met its goals, but may not have resulted in sufficient impact to make it a wise investment of limited resources. Likewise, projects with only moderate impact may be worth further investment, as they can be scaled up to reach more people, have increasing impact over time, or are reaching important populations. For example, the Florida DOT and UMass programs trained only a handful of people, but, over time, the impact will continue to grow and the program could be done on a greater scale. Niagara Frontier also had moderate impact, but it was very reasonable considering the small federal investment.

Table ES-5

Summary of Projects

Grantee	Program Summary	Federal Funding	% Federal	Program Goals	Met Goals*	Impact	Invest
Chicago Transit Authority	Partnering with Roosevelt University and the Chicago School of Prof. Psychology, conducted job analysis panels, focus groups, and surveys. Developed and validated a Transit Manager Competency Model. While still refining the model, participants report that the competency approach has greatly impacted HR practices. It has been integrated into hiring, and training 300 managers on competency-based interviewing. It also helped managers see transferable skills, opening movement within the CTA and breaking down silos. The model led to the realization that CTA had not fostered some of the important competencies, so they created new Professional Development. CTA is finalizing the model and integrating it into other HR practices. Also created a how-to manual.	\$208,590	50%	<ul style="list-style-type: none"> Design a Competency Model for transit leadership. Target a sample of 85 managers (20%) for data collection. Integrate HR practices (recruiting and hiring, succession planning, and training) using the competencies from the Competency Model. Create a step-by-step guide for creating a Competency Model. Share guide and resources (package of tools) with other transit agencies. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	High	↑
Florida Department of Transportation	FDOT partnered with the Transit Maintenance Consortium, a local community college, and transit agency to enhance the Certified Transit Technician training program for mechanics sent agencies across Florida. Participants enrolled in the college and received one week of classroom training plus supervised, guided on-job-training. Grant funds covered a 13-member cohort for 5 classes (1/3 of the program). Though modest in number, participants across the state received high quality, rigorous training using innovative training methods such as a Virtual Classroom and 3D Modeling. In addition, they can get local and national certification and bring expertise, professionalism, and leadership back to their home transit properties.	\$188,880	25%	<ul style="list-style-type: none"> Provide training on a variety of topics germane to vehicle maintenance to 13 individuals. Completers will earn Post-Secondary Adult Vocational (PSAV) credit and Automotive Service Excellence (ASE) Master Certification in transit vehicle maintenance (50% pass rate achieved) 	<p>✓</p> <p>✓</p>	Medium/High	↑
Denver Regional Transportation District	RTD partnered with Community College of Denver, Denver Transit Partners (private consortium), and the Urban League to enhance a program providing incumbents and un- or underemployed with wrap-around services, training, and placement in transit or construction. The program aligned 53 training and service providers and served 751 people, enrolled 323 in intensive training, career coaching, employment preparation, and case management; 208 people completed at least 1 course, 168 positions were developed, 286 were employed during the grant, 93% were retained 90 days, and 15% were promoted. RTD includes RFP requirements for employing participants.	\$486,465	48%	<ul style="list-style-type: none"> Build a cohesive network for pre-employment training and entry into opportunities in transit and construction industries Provide access to incumbents for skills upgrades needed for major transit expansion effort. 	<p>✓</p> <p>✓</p>	High	↑

*Goals met or exceeded (green), partially met (blue), or unmet (red).

Table ES-5 (cont.)

Summary of Projects

Grantee	Program Summary	Federal Funding	% Federal	Program Goals	Met Goals*	Impact	Invest
Greater Cleveland Regional Transit Authority	The Public Transit Management Academy (PTMA) conducted with partners at Cleveland State University provided employees with management training in 29 workshops from ½ to 2 days. The PTMA culminated with group projects assigned from GCRTA's TransitStat operations analysis software; solutions were presented to Executive Management. The program met its participation and project goals, and participants had favorable views of program quality. Many participants have been promoted increasing program reach and impact. Cross-department cohorts led to networking and silo reduction. In addition, 11 of 18 project solutions were implemented by GCRTA.	\$286,687	98%	<ul style="list-style-type: none"> Send 90 managers (33% of managerial workforce) through PMA program. Transfer “best practice” management theory into practice. Produce 15-18 projects applicable to GCRTA. Expose CSU graduate students to careers in transit. 	<ul style="list-style-type: none"> ✓ ✓ ✓ ✓ 	High	↑
Los Angeles Metropolitan Transportation Authority	Partnered with a Community College and Trade Technical College to create training in 4 functional areas for Transit Operations Supervisors (bus and rail). Developed curricula using a formal process, and wrote instructor and participant manuals for 6 courses. LACMTA gave managers a specific management course and invested in smart boards for distance learning. They developed a train-the-trainer program for all supervisors who train others. LACMTA also ran a Multi-Agency Exchange with Denver and Dallas to share best practices. Atlanta later joined this exchange. Courses were well rated; 136 people were trained—more than 75 managers, plus 115 in a train-the-trainer. Now creating in-house instructional designers.	\$480,000	54.5%	<ul style="list-style-type: none"> Develop a customized curriculum and implement training that addresses workforce needs of LACMTA, particularly in transit operations (transportation and maintenance). Develop a 5-year succession plan that can be updated (removed as goal, vendor hired). Train 350 incumbents, including 75 for succession planning/phased retirement, 6–8 in cross-agency best practices. 	<ul style="list-style-type: none"> ✓ NA ✓ ✓ 	Medium	↑
New Jersey Transit	Partnering with a contract provider, NJT expanded the Transit Academy program bringing vocational HS students to a 2-day seminar about transit careers and employability skills. NJT also conducted youth outreach, delivering presentations to schools. Transit Academy students learned of the variety of transit careers, had hands-on and classroom learning experiences, and received resume writing and employability instruction. The program exceeded its attendance and outreach goals and could yield long-term results. However, a lack of participant tracking, suitable positions, and a mismatch between program participants and job requirements led to negligible short-term impact. NJT has no plan to sustain the expansion of the Transit Academy.	\$183,890	100%	<ul style="list-style-type: none"> Expand existing Transit Academy to Southern NJ (120 students in Northern and Southern NJ). Expand outreach by creating a youth outreach program (reached over 2,500 students in 36 sessions). Create a feeder pool for entry level positions at NJT. 	<ul style="list-style-type: none"> ✓ ✓ ✓ 	Low	↓

*Goals met or exceeded (green), partially met (yellow), or unmet (red).

Table ES-5 (cont.)

Summary of Projects

Grantee	Program Summary	Federal Funding	% Federal	Program Goals	Met Goals*	Impact	Invest
New Orleans Regional Transit Authority	NORTA partnered with Delgado Community College and the local America's Job Centers to recruit and train unemployed, displaced, or underemployed individuals to become Streetcar Maintenance Technicians. Candidates earned 4 certificates during the classroom and hands-on training. The program was successful in attracting and training the candidate pool. Attrition was in the expected range. Training assessments were reasonably high. A total of 13 participants completed training and were offered jobs, 12 accepted. Of those, 10 were retained after 1 year and 7 after 2 years. Expected retirements did not occur, leaving NORTA to find alternate placements for graduates resulting in turnover.	\$400,000	52%	<ul style="list-style-type: none"> Attract a trainable workforce to address expected shortage of railcar maintenance technicians (recruit 20 unemployed or underemployed to training program). Develop requisite skills via classroom and OJT program. Retain individuals by helping them obtain key certifications during training (place and retain 13 individuals as railcar technicians). 	<p>✓</p> <p>✓</p> <p>✓</p>	Medium	↔
Niagara Frontier Transportation Authority	Partnered with SUNY Buffalo to provide manager and supervisor training. Also hired a vendor to develop "succession planning" software allowing employees to view positions, educational requirements, duties, and express interest. Worked with the university to identify and adjust existing curriculum to be public sector appropriate. NFTA trained 42 supervisors and 40 managers, essentially all non-administrative leaders. Training was well-received and led to more consistency in leadership processes. Grievances dropped 25% after training. The software is more career management than succession planning, focused on employees identifying positions of interest. It required too much data entry and they are working to try and have a Payroll system auto-populate the positions.	\$50,000	100%	<ul style="list-style-type: none"> 10 month leadership program for up to 114 employees (82 trained). Succession planning software. Supervisor and leadership mentoring training, exec Lean Six Sigma, Six Sigma green belt for 20 employees (changed to Supervisor Training, Manager Training, and "Eyes For Waste" training). 	<p>✓</p> <p>✓</p> <p>✓</p>	Medium	↑
Pennsylvania Department of Transportation	PennDOT partnered with SE Pennsylvania Transit Authority (SEPTA), guided by a Steering Committee, to develop a sequence of 3 training courses: Transit 101 (web), Supervisor Training (web, classroom), and Instructor Training (classroom). They also built a Learning Management System to manage it. All employees take Transit 101 on communication, customer service, transit systems operation, etc. After passing, managers or supervisors take the Supervisor course, then can be sent for a train-the-trainer course to learn to teach material. Estimated savings of \$200,000 in the first year. PennDOT is sharing the program with other states (e.g., MD). SEPTA developed a scalable succession planning toolkit for transit agencies.	\$200,000	49%	<ul style="list-style-type: none"> Identify, train, and provide resources to develop transit leadership and management capacity-building for every type of transit agency. Combine and update 2 main courses into 1 series. Develop a comprehensive training program, appropriate and scalable to specific organizational needs that can be easily implemented and tailored to the specific needs of a region to promote national applicability. Develop a succession planning toolkit. 	<p>✓</p> <p>✓</p>	High	↑

*Goals met or exceeded (green), partially met (yellow), or unmet (red).

Table ES-5 (cont.)

Summary of Projects

Grantee	Program Summary	Federal Funding	% Federal	Program Goals	Met Goals*	Impact	Invest
River Cities Public Transit	Partnering with CTAA, NTI, and Small Urban and Rural Transit Center, RCPT procured an eLearning LMS platform. They conducted a survey on training in rural transit, and developed 2 online courses (wheelchair securement and hiring staff). Three others are in development: financial management, supervisory training with CTAA, and safety training from NRTAP. They are establishing a business model (develop courses with others, small fee for hosting on the LMS, all courses offered at \$100 or less). They hope to become a first-source transit eLearning provider. Already non-US customers are taking courses. To date, 250 people have taken wheelchair class, and 25 the hiring course. They have not added course evaluations yet.	\$275,000	60%	<ul style="list-style-type: none"> Develop and accessible, scalable, sustainable on-line learning system. Provide high quality, low cost training to agencies regardless of size. 80 hours of content, 16 30-min short courses, 8 1-hour courses, 4 4-hour, and 2 full-day. At least half for drivers, dispatchers, schedulers and other non-management personnel. (Still on-going). 	<p>✓</p> <p>✓</p> <p>✓</p>	Medium	↔
UMASS Transit Service	Partnered with CTTRANSIT to formalize a program supporting transit career interest among college students. They created a Public Transit Management and Operations certification, approved by the UMass Faculty Senate. The program involved 2 existing transit courses (Public Transit Systems and Intelligent Transit Systems), 3 electives, and 200 internship hours. They held 2 daylong workshops about the program for industry. They enrolled 19 undergraduate and graduate students from engineering and other disciplines. To date, 7 have earned certification, and at least 3 have begun transit careers. The highly-rated workshops attracted 58 students, with professionals from 8 agencies. A large urban agency joined to offer internships mid-program.	\$127,284	74%	<ul style="list-style-type: none"> Demonstrate ways local transit agencies might work with university transportation centers to recruit college graduates to work in the transit industry. Offer certificates to 12–18 students who would receive education, training, and hands-on experience regarding job opportunities in the transit sector. Increase the likelihood that participating students will consider transit employment opportunities upon graduation. 	<p>✓</p> <p>✓</p> <p>✓</p>	Medium	↑
Utah Transit Authority	UTA partnered with the University of Utah to complete and provide a university-led leadership certification course. They developed the final 6 of 10 courses and sent 73 and 88 (20–25%) managers annually to at least one course. To date, 23 managers have received certification and 2 were promoted. UTA also developed 13 computer-based trainings (CBTs) on supervisory topics. Leadership training reportedly provided the requisite knowledge transfer. Technical problems have kept the CBTs from being offered to realize cost savings. Creation of CBTs by novice course designers in narrated lecture format was inexpensive, but adherence to adult-learning best practice is unclear. May be wiser to invest in professional instructional design or partner to do so for more sophisticated CBT.	\$113,193	77%	<ul style="list-style-type: none"> Enhance skills for all supervisory personnel with new supervisor and refresher training. Develop curriculum for addressing leadership competencies and behaviors with university level leadership certification. Minimize overhead costs and time away for supervisory/managerial training. Develop CBT to foster retention and make information readily available as needed for supervisors. 	<p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p>	Medium	↔

*Goals met or exceeded (green), partially met (yellow), or unmet (red).

Introduction

Innovative Transit Workforce Development Program

As a highly skilled workforce is critical to maintaining a competitive and efficient public transportation system, the U.S. Department of Transportation's (USDOT) Federal Transit Administration (FTA) noted that investment in building and maintaining human capital is as important as the investment in physical capital. With the resurgence of transit in recent years, transit systems face a number of challenges: rapidly changing technology (to vehicles, right-of-way, and customer information services), a high number of pending retirements leading to the loss of institutional knowledge, growing ridership, and long-term expansion. These challenges make attracting and preparing new talent increasingly important.

To help address these challenges, FTA published a Notice of Funding Availability in FY2011 seeking proposals for its Innovative Transit Workforce Development Program. Based on a competitive application process, FTA awarded a total of \$3 million for 12 workforce development projects. Recipients were transit authorities that applied with one or more supporting partner (educational institutions, the public workforce investment system, labor organizations, or non-profit organizations). These projects demonstrated innovative workforce development approaches that could serve as models for other transit organizations. Proposed projects could support a number of areas in transportation including:

- Outreach and training to high school and vocational high school students about careers in transportation
- Training to new hires and veterans seeking jobs in transportation
- Creating bus certification programs for college students
- Developing programs to provide skills training (supervisory, technology, leadership, etc.) to incumbent transit employees including mid and upper level operations and maintenance employees, bus and rail technicians, etc.

Cost-sharing was not required of the 2011 applicants, but was strongly encouraged with the potential to affect the awards.

The 2011 program was initiated in January 2011 and was scheduled to run for 18 months. However, it should be noted that programs were extended, with some concluding in 2014 and one still ongoing at the time of this report.

Proposals had to address one or more of the following eligible program activities:

- Tracked pre-employment training/preparation
- Recruitment and hiring
- Incumbent worker training
- Succession planning/phased retirement

Projects were expected to produce at least one final deliverable that would become available to FTA at the end of the project for dissemination and sharing throughout the industry at no cost, in addition to regular performance reporting.

Applicants were asked to specify in their proposals a plan for recording the outcomes of the project, including:

- Number of individuals affected by the project
- Cost of the project and share of federal investment
- At least one measure of quality
- Project descriptions and statements of applicability to other entities

In 2013, FTA selected Axiom Corporation to conduct a summative evaluation of the Innovative Workforce Development grant projects, starting with the 12 grants awarded in 2011. The evaluation was to gauge the effectiveness of projects and help justify the federal investment. The contractor was tasked with reviewing the workforce development projects to determine the goals of these projects, the measures in place to achieve these goals, and the potential impact on local or national transit workforce development needs. Evaluation criteria included the first three outcomes listed above—individuals affected, cost and share of federal investment, and at least one measure of quality that grantees were expected to include in their proposals and projects.

Axiom would then write this final report, including an evaluation of each project using the criteria above, an assessment of whether the grantee met the stated goals, and what impact, if any, the project has had on the workforce development needs it was designed to address.

Methodology

Per the contract awarded to Axiom Corporation, the Innovative Transit Workforce Development Program of projects evaluation employed two primary methods of information gathering: document review and telephone interviews with grantees.

In addition to the proposals that outlined goals, expected outcomes, and metrics, the grantees provided periodic updates on their progress to FTA. Each grantee also was expected to provide a final report to FTA. Some grantees expected to

conduct surveys of participants or use outside evaluation firms. Axiom reviewed all available documentation provided by FTA related to the grantees' programs as a primary source. As of the writing of this report, 9 of the 12 projects submitted final reports. Of those reports, two were only the brief final grant monitoring report entered into the FTA's web-based grant monitoring software.

Interviews with grantee personnel were the other source of information about the grants. As no travel was permitted, all interviews were conducted via telephone with grant representatives. Given that each grantee's project was unique in nature, scope, funding, and goals, a specific evaluation protocol was developed to guide discussion for each interview. All protocols followed a common structure and addressed common topics. Then, each protocol was tailored within this framework to discuss elements specific to the grantee's program and issues raised in their proposal or final report. For example, each protocol had an "Implementation" section, but the questions would vary depending on the specific nature of the project (i.e., competency model creation, technical training development, etc.). The use of such protocols allowed for a systematic and rigorous approach while still maintaining flexibility to discuss the unique elements of each project.

Interview participants were contacted by telephone and e-mail. The purpose of the project was explained, and a time for the interview was determined in subsequent communication. Participants could choose to be interviewed individually or as a group, as appropriate. The interviewer in all cases was the Principal Investigator. The discussion was guided by the protocol in a conversational style over one or more teleconferences. Detailed notes were taken as documentation during the interviews. The documentation and interview data were then analyzed to compare program goals and outcomes and address the evaluation questions described above.

Limitations

The scope of this evaluation is a summative evaluation assessing the individual grant programs against their specific goals. The objective is to identify programs that appear to be promising for further investment by FTA in addressing the common workforce challenges faced by public transit agencies. This evaluation is not an impact evaluation, and an assessment of what outcomes might have been in the absence of the projects is beyond the scope of this effort, as are return on investment calculations. Moreover, because site visits were not possible, the primary data on the programs is self-reported data from those involved in implementing the programs. Although all participants appeared to be forthcoming about their programs, and there is no specific reason to doubt any information provided, there was no opportunity to independently verify the information. Where feasible, the Principal Investigator attempted to speak to program participants (e.g., trainees) for an alternative view, but this was not possible in all cases.

Innovative Transit Workforce Program of Projects

Chicago Transit Authority – Transit Leadership Competency Model

Background and Problem Addressed

The Chicago Transit Authority (CTA) provides transit service for Chicago and 40 surrounding suburbs and operates 24 hours per day, providing 1.65 million combined bus and train rides per average weekday. CTA has 1,800 buses covering 140 routes and 1,190 train cars operating on 8 routes. As the agency has a high number of baby-boomers in its leadership ranks, as of 2011, it faced a potential 25% retirement and turnover rate in leadership, equating to a loss of up to 100 managers in the near future. CTA was concerned that losing such a large number of managers could affect goals in safety, customer service, efficiency, and timeliness. There was, therefore, a need to recruit or identify managerial talent and prepare the candidates to take on the leadership challenges. At the same time, CTA's talent management processes did not have a consistent way to evaluate performance across the organization. The disparate evaluation processes made talent management decision-making on topics such as succession planning and promotion problematic. Moreover, CTA's recruitment lacked an efficient process for screening applicants for positions and had no means for evaluating the success of its recruitment and selection processes.

Proposed Workforce Solution

In creating its grant proposal, CTA examined approaches taken by other large transit services facing similar challenges (e.g., New York City and Washington, DC). Research indicated that some others created competency models to improve the consistency and efficiency of their human resources (HR) practices, but 60% lacked such a model but were interested in one. Therefore, the agency decided to build a Transit Leadership Competency Model and integrate it into its HR practices. A competency model identifies the knowledge, skills, and abilities needed to be successful in a particular role in a job, organization, or profession, providing a “road map” for the range of behaviors that produce excellent performance. CTA wanted to build a transit-specific leadership model that would be applicable for use by agencies nationwide.

The competency model approach was expected to have several potential benefits:

- Create a foundation for HR and talent management practices and defining performance.
- Consistently integrate HR practices for better efficiency, simplicity, and accuracy.
- Clarify for employees how to achieve expected performance standards.
- Align team and individual behavior with key organizational strategies.

CTA proposed to develop this competency model and then integrate it into hiring, succession planning, and training. Proposed goals for the program listed in the proposal were to:

- Design a competency model for transit leadership using a target sample of 85 managers (20% of the managerial workforce).
- Integrate HR practices (recruiting and hiring, succession planning, and training) using the competencies from the competency model.
- Create a step-by-step guide for creating a competency model other agencies can follow.
- Share the guide with other transit agencies by creating a National Transit Competencies Database to promote collaboration and research into transit competencies.

Partnerships

CTA engaged two primary partners for this competency modeling effort: the Roosevelt University Organizational Effectiveness Consulting Center and the Chicago School of Professional Psychology. Roosevelt University is located just a few blocks from CTA headquarters and had worked with the CTA project manager previously. Because competency modeling was new to CTA, Roosevelt faculty served as advisors, helping guide the data collection and analysis process used to create the competency model. The Chicago School of Professional Psychology provided two master's level interns to assist. No problems were reported in these partnerships, and all performed their role as expected.

In addition to these partners, the original CTA project manager determined that the agency required more expertise on the process of competency modeling. Project staff attended training from Workitect, a company specializing in competency-based human resources, and CTA licensed its Competency Dictionary. The Workitect process was used in the competency model development process. Ultimately, a new project manager took over the project and decided that more expertise was needed to help refine the competency model and assist in the training and deployment efforts. Therefore, HR consulting

firm Development Dimensions International (DDI) was contracted as a consultant and continues to work with CTA.

Program Implementation

Conceptualization, Planning, and Kick-Off

After the project began, key members of the project team attended a three-day certification program from Workitect on competency modeling. This provided common understanding for the project and a process to follow. The first phase of model development involved conceptualizing the scope and objectives. They began with a needs analysis, looking at the level of the competency model (e.g., job, job family, etc.), the business needs, context, and HR applications for which it would be used. The business needs and HR applications were generally as discussed in the problem statement above. Ultimately, CTA determined that a competency model focusing on a broadly defined set of managerial jobs best fit the organizational needs and context. Advantages of this approach were a clear and simple message, wide applicability, and promotion of a clear framework and common language for talking about skills and performance. CTA then created a project work plan and communicated to those involved or affected about the project in three kickoff meetings and a webinar that staff could attend.

Collecting and Analyzing Data

CTA's project team made a broad effort to collect data from managers and leaders. They started by examining a large number of managerial job descriptions and extracting competencies into a CTA specific "competency bank." Next, the project team developed and conducted an online survey based on the competencies collected in the competency bank to get broader input and feedback to filter competencies down to the most relevant. The team then conducted structured interviews with subject matter experts from among CTA managers to further refine the competencies and identify those essential to superior performance. Finally, a "resource panel" of subject matter experts was formed to identify and refine the most important competencies for successful performance and behavioral indicators of various levels of competency performance (e.g., examples of high performance behaviors for each competency).

Project staff reported greatly exceeding the initial 85-person sample proposed in the name of inclusiveness and getting broad input. CTA reported that people generally participated willingly and enthusiastically. Issues that arose centered around concerns from incumbents that they had received no training on competencies that were being identified as important.

Outcomes

Resulting Model

The first goal of the project was to develop a Transit Leadership Competency Model. After the collection and analysis of the data, the process resulted in a competency model that identified 11 competencies in 3 broad categories: those that drive results, those that drive people, and those that drive self. Each of the competencies has a definition and behavioral indicators. For example, the “Analytical Thinking” competency definition is “Tackles a problem by using a rigorous, logical, systematic, sequential approach to obtain effective solutions.” A behavioral indicator is “Approaches a complex task or problem by breaking it down into its component parts and considering each part in detail.” A graphic has been designed using a “periodic element” style chart to display the competencies and definitions. Table 2-1 provides a list of the 11 competencies CTA established.

Table 2-1
*Transit Leadership
Competencies*

Drive Results	Drive People	Drive Self
<ul style="list-style-type: none"> • Customer-oriented • Analytical thinking • Forward thinking • Process management 	<ul style="list-style-type: none"> • Developing others • Communication • Promoting teamwork • Building relationships 	<ul style="list-style-type: none"> • Initiative • Decisiveness • Thoroughness

The project team attempted to validate the model by comparing it to other models developed by transit agencies. CTA compared its model with those of Dallas, Missouri, and Maryland to examine the extent of consistency across the models and found the model to be reasonably consistent, suggesting that an appropriate set of competencies was identified.

It should be noted, however, that since a second project manager took over the project, CTA’s team has continued working with DDI to further refine the model. Specifically, it believes there currently are too many competencies and that some are too similar to one another. The agency believes this resulted from a desire to be inclusive and have the model reflect the input of so many participants and from inexperience at competency model development. Once deployed, questions arose about how some competencies could be practically distinguished from others. Therefore, it is refining and clarifying the model further.

Integration into HR Practices

The proposal suggested CTA would integrate the competency model into several HR practices during the course of the grant, including recruiting and hiring, succession planning, and training. However, the project team realized that integrating the model was more complex than initially anticipated. Even the process of developing the competency model raised significant issues. One such issue was that during the process of identifying competencies, participating incumbent managers expressed concern that they often had not received training

on important competencies, particularly “soft skills” competencies. As is often the case, many managers were high performers in a technical capacity, which led to promotion into management or leadership positions with little preparation for managing people. A second concern was that some managers expressed the belief that although they possessed key competencies, some of their supervisors did not have, recognize, or develop the competencies. CTA representatives reported that they faced a choice to either ignore these concerns or try to address them. They chose to address them as they moved forward.

During this time, CTA’s team undertook an assessment of the existing management training. They identified three training programs provided for all managers, the content of which was examined to determine the extent to which it reflected the competency model. The existing training was found to cover three competencies, leaving nine needing attention. CTA created a “Learning and Support Unit” that began to conduct focus groups with managers from all departments to determine what topics were critical needs. Analysis of these data indicated that the Process Management competency was the most pressing need. CTA created a new one-day New Manager Training workshop based on the competency model that includes Communication, Process Management, Analytical Thinking, and Thoroughness. CTA also began working with DePaul University to provide training in leadership of self, leadership in work, communication, and other “soft skill” topics. In addition, using project funds, CTA purchased two licenses for the Adobe eLearning Suite to create professional eLearning courses. CTA plans to turn the Process Management slide deck into an online training module for deployment in the agency’s Learning Management System.

Integrating competencies into selection also proved to be more challenging than initially anticipated. CTA management and project staff determined that integrating competencies into their selection process organization-wide meant that managers now had to interview in a new way, identifying competencies and rating candidates based on their level of these competencies. This was a new skill, different from their typical interview process. Therefore, CTA diverted from the original plan to undertake a new effort to train managers on behavioral interviewing using experienced-based and situation-based interview techniques. CTA contracted with DDI to train 40 hiring managers and also trained two others to become trainers. Ultimately, it ended up training more than 300 managers in this process. The agency now uses a “STAR” behavioral interview approach to identify the situation, task, action, and results in its questions to assess the degree to which a candidate demonstrated the competencies in question. In addition, CTA purchased DDI’s targeted selection question library, which includes a bank of questions relevant to CTA’s 11 leadership competencies.

To integrate the competency model into professional development for succession planning, the CTA team decided it needed a better way to conduct employee assessments that captured employee behavior against the competencies in the

model. CTA worked with IPAT, which offered to customize its I6PF Competency Report to be consistent with CTA's competency model. The assessment is a self-development tool in which a person answers questions and is given a profile based on personality characteristics and likely "fit" with the competencies.

Following the development of the assessment tool, the project transitioned to a new manager who determined the competency model needed to be refined further and that a different assessment approach was needed. CTA is working with DDI on this process.

Once the competency model was developed, CTA also created an Executive Management Forum with its President, Vice President, and Director of Transit. This group meets monthly to discuss the performance of the teams that work for them and how they can "develop others." Where they see competencies are lacking, they discuss how to address these shortcomings.

Creating a Guide for Competency Model Development

The third primary goal of the project was the creation of a guide to provide a process for others to follow in developing a competency model. An intern studying Industrial and Organizational Psychology at the Chicago School of Professional Psychology was hired into a full time position and worked in tandem with the original project manager to develop "Human Capital Management: A Competency Based Leadership Approach," a 143-page, detailed, comprehensive guide that spells out the reasons for creating a competency model and the process, key choices, and methods used for creating such a model. The guide follows the Workitect approach used by CTA and includes sections on conceptualizing and planning the project, as well as methods for data collection, data analysis, and building the model. To provide helpful insight, the guide includes general advice and decision processes and discusses the specific choices made by CTA and its rationale. Finally, the guide briefly discusses the integration of the model into HR practices such as selection, training, development, and succession planning. Appendices provide worksheets and other resources agencies can use as models.

Sharing the Guide

The final project goal was to share the competency model and the development guide with other transit agencies and create a National Transit Competencies Database to promote collaboration and research into transit competencies. To date, CTA's team has provided the guide to FTA for review and approval. Once approved, it will be shared more broadly. CTA has been approached about sharing its competency model but because it is still being refined, it prefers not to share it at this time. Instead, it currently shares information about its process for developing the model. CTA representatives hope to have the final model completed by Spring 2015 and will share it broadly at that time.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$208,590 in federal funds (50% of the project total). CTA estimates that it roughly matched the FTA funds. This matching took many forms, such as the inclusion of many more people into the data collection process than proposed and expanding the interview training to many more managers than anticipated. There has also been ongoing work with DDI, which started with grant funds but continues with CTA funding.

Overall, CTA project representatives said that the budget expenditures went as expected. They noted that they decided to be more inclusive than proposed in the data collection process to promote better data and buy-in. They also found they needed to expand the number of managers receiving interview training to make the competency-based approach CTA-wide. The cost of this training was substantial, as materials alone cost roughly \$160 per person for 300 people (\$48,000), in addition to costs for a trainer, time off-task for trainees, facilities, etc.

Impact

CTA representatives reported that the Transit Leadership Competency Model development effort was a high impact project for the agency. This impact came in ways both expected and unexpected. The expected impacts involved creating a more systematic way to categorize performance and having a true performance model that underlies the related HR processes such as selection, training, and succession planning. As anticipated, CTA is now moving toward a more systematic, consistent approach in these areas. One area of impact noted was the process of screening candidates. CTA frequently gets a high volume of resumes for open positions. Using the competency approach, it was able to improve its online application screening to quickly narrow down a large pool of resumes to a small set of qualified candidates.

There were several unanticipated impacts from developing a competency model. One was the reaction of management incumbents to the identification of competencies they recognized as important, but for which they had received little, if any, training or saw as lacking in their superiors. This led CTA to prioritize and improve its professional development for managers.

A second unanticipated impact was a recognition that many key managerial skills are transferable from one leadership position to another, despite differences in specific technical expertise. For example, CTA representatives reported that many managers believed that bus operations managers would not be successful in rail operations and vice versa because they had come up through the ranks of one or the other. The identification of competencies that were not content-specific helped to make some at CTA aware that it was possible to move between these areas. This has helped to expand organizational advancement possibilities and helped to break down organizational silos. A CTA representative reported that

CTA “broke out of silos because we can mix staff around with this language of the skill sets people bring. It’s been a transformation and we didn’t see that coming.”

It has also helped increase the number of external hires as CTA is moving beyond the notion that a leader must have specific content expertise to succeed. As one CTA team member said, “We’ve had a lot of people join us from outside. This was unheard of before. We’re not stuck with [the notion that] ‘CTA knowledge is key.’ We can look at these competencies and see how they’ll apply.”

The CTA representatives from HR believed that they are now hiring people faster and hiring better candidates. They feel that this transformation has helped open CTA up to faster overall improvement and less resistance to change. They said they are now engaged in technology solutions and other changes that are taking place faster as new managers selected via the competency approach take over.

CTA team members stated that the agency plans to sustain the effort, as demonstrated by their continued work with DDI on refining the model and integrating it into additional HR functions. They also report the intention to share their model widely and create the competency database starting in Spring 2015 when they hope the model will be finalized.

CTA Success Story

Alphonso J. came to CTA in a second chance (ex-offender) program, hired into a temporary position. During this assignment, he excelled in a technical area, inventing more expedient methods for performing an important task. He was then selected for a full-time train car service position in which he demonstrated competencies such as driving results and anticipating customer needs.

Alphonso’s supervisor was trained in the CTA Leadership Competency model and how to use this model for targeted selection. His supervisor recognized that Alphonso was exhibiting many of the competencies sought by CTA. He was promoted to a Service Coordinator position, where he further exhibited competencies such as “Drive Self.” He was recognized as decisive and thorough and was selected to attend a weeklong training on management skills. He also enrolled in a local college to enhance his management skills. Last fall, he applied for a Manager 1 position and, after a rigorous, competency-driven targeted selection process, he won the job.

In less than three years, Alphonso went from being unemployed to a \$9.50-per-hour temporary job to a \$15-per-hour permanent job to a \$55,000 salaried position to an \$85,000 salaried position. CTA representatives emphasize that the competency approach and competency training empowered his direct supervisor to recognize and support his skills and leadership potential, where in the past he may have gone unnoticed.

Lessons Learned and Recommendations

CTA's final report and interviews with project personnel provide the following lessons learned and advice for transit agencies considering developing their own competency model:

- Streamline and simplify project objectives when communicating to stakeholders. Different stakeholders will have different concerns that all need to be addressed during the project initiation stage.
- Involve key stakeholders early on and communicate progress often. This promotes buy-in and visibility.
- If new stakeholders join mid-project, it is important to help them understand the project's relevance to enable them to genuinely support its implementation and long-term use.
- Invite employees who will be affected by the final model into the development process. Teach them to use the data collected and analyzed. Adoption of the final model and confidence in its integrity will benefit if stakeholders and employees can stand behind the development process.
- Use at least three different data collection methods. Different stakeholders or subject matter experts might prefer different methods for providing information.
- Document all steps used in data collection and analysis. This promotes a consistent process across the team, which supports validity.
- Provide status updates to encourage potential participants that have not responded to do so. Updates serve as indirect reminders that a non-respondent's opinion has not yet been counted for the model.
- Create a rigorous data collection process. Conduct a thorough analysis of all data collected, then let the data tell the story.
- Do not select competencies for the final model until all available data have been analyzed. Trends in the data will seem to emerge early on, but the final decisions should be reserved until the end of the analysis phase.
- Do not complicate things that can be done simply. For example, an academic approach to presenting information to a blue-collar workforce may not be optimal. Simple and direct is more effective.
- Take the time for planning. If you need to adjust the schedule to allow for sufficient planning and conceptualization, do it. The results ultimately will be better.
- Attend training on developing competency models prior to engaging in the process. This foundation of knowledge is invaluable.
- License the use of a third-party competency library as a starting point. This investment will simplify the initial steps of model building and provide

stakeholders with the assurance that the model is built from researched, valid competencies.

- Roll out the application of the model in a staggered, deliberate way. CTA planned to integrate the model into three HR functions at once, which was difficult to manage and sustain. CTA adopted a more defined focus for selection (interviewing) and training development.
- Although the competencies in the final model are somewhat generic and could apply to any large organization, the process of getting to them is critical. Major issues in transit are culture change, roll out, and communication. Anything off-the-shelf and not industry-specific yields tremendous resistance and pushback. CTA has a culture that is so industry oriented, it is difficult for employees to accept competencies and transferable skills. The process is vital to the adoption and acceptance of the model.

Conclusion and Further Investment Recommendation

CTA's Transit Leadership Competency Model met or surpassed all of the project goals set out in the application. It created a competency model which it continues to refine, included more than 20% of all managers in the process, created a how-to guide for other agencies, and intends to share the model.

This project is an example of high-impact effort through a seemingly more “indirect” approach to addressing personnel issues. Many of the projects funded by the Innovative Transit Workforce Development funds were direct (creating a program and training people in a needed skill, for example.) In comparison, creating a competency model may seem a step removed. However, such a model, whether tacit or explicit, is foundational to all HR functions. How good performance is defined and the key competencies required to achieve it dictate how people are selected, developed, trained, evaluated, and promoted. By committing to the effort and making use of the competency model that resulted, CTA reported farther-reaching implications than anticipated including:

- Better, more efficient selection
- More targeted employee development and assessment
- More internal mobility and silo reduction
- Culture change toward more innovation and openness to outside talent

This provides an example of the kind of innovative workforce practices that are worthy of support, given their capability for broad impact. In fact, CTA personnel report that without the project funds, they would not have been able to begin this competency modeling effort.

The competency model itself is not especially transit-specific. Indeed, it seems most management and leadership competencies are relatively content-

independent (which is not to suggest content expertise is unimportant). Indeed, the CTA team recommends starting with a library of established competencies. Therefore, the question for future investment is whether agencies can avoid some of the work and expense of developing the model from scratch and simply apply CTA's model. CTA suggests the process and involvement of employees affected by the model was critical to acceptance and the resulting culture change. Perhaps future investment should focus on identifying projects that attempt a middle ground between developing essentially the same model from whole cloth and trying to institute an off-the-shelf model. Identifying a process that provides sufficient input and inclusion to promote acceptance, while not starting entirely from scratch to reinvent the model, could improve efficiency if an effective compromise is found.

Denver Regional Transit District – Workforce Initiative Now

Background and Problem Addressed

The Denver Regional Transit District (RTD) provides transit service for an 8-county, 2,348 mile area that is the home to 2.8 million residents in 40 cities and towns including Denver. RTD operates more than 45 million regular fixed-route service miles annually. An elected 15 member Board of Directors governs RTD.

RTD faces the same workforce challenges as the rest of the U.S., including an aging workforce, the rapid development of technology in transit, and difficulty attracting and retaining younger workers. Four issues pointed out in the RTD application include:

- Low public image, including lower wages and limited growth opportunities
- Inadequate pipelines to new, younger workers and an aging workforce
- High cost to train new workers
- Lack of a connection to the public workforce system

The significant majority of RTD's workforce was nearing retirement age at the time of the application, yet it had an insufficient pipeline of younger talent to address the coming turnover. RTD needed to enhance access to a younger workforce with both the technical and soft skills required for high performance.

These challenges were accelerated by RTD's planned FasTracks expansion, a comprehensive plan to add 122 miles of commuter rail, 18 miles of bus rapid transit (BRT), and 21,000 parking spaces at stations. This effort would build out RTD's commuter services along six lines. The \$6.7-billion project was expected to create 10,000 jobs at its peak, including transit and civil construction jobs. One

line was expected to open in 2013 (and did), creating a need for 114 operators, signal and track maintenance personnel, and service personnel. A second anticipated line opening in 2016 would create a need double that size. Clearly, RTD needed a method to recruit and train a substantial transit and construction workforce in the near future to both staff the FasTracks build-out and replace the workforce expected to retire.

Proposed Workforce Solution

At the time of the proposal, RTD was developing the Workforce Initiative Now (WIN) approach, facilitating the creation of a coordinated network of community service providers to recruit and train a transit and construction workforce. The WIN model would offer three basic sets of services: pre-employment services, training and placement services, and career and community development services. These services would be offered by engaging and coordinating existing providers to administer services. These providers include community and technical colleges, community-based organizations, industry training programs, small business, and the public workforce system. The WIN project uses a career pathways approach that gives the participants a way to develop and enhance professional skills. For the employer, the approach builds a recruitment pipeline and emphasizes on-going skill development, which addresses the recruitment issues while potentially reducing turnover and enhancing productivity. RTD identified specific occupation targets for these efforts: operators, mechanics, and construction trade workers. Within those categories, target jobs included bus and rail operators, bus mechanics, electro mechanics, carpenters, heavy equipment operators, and first line supervisors.

The WIN approach addresses three specific workforce priorities identified by regional transportation and transit construction employers and workforce development stakeholders:

- Coordinate local pre-employment training programs to reduce duplication, reduce costs, and support industry-defined needs
- Enhance image and outreach efforts to attract and retain new workers, including youth, into the transit and transit construction industries
- Improve connections to resources available through the public workforce investment system

The WIN model would benefit from employer engagement and direction, including positions dedicated for WIN graduates directly linking the training to job openings for participants. There were several benefits expected of the WIN approach, including the ability to:

- Limit duplication and reduce costs by targeting resources to shared needs
- Leverage resources by providing placement services for agencies already receiving outside training funds
- Provide diverse training options from entry-level to skill enhancement and entrepreneurial skills
- Establish a forum to address barriers to long-term success in construction and transit industries
- Offer mentoring, career coaching, and training update services that promote retention, and which community providers often lack the funds to provide
- Encourage partnerships that may attract additional funds for critical supportive services

RTD proposed two goals for the Innovative Transit Workforce project funds:

- Build a cohesive network for pre-employment training and entry
- Provide access to incumbents for skills upgrades needed for FasTrack

Partnerships

RTD had several partners in implementing the WIN network. The first key partner was an academic institution, the Community College of Denver (CCD). CCD had a number of roles including establishing a training model, convening and maintaining a network of training providers, providing career counseling, and coordinating with the Workforce System. As an educational partner, they could also accredit course work, customize the curriculum, align education and training partners, serve as primary office locations for recruiting, screening, case management, and so on. CCD was the first organization to have contact with most participants coming into WIN.

A second partner that joined WIN for the proposal was a large employer, Denver Transit Partners (DTP), which is a group of several companies that together were to complete a big part of the FasTracks expansion project. DTP identified jobs, provided near-term and long-term training needs, helped establish relationships with contractors to increase placements, and provided feedback on curricula and standards. DTP also provided advocacy and marketing for the WIN effort. DTP was a valuable resource regarding human resource issues as WIN programs sought to ensure participants were prepared for entry into positions with employers.

The third primary partner was the Urban League of Metropolitan Denver, which served as a community, grass-roots partner. The Urban League assisted with communication messages and strategies, outreach to the community, and recruitment.

Finally, the public workforce system, although not a founding partner, joined WIN. The Denver Office of Economic and Workforce Development assisted with outreach and recruitment, signing people up for WIN programs. They also provided resource support, fundraising, and some training and job programs that were supplemental to WIN (e.g., a Comcast starter program with skills aligned to electrician skill needs).

There were preexisting relationships with all partners. RTD had worked extensively with CCD on prior economic development projects. RTD also had good working relationships with the companies involved in the DTP individually before they became partners. The CEO of RTD had personal relationships with the Urban League. RTD representatives noted that partnerships generally proceeded smoothly, although there are a number of different partners, each with their own perspectives and agendas. For example, the Urban League is focused on assistance to people of color, so they sometimes wanted to focus on particular areas or subgroups more than RTD. In addition, the partners were a combination of academic, for-profit, and non-profit organizations partnering, each with different capacity and resource levels.

Overall, the WIN Project Manager believes they put together a winning combination: CCD offers courses and training, DTP offers jobs and describes skill needs, and the Urban League conducts outreach. Complementing RTD's leadership and vision, WIN had academics, employers, and the community involved.

Program Implementation

Conceptualization and Planning

WIN was conceptualized and in the process of being implemented prior to the Innovative Transit Workforce project. RTD was approached in 2009 by the Federal Highway Administration (FHWA) for a similar workforce-building project and was already starting a community workforce program, given the needs driven by FasTracks. RTD began building and conceptualizing WIN, and when made aware of the Notice of Funding Availability from FTA for the Innovative Workforce funds, it saw the immediate alignment opportunities. RTD's CEO was a catalyst for ensuring the aggressive pursuit of the grant. There was a community call to action in 2010 to get people excited about it, coinciding with the targeted date that large portions of FasTracks work was to begin. RTD was planning and implementing the project, and Urban League and DTP joined as partners.

The WIN project has a dedicated Project Manager who answers to a steering committee made up of executives from all four partner organizations as well as designers, small business, a public school director, and others. There is also

a “working team” of managers from the respective organizations that holds a meeting every two weeks, and the Project Manager is in communication with the team daily. The partners reached out to various training and service providers and created a network of 53 training and service provision organizations that make up WIN that includes training organizations, educational institutions, public workforce system partners, recreation centers, faith-based organizations, schools, and others.

Recruitment and Marketing

Internal marketing was somewhat difficult at first, as RTD is not like a private firm with abundant resources. It advertised WIN through its internal e-newsletter and at staff orientations and worked with the union to spread the word. Initially, some in RTD did not understand the need for WIN and may have seen the program as threatening or extra unnecessary work. The WIN Project Manager said that showing people the pending retirement statistics generally clarified the case for WIN.

External marketing included identifying target neighborhoods for recruitment, including those that had characteristics indicating that WIN could be mutually beneficial: high percentage of minorities, low educational attainment, high crime rates, and high foreclosure rates. These factors statistically indicate that residents might be eager for job training and job placement opportunities. WIN partners in the community reached out to residents, advertised in neighborhood publications, distributed flyers, and held information sessions at libraries 4-5 times each month that often attracted 20–30 people per session. RTD representatives said that word of mouth was the most important marketing; participants that are able to get work tell others about it, which maintains foot traffic to WIN. Board members also made efforts to get the word out about the WIN network.

Participation

Initially, WIN had a registration website on which potential participants could register to participate. This included an online intake sheet and the community college career portfolio. In 2013, the WIN program upgraded to a site called WINforWork.org, on which participants register for the program, find labor market information, and can conduct career exploration, resume building, and other employment needs.

https://www.winforwork.org/vosnet/Default.aspx

This Imported From Firefox

WIN WORKFORCE INITIATIVE NOW Coming together to create opportunities for our local communities.

JOB SEEKERS

- › WIN Job Seeker Services
- › Plan Your Career
- › Create a Resumé
- › Education and Training

EMPLOYERS

- › WIN Employer Services
- › How WIN Benefits Employers
- › Use Labor Market Information

WIN NETWORK

- › Resource and Recruitment Partners
- › Join the WIN Network

ABOUT

- › WIN Vision and Mission
- › Managing Partners
- › Office Location and Contacts
- › ADA Public Notice

SIGN IN

Not Registered? Learn How and Why
Forgot Username/Password?

Username Password

LATEST NEWS & ANNOUNCEMENTS

Workforce Initiative Now (WIN)

WIN is a collaborative workforce partnership led by Denver's Regional Transportation District (RTD), in coordination with the Community College of Denver, Denver Transit Partners, and Urban League of Metropolitan Denver. WIN partners with existing training resources to place community members into career pathway positions on local transit infrastructure projects. WIN places individuals in construction craft, office administration, or professional services positions. Training is available as needed.

If you are interested in participation in our workforce development program or if you are interested in becoming a training partner or potential employer please come to a WIN Information Session to learn how.

This session will help you better understand the program benefits and requirements, as well as the application process.

Please contact Rosella Palacios to find out next available dates at:

Figure 2-1*WIN for Work Website*

Once applicants complete the online registration and testing, they can schedule an intake interview. They are instructed to take the application to the interview and bring their current resume, a statement of why they want to be in WIN, and their driver's license, social security card, and any accreditations or certifications. WIN staff view this process as a preliminary assessment, a first homework assignment to see if the participant is able to follow directions. From there, each participant is scheduled for an appointment with a career coach for further assessment and referral to training or other services.

RTD representatives noted that a high unemployment rate in 2011 drove participation, and highly-educated people were applying for relatively lower-level positions. WIN recruits often came from the automotive industry, were mechanics that needed to learn heavy diesel skills, had customer service experience but lacked skills such as bookkeeping or document control, or were from low-skill trades who were stuck in low-wage employment and needed a skill upgrade for the higher-paying jobs available at RTD. WIN also had many incumbents from RTD who were seeking to upgrade their own skills. Although RTD employees have development funds for skill upgrades, WIN also offered RTD employees the opportunity for training in particular software or other skills that was provided by network partners (e.g., PrimaVera for engineers).

Assessment Prior to Training

Participants are assessed prior to starting any training or service. At first, the WIN project used the WorkKeys assessment, a work-readiness assessment and training program and part of the Career Ready Colorado program in the state. RTD found this test to be too long and cumbersome, and WIN lost participants as a result. The WIN team has since developed its own assessment that examines personality type and skills, which is available on WIN's website. They use the Kenexa tests designed for those with prior skills trade experience (e.g., mechanics), reading comprehension, and math skills. If participants have prior trade experience, WIN representatives find that these assessments will move them forward appropriately.

The assessment process is not pass/fail to receive WIN services. No one is rejected from services. WIN is conceptualized so that if participants remain persistent, they receive the skills updating and remedial courses via CCD that they need to be successful on the job. It is important to WIN administrators that they do not place someone into employment who is not prepared with the requisite skills to succeed, or the program will lose credibility with employer partners.

Career Coaches

One key element of the program is career coaches, who serve as case managers and advisors. Following an intake interview, a visit to a career coach is scheduled, and the coaches and participant jointly review the person's assessments, desires, and needs to create a plan. Coaches take into account everything from assessments to the current resume, dress, demeanor, etc., to make recommendations. Then the career coach coordinates all of the elements of the program for an individual receiving training and makes a referral to training and coordinates placement and wrap-around services (e.g., childcare or transportation assistance).

Referral into Training

Once a coach referred the participant to training, there could be a delay before training, depending on when classes are scheduled. The WIN staff tries to leverage the 53 partner network and have multiple providers conducting popular courses, such as OSHA 10, OSHA 30, Construction 101, Financial or Bookkeeping, and widely used soft skills, to minimize wait times for recruits into the program.

The Innovative Workforce grant enabled RTD to afford multiple vendors with "not to exceed" contracts. If a need arose and they were under their "not to exceed" limit, providers could initiate the class. If a class was one or two shy of a sufficient number of people to hold a class, WIN staff would advertise and find the additional participants needed.

There are three levels of training in WIN:

- Entry Level (e.g., career readiness, GED, basics) provided by community-based organizations and nonprofits

- Skilled Training (e.g., skill upgrade, post-secondary certification, supervision, and safety) provided by CBOs, community colleges, or industry training providers
- Advanced (e.g., Associates degree, entrepreneurial and business skills) by community college and industry training providers

The RTD team estimates that the vast majority of the training courses needed already existed from providers in the assembled network. About 10% had to be created for the WIN program because it was so specialized (such as pole installation). More than 90% of the training available through the WIN network applies toward a credential or two-year degree.

Referral for Placement

Placement begins when RTD posts a position. The WIN network trainers respond by making referrals. For example, if a construction job is posted, the WIN construction trainers might offer 15 resumes of candidates in response. Both the candidate and job are screened as part of the process. At intake, WIN conducts background checks and drug screenings. Before referral, WIN staff make sure the participant has upgraded the requisite skills. WIN staff also pre-screen the job. When an employer sends an open position, WIN staff complete an employer worksheet summarizing the hours, pay, reporting supervisor, need for transportation, etc. In this way, they can be sure the recruitment is customized for the employer, and the candidates know what to expect.

Another efficient approach is to use the public workforce system's "on-the-job training" option, in which the workforce system will pay all or part of a person's salary during training. WIN makes use of this option for skills such as forklift or concrete caisson training. The participant advances and is certified through the employer, and the employer receives compensation while the employee gains the needed skills.

Retention

To promote retention, the career coach reaches out to participants during their first three months after placement. If needed, they assist with wrap-around services from partners in the network (e.g., childcare, transportation, etc.). WIN staff also hold seminars periodically to promote further professional development and networking, such as "Stilettos to Hardhats" for women in the construction trades to learn from other experienced women, network, and find mentors.

Outcomes

RTD started with two goals for its WIN initiative: 1) build a cohesive network for pre-employment training and entry into opportunities in transit and construction industries, and 2) provide access to incumbents for skills upgrades needed for their major transit expansion effort. Both have been accomplished. Their

network of more than 50 training and service providers is providing training, placement, and skills upgrades for both incumbents and new employees to the transit and construction industries and is supporting the FasTracks expansion effort.

During the grant period, RTD's WIN program served 751 community members. WIN enrolled 323 participants in intensive training programs, career coaching, and case management services. When the grant ended, 208 people had completed at least one course (with approximately 187 credentials earned), and the program developed 168 employment positions. Of the program participants, 286 were currently employed or had been placed in employment. (Program representatives noted that these numbers have grown since the grant ended, and WIN has served approximately 1,000 community members total, including those who received soft skills or resume assistance as of the writing of this report.)

Outcome tracking suggests that those who obtain positions stay in them for at least a calendar quarter, as 93% were retained in the positions at the 90-day follow-up assessment. Longer-term follow-up data were not available). In addition, 15% of participants reported being promoted during that time (approximately 43 of the 286 employed).

One outcome built into the program that has helped with the attempts to place WIN participants is that RTD includes requirements for employing a percentage of WIN participants into Request for Proposal criteria for new contracting work. This ensures that employers who want to work in the FasTracks build-out have committed to employing WIN participants for new positions.

RTD Success Story

David A. was a WIN participant who started in a part-time job shadow position. After six months, he was able to become a light rail Operator, and he is scheduled for testing to become a light rail Supervisor. He grew his career through WIN to improve his skills and advance within RTD. As participants move up and lower-level positions become vacant, WIN representatives request that positions are back-filled with other WIN participants to give them an opportunity.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided RTD with \$486,465 in federal funds (52% of the total). The budget was spent primarily on staff salary and benefits, tuition, and an economic impact study. RTD hired a firm to conduct an economic impact study, which collected economic performance indicators in target neighborhoods such as crime rate, foreclosure rate, and so on. The idea of the study is to examine whether a rail line going through a target

neighborhood with all of the resulting jobs measurably improves the economic situation. Consultants developed a scorecard and identified each partner's role and are tracking the relevant data for this study. It is unclear when this will be completed.

The RTD Project Manager estimated that RTD provided \$523,290 for the project, slightly exceeding a dollar-for-dollar match. This matching took many forms, including leveraging of existing staff for some WIN positions, covering advanced training costs (toward Associates degrees), and using local funds for some costs.

Most expenditures were in line with initial expectations. RTD representatives indicated that the economic impact study is more costly than it initially expected and will require an additional \$90,000 to complete. The vendor is currently engaged in a second part of the study to obtain census data and integrate it with the data being collected. Ultimately, they expect to have three time periods for the target neighborhoods—before, during, and after the rail line expansion. Also, software costs for the WIN database were higher than expected.

Impact

An RTD representative reported that WIN has impacted several levels, with the biggest impact being huge community buy-in and a positive face for RTD in the community. Before WIN, RTD was mostly seen as an organization that runs buses. WIN has made the organization more transparent and community-friendly; through WIN, RTD has found that it can be a part of the community. This helps residents understand what is involved in providing transit, that it is not just bus drivers but also maintenance, construction, and many other occupations.

The WIN project has become a high profile project, earning recognition and attention at the national level from transit associations, such as receiving an Innovation and Change in Transportation Award and a WIN manager being recognized by the White House as a Champion of Change. The WIN Project Manager believes the attention has affected the program in positive ways. Being seen as leaders in workforce development has become a source of pride for RTD, which now helps other transit agencies initiate their own workforce programs. Agencies around the country contact it for information, and Boston now has Boston WIN, a derivative of RTD's program.

More directly, WIN has helped address the workforce needs anticipated because of the FasTracks expansion and has put hundreds of people in the field. The first corridor opened in April, and some WIN alumni have now been on the job for more than a year. RTD representatives believe it has improved the pool of available job candidates. In addition, the WIN Project Manager reports receiving calls about labor for a mixed-use development project, which they had not anticipated. The WIN project manager said, "Contractors now say, 'Talk to WIN, they have the people.' When the company who builds Walmart stores calls you to ask for people, that's huge."

WIN also is incorporated into the succession planning for RTD. The Assistant General Managers for Bus, Rail, and Maintenance are each involved, who plan one year out to determine what the coming year will require and how to address those personnel needs. WIN is a part of that planning.

As far as incumbent job retention is concerned, the WIN Project Manager said that it is too early to determine the impact. Anecdotally, he believes it helps, but there are no data to support that impression yet.

Lessons Learned and Recommendations

RTD project personnel provided lessons learned and advice for transit agencies considering developing their own WIN project:

- Partner, partner, partner—you cannot do it by yourself. Find good partners; identify your common interests and what each partner can bring to the table. As noted, WIN has the vision and leadership from RTD, a strong academic partner, strong business partners, and strong community partners.
- Plan one year before attempting to implement the initiative. Something like this cannot be a “knee jerk” approach. Take the time to break the idea apart, bring in people with the necessary expertise, and study the market, climate, and culture.
- Bring in people who are at a level in their respective organizations to make things happen, and partners who can leverage what they have, because much of the effort for WIN is unpaid.
- Pay attention to local business climate and culture. How business is done in Colorado may be different than how others operate in other parts of the country. It works best if people think collaboratively.
- One difficulty encountered was contracting and federal grant requirements. RTD representatives felt that some of the federally-required processes were a hindrance in the WIN initiative. For example, the requirements for obtaining bids put non-profits and large training providers in competition, and this limited in RTD’s flexibility. Ultimately, they felt this was not always advantageous to their broader goals. It also slowed down the process considerably, requiring six months to hire a non-profit company to do training, which could have been done very quickly otherwise.

Conclusion and Further Investment Recommendation

RTD’s WIN network met the project goals set out in the proposal. It created an effective network able to intake, assess, train, and place candidates and provides wrap-around services and follow-up for these participants. In addition, it provides a process for incumbents to obtain skill upgrades as needed. The outcomes from the WIN project, in terms of the number of people affected, are the highest of any Innovative Workforce grant project evaluated in this report. In addition, the

project has earned national recognition and awards and served as a model for other programs in other cities. It is the kind of program FTA can expand and replicate as an effective model for workforce development.

A few factors about WIN are noteworthy when deciding whether and on what scale a similar project can be developed elsewhere. First, the FasTracks expansion in Denver meant RTD would have to fill many jobs in the near future in both transit and construction. This may be a different circumstance than transit organizations facing only staff retirement concerns. The jobs that came with expansion provided opportunities for placement in a way that may have been more predictable than retirements that may or may not take place in a given year.

Second, RTD was careful to develop partners in the key areas of academia, employers, and the community. This was a very strong blend of partners.

Third, mixing construction and transit workforce development provides an interesting model to the extent there are mutual interests and benefits. Such a partnership can attract more applicants, more funding sources, more partners, and more opportunity for participants. The FasTracks program made this partnership relevant for RTD. Whether this would be the case elsewhere must be determined. If not construction, perhaps different industries would make good partners for other transit agencies.

Finally, RTD was deliberate in their targeting of neighborhoods for recruitment, identifying those where they felt their efforts would be both most fruitful and most helpful. This led to positive perceptions and good outcomes.

Florida Department of Transportation – Certified Transit Technician Program

Background and Problem Addressed

The Florida Department of Transportation (FDOT) is an executive agency with the primary statutory responsibility to coordinate the planning and development of a safe, viable, and balanced state transportation system serving all regions of the state. FDOT is decentralized by legislative mandate into seven Districts managed by a District Secretary and provides transit training to agencies in many areas, including vehicle maintenance.

FDOT believes vehicle maintenance training is critical to the success of transit agencies, as skilled technicians contribute to on-time performance, customer satisfaction, and cost savings. Prior to 1991, FDOT contracted vendors to provide on-site training to agencies. However, as maintenance became more complex, it sought more sophisticated training delivery methods. Since 1991, FDOT has

worked with the University of South Florida's Center for Urban Transportation Research (CUTR) to administer a training program.

American Public Transportation Association's (APTA) research released shortly before the program award indicated leadership, worker retirements, and technical certifications were among the issues requiring immediate attention. Indeed, Florida's occupational projections show both a competitive marketplace for technicians and a substantial number of expected openings due to retirement, which will result in a potential knowledge drain. FDOT saw a need to attract employees to public transit and show a career path, update the skills of agency maintenance technicians, and develop more technicians capable of assuming leadership roles as expected attrition takes place.

Proposed Workforce Solution

FDOT decided to use a curriculum recently approved by the Florida Department of Education to implement a new training program made available to transit agencies throughout Florida. FDOT would partner with an academic institution to create a Certified Transit Technician (CTT) program that would be a mix of classroom training and supervised hands-on experience. CTT would make use of cutting-edge technology to provide training focused on the types of vehicles operated in Florida.

The CTT program was expected to have several potential benefits:

- Development of a cadre of expert technicians at transit agencies across the state
- Development of potential leaders in the technical areas that could assume leadership positions as expected retirements take place
- Two levels of certification for graduates: a locally-recognized certificate from the Florida community college system and, upon passing an exam, a nationally-recognized certification

Proposed goals for the program listed in FDOT's grant application were:

- Provide training on a variety of topics germane to vehicle maintenance
- Enable completers to earn Post-Secondary Adult Vocational (PSAV) credit and Automotive Service Excellence (ASE) Master Certification in transit vehicle maintenance

Partnerships

FDOT had several partners for the project, one of which was CUTR, which had conducted training for FDOT since 1991. CUTR played a key role for CTT by providing the instructor, bringing participants selected by local transit agencies to Tampa, and coordinating the other partners to implement the program.

A second partner was the Florida Transit Maintenance Consortium (FTMC), comprising Directors from public transportation maintenance departments throughout Florida. The consortium coordinates public transit maintenance activities (e.g., training, warranty issues from equipment providers, etc.). With respect to training, FTMC directs training and approves decisions regarding the structure, content, format, and policy. It also provides feedback based on real-world experience at maintenance departments and guidance for the program as a steering committee.

A third partner was Hillsborough Community College (HCC) in Tampa. When the Florida Department of Education approved the curriculum as a PSAV program, any community college in the state could offer it. CUTR asked HCC to offer the program as the local community college and worked with it on implementation. Students in the program are enrolled at HCC, which ultimately issues CTT PSAV certification.

Finally, to have a location equipped with the appropriate equipment for quality training, FDOT partnered with Pinellas Suncoast Transit Authority (PSTA) in St. Petersburg, near CUTR and HCC. PSTA entered into an agreement to allow the program to take place in their space and using their vehicles.

In addition to these partners, it should be noted that seed money to start the first cohort of trainees was provided by the Florida Public Transit Association (FPTA). The grant provided funds for the second cohort to take the first phase of training.

Partnership formation has always been good because of a strong pre-existing relationship between FDOT and CUTR, as CUTR has been a training and service provider for many years. Both have good relationships with transit properties around the state based on this work, including with PSTA. HCC was a new partner to the effort and was not known prior to creating the CTT program in the years prior to the project award. CUTR representatives noted that putting the program in place with all of the various partners took approximately two years. Just one pilot cohort (funded by FPTA) had begun the course the prior year, but they were only in the second training phase when the project was funded.

Operationally, FDOT and CUTR representatives have found that the partners worked well together. There were some initial administrative issues to work through, and there had to be a strong component of rigor so HCC could feel comfortable granting certification, including careful checks, monitoring, and supervision of hands-on work completed back in the home transit agency. Communication is conducted frequently by phone or email. Updates are provided by CUTR and FDOT to the FTMC quarterly. After the classroom portion of the training, instructors frequently contact students and their supervisors overseeing hands-on work back in their home agencies.

Program Implementation

Program Development

As noted, the curriculum had been developed and approved as a PSAV program prior to the grant initiation. Officially, the CTT received approval from FDOT in 2009. It had to be technically relevant and meet other Skills USA criteria, which included “softer” skills such as leadership, employability, math, and vocational. The prior training was totally redesigned, such that a CTT graduate would be able to address the technical requirements and also have the skills to deal with challenges on the shop floor, resolve conflict, and show leadership.

Recruiting and Selection

To recruit participants, FDOT and CUTR distributed flyers about the CTT program at conferences, roadeos, and other locations at which transit agency personnel gather. Information about the program also was included in FPTA’s newsletter and CUTR’s monthly news email. Word of mouth began to pick up and more people became interested in the program.

Overall, roughly 50 people expressed initial interest in the program, and, ultimately, 17 people representing seven different transit agencies around the state began the program. FDOT indicated that for some smaller properties, it can be difficult to spare a technician for a week to attend the classroom portion of the training. Once classes began, two participants were lost to attrition.

FDOT and CUTR did not get involved in selection to avoid any complications with labor unions; they simply offered the training and asked local transit agencies to select appropriate candidates based on their collective bargaining rules. As long as candidates could meet a minimum (grade 9) Test of Adult Basic Education (TABE) score to be eligible for adult vocational education credit, the rest of the selection process was up to the local agency. To help people with the TABE test, practice tests were posted online. If people were close to passing, they could take the program and receive remediation prior to retaking the test. The community college rule is that participants must pass the TABE minimum requirement within six months of completing training to receive the certificate.

FDOT reported some issues related to the HCC registration process. As they began the program, participants had to enroll as college students. Florida has many requirements for such registration, such as submitting school transcripts. FDOT had to determine how to get these, how to submit them, to whom they should be sent, who would validate them, etc. Also, because CTT participants pay tuition at in-state rates, they had to demonstrate one year of residence in Florida with specific types of documentation. This caused some delays in starting the first cohort.

The CUTR instructor also met with the students and their respective supervisors to explain to them the on-the-job requirements, task lists, and documentation processes.

Program Implementation

FDOT realized ASE was developing transit specific tests at that time, so the PSAV curriculum was developed to lead to ASE certification. There are three levels of Technician Certification: Transit Technician 1, 2 and 3 (620, 680, and 680 hours for a total of 1,980 if all are completed). Each Technician Certification level consists of five sets of courses that lead to an Occupational Completion Point (OCP). This design allows a participant to exit and find employment after any of these OCPs. Initially, FDOT intended to offer only the full 1,980-hour program, but the Florida Department of Education required it to be split into multiple OCPs in case participants decided not to complete all of it. Participants were required complete all of the five sets to receive their CTT certificate. The five courses leading to occupational completion points for Technician 1 paid for by the grant are:

- Transit Equipment Preventive Maintenance Technician – OCP A (200 hrs)
- Transit Basic Electrical Systems Technician – OCP B (120 hrs)
- Transit Wheelchair Lift/Ramp Technician – OCP C (60 hrs)
- Diesel Engine Preventive Maintenance Technician – OCP D (120 hrs)
- Transit Steering and Suspension Technician – OCP E (120 hrs)

Instruction is a mixture of classroom, hands-on, and on-the-job training. Students meet for the classroom and hands-on portion (40 hours for each class) at the Regional Training Center (PSTA) and are pre- and post-tested to measure improvement. All courses include training on leadership, communication, human relations, transit safety awareness, MSDS (Material Safety Data Sheet), employability skills, and safe and efficient work practices. Part of the main criteria in hiring an instructor was that he had to be technically competent, but also good at espousing these other “soft” skills. Participants receive a syllabus, workbook, and training guide (on a memory stick).

Because it is difficult for participants to be in a classroom for too many hours, the designers looked for a 30–70% classroom to OJT model, consistent with research on technical training. The OJT is carried out at the participant’s home agency, but is guided by specific task lists to ensure all students are getting the same exposure. Task sheets provide rigor and consistency across OJT experiences. FDOT understood that OJT at each property could differ, so the tasks are the same based on the task lists that go with each class. The students must track time on CUTR’s web database and complete forms that capture what activity they did, for how long, what skills were practiced, etc. The participants’ supervisors serve as mentors and monitor the OJT. Supervisors must sign off on

the hours using forms that track the task, day, time, and work order numbers. The task list mirrors ASE requirements, and supervisors assign the participant's work consistent with the task sheets. As an example, a participant that receives classroom training on an electrical system may return home for OJT and spend three hours working on lights for a bus, which is then documented and signed by the supervisor and tied to the specific work order.

To further ensure rigor and accuracy, CUTR's instructor and Project Manager randomly check facilities, databases, and agencies' automated tracking systems to see that hours and tasks submitted are accurate based on work hours.

ASE testing is integrated into the training with the expectation that the participants will take the ASE Certification test. This was part of the impetus for the program design. The ASE testing is conducted in the Fall and Spring. FDOT recommends that participants register for testing close to home, and trains them before the ASE testing. The goal is for them to get the PSAV Certification and an ASE Masters Certification in transit. Ultimately, the participants can get state and national certification, plus 29 college credits at HCC.

Innovative Training Methods

The CTT employs two particularly innovative teaching methods that make this program stand out from other Innovative Transit Workforce funded training project: virtual hands-on training and 3-D Modeling. FDOT representatives noted that their students are digitally savvy. Studies they examined when developing the CTT suggested their students are likely to be fluid using digital media, enabling technology to assist in creating effective, efficient, and interesting training.

Virtual hands-on training allows students to participate virtually from any computer, anywhere, accessing trouble-shooting software while the instructor serves as an assistant performing the physical aspects of a diagnosis or repair at the trainee's direction. Web cameras are used to enable a student to see what is happening. A student logs in using meeting software. The instructors give the student a situation, e.g., "the bus won't start, so you need to troubleshoot it." They hand control over to the student who engages the diagnostic software and executes the steps necessary to clear problem codes. This method allows the instructor to assess student decision-making, troubleshooting techniques, parts selection, and so on. Instructors watch and follow the student's instructions (e.g., if the student determines she needs to check for bent pins on a solenoid, the instructors, having created the appropriate defect, will take the camera over to allow her to inspect them). The student uses the software fault codes and a separate troubleshooting decision tree to determine the problem and best course of action. Instructors then observe the decisionmaking process in real-time. They can allow the students to make a mistake or correct them right away as they determine is best. Virtual hands-on training extends the reach of distance learning, and provides deep insight into the student's decision-making and errors.

The 3D modeling lessons are used in the electrical course. Students can log in to view 3D animated components, trouble-shooting diagrams, and a simulator. Students work on electrical simulators and get hours of computer-based training, which teaches the fundamentals such as atoms, electricity, and Ohms law. The software has built-in testing to evaluate learning and allow the student to advance through the modules. The CTT has essentially put the first two days of basic electronics classes online using 3D modeling, which reduces class time from five days to three. They intend to ultimately get an entire class online.

Having the initial portions of the class via 3D modeling allows the instructor to gauge the students' knowledge levels before they report to class. Using the modeling and simulator, the students receive 60 tasks and questions on simulated electrical boards. For example, during a problem, a student may determine he needs to know the voltage for a motor. He can then attach a virtual voltmeter on screen, using the mouse to configure the meter and attach it to the leads. Once the student has completed his tasks, the instructor can access the results and see where the student has problems. This can guide the instructor to make the optimal use of classroom time to specially address areas where there are weaknesses.

Outcomes

FDOT's first proposed goal was to provide training on a variety of topics germane to vehicle maintenance to 13 individuals sent to the training by transit agencies throughout the state. In this goal, they appear to have been successful. The Innovative Transit Workforce funds paid for a cohort to begin training and take the first five courses and OJT up through Occupational Completion Point A. FDOT was able to recruit 17 participants and after attrition of four, the program funded 13 people to completion of the first five courses. This included almost 6,000 hours of documented OJT that included over 2,400 completed work orders. Pre- and post-test scores indicated positive learning. The ratings for the training from participants were high, with average scores across many dimensions (location, course materials, met expectations, etc.) all roughly 4.5 or above on a 5-point scale. Moreover, quality and quantity of repairs assessed by the number of repairs, and the rate of repeats and recalls were much better than the initially targeted levels.

FDOT's second goal for the project was to enable completers to earn Post Secondary Adult Vocational (PSAV) credit and Automotive Service Excellence (ASE) Master Certification in transit vehicle maintenance. As yet, this goal is incomplete. FDOT only requested sufficient funds to send participants through the first five of the requisite 15 courses. It is that portion of the goal that has been achieved. The cohort is still engaged in taking the remaining courses toward completion of the PSAV CTT program and the ASE test. To date, 50% of those who have taken the ASE certification test have passed it. This is below the FDOT target pass rate of 70% or more, but it is still early in the project.

All who complete the training receive HCC credit. If participants complete the entire program, they will receive up to 29 credit hours toward an Associate's degree. FDOT and CUTR signed an agreement to ensure that all required courses which are needed for the degree but are outside of the CTT curriculum can be taken online with HCC (or at the community college local to their home agency with HCC providing credit.) Students will need an additional 27 credits for the degree. Again, it is too early to say if anyone will obtain the Associate's degree. FDOT reports that two participants in the first cohort (started before the awarded funds) have expressed interest in continuing toward the AS degree.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$188,880 in federal funds, enough to put one cohort through the first third of the full CTT program. This went to pay for the instructor, administrative personnel, tuition, facilities, materials, and travel/lodging for students in Tampa. Matching funds from FDOT were proposed at up to \$578,560. Matching was expected to involve the training modules estimated at \$500,000, and the remainder was to be split between a direct contribution for personnel costs and facilities/utilities. By this assessment, federal funds comprised 25% of the total for implementing the CTT and putting one cohort through the first third of the program. In addition, FDOT required local agencies that were sending students to provide transportation for participants to and from the training facility. This was done to have the local agencies put some minimal "skin in the game" according to FDOT representatives.

In general, FDOT reported that the budget expenditures were consistent with the proposal. The experience working with the community college for the prior cohort meant those costs were well understood. Tuition rates are also set by the state and were known in advance. One somewhat unexpected expense was that the CTT program had to create some extra OJT-only classes. This was because participants who worked in smaller agencies were not getting the amount or type of issues needed for completion of the OJT tasks. To help them, the CTT program brought in students that were falling behind on OJT for OJT-only classes at the PSTA facility. They would put defects into the equipment and make sure students got the OJT they needed. They estimate this cost an additional \$6,000–\$7,000 dollars.

Impact

The CTT appears to be having a strong impact, albeit on a relatively small cohort at a time. The program appears to provide outstanding, rigorous training with careful tracking and measurement. Although there are only 13 people in the cohort paid for by the grant, the cohort comprises students from seven local

transit agencies around the state, spreading the expertise delivered by the course to many transit agencies. Moreover, participants in the CTT program have delivered more than 60 presentations at their home agencies to share their knowledge and demonstrate leadership. This suggests that although the number of people affected by the program is small, the continued recruitment into the program over time and the leadership demonstrated by those trained back at their home agency may lead this program to have a broader impact than apparent by gross graduation numbers.

FDOT reports receiving unanimously positive comments from maintenance directors. Representatives say they have observed a transformation of the participants during the program. Within 2–4 classes, participants improve their professionalism in appearance, preparation, and attention. The instructor grades them on everything they do, and they view this as a training tool. How participants act, how they interact with others, and all other aspects of their performance are assessed to lead them to improve their professionalism and become leaders. Maintenance directors also report that they see change in the technicians attending the program, including improved demeanor, knowledge sharing, and assisting others, and report that participants are “top notch technicians.”

FDOT representatives reported believing that over the next 3–6 years, as turnover and retirements occur and more people complete the training, the CTT program graduates will provide local agencies with the expertise and leadership in maintenance to keep the transit authorities running.

Another potential benefit is in attracting good people into the industry. FDOT notes that it can be a challenge to attract people into the transit industry. The CTT may help young people to see it as a viable career, with a clear career path and a way forward as a technician. They believe the message CTT allows them to deliver is, “We’ll train you in state-of-the-art, high-tech training. Over the course of your career, you can come in, get trained, make a good wage, and get an Associate’s degree to move into leadership. Here’s the way to do it. CTT can take you all the way through in two years.”

It is too early to determine the impact of the program on retention (i.e., whether participants remain at their transit agencies longer or leave for other jobs), because there have been only a limited number of cohorts in this new program and they are only now completing the full CTT.

FDOT plans to continue the program working with CUTR. FPTA, whose members are Executive Directors of Florida transit agencies, funded the first cohort after being approached by FDOT. To continue the program into the future, FDOT has engaged CUTR in a larger training effort, of which CTT is a part.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program put forward by FDOT and CUTR representatives include:

- Do all the up-front work in terms of planning the curriculum, cross walking with ASE, recruiting, coordinating with the community college, etc.
- Technology is changing so quickly that the curriculum needs to be reevaluated frequently. HCC has the CTT program reassess the curriculum every three years at a minimum, a necessity given the speed of technological change. For example, CUTR found that a hydraulic piece of a bus used in Florida is becoming electric. If they do not update the curriculum accordingly, it will become out of date. Make sure the program is current and there is a way to keep it current (a process and funds).
- Make sure the program is consistent with, and leads into, ASE transit certification.
- When working with a community college, make sure to know what the community college requires to register someone. Obtain clarity on this up front. Allow sufficient time for participants to fulfill these requirements. When it is time to kick-off the program, everyone can then just focus on the training.
- Look at feedback from students to make adjustments to the length of courses and their content. FDOT may expand classroom time for some classes. Students reported that this was the first time the entirety of a system had been explained.
- Minimize use of face-to-face class time. It is difficult for young families to leave home for a week of training; it is easier and more cost effective to make use of distance learning.

Conclusion and Further Investment Recommendation

The CTT project met the primary goals it set out to accomplish. FDOT sent a cohort of 13 technicians from 7 local transit agencies through the first third of their new Certified Transit Technician program. Students enrolled in a community college and received high-quality training delivered through innovative technical means. They also received guided on-the-job training, which reinforced their classroom work, monitored by their supervisors. The training was thoughtfully constructed, rigorous, and carefully monitored. It provides technicians with college credits and the opportunity to continue toward an Associate's degree. The program appears to be addressing the need for transit technicians and maintenance leaders, if only a handful at a time.

Several factors make FDOT's approach to the CTT worth replicating in further investment. First, the use of a steering committee guiding the development that

included maintenance directors from the field means they were addressing a clear business need. Second, the effort to develop an adult vocational curriculum approved by the Department of Education for a State certification and, paralleling the requirements for the ASE transit certification for a national certification, made the program rigorous and potentially rewarding for students.

Third, offering the program in concert with a community college but at the location of a transit agency provides a high-quality experience. Fourth, the use of innovative technological approaches to training delivery such as the virtual hands-on training and 3D modeling make this effort stand out from other similar programs. Finally, the fact that the courses cover both the technical and “softer” skills for employability, professional conduct, leadership, safety, etc., appears to be having a strong impact on students.

The ultimate impact of this program is between moderate and high—moderate in that, so far, the cohorts are relatively small. It is unclear whether classes could be expanded to accommodate more if there is demand. The long-term impact is potentially large in that each year a new cohort will enter the class. In addition, each cohort involves students from agencies around the state who then share knowledge with others at their home agencies. Indeed, participants made almost 60 presentations to their home agencies. These factors likely broaden the impact beyond the immediate and make the program worth further investment.

This certainly appears to be the type of program FTA might seek to replicate elsewhere. The initial investment made by FDOT in course development and technology will make this more costly to replicate than simply the cost of participant tuition and expenses. How much of FDOT’s investment can be transferred or duplicated elsewhere remains to be seen, as this program focused on technology in use in Florida. The virtual hands-on process and 3D modeling for electronics likely can be applied elsewhere. Creating innovative, high-tech, rigorous training in both technical and leadership competencies is a potentially promising approach.

Greater Cleveland Regional Transit Authority – Public Transit Management Academy

Background and Problem Addressed

The Greater Cleveland Regional Transit Authority (GCRTA) services a 458-square-mile area comprising the city of Cleveland and 58 municipalities of Cuyahoga County. GCRTA services a population of 1.3 million people working or residing in the area. In the years prior to the Innovative Transit Workforce project, GCRTA faced numerous challenges, including loss of sales tax revenue,

reductions in State funding, and employment-related reductions in ridership. This led to substantial layoffs in the year prior to the grant. In addition, GCRTA faced the aging workforce concerns common to transit agencies across the nation—35% of GCRTA's workforce was to become retirement eligible within the five years subsequent to their application. Thus, GCRTA faced a loss of intellectual capital, institutional knowledge, and leadership across the agency. Their application, therefore, focused on building a leadership academy that would develop leadership in their incumbent management personnel, helping to prepare candidates for succession planning and perhaps aiding in the retention of these individuals.

Proposed Workforce Solution

To develop a critical mass of leadership talent capable of filling the void left by expected retirements, GCRTA proposed sending 90 GCRTA mid-level and executive managers—33% of the management population—through a Public Transit Management Academy (PTMA). To do this, GCRTA partnered with Cleveland State University's (CSU) Levin College of Urban Affairs, Center for Leadership Development. CSU already had developed a Public Management Academy that could be customized for GCRTA's specific requirements. Students completing the academy would also receive the potential for credits toward an undergraduate or graduate degree.

In addition to classes on a variety of leadership topics, the academy would have students complete group projects to address organizational issues identified by GCRTA administrators using the GCRTA's TransitStat software, a performance management software that analyzes transit operational data. The students would examine the problem, develop solutions, and present solutions to GCRTA's executives for possible implementation. Graduate students from CSU would assist the groups and serve as liaisons between the students and the CSU resources as needed. It would also expose CSU graduate students to transit careers.

The PTMA approach was expected to have several potential benefits:

- An established public management curriculum from a highly-regarded program (derived from Ohio's Certified Public Manager program) and based on adult education techniques
- Tuition-free graduate or undergraduate credits, which represented a new benefit to GCRTA employees and could encourage employees to continue their professional development and perhaps promote retention
- Increased ties between GCRTA and CSU and access to CSU resources and talent pool

- Group projects that would provide potential improvements and costs savings for GCRTA and give participants exposure and practice presenting to GCRTA executives

Proposed goals for the program listed in the application were:

- Participation by 90 managers (33% of the managerial workforce)
- Enabling of GCRTA managers to transfer “best practice” management theory into practical application
- Producing 15–18 replicable projects that result in saving agency resources
- Exposure of graduate students to transit careers and possible recruitment

Partnerships

GCRTA’s primary partner for this project was CSU’s Levin College of Urban Affairs, Center for Leadership Development. CSU housed the PTMA, provided faculty, created and delivered much of the program content (GCRTA staff also taught courses), and provided support for participants during the process.

Partnership formation reportedly went well. There was some pre-existing relationship between GCRTA and CSU. A few GCRTA executives formerly taught at CSU’s Public Management Academy, and GCRTA had sent managers in “twos and threes” through the academy over the prior eight years. CSU’s experience in other federally-funded grant programs enabled them to readily understand the requirements and they were able to assist in proposal development.

Operationally, GCRTA’s representatives found CSU’s staff to be good partners. They set clear expectations, kept students and staff on task, communicated progress with GCRTA program staff, and did well in assessing and making changes between cohorts to accommodate the needs of GCRTA or improve the program.

Program Implementation

Program Development

GCRTA reported involvement in all aspects of program development. As preparation, GCRTA project staff reached out to contacts at the City of Cleveland and Cleveland Airport, both of which had sent cohorts through the CSU program. An important take-away was the potential impact of having too many people from the same organizational unit attending at the same time. Next, GCRTA worked with CSU to modify its existing Public Management Academy to be more transit and GCRTA-specific and to adjust the number and length of classes to work within the 18-month grant framework. A committee reviewed the existing curriculum, made recommended adaptations, and identified areas where GCRTA personnel could teach courses based on existing training material and leveraging those GCRTA staff that were also CSU faculty.

Recruiting and Selection

Once awarded the project, GCRTA and CSU developed a plan for communication, recruitment, and selection into the program. Communication about the program, including a description of the PTMA, the curriculum, and the opportunity for college credits, went to mid-level to senior managers. Benefits promoted were the opportunity to sharpen skills, increase suitability for promotion, and gain visibility through the work on organization-wide projects. Although there had been management training in the two years prior, there had been nothing with the scope and formality of the PTMA, which led to substantial interest. While the initial candidate pool was managers and supervisors (or one step below), the selection committee decided to open the process further to make the opportunity available to a wider array of people. Those who wanted to attend completed an application and submitted a letter of interest and letters of support.

In making selections, the program staff treated candidates for the PTMA in a manner similar to job candidates: examining work histories, evaluations, and recommendations. The idea was to get a strong group of high performers from around GCRTA. Approximately 125 people expressed interest for the 90 PTMA spots. A committee that included representatives from Human Resources and several other departments, including one GCRTA member also on the faculty at CSU, made final selections. Although most were managers, in a few cases non-managerial supervisors were selected to attend.

A diverse array of personnel from around the organization was selected, such as the Director of Programming and Planning from Engineering, a senior budget auditor, procurement personnel, attorneys from the legal division, electronic equipment technicians from Fleet Management, service quality staff, human resources and benefits personnel, labor and industrial relations personnel, training personnel, assistant track supervisors, mechanics, and two janitors (with supervision duties).

For those not selected, GCRTA tried to enhance their personal development plans and find other training opportunities for them. Many expressed interest in participating in a future PTMA if offered.

Program staff then divided the 90 participants into 3 cohorts of 30 students. In creating these cohorts, program staff tried not to overload one cohort with too many people from the same part of the organization, both to enhance cross-department fertilization and to not overtax any department when the cohort was attending the academy.

Program Implementation

The PTMA participants were enrolled in CSU on a closed enrollment basis for the program. The curriculum included the following workshops:

- Administrative Law
- Budgeting
- Change Management
- Communication Skills
- Contract Management
- Data-Based Decisions
- Developing Teams
- Diversity/Emotional Intelligence
- Effective Presentations
- Employment Law
- Ethics and Integrity
- Facilitation Skills
- Government in Ohio
- Influence Skills
- Labor Relations
- Customer Relations
- Managing in Public Organizations
- Negotiation/Conflict Resolution
- Ohio Ethics Code
- Performance Measurement
- Project Management
- Project Presentations
- Public Information Law
- Public Sector Leadership
- Quality Management and Process Reengineering
- Strategic Management
- Research and Data Collection
- Understanding Self and Others

The workshops on each topic ranged from half-day to two days, depending on the topic complexity and importance to GCRTA as determined by the committee.

Cohorts met for the 29 sessions typically twice per month, although sometimes more often toward the end to work on their group projects. Courses were customized by either supplying CSU with information from GCRTA, having speakers come in to add specifics (e.g., have the chief negotiator from GCRTA to speak on labor and industrial relations issues), or by GCRTA staff teaching the courses.

Group Projects

The group projects represented an important part of GCRTA's PTMA. The TransitStat software is used by GCRTA as part of a broader process of data-driven planning and continuous improvement. Some topics are ongoing planning efforts (e.g., cleanliness, reliability, timeliness), and some issues arise ad hoc. For each PTMA cohort, specific problems identified via this planning process were selected as topics to assign as group projects. In this way, real-world issues relevant to GCRTA were given to the groups to address, maximizing the potential benefit to GCRTA and interest of students and executives. In some cases, a specific portion of a larger issue was carved out that was the appropriate scope for such a project—for example, “What would the impact on timeliness be of reducing the number of stops on particular routes?” or “How can we reduce the time between bus cleaning cycles?”

Groups were organized to have at least one subject matter expert who could continue the project after the PTMA, but otherwise groups comprised people from all around the organization to maximize participant exposure to different GCRTA areas. Each group had a Project Champion, which was an Executive Management Team member from an appropriate operational area to promote the project and provide resources. In addition, each group had a CSU advisor to help the group access resources from CSU and help with group dynamics and presentations.

At the end of the program, groups made presentations about their projects to GCRTA Executive Management to propose their solutions. The projects were considered and, when feasible, implemented at GCRTA. Table 2-3 provides example topics.

Table 2-2

*GCRTA Project
Examples*

Managing Absenteeism	Bus Destination Sign Reliability
Sales Agent Improvement	Wellness Incentive Program
Clean Bus Project	Radio and AVL Replacement
On-Time Performance (Bus Routes)	Train Improvement (Cleanliness)

One challenge was that GCRTA's Program Manager left part way through the first cohort. One impact this had was slippage in communication about the final projects to the participants. This included areas around project expectations, e.g., did groups have free reign to create solutions, what were the resource constraints they should consider (if any), and so on. Based on a CSU recommendation, communication was improved, and top management spoke to the next cohort early to clarify expectations. In general, the groups were told to think creatively and identify the resources needed. In some cases resources might be available, in others GCRTA might be able to obtain them now or in the future.

Outcomes

The PTMA program's first goal was to identify 90 managers and have them participate in the PTMA program. In this, GCRTA was generally successful.

GCRTA had roughly 125 people apply to participate, and the committee selected 90 to fill the available slots. In the end, 79 (88%) continued to completion. Those who did not continue included a few who decided not to participate just as the program began and 8 who left the organization during the 18 months of the PTMA program. Of the 79 who completed the program, all but 3 have remained with GCRTA.

The training evaluations suggest the training was generally well-liked. For example, the overall assessment ratings showed 78% of those surveyed rated the program as good or excellent, 76% felt it would improve job performance, and 83% said it exceeded or met expectations.

A second goal of the PTMA was to enable GCRTA managers to transfer “best practice” management theory into practical application. Evidence indicates that those who participated in the program have continued to progress in GCRTA, enabling them to further apply the training they received as provided by GCRTA. By their tracking, at the time of the final report, 16 (20%) of the 79 who completed training had been promoted. (A few of these promotions may have been before or during the training. This measure is not meant to suggest that they were promoted because of the program, but rather as a demonstration of penetration into management of those who participated, thus the potential impact of the program on leadership.) As of this evaluation, 21 (27%) had been promoted.

The third program goal was to produce 15–18 replicable projects that resulted in saving agency resources. The program ultimately produced 20 projects (18 group projects, and 2 individual projects in which individuals expressed a desire to take on projects to supplement their group project work). These projects led to presentations to executive leadership around the projects. As of this report, 11 of the projects remain as part of GCRTA’s TransitStat continuous improvement process, 6 were implemented and completed, and a few either were not implemented (e.g., one that examined creating a centralized unit for examining time off) or are still under consideration pending resource considerations (e.g., effective management using a particular software system, and two related absenteeism projects).

The final goal was to expose graduate students to a career in transit and possible recruitment. This goal was met, as 5–6 graduate students assisted the groups in training with their projects. One graduate student who worked with administrators on CSU’s management of the program ultimately was hired into a management training program at GCRTA.

GCRTA PTMA Success Story 1

Michelle B. joined GCRTA a year prior to the PTMA as a materials planner. She came from private industry and had not worked in a public agency before, much less a transit agency. She knew she had much to learn about how the agency operated. She saw the PTMA as a chance to fill in her knowledge and make herself more prepared for promotion.

She found that PTMA gave her very specific information about how a transit agency operates and the role it plays in the community. She learned this from transit personnel and from representatives of other agencies such as economic development. The program gave her broad information about how to be a good leader and manager and specific transit information. In addition, the program provided networking opportunities. "I understand more about what others [at GCRTA] do, and how they are interconnected. I have someone to call if I have any questions or issues."

Although it was a great deal of work in addition to her job, it paid off. Michelle has been promoted twice since the PTMA, first to a Performance Supervisor on the shop floor and then to an Inventory Manager position. "PTMA was a very big part of that. I have knowledge about Transit Management others don't ... and the final presentation to the Executive Committee provides exposure to top decision makers."

She also thinks it was a good program for the agency, as she spent time working with high achievers who are likely to be promoted. There has been considerable turnover in Fleet Management leadership. But as people are promoted, there is a built-in trust and ability to work together as a result of PTMA.

Budget and Matching Funds

The Innovative Workforce Grant provided \$286,687 in federal funds (98% of the total). Matching funds from GCRTA involved the potential for \$168,000–\$253,000 of "in kind" funds for college credits (8 undergraduate credits for \$2,822 or 4 graduate credits for \$1,877 per student). To date, only two students have taken the opportunity to pursue further education and received undergraduate credits. As a result, matching funds were only \$5,600. Thus, federal funds comprised 98% of the total invested in the PTMA.

In general, GCRTA reported that the budget expenditures when according to plan. The large bulk of funds were for CSU to revise, host, and provide training. This expenditure was established in advance on a per-student basis and went as expected.

Impact

The impact of the PTMA for GCRTA has come in many forms. First, GCRTA representatives report that the program has provided necessary leadership skills to create a pool of candidates with the knowledge and skills to replace those

who are leaving. They noted that “people who want to invest themselves in public sector management saw this as a chance to put them into a position for advancement. We didn’t think it would go this high—21 people promoted that have been through [the Academy].” In addition, they report people engaging more with the TransitStat continuous improvement process and having a deeper understanding of what Executive Management is trying to accomplish and why.

An independent consultant hired to evaluate the PTMA found that supervisors identified the following benefits:

- Increased communication across the organization—participants readily reach out to people in other departments because they worked with them in the Academy
- Stronger problem solving approaches because there was broader knowledge of demands and needs in other parts of the organization—participants are now more capable of taking a system’s view
- Better questions when issues or problems surface within the departments
- Better morale, as the program energized and provided renewed focus for some
- Stronger ability and willingness to work in teams as a result of this program

One idea of training a large portion of managers at once was to create a critical mass of leadership skills within the agency, and GCRTA representatives believe they have come closer to this. They note that candidates for leadership positions are more prepared and feel they have a better chance to fill those positions. GCRTA representatives gave the example of a long-time leader who retired; in the past, GCRTA might have tried to retain the person further, but they had two candidates that had graduated from the PTMA ready as replacements.

Succession planning has been affected. Although GCRTA continues to formalize succession planning, they report having more candidates with the basic knowledge and skill requirements for advancement. PTMA graduates are considered “high potential” and the “first candidate pool” for promotions.

An ancillary benefit reported was that the cohorts of trainees drawn from across the organization has provided many in the agency with a broader understanding of the function of the entire agency, wider networks, and this has led to reduced operational “silos.”

The projects also have provided an avenue of impact, in that project teams closely examined 20 areas of interest drawn by GCRTA management. Solutions were proposed and presented to executives, and many were implemented. This process added value directly in terms of operational improvements or savings from the solutions, and indirectly through teamwork, exposure, and experience presenting to GCRTA executives for team members.

Lessons Learned and Recommendations

Key lessons learned and recommendations to those wishing to implement a similar program put forward by GCRTA representatives include:

- Plan your cohorts carefully to avoid taxing one operational area too heavily by taking several of their personnel at once.
- Carefully plan the curriculum in terms of ordering courses in a logical progression given the objectives.
- Have material be as agency/transit-specific as feasible.
- Include as much rigor as possible; given the varied educational backgrounds of participants, the participants themselves appreciate it.
- Communicate clearly with project teams; ideally, have top management address them and provide the boundary conditions for their projects.
- Allow people interested to remain on teams even if the project is outside their own operational area; if well-chosen, projects will extend beyond the Academy and people will want to see them through.
- Include learning checks and pre- and post-testing to measure learning and identify areas in which people are having difficulty understanding the material.

Conclusion and Further Investment Recommendation

Overall, the project appears to have met the goals it set out to achieve. It sent almost 33% of agency supervisors and managers through a substantial public management leadership program and produced more than the target 18 team projects directly applicable to GCRTA operational issues. The program also exposed a small number of graduate students to transit careers and led to one being hired (albeit indirectly). The impact of the program appears to have been substantial for GCRTA in preparing the future leadership that will be needed to take over, transferring institutional knowledge and deepening cross-agency connections. GCRTA is interested in sustaining the program, at least periodically, and is exploring further grant funding to conduct a fourth cohort. It is also investing in other leadership training to supplement.

GCRTA's piloted approach—a Public Transit Management Academy—appears to have been a fruitful one. High-quality training was given without the expense of creating a curriculum from scratch. It is worth noting that what made this program feasible given the level of funding requested was the existence of an existing high-quality Public Management Academy available nearby. Moreover, this program was customizable, in part, due to pre-existing relationships between CSU and agency staff. That said, the concept of sending a substantial portion of managers through an existing high quality management training program culminating in projects assigned to solve practical problems appeared beneficial and impactful enough to justify further investment where the appropriate conditions are in place.

GCRTA PMA Success Story 2

Bryan M. was a 22-year veteran of GCRTA prior and had held five different positions. He had recently completed Lean Six Sigma training prior. However, a respected colleague recommended he apply to PTMA, and he did.

Bryan found that the PTMA helped him in several ways. The main benefit is that he learned more project management tools. "I now had different tools in addition to Six Sigma. So, if a project was stymied, I had different approaches to address that and get it moving." A second key benefit was the "emotional intelligence" portion of the program, which provided him more understanding of how others worked, and more self-awareness. He believes it helped his interpersonal skills.

Prior to the program, Bryan was a Supervisor of Bus Shelter and Sign Maintenance, overseeing a team of 12. Since joining PTMA, he has been promoted to Transportation Manager at a bus garage, which involves oversight of 327 operators and 5 dispatchers. This position involves a great deal more personnel management and customer service, so his interpersonal skills have been very useful.

As a long-time employee, he knew most of the people in his PTMA cohort, but met some new people. He feels that this program, along with top management buy-in and accountability of the TransitStat process, is a powerful combination.

Los Angeles County Metropolitan Transportation Authority – Metro University

Background and Problem Addressed

The Los Angeles County Metropolitan Transportation Authority (LACMTA, or "Metro") provides transportation to Los Angeles County and serves as the Regional Transportation Planning Agency. As such, LACMTA is the planner, coordinator, designer, builder, and operator of the transit system for the nation's most populous county. More than 10.4 million people live, work, or recreate in LACMTA's 1,433-square-mile service area. As the second largest transit agency in the country, LACMTA has a \$3.8 billion budget and more than 8,700 employees operating heavy rail, light rail, and bus service.

In the years just prior to the Innovative Transit Workforce funds, a bond measure was passed to help address traffic congestion. As part of this, \$12.2 billion was designated for 12 capital improvement projects over the next 30 years. In 2010, the LACMTA Board voted to accelerate the build-out from 30 years to 10 in a plan called LACMTA's 30/10 Initiative. With these large capital investment and accelerated timeframes, LACMTA had a strong need for improved workforce development to recruit, hire, train, and place staff to administer, manage, build, operate, and maintain these and existing LACMTA investments and services.

Several other factors drove the need for the project, including increased technology, high customer service demands, limited budgets for training, and limited options for skill updating. In addition, 38% of Transit Operations non-contract staff were age 55 or older at the time of the proposal and 22% were age 60 or older. The number of potential retirees was highest in bus and rail maintenance areas (54–56%). There was, therefore, a need to enhance succession planning for turnover due to expected retirement, particularly in operations. The Transit Operations managerial staff were similarly advanced in age. For example, 60% of Equipment Maintenance Supervisors and 50% of Transportation Managers were age 55 or older.

Proposed Workforce Solution

To address its needs, LACMTA proposed the development of “Metro University.” This project would create a custom training curriculum and implement training to support LACMTA’s transit operations, particularly in the transportation and maintenance areas. This would involve creating customized materials, implementing training, and conducting train-the-trainer sessions. There would also be a leadership training portion of the curriculum for potential leaders. A small group would also participate in a “multi-agency exchange” program LACMTA had developed, working with transit agencies in Denver and Dallas to cross-train leaders in best practices from the host agencies. In addition, LACMTA proposed to create a five-year succession plan to address expected retirements in the transit operation workforce, which would be regularly updated.

Proposed goals for the program listed in the proposal were:

- Develop a customized curriculum and implement training that addresses workforce needs of LACMTA, particularly in transit operations (transportation and maintenance)
- Develop a five-year succession plan that could be updated
- Train 350 incumbents, including 75 in leadership for succession planning/ phased retirement and 6–8 in cross-agency best practices through the multi-agency exchange program

Partnerships

LACMTA’s primary partner for this program was LA County Community College Districts (LACCD) and LA Trade Technical College (LATTC), part of LACCD. LACCD is the largest community college district in the nation, serving 240,000 at 9 community colleges distributed across the county. LACCD had successfully won and managed workforce related federal grants in the past, including Community Based Job Training grants and sector-based grants to bring education closer to industry sectors. This experience made it an excellent candidate for partnership. LATTC was responsible for developing the curriculum and training

material, conducting the train-the-trainer sessions, and serving on an advisory board with LACMTA and LACCD.

Two additional partners were Dallas Area Rapid Transit (DART) and Denver Regional Transportation District (Denver RTD), metropolitan transit agencies that agreed to participate in a multi-agency exchange of a small number of participants. Participants would visit a host agency on a rotating basis to learn about specific areas and best practices of interest.

LACMTA had some level of pre-existing relationship with LACCD and LATTC. LATTC is situated on one of the transit lines, and there was mutual interest in working together. There were some initial legal issues that delayed partnership related to indemnity, but they were eventually resolved. In general, the partnership went well. However, representatives of LACMTA mentioned that working with a large education partner as an “equal” was different than working with a contractor—the relationship was more fluid, and there was less accountability for responsiveness than LACMTA’s experiences with contractors. Although LACMTA was essentially paying for services, it found it difficult to hold LACCD to timelines and deadlines. This led to things taking longer and costing more than originally anticipated. Nevertheless, LACMTA representatives stated that their education partners “had their hearts in it” and, ultimately, they ended up with a good result.

Program Implementation

Program Development

The general responsibilities for the program included management and oversight from LACMTA and curriculum development, materials creation, and training implementation by LATTC. LACCD would assist and provide additional guidance.

The project managers established a Metro University Core Team whose members provided managerial oversight of their respective training areas. In addition, there was representation from the external partner agencies LATTC and LACCD. This team was established to work on project deliverables and milestones and to ensure that there was consensus about the direction of the overall project.

The project managers then formed a Metro University Working Group to seek management support for the overall innovative workforce development initiative. They also promoted cooperation from all direct reports and employees providing information. The Metro University Working Group met quarterly and provided direction to the Metro University Core Team members. Senior Management often were asked to make a final decision regarding the course materials or training modules developed based on the greatest need.

The early portions of the program development were an exercise in scaling back and focusing the project relative to the original proposal. Two key decisions were made early in the implementation process that affected the implementation and development of the program. First, LACMTA Executives decided that a contractor should address the succession planning portion of the program, so the portion of the project that dealt with the creation of a succession plan was shelved. Second, although the original proposal had suggested creating a Technical Track (with Bus Operations and Rail Operations, each of which had Operations and Maintenance modules) and Leadership Development Track for Bus and Rail supervisors and managers, the project team determined that was not feasible. They decided that given their resources, the best place to focus would be Transit Operations Supervisor (TOS), the agency's first level of management and a key position for the agency with many training needs. This job category comprised roughly 22 different jobs and included 420 people.

Before the project began, 10 LACMTA project team members received Developing a Curriculum (DACUM) certification training from Ohio State University. Twenty-two DACUM charts were completed for the TOS positions during a two-day, eight-hour facilitated process to 1) identify major duties of work and the tasks associated to complete the particular duty; 2) identify necessary tools, equipment, supplies, and materials; 3) identify general knowledge and skills; 4) identify worker behaviors; 5) identify future trends and concerns; and 6) identify acronyms. Metro Management identified three to five high-performing employees who were designated as Key Subject Matter Experts (KSMEs) and were invited to participate on various DACUM panels. The entire process included validations by DACUM panel members, Metro's Operations Management, and Metro's Executive Management.

The project team realized that trying to develop training in all areas for the TOS job family was not feasible given the scope and timeline available, so they used the DACUM charts to identify four core functional areas specific to the role of a TOS (controller, dispatcher, instruction, and vehicle operations). LATTC then developed a customized curriculum in these four areas.

The LATTC project team also undertook a review of all existing TOS training material at LACMTA. This assessment determined a need for standardized training. LATTC also found that many TOSs were expected to train others, but few TOSs had any formal instruction on instructional design and delivery. They found that instructors became instructors by seniority (as per the union rules), not because they knew how to train others. Apart from the core functional areas, they did not have the basic knowledge on how to teach. Therefore, they decided to develop a train-the-trainer program to teach TOS about training design and delivery in addition to the technical aspects of the job.

Ultimately, six courses were developed to cover the four functional areas and instruction. For each of these areas, both a participant and a trainer guide were developed to provide standardized instruction. The leadership portion of the project introduced four leadership development training sessions by an external training organization (Franklin Covey) whose training seminars are professionally packaged.

Program Implementation

LATTC trained 115 employees who completed the Instruction Train-the-Trainer class. Classes were convened for one week, and participants were asked to complete a project and conduct a training session to determine if they were able to incorporate the concepts and techniques learned in the class session. It was not part of the scope of work to train all TOS instructors, but after Operations Senior Management reviewed the results of LATTC's analysis and evaluation, management decided that every TOS instructor should receive the training. This decision was a direct result of the employee evaluations of the train-the-trainer sessions conducted by LATTC's facilitator.

In terms of the remaining training sessions, there were four TOS Administration supervisors who are responsible for conducting Hastus (software) training sessions. As part of the project, LATTC also developed a HASTUS reference guide that provides screenshots and a step-by-step process on how to generate reports, input data, complete that day's work assignments, and prepare for the next day's work assignments.

Bus Operations Control (BOC) and Rail Operations Control (ROC) have similar tasks, training objectives, and outcomes. LATTC identified and outlined the differences between their responsibilities based on their modes of transportation. Both controller manuals were designed and developed to respond effectively to emergency situations and to teach participants what constitutes an emergency situation, how to send an emergency notification, where to find emergency response procedures, and how to communicate in an effective, respectful, and professional manner. In total, five BOC Controllers and four ROC Controllers were trained. The Controller training sessions lasted eight hours. Also, the training curriculum requires that the TOS Controller perform all the duties required during an emergency.

The last course LATTC developed was on Vehicle Operations. The course addressed Accident Investigations teaching Transit Operations Supervisors how to conduct accident investigations and to practice the duties of an On-Scene Coordinator. Participants also completed Field Supervisor responsibilities and procedures, and also explored and identified ways to respond to and report accidents in a safe, accurate, and efficient manner.

Operations management recommended that this course be developed because there was an immediate need to address areas of vulnerability or risk to the agency. In addition, they requested that all new and existing TOSs be required to complete a refresher training session in the area of Accident Investigations and that this training be mandatory training for both new and existing TOS Field Supervisors, particularly those required to train the next generation of transportation professionals.

Multi-Agency Exchange

LACMTA leadership developed this program from a desire to learn from other agencies. Each agency involved identifies 8–10 people to participate and then sends a team to the host agency for one week on a rotating basis. The group discusses issues of rail operation, human resources communications, or other topics of interest. The agencies share information and best practices. The events are planned via conference calls that establish an agenda for the year. The host agency develops the specific agenda for the week attempting to match it to the group's interests. For example, if someone from Human Resources is on the team, they may go for part of the time to meet and share information with the host agency's HR unit.

The program has been successful, and, recently, MARTA in Atlanta indicated that it plans to participate as well. LACMTA representatives said they hope it becomes a model and more will participate in the future.

Technology

LACMTA invested in seven “smart boards” as part of this project, and distributed them to Training and Development, Maintenance, and Bus Operations units to enable distance learning. These boards can transmit a class so it can be observed in other locations. Participants do not have to leave their division to attend training; they can watch, interface, and interact with the instructor.

The courses also made use of digital transponders that can be used in class to do real-time polling, quizzes, etc. The keypads are distributed, and the instructor can ask a question and have students provide answers that are tabulated immediately.

There was some initial enthusiasm about providing more distance learning options and putting many classes online. However, numerous firewall issues prevented LATTC from implementing their distance learning software on LACMTA's network. As a result, plans for further distance learning were tabled until network improvements are made and the firewall issues resolved. Ultimately, one session was conducted and projected on a smart board at a test. Executives were able to observe one hour of training. One class was also recorded for possible uploading, and courses are being prepared to be put online.

Outcomes

The first goal of the Metro University project was to develop a customized curriculum and implement training that addresses workforce needs of LACMTA, particularly in transit operations. This goal was generally achieved, as the project resulted in the development of curricula and materials for six courses. They include both participant and trainer manuals (all of which were provided to FTA):

- Instruction: Train-the-Trainer
- HASTUS Reference Manual for Administration/ Markup/ Window Dispatcher
- Bus Operations Control: Controller—Emergency Response
- Rail Operations Control: Controller—Emergency Response
- Bus Transit Operations Supervisor: Vehicle Operations—Accident Investigation (Bus)
- Rail Transit Operations Supervisor: Field Supervisor—Accident Investigation

The second goal of the program was to train 350 incumbents, including 75 for succession planning/phased retirement, and 6–8 in cross-agency best practices via the multi-agency exchange. Although LACMTA does not appear to have reached the full 350 incumbents, it trained a substantial number of people (approximately 336). In total, 136 people were instructed in the TOS training, with 115 receiving the train-the-trainer course on designing and delivering training. In addition, more than 75 attended the Franklin Covey leadership training seminars, and 8-10 were sent to the multi-agency exchanges.

The courses were generally well-received. Participant evaluations indicate that there were some problems with registration and with the explanation about how and why the courses were being taught. Ratings clearly indicated that course objectives and expectations were not well-communicated; participants were told the classes were mandatory. LACMTA representatives said that many participants were told to attend this mandatory training but were not given information on what it was or why they were being told to attend, resulting in the low ratings for registration. The ratings for the course material, applicability, and facilitators were much better, generally 80–99% positive, suggesting that once people were there, they found the classes useful.

The final goal for the project was the creation of a five-year succession plan that could be updated. This goal was rendered essentially moot early in the process, as LACMTA's executives decided to hire a consulting firm to accomplish the succession planning portion. Although LACMTA described the process used in the project final report, the succession planning process developed was paid for with other funds and, therefore, was beyond the scope of this evaluation.

LACMTA's proposal suggested several performance measures would be collected, including service quality, employee retention, fleet performance, and number

of training materials. These performance measures were “changed to reflect the performance measures used during the evaluation process (e.g. facilitator evaluation, registration process, course evaluation, etc.)” Much of the work completed on the project was on designing and developing the standardized training curricula and conducting train-the-trainer pilot sessions. The project team did not measure the efficacy of the training itself in terms of the proposed performance measures. The final report notes that LACMTA will need to create appropriate evaluation tools to assess the impact of training as per the initial proposal.

Budget and Matching Funds

The Innovative Transit Workforce Development funds provided \$480,000 (54.5% of the total). The proposal and final report indicate matching funds of \$400,000. LACMTA indicated that it spent at least that much in matching, if not substantially more, given that it had upper management on the advisory board and the working group included 20–30 people at upper levels of the agency. In addition, LATTC put a great deal of time into the project too, including the time of a department head.

Overall, LACMTA found that the project cost more than anticipated, particularly the instructional design. Ideally, it would have wanted to do more marketing and recruiting but ended up having to spend more on the instructional design. As mentioned earlier, some of the time and cost incurred was, in part, due to the difficulty of holding its educational partners accountable for deadlines and timelines.

Impact

Representatives of LACMTA indicated that they believe the biggest impact of the Metro University is the change toward a culture of learning at the agency. Participants became aware that sharing knowledge is not a weakness, but a strength.

A secondary benefit has been demonstrating to the workforce that what they do is very valuable. Participating in the job analytic DACUM sessions made operators on the line understand the value of what they do. Further, it showed that management cared enough to ask what they need to be trained on. They reported that this helped create a bridge between management and the front line. LACMTA representatives noted that, at first, they had to reassure the DACUM participants that this was not being done to take their job. They explained that they were, instead, establishing a legacy for the future to tell them how to do this job correctly. By the end of the process, participants felt honored to participate.

Another outcome of the Metro University program was the development of a Pre-TOS training, which has assisted in the successful training of operators vying

for promotion to a TOS from 1 individual (historically) to a list of 34 operators, 17 of whom have already been offered positions and are in training to become TOS.

Regarding changes to instruction, LACMTA representatives indicated that at one time, LACMTA had an Organizational Development and Training Department that was viewed as not very valuable. New leadership has emphasized learning more, and this project brought the realization that instructors cannot be people that have risen through the ranks but who not had training on instructional design or delivery. The train-the-trainer program offered via Metro University was helpful, as many of the instructors had never used a computer or created a slide deck before. Here, they had to give a presentation in the end. They are now making the process to become an instructor more formalized, which is reportedly a big shift that resulted from this project.

There are some plans to continue the Metro University in some form. A more advanced training design program was being developed, and LACMTA recently decided to develop several instructional designers in-house to be more efficient in getting training programs designed. It believes it will be more efficient to create the training programs in smaller units, particularly as some technical areas progress so quickly that training must be updated frequently. LACMTA was also applying for further rounds of the grant to continue to develop and implement the program.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program put forward by LACMTA representatives include:

- Try not to do too much. Technical and leadership training development should be done separately. The technical training is more difficult. For leadership training, there are many resources that can be contracted. The technical portion requires more resources for development.
- Look for commonalities across jobs to create training that can be widely applicable. Identifying the four Core Functional Areas made the training relevant to all 22 of the specific TOS level jobs. It can also reduce the number of courses that must be developed.
- Before trying to implement a distance learning technology, identify issues such as firewall problems that may need to be resolved early in the process.
- A baseline knowledge of instructional design and delivery should be established for those who must perform training as part of their job duties.

Conclusion and Further Investment Recommendation

Given that the project scaled back from the initial proposal substantially, it is difficult to conclude that LACMTA has created a “Metro University.” However,

it has made strides. In general, LACMTA achieved its stated goals (except the succession plan that was outsourced). LACMTA created training curricula focused on a key level of the organization, developed training materials, and sent a substantial number of people through training. It also implemented some (off-the-shelf) leadership training and sent a small number to participate in the multi-agency exchange program to learn from other transit agencies. In fact, another major city's transit agency is joining this interesting program.

This project appears to have had a moderate level of impact to date. In some respects, the proposal submitted to FTA was too ambitious. LACMTA found almost immediately that it needed to scale it back to goals that could be accomplished in a timeframe and budget commensurate with the grant.

That said, LACMTA had a number of accomplishments, including identifying Core Functional Areas for the Transit Operations Supervisors, creating the technical training, and implementing this training. It created training materials and templates that can be used into the future. Additionally, it identified an important deficiency in its manner of selecting instructors and created the instructor training to address it, putting 115 people through this training. Finally, it implemented some smart-board technology and continued its multi-agency exchange program. Perhaps more important, LACMTA representatives indicate that this process has begun to move the culture toward one of a learning organization, in which sharing information is valued.

Although the impact was moderate at the conclusion of the project, it is likely to continue to grow as more and more people receive the standardized curriculum, as the improved instructors deliver training in the future, and as materials are more standardized. Therefore, efforts similar to Metro University are worth an investment, particularly if it can create a broad enough curriculum to make a true in-house university.

New Jersey Transit – Transit Academy and Youth Outreach

Background and Problem Addressed

New Jersey Transit (NJT) is an 11,000-person statewide agency responsible for public bus, rail, and light rail transit across New Jersey. It operates 237 bus routes, 11 rail lines, and 3 light rail lines that make 200 million passenger trips annually across the state and into New York and Philadelphia. NJT hires 350–750 people each year, primarily in bus operation, vehicle maintenance, customer service, police officers, assistant conductors, and administrative staff. Many of these positions can be filled by someone with a high school, technical school, or associate level educational background coupled with a strong work ethic and the willingness to work flexible hours needed to support a 24/7 transit operation.

Nevertheless, NJT faces the many challenges other transit agencies are facing: a continuing need for talent, an aging workforce, and a tightening labor market due to evolving demographics. For potential new hires, NJT experienced a high attrition rate due, to in part, to skill deficits in basic math, physical property concepts, and logical reasoning. For example, training programs such as NJT's Assistant Conductor program and Locomotive Engineer program experience attrition rates more than 50%. NJT faces an inability to attract the best students from high schools, vocational and technical schools, and community colleges. In part, it believes this is due to a lack of awareness about the variety of career opportunities in transit and a perception that transit jobs are only bus drivers and train conductors. Young potential employees did not know about the human resources, legal, finance, communication, operations, and management jobs behind the front line staff. At the same time, secondary and technical schools had expressed interest in working with NJT to help develop creative ways to better prepare their graduates for the realities of work in technical fields.

Proposed Workforce Solution

To address these issues, NJT previously developed a Transit Academy that ran for seven consecutive years, a work awareness and readiness program for high school students and young adults in New Jersey. The program aims to make these young potential employees aware of the variety of occupations at NJT and prepare them for success by explaining the skills needed to secure these jobs. At the time of the application, NJT had been partnering with high schools in the six counties in Northern New Jersey surrounding their headquarters near Newark. Each year, 30 juniors and seniors were recruited from these schools and handpicked by school-to-work teachers to participate in the Transit Academy. The Academy was a three-day seminar, with one day in December and two days in April and May. NJT proposed to expand the Transit Academy program to cover the southern and western parts of the state, which currently were not covered by the Transit Academy.

In addition, to further its long-term goal to educate youth about transit operations and careers, NJT proposed to expand its outreach efforts. Every year, NJT is approached by community leaders, secondary and technical schools, and community colleges interested in ways to help their students secure jobs with NJT or at least have information about pertinent job openings. These schools want their students to be better prepared for the working world. NJT had fulfilled requests as resources allowed and proposed devoting resources specifically to developing and delivering a "Mass Transit Career Awareness" outreach presentation to students throughout the state. The expanded Transit Academy and youth outreach efforts was expected to have two primary potential benefits:

- Develop, over the long run, a qualified workforce for NJT with necessary technical education as technology continues to advance rapidly
- Build strong relationships with the communities appreciative of NJT's efforts to help prepare their students for work in general, and for work with NJT in particular

Proposed goals for the program listed in the proposal were to:

- Expand the existing Transit Academy to southern New Jersey.
- Expand outreach efforts by creating a youth outreach program.
- Create a feeder pool for entry-level positions at NJT.

Partnerships

In its proposal, NJT listed as partners the series of schools with whom it had been conducting the Academy in the past. These schools included schools in the six counties surrounding their Newark headquarters, including Bergen County Technical Schools (2 campuses), Passaic County Technical Institute, Hudson County School of Technology, Garrett Morgan Academy (a transportation magnet school), and Essex County Vocational-Technical schools.

In addition, a contractor (Bombardier) played a role in the implementation of the new academies conducted in Camden (southern New Jersey). Bombardier is under contract for NJT operations in the light rail department and is subcontracted to run the South River line in the 10 miles outside Camden as part of the "Design, Build, Operate, Maintain" contracting model implemented by NJT. As operators, its role in the Transit Academy was to provide transportation for participants in Camden for field trips to its facilities and conduct facility tours.

Program Implementation

Program Development

Prior experience indicated that three days for the Transit Academy was too long, proving difficult for both the instructors and students, so NJT scaled the Transit Academy back to two days. Because the Transit Academy already existed and had run for seven years in Newark, repeating this was a straightforward process. However, the process of implementing it in the Camden area was more difficult. In Fall 2012, the Human Resources staff met with Bus Operations counterparts in Camden to discuss what the program would look like to mirror the concepts of the Newark program, but with appropriate local flavor. They held discussions with various managers and toured facilities to gauge flow. Extensive discussions were undertaken to work out logistics for school bus parking and transportation to field trips on light rail.

The program was centered in the Walter Rand Transportation Complex in Camden for the first day of the seminar. Some NJT personnel had concerns about

safety because Camden is considered a “rough area.” A considerable amount of time was spent recruiting schools and putting together the program. In addition, project staff had to convince various operational staff to allow the students to visit. Because of the intense concerns about safety and lack of comfort with students around equipment, many managers were reluctant to allow a group of students—even supervised students—into their areas of operation. In addition to the program, materials were developed to promote the program, including fact sheets for distribution to schools that might participate to give to staff and students describing the program, goals, selection criteria, and funding source.

The outreach portion got a slow start, in part due to the difficulty of finding an Outreach Coordinator. The Project Manager had to hire a coordinator to schedule and conduct the presentations. She reached out to several different retired NJT employees to run the program but was turned down. (Their reservations were related to the difficulty of travel, equipment setup, and talking to teenagers.) Eventually, the Project Manager recruited and hired a new part-time employee for the position. This person had to be taught about NJT to be able to properly represent the various operations, functions, job opportunities, and hiring processes. The new coordinator interviewed various personnel about their positions and even attended locomotive training to get a feel for what the training entailed and the level of difficulty. There was also a concern because NJT personnel policy is such that a part-time employee in a position for six months can bid to move into other jobs. Therefore, the person brought in to run the outreach potentially could have decided to simply change jobs after receiving all the training and preparation.

While the coordinator was being brought up to speed, the Project Manager developed a one-hour outreach presentation slide deck. Transit Academy presenters were consulted regarding the appropriate length and content. The program was researched, refined, and made consistent over two months. Because the term “public transportation” did not seem exciting, the staff instead named the presentation “Mass Transit Career Awareness.” NJT conducted four pilot tests on the outreach presentation and found that it needed to be further refined. The goal was for the presentation to be interesting and engaging, but they found that after 15 minutes they needed to show a video to make it more dynamic and ensure it was not just a lecture. After the pilot tests, extensive scripts were created for each slide to ensure the important material was covered.

Recruiting Schools

Finding schools to participate in the Camden area Transit Academy was not particularly difficult. To make the program work, NJT aimed at schools in the Camden vicinity. NJT identified all technical high schools in South Jersey and asked the local HR manager to estimate travel time from schools to the training sites. NJT sent invitation letters to five schools, but only three were responsive in pursuing the program. With budget restrictions for travel, school distance, and

some low interest in the program, the project team's final selected schools were Camden County, Gloucester, Burlington, and Mercer County vocational schools. NJT requested that the schools follow the student selection guidelines on the fact sheet. The Project Manager indicated that the lead contact on the school side contact was a particular teacher at an award-winning vocational school who was enthusiastic and appreciative. Fears about the type of students from a "rough" area proved unfounded.

Recruiting for the outreach presentations proved much harder than anticipated. A number of materials were developed to assist in promoting and scheduling the programs, including:

- Invitation letters to school principals
- Invitation emails to school counselors and principals
- Speaker request forms for schools to complete if they are interested
- Speaking confirmation forms to confirm the speaking session with the schools
- Participation Forms to estimate the number and EEO information of participants

NJT staff decided to target "average" performing schools, because, historically, it had not been successful in attracting top vocational school or high school recruits. Therefore, the Outreach Coordinator used the Internet to identify the rankings for more than 315 high schools. The top 100 were eliminated, and distance and other logistical criteria were used to select roughly 100 schools to contact. They also eliminated the top 10 of 50 vocational schools and contacted 27 of the remaining 40.

The initial contact strategy was to go to the "top of the pyramid" and contact school superintendents and board members with information about the program via email and telephone. Initial expectations were that 33% of those contacted would welcome a visit. (At 3 presentations per week with an average of 60 students per session, they would reach 1,800 to 2,000 students as a goal.)

Their expectations about enthusiasm for the presentations proved very optimistic. Their initial emails got no response, so they shifted to contacting school-to-work staff or guidance counselors. They found that each school has a particular lead for this type of effort, but it might not be apparent who it is from their job title. Legwork and persistence were required to find the right contact person for each school, which involved many telephone calls. Still, they found many schools were not enthusiastic based on obstacles including a crowded school calendar, limited class space, limited resources for planning, etc. Responses ranged from "enthusiasm to a sense that it was just one more complication the [school] staff did not want to take on." One vocational school Board member who responded said, "We don't have the resources. We have one school-to-work teacher for 50 schools. We can't do it." Eventually, the program was able to

recruit a sufficient number of schools throughout the state (even venturing into neighboring states near the border). Using geographical criteria, they expanded the number of schools contacted to reach their targets.

Student Selection

When recruiting students into the Transit Academy, as mentioned earlier, the focus was on “second tier” high schools and vocational schools. NJT representatives indicated they believed that those from the top-tier schools tend to go on to study medicine, biochemistry, biomedicine, etc. In addition, they asked teachers to focus on juniors when selecting students for the Transit Academy. They found in the past that seniors were generally too busy for the program. In all materials, NJT asked for diversity and tried to capture the EEO biographical information of participants. Program staff said this was in recognition of leading a federally-funded program; they wanted to ensure it was made available to a diverse audience. They received little cooperation from the schools in collecting this information, although they noted that given the schools they drew from, attracting a diverse audience was not a problem.

Implementation

The Transit Academies were held on two spring days in 2011 and 2012. The Newark program was held in the Bus Maintenance Training Facility. On the first day, the students received an overview of NJT including bus and rail operations, safety, and transit technology. They also toured the light rail operations in Jersey City. There, they learned about the Design, Build, Operate and Maintain (DBOM) concept and interacted directly with the contractors with regards to entry-level jobs that may be available for them. The emphasis of the second day was on career opportunities at NJT. Staff members from Bus, Rail, Facility Management, and HR made presentations on resume preparation, interviewing guidelines, and various entry-level career options at NJT. The students also had an opportunity to try out the bus simulator equipment and capped off the day with the field trip to a Central Maintenance Facility.

The first day of the Camden Transit Academy included a bus driving simulation and a tour by the transit police, including a demonstration by a K-9 unit. The second day of the seminar was centered on the nearby Newton Avenue Garage. The program focused on how a real working garage operates in both transportation and maintenance. The students received a briefing from a garage supervisor about his job and a typical day. Then they learned about what maintenance people did and observed staff performing brief 15-minute inspections. In addition, there were seminars on resume development and presentations by staff personnel. Discussions focused on how students should present themselves in resumes, in interviews, and on online applications to maximize the likelihood of successfully obtaining a job at NJT. To maximize relevance for the participants, presenters were successful NJT staff that had grown up in the local area.

In the afternoon, NJT arranged with Bombardier personnel for the students to take a ride on NJT River Line light rail system to Cinnaminson and on the way back toured the River Line light rail facility. Bombardier staff discussed the DBOM concept while showing the visitors their operation.

Outreach presentations were made at the schools and generally lasted 50 minutes to one hour, a length selected to fit into a typical school period. The presentations were delivered to groups ranging from 15 to 300 students (the preferred number being 50–60 students). Audiences ranged from economically disadvantaged to relatively well-off populations across the state. To make the careers portion more interesting, project staff explored ways to link to the NJT website to show actual job openings in real-time. For some audiences in southern New Jersey, they also included other local transit sites to talk about the whole mass transit industry.

Outcomes

The first goal of the NJT Transit Academy and Youth Outreach project was to expand the existing Transit Academy to southern New Jersey. This goal was accomplished. The program was created and was compatible with the Newark program held for the prior seven years. Between the two, in 2012 and 2013, the Transit Academies exposed roughly 125 students to the transit industry, operations, and skill requirements and also provided basic job readiness guidance.

Evaluations of the program completed by participants demonstrated average ratings of 3.5–4.3 on a 5-point scale in the Newark sessions. The students gave lower ratings to lecture-based content and higher scores to more hands-on events. Interestingly, the newer program in Camden received higher average ratings, between 4.2 and 4.9 on a 5-point scale. Again, students appreciated the hands-on portions the most.

The second goal of the NJT program was to expand outreach efforts by creating a youth outreach program. With persistence, NJT again succeeded in meeting this goal. A presentation was created to highlight the transit industry and jobs at NJT. The program was delivered 36 times during the grant period at schools in 10 counties throughout the state, reaching a total audience of 2,483 students. This exceeded the 1,800 to 2,000 student internal goal set by the program staff.

At the end of the presentations, NJT program staff provided an evaluation form. More than 80% of students who participated in the presentation completed the ratings. Of those, 75% indicated they gained knowledge of the mass transit industry from the presentation and more than 55% indicated they felt the presentation was relevant to their career planning activities. The NJT final report indicates a few incidences in which the audience was rude, staff were unwelcoming, etc. The worst took place when the school decided to hold the event for 300 students at a time in a large auditorium against the recommendations of the program staff. However, the program received high praise from schools such as Camden Tech, Bergen Tech, and

Rahway High. NJT received letters and emails indicating appreciation for the Mass Transit Career Awareness Program.

The third program goal was to create a feeder pool for entry-level positions at NJT. There is, as yet, no evidence that this goal has been accomplished. One problem is that there is not a good process for bringing entry-level youth into the agency. Even entry-level employees at NJT generally need experience and a commercial driver's license (CDL). For example, for bus cleaning positions, employees must be able to move a bus. The students in the program are too young to have a regular driver's license, much less a CDL. In addition, there was no clear system for tracking participants to systematically learn whether the program was effective in attracting students later to transit careers.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$183,890 in federal funds (100% of the total). The majority of the budget was for staff time, which was mostly for the Project Manager and Outreach Coordinator. There was also some spent for materials and supplies (such as pens and other giveaways) and catering for Transit Academy sessions.

NJT was not financially able to provide any matching funds. NJT program representatives indicated that they spent considerable time not covered by the grant costs in setting up the program, but did not track this in a detailed way to be able to provide an estimate.

Impact

The NJT program looks to be one that met—and even exceeded—its goals on program development and participation, but the program did not have any short-term impact. Although it is possible that the program will bear fruit in the long run if students return later in life, this is at best a long-term outcome. Plus, the lack of systematic tracking by any identifier would make it difficult to demonstrate even if it occurs. For example, although there is a space on the application for individuals to indicate how they learned of NJT, nowhere in the HR system can this to be recorded. It also relies on an applicant to recall that they were exposed to the program, potentially years in the past.

The biggest single problem is a mismatch between the requirements of an entry-level employee at NJT and the students targeted by the Transit Academy. They are, in essence, reaching people too early for the level of positions that exist. The participants are too young to have job experience or CDLs necessary for even entry-level jobs. Worse, NJT does not have a substantial internship program or other feeder program that might accommodate students who are excited about transit by the program. There is no room in the organization for young, talented

people to come in to develop, and the existing rules are too cumbersome and inflexible to accommodate them without such a program.

The project manager for NJT said, “I know it looks like we’re boiling the ocean. But, that’s what everyone does. The utility company has a similar [program]. Every company or industry has a program like this. So, we’re at a disadvantage if we don’t do it.... I tell them, in the employment life cycle, it may not be a good fit now. But, later in life when they’re married, they’ll want to do quality control, be managers, etc. Talk to them now and sow seeds.”

Due to budget limitations, it appears that the Camden Transit Academy and expanded outreach are not going to be sustained. The Newark-based Transit Academy will be sustained at some level as before the grant.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program put forward by NJT representatives include:

- Transit Academies
 - Stick to high schools and vocational schools. Preparatory schools used to be included in the recruitment efforts, but their students were generally not interested in transit.
 - Long travel times to program locations cut into program time and were distracting for the school staff. This is one thing that led to the need for a southern academy. Select schools to keep travel times to no more than 75 minutes from the school.
 - Go directly to school when inviting participation. Higher levels in school administrations (Superintendent, Board) are generally unresponsive.
 - Invite speakers who want to be involved and have experience working their way up in the agency. If they come from schools similar to those the students attend, it is even better.
 - Have somewhere in the agency for interested students to go—an internship program or other entry-level program so that interested, talented individuals can be developed.
- Youth Outreach
 - Recruiting the right speaker takes time. The person has to be able to travel, communicate with school administrators, handle audio-visual equipment, and connect with teenagers.
 - Get someone with a human resources background, who can better explain about skills and the entry process.
 - Advanced planning is critical to coordinate with schools’ busy schedules.

- Cultivating relationships and persistence are needed to cut through school administrators’ clutter of competing demands. Find the right person to talk to and things go smoother.
- Let them know the appropriate audience size for presentations is 50 people.
- Free giveaways (book bags, pens) were popular.

Conclusion and Further Investment Recommendation

NJT’s project was successful at creating a Transit Academy in Camden to cover the southern portion of the state. It introduced high school aged students to the transit industry, familiarized them with the variety of jobs, and imparted some basic job readiness information. It also was successful at developing and delivering an outreach presentation for high schools throughout the state. It met or exceeded its participation goals in both areas.

Unfortunately, NJT failed, at least in the near term, to create a pipeline of talent into NJT due to the mismatch between the ages of the participants and the requirements of NJT entry-level jobs. Although the future might hold longer-term impacts for the program, given a lack of any tracking mechanism for participants, it is unlikely that any such impact can be measured if it does take place.

As it currently stands, FTA would likely be better served investing in other programs with stronger linkages between the immediately-needed workforce and transit. NJT did not have entry-level positions that could be filled by high school students or those that have just graduated. If this is the case at most transit agencies, then investing in the program is not going to be beneficial in the short term. But it is also unclear whether the program was successful at steering participants to transit careers once they have sufficient age and experience to work in the industry. Finally, it is unclear whether other transit agencies have, or would benefit from, internship programs to give students served by this program a place in the organization to develop. If there is utility to attracting high school students into transit, perhaps funding should be spent developing and examining what these internship programs might be and how agencies can transition the student into full- or part-time positions as they develop. With other programs that provide a more direct link between job needs and workforce development, a youth transit program such as this one seems to be a strategy for a time with less immediate needs.

New Orleans Regional Transit Authority – Streetcar Maintenance Training Program

Background and Problem Addressed

The New Orleans Regional Transit Authority (NORTA) system includes 3 streetcar lines and 32 bus routes and offers special paratransit services to the

disabled. NORTA vehicles cover 14,000 miles each day, and its passengers take almost 12 million rides every year. In 2005, Hurricane Katrina caused flooding that destroyed most of the NORTA's vehicles and facilities. This catastrophe left it no choice but to reduce the workforce from 1,250 to 550. Since 2009, NORTA has operated through delegated management via Veolia Transportation, Inc., meaning Veolia provides management and operation answerable to the NORTA Board.

NORTA has a unique skill set in the rail transit industry—it builds its own rail cars and maintains the fleet. Unfortunately, the rail maintenance workforce is aging, and 66 staff were eligible to retire within a few years. Their unique skills cannot be replaced by someone from the outside without substantial training. In addition, in 2010, NORTA was awarded a TIGER grant for \$45 million to expand the streetcar line, scheduled to be completed by 2013. Given the reduction in workforce from Hurricane Katrina, the aging current workforce, and the coming expansion, it was critical for NORTA to prepare additional staff in the “craft” of building and maintaining streetcars.

Proposed Workforce Solution

To ensure unemployed and underemployed can access the job opportunities made available by the TIGER grant, NORTA proposed to create a Streetcar Maintenance Training Program to recruit unemployed, dislocated, or underemployed individuals to participate in the program. Those selected would receive classroom and hands-on training at the hands of an industry professional who would teach them the set of skills they need to be a Streetcar Technician.

The streetcar maintenance training program was expected to have the following potential benefits:

- Creation of a pool of certified, highly skilled rail service maintenance mechanics and carpenters
- Improved production for rail service in the maintenance department
- Alleviation of the aging workforce problem in streetcar maintenance
- Enhanced job creation potential for TIGER grant funds

Proposed goals for the program listed in the proposal were to:

- Attract trainable workforce to NORTA to address shortage of seasoned employees in railcar maintenance due to retirements.
- Develop streetcar maintenance skills through classroom and on-the-job training (OJT).
- Retain rail maintenance employees by allowing them to earn National Center for Construction Education and Research (NCCER) CORE certification.

Specifically, NORTA aimed to attract 20 participants into the program and expected (after attrition) to have 13 successfully complete the program and be hired into Streetcar Maintenance positions.

Partnerships

NORTA had two primary partners for the project. The first, Delgado Community college, is Louisiana's oldest and largest community college and serves the New Orleans metropolitan area with seven campuses, forming a center for professional and advanced technology career education, pre-baccalaureate education, and traditional occupational training. Delgado agreed to create a customized curriculum for the project that would lead participants to learn the required skills for National Center for Construction Education and Research (NCCER) CORE certification and build on these skills to provide the specific streetcar skills.

NORTA's second partner for the project was America's Job Centers, particularly JOBI, and the City of New Orleans' Office of Workforce Development. Its role was to identify and align the supply of workers with the needs of NORTA's program. JOBI would identify, recruit, and screen applicants to the program to identify the candidates with the most potential. Nearby Jefferson Parish Career Solutions Center also agreed to participate in a similar role.

There were no issues reported in partnership formation. NORTA had a prior working relationship with Delgado and representatives stated that Delgado was the only college in the area that could design the required curriculum. In the past, NORTA had its own training department, but after Katrina that capacity was gone. NORTA needed training designers to sit with incumbents in the division and design a streetcar maintenance curriculum. On the other hand, there was no established relationship with JOBI and the Career Solutions Center. A NORTA Commissioner was on the Board of Career Solutions and encouraged them to work together, and there was mutual interest in doing so for this project.

Operationally, NORTA representatives were very happy with the work of all of the partners. They received hundreds of applications, and the JOBI staff helped them cull the pool to identify the best candidates. Delgado personnel created the training program, adjusted it as needed, made recommendations, and ensured everything operated successfully.

Program Implementation

Program Development

The concept for the program was generally straightforward, as expressed in the application. The first step was for NORTA to hire a Project Manager. This took some time, but once it was accomplished, things reportedly went well. Delgado instructional designers met with the streetcar maintenance incumbents to

conduct job analyses and identify the core knowledge and skills needed. During the development of the curriculum, NORTA and Delgado determined that there was the need and potential for participants to receive four module certifications based on the job duties they would perform. So, in addition to the NCCER CORE certification, participants would also get local streetcar maintenance, HVAC, and forklift operations certifications.

NORTA also decided not to enroll the participants in Delgado, but to have the training conducted in NORTA's facilities, contracting to use Delgado instructors to supplement their own instructor.

Recruiting and Selection

JOB1 and Workforce Solutions took the lead in recruitment and initial screening. The target was unemployed and underemployed residents. They posted the opportunity on their websites and externally with signage. Applicants did not need to have any prior working experience in maintenance; they just needed to have the desire and meet minimum aptitude requirements. The initial test was the TABE (Test of Adult Basic Education). JOB1 determined applicants needed at least a 6th grade level to succeed. The program got hundreds of applicants. The workforce centers administered the test and tallied results.

Applicants who passed the initial screening were sent to NORTA for a mechanical aptitude test, with a cutoff score of 50%. Finally, if they had passed those measures, applicants were given a drug test and background check. The program selected 20 participants who were ready to begin. One candidate dropped out just as the program began, and it was too late for a replacement.

Participants came from diverse backgrounds. Some were unemployed and had no prior professional experience in maintenance. One person worked at an auto parts store. Others had experience in fast food jobs. NORTA representatives indicated that 90% of participants were unemployed, and the rest were underemployed.

Program Implementation

The program began with an orientation, led by the Chief Maintenance Officer and Project Manager. The staff discussed the program, expressed support, and encouraged participants to do well in classroom and hands-on training. They discussed the stipend students received, and provided a pass to New Orleans transit. Participants were given uniforms and basic tools purchased with the grant funds. The staff discussed the program curriculum at a moderate level of depth.

Five Delgado instructors and an in-house NORTA instructor taught the course. Students met for classroom work between 7:00–10:00 AM daily. The participants started with the NCEER curriculum of basic construction safety, blueprint reading, construction math, hand tool and power tool use, and rigging. Then

they progressed to basic carpentry to learn about the material and tools used in refurbishing streetcars and doing interior and exterior finishing work. Next, participants learned about machine tool basics and how to perform lathe and mill work. The participants progressed to lessons on electricity that provided an in-depth overview to aid in the understanding of how the streetcars work. They also learned basic HVAC and forklift operations.

When NORTA realized some students were having difficulties with the academic portions, they provided an instructor to work with these students to support them and ensure their success.

On-the-Job (OJT) training took place between 11:00 AM and 2:00 PM. The Superintendent of Rail Maintenance gave the participants assignments and evaluated the participants' progress. Participants were assessed on their knowledge, skills, and abilities in relation to rail maintenance positions. They were also evaluated on basic NORTA employability competencies such as attendance, task execution by time and output, work quality, work ethic, willingness to learn, following directions, communication, and working with team members

Placement

Those who successfully completed the program were to be offered positions with NORTA. The expectation, given estimated rail maintenance attrition, was to place people into the streetcar maintenance technician jobs for which they had been training. However, the expected rate of attrition did not materialize and, instead, many were offered positions in the streetcar body shop until positions in maintenance became available. The Chief Maintenance Officer and Rail Superintendent made the placement decisions, taking into account the participants' grades, OJT performance, etc.

Outcomes

The first goal of the project was to attract a trainable workforce to NORTA to address an anticipated shortage of seasoned employees in railcar maintenance due to retirements. This goal was achieved, as NORTA received more than 200 applications and used appropriate screening and testing to narrow the pool down to 20 participants.

The second program goal was to develop participants' streetcar maintenance skills through classroom and on-the-job training. This goal was also achieved, as 13 people successfully completed the program. Two of those who dropped out were lost early on, and the rest at various times through the program. Those who left generally had personal problems that made attendance and timeliness difficult. The work itself was not the issue, as tutors were made available for anyone that needed extra help.

Student evaluations indicated that roughly 70% of the class had favorable views of the classroom training. The primary concern of those who were less favorable was dislike of a particular instructor. The entire class favored the hands-on portion of the training over the classroom training.

The third program goal was to retain rail maintenance employees by allowing them to earn NCCER CORE certification. Here, success was mixed. NORTA was successful in enabling graduates to achieve the NCCER CORE certification on construction. In fact, they surpassed their original goal by allowing participants to receive streetcar maintenance, HVAC, and forklift operation certifications as well. Retention, however, was moderate. Of the 13 participants that completed the program, all were offered positions, and 12 accepted the job. As mentioned, in most cases, participants had to take a job that was not the original job for which they had trained. They were placed in positions in the body shop or other somewhat lower paid “holding” position until attrition in streetcar maintenance opened positions. Currently, 7 of the 12 hired remain with NORTA; of those, 4 have been moved to the rail side, and the remaining 3 will be considered for rail positions as they become available. Two of the four moved to the rail side have been promoted.

NORTA Streetcar Maintenance Training Program Success Story

Maurice S. was unemployed but in the process of returning to McDonald's as a grill cook when he heard about the Streetcar Maintenance Training Program. Although he had no prior experience in mechanical work and no formal education beyond high school, he was interested in the program and applied. He scored one point low on his mechanical aptitude test but pursued the program with vigor, calling every day and showing exceptional motivation. The staff decided to admit him into the program.

Maurice received both hands-on and classroom training in the program. He learned the basics in electrical troubleshooting, machine tool operation, blueprint reading, etc. He also received certifications such as NCCER CORE, forklift operation, HVAC, and streetcar maintenance. Maurice excelled and showed particular aptitude for math. Upon completion of the training, he accepted a position with NORTA as a body repairman on streetcars.

Maurice remains with NORTA and has been promoted to a Tier 2 Automotive Technician. He is now attending Delgado Community College to earn his Certification as an Automotive Technician. He will graduate in May 2016.

Budget and Matching

The Innovative Transit Workforce Development Program provided \$400,000 in federal funds (52% of the total). The bulk of these costs went to stipends for participants (\$8 per hour for a year of training, 30 hours per week) and

instructional fees to Delgado, which included books, materials, and certification testing. According to NORTA representatives, matching funds from NORTA involved “in kind” contributions valued at \$365,000 (slightly below the full \$400,000 suggested in the proposal). This included project manager salary, time from NORTA instructors, supervisors monitoring the OJT, and transit passes for each participant that could be valued up to \$13,200 for all participants over the course of the year.

NORTA staff members reported that the budget expenditures went as expected. The large bulk of funds were for Delgado for revising, hosting, and providing training. This cost was on a per-student basis and was known in advance. NORTA had originally asked for \$600,000 and hoped to give larger stipends (closer to \$12 per hour). However, it adjusted when it could not get that full amount. It feels they may have lost some people to attrition due to the low stipend. As one representative said, “A year is a long time to receive \$8 per hour. We might have held on to some people we lost if we were offering \$12 per hour.”

Impact

In the big picture, the impact of the Streetcar Maintenance Training Program was moderate. On the one hand, NORTA was successful at attracting and training unemployed, dislocated, and underemployed individuals to become streetcar maintenance personnel and offered jobs to the anticipated number of graduates. However, the total number of people affected by the program was relatively modest starting with a potential maximum of 20 participants. For better or worse, streetcar maintenance technicians did not retire at a high rate, leaving NORTA to find positions in other areas for the participants. These positions were lower-paying and not what participants had trained for, which led to attrition. Ultimately, two years after the program, just 7 of the 19 who began training remain with NORTA, and only 4 of them are doing the streetcar maintenance anticipated (though three are prepared to move into these positions). NORTA did say that those graduates that have been placed in the streetcar maintenance positions have been helping to maintain and build cars for the streetcar line build-out, so they have been fulfilling the function as intended.

NORTA representatives believe that they would have been able to fill the streetcar maintenance positions as the economy is such that there is still a demand for jobs. Without the FTA funds, NORTA would have filled the positions via the regular process of advertising the rail positions to job search websites, assessing applicants’ mechanical/electrical aptitudes, experience, education, and certifications. Once hired, they would be trained on the processes and procedures of rail maintenance.

NORTA representatives suggested that the grant program yielded better results because it was able to bring in people with the aptitude to do the work but not necessarily the experience and, therefore, was able to start with a “clean slate”

of individuals who were trained from day one according to the agency's rail standards, policies, and procedures.

Further, NORTA representatives said that what made this program unique or innovative was that they took people with no prior experience or expertise in rail maintenance, "people who'd never been under the hood of a car" and found those that had aptitude and gave them a chance. Participants realized they had talent NORTA could tap into and brought something to the agency. Those that completed the program had jobs at a living wage that they could keep long term.

Although NORTA would like to continue the program, it has no plans to do so without additional grant funds.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program offered by NORTA representatives include the following:

- In the end, the agency must have positions into which graduates can be placed. NORTA was able to find positions for people, but some were not fully satisfied because they are not doing the work they trained to do.
- Participants need to know that a job is not 100% guaranteed. NORTA staff told participants that if they could not place them internally, they would work with the workforce development centers to place them and then bring them back when they had an opening.

Conclusion and Further Investment Recommendation

Overall, NORTA's Streetcar Maintenance Training Program was a modest success on a small scale. It certainly demonstrated, as did other projects in this grant program, that a targeted and conceived training program could be produced in partnership with a community college. In this case, the program took participants "from scratch" to develop skills, which is somewhat unique. The training program was somewhat beneficial to NORTA. They now have more than enough streetcar maintenance technicians trained and ready.

However, this must be weighed against the fact that NORTA believes it could have filled these positions without creating this program, and an additional grant would be required to sustain the program. In many respects, the program was more beneficial to participants than to NORTA. Given the relatively high program cost (one of the highest of the funded grants) and high rate of attrition after just two years, further funding of such a program should be considered carefully against other programs. The concept may be sound, but if the program is to be replicated, it should be replicated for skills that are widely applicable or target occupations that are in higher demand.

One issue to consider in the future is whether FTA wishes to pay stipends for this type of training as an expense. Employees being trained full-time need wages, but, in theory, other programs could pay for this major grant expense (e.g., U.S. Department of Labor training programs that pay for OJT), as could the employer themselves.

A related consideration is whether FTA finds it beneficial to start training from scratch with people with no prior experience. It is commendable to take unskilled people with aptitude and develop them from the ground up. However, FTA must consider whether this the best use of limited FTA funds if there already exists a pool of candidates with at least the foundational skills and related experience. Or, if starting with unskilled candidates is a value, a partnership with the Department of Labor could be enacted to take advantage of their training programs that service unemployed and dislocated workers for at least some portion of the training.

Niagara Frontier Transportation Authority – Leadership Training Program

Background and Problem Addressed

The Niagara Frontier Transportation Authority (NFTA) comprises 1,540 full- and part-time employees serving Buffalo Niagara. NFTA oversees 332 buses, 27 rail cars, 35 vans, and 4 trolley-buses, carries about 94,000 people each day, and travels 8.9 million miles in a year.

In 2010, the State of New York offered an early retirement package that enticed 49 employees to retire in just a 4-month period. Many of these were experienced top executives and managers with more than 300 years of cumulative experience. Even after that attrition, NFTA still faced a dire loss of institutional knowledge, as 48% of employees are eligible to retire as of 2015.

Proposed Workforce Solution

To prepare current employees for new leadership responsibilities and develop transit performance improvement solutions, NFTA proposed to provide leadership training to a large cadre of employees. It proposed to work with an educational partner to implement a program with a proven track record of success. Targeted employees would receive professional development and project work in Supervisory and Leadership Mentoring and a Lean Six Sigma Executive Overview, and a small group would also receive Green Belt Certification in Six Sigma.

In addition, NFTA proposed to develop or purchase a succession planning software. The project was expected to create a focused training program and

procure the technology needed to identify candidates for future advancement. The project was expected to produce the following benefits:

- Development of an ongoing succession plan
- Initiation of a leadership training program in support of managerial candidates
- Improved service provision through long-term training

Proposed goals for the program listed in the application were to:

- Develop and implement a 10-month leadership program for up to 114 employees.
- Develop or purchase a succession planning software package.
- Implement supervisor and leadership mentoring training, plus Executive Lean Six Sigma training and Six Sigma green belt for 20 employees.

Partnerships

NFTA selected the State University of New York (SUNY) at Buffalo (UB) Center for Industrial Effectiveness (TCIE) as its primary partner. UB is a part of the 64-campus SUNY system. Since 1987, TCIE has served as a link between the community and the vast resources of UB. TCIE focuses on smaller business in western New York and assists in performance improvement, efficiency, and cost reduction. They also worked with Erie County to institute a large Lean Six Sigma training program.

There was an existing relationship between NFTA and TCIE, as TCIE had conducted leadership and other programs for NFTA historically, although in smaller groups. NFTA's grant proposal stated that TCIE and NFTA had already developed an onsite program specifically addressing incumbent worker training and retention, with a secondary focus on succession planning.

Partnership formation reportedly was unremarkable. TCIE and NFTA project staff already had a rapport based on prior work together. NFTA representatives indicate that TCIE was flexible and willing to adjust their recommended curriculum to meet the needs of NFTA.

Program Implementation

Program Development

NFTA selected a project leader who had a military background and leadership experience and had spent approximately seven months conducting an assessment of the workforce with respect to leadership. This assessment indicated that the originally proposed Six Sigma training was not the strongest need, and not immediately applicable by first and second line supervisors. Many did not have basic supervisory skills such as coaching, counseling, or evaluating employees. Therefore, the curriculum was adjusted and the Six Sigma elements were removed.

TCIE recommended the initial course list for the program based on their prior work with other organizations. But as a government entity, NFTA does not have the same profit-driven aspect to their work that private companies had; therefore, they found some of the TCIE course suggestions to be irrelevant. TCIE staff worked with NFTA project staff and adjusted their program goals and instruction. They settled on:

- A course for first-line supervisors on leadership
- A second course for managers to hone their skills in leading supervisors
- A course called “Eyes for Waste” with a focus on decreasing waste to increase efficiency

Recruiting and Selection

The project manager worked with TCIE to determine how many people could be trained. Key limiting factors included the number of people that could be taught in each session to ensure there was good interaction among participants and budget limitations. The project manager asked Department Directors to identify the most important in their operation to receive this training to make sure all the critical people were trained. There were still a few positions open, so the project manager invited some attorneys and others. They progressed through the organizational chart and invited as many people as possible. Out of 106 people in supervisory and managerial positions, NFTA had 82 (77%) participate. The remaining people were determined to be more clerical than leadership in their functions.

The participants included people from many segments of the agency, including rail operations, rail maintenance, bus operations, bus maintenance, property management, airfield management, airfield/airport maintenance, and airport management, as well as police and fire department leaders. The project manager briefed the Executive Director and other directors on the importance of the program. The executive attention ensured people attended.

Program Implementation

The program was implemented in a series of small-group trainings with TCIE. Each session contained 12–20 people. The training progressed over the course of 11 months; supervisors received 5 weeks of training, and Managers an additional 2 weeks (7 total).

The Supervisory and Leadership Mentoring course includes seven hours of material. The following topics were covered:

- Course 1, Supervisory Leadership Role and Style
- Course 2, Providing Constructive Feedback and Coaching

- Course 3, Correcting Performance Problems
- Course 4, Managing Conflict

The final course was “Eyes for Waste” and covered lean manufacturing. Once the leadership basics had been covered, NFTA wanted more instruction for supervisors on improving efficiency within their departments. The course covered lean management practices, value added versus non-value added processes, best practices for change, and team skills. They discussed a mock industrial setting to note processes, choke points, rate of production, etc. They also covered problem solving and root cause analyses.

To develop succession planning software, NFTA contracted a vendor, NSYTTS. The original intent was to create an accessible Internet site for employees interested in moving up in the organization who wanted access to information. For example, the site would provide the organizational chart, and the user could find positions of interest to pursue. The software would provide information on their current position and the desired position. There would be pictures of individuals occupying both positions. The employee could learn what degree, training, and background was needed for their desired position, and potentially find a mentor to help him or her move up. As one representative said, “It would be a succession planning tool to figure out what I wanted, how to get there, and put forward my information to HR for review.” The concept was to have people express interest in positions via this software so that when a position opened, HR would already have several people identified as interested.

Outcomes

The first goal of NFTA’s program was to develop and implement a 10-month leadership program for up to 114 employees. This was successfully implemented, as all 82 of the selected supervisors and managers that began the program completed it and earned a Certificate of Completion. All but two of those who attended the training remain with the organization. Feedback on the program was reportedly positive. The project manager found that the only aspect that received negative feedback was the “Eyes for Waste” course, as some participants strained to see the implications of lean manufacturing for a public transit agency.

The second program goal was to develop or purchase a succession planning software package. This goal was only partially successful. Although a vendor was hired and a package developed, the software was not in use because it did not do everything NFTA hoped it would. They also found that the program is very heavy on data entry, as all the information for a position must be hand entered. This is very burdensome. They are currently exploring whether it can be made to auto-populate from payroll data. The budget for the software was only \$3,000, and it was their first time attempting something like this.

The third goal was to implement supervisor and leadership mentoring training, Executive Lean Six Sigma training, and a Six Sigma green belt for 20 employees. The supervisor and leadership training was successfully fulfilled under goal one. The project manager switched the focus from Six Sigma training early in the NFTA program. However, they did include the Eyes for Waste program to focus on efficiencies in a manner more appropriate for the participants, meeting participants where they were.

Budget and Matching

The Innovative Workforce Grant provided \$50,000 in federal funds to NFTA (100% of the total), the smallest of all of the awarded grants. The budget called for \$47,000 for the training and \$3,000 for the succession planning software. NFTA did not provide in-kind or matching funds, although it devoted some staff time, but nothing officially tracked as in-kind. In general, NFTA reported that the budget expenditures went according to plan. The large bulk of funds were for TCIE for providing training.

Impact

The impact for the NFTA training program has been moderate. NFTA representatives report that the greatest impact was an increase in consistency within the leadership across the organizational spectrum—“The staff now feel that we’re leading in a fair, equitable fashion.” This is best demonstrated by the fact that NFTA has seen a 25% reduction in grievances since the training in a highly unionized workforce.

NFTA has done no formal study on how the program has impacted it, noting that the training was directly relevant for their leadership staff. During the training, things were being done inconsistently by different people in the organization. However, it has seen a difference in the way supervisory tasks are accomplished, in part because it distributed a toolkit as part of the training. This included templates to provide a model of how to prepare an information paper, conduct a counseling session, etc.

NFTA’s staff also indicated that, as with Greater Cleveland RTA’s program, there is a critical mass benefit to training a large portion of leadership at the same time. Training smaller numbers would “not [have been] sufficient for a sea change in mindset.”

There is no plan for sustaining this leadership program. NFTA would like to do more sessions periodically, but would need further grant funding to do so.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program offered by NFTA representatives include:

- Assess the workforce's training needs and do not implement a training for which they are not prepared. When NFTA determined that the Six Sigma training was not appropriate for the workforce, the curriculum was changed.
- Past efforts can affect the perception of the current efforts. A similar program attempted 5–10 years ago did not receive backing by HR and was seen as wasted time, which meant that people required some convincing that this training would be used and supported.
- It is important to visibly support the training and reinforce the concepts trained back on the job. Newer employees readily accepted it, but older employees were more skeptical. When they saw that the Executive Officer was taking it seriously, it gained credibility. NFTA has reinforced these concepts and they've become the standard for newer supervisors.

Conclusion and Further Investment Recommendation

The project appears to have met the goals it set out to achieve. It sent almost 77% of agency supervisors and managers through a leadership program that has improved consistency and reduced grievances. As a project that received only \$50,000, obtaining leadership training from a recognized institution for 82 people which resulted in more prepared, consistent leadership and a reduction of grievances should be viewed as a relatively efficient use of resources and worthy of further investment.

As with others, to conduct a project like this, the model requires an educational partner with the experience to provide ready-packaged leadership training, flexible enough to fit a public transit agency, and at a reasonable cost. Where such conditions exist, they appear to be reasonably good investments.

The program was less successful developing a succession planning software. This is not entirely surprising given a very minimal budget. Moreover, it is arguable that even the intended design could not truly be considered "succession planning" software. As described by NFTA project staff, it is more akin to career management software in that it allowed incumbents to self-select and receive career information about aspirational positions. If this software can be made functional, it could be beneficial to employees. However, it should not be seen as a replacement for a true succession plan in which key leadership positions each have identified talent being groomed with the competencies needed to take over. This is particularly true with an agency in which half the staff is retirement-eligible. Creation or procurement of such software may be an area FTA should consider for investment.

Pennsylvania Department of Transportation – Pennsylvania Innovative Leadership Development Program

Background and Problem Addressed

The Pennsylvania Department of Transportation (PennDOT) is the State agency responsible for transportation in Pennsylvania. With an annual budget more than \$6 billion in State and federal funds, PennDOT oversees programs and policies for highways, urban and rural public transportation, airports, railroads, ports, and waterways. The Local and Area Transportation Division oversees more than \$1 billion annually in public transportation systems and resources, including 67 transit agencies statewide, providing 427.5 million trips annually. Pennsylvania has the nation's 5th (Philadelphia) and 21st (Pittsburgh) largest transit systems. The project was led by the Pennsylvania Resource and Information Network (PennTRAIN), an arm of PennDOT that provides training and resources to more than 2,000 transit professionals each year.

PennDOT recognized that agency management is critical to the provision of high quality, efficient, effective transportation as managers make day-to-day decisions and instill a philosophy into those they manage. Good managers provide the tools and resources to be successful to those they manage. PennDOT recognized that in a climate where public funding was increasingly scarce, it is important to have effective leadership and managers to leverage funds and actively seek to improve their transit systems through innovative methods. While no two agencies are alike, it saw an opportunity for training as management needs and competencies were likely consistent in similarly sized transit agencies serving similar areas. However, due to the financial constraints of transit agencies and the need for reduced training travel, PennTRAIN recognized the need to find ways of providing more targeted and relevant material to transit-agency participants in a more effective and time-efficient manner.

A major Pennsylvania transit agency, South Eastern Pennsylvania Transit Authority (SEPTA), was, like many, facing the retirement of the baby boom generation managers who guided the organization for decades. SEPTA faced potential turnover unlike any they had experienced and would need to prepare leaders to take over.

Proposed Workforce Solution

To develop a leadership talent and address the financial constraints, PennDOT proposed creating the Pennsylvania Innovative Leadership Development

Program (PILDIP). They envisioned a program that would be comprehensive, streamlined, context-sensitive, interactive, and scalable. In addition, SEPTA would partner to create a module for larger, urban transit agencies that would focus on identifying, developing, and mentoring talent from deep talent pools to become leaders in the near future. Together, these pieces were intended to establish a training system to educate and support effective leadership and management.

The PILDIP was expected to have several potential benefits:

- One innovative, all-inclusive, training program that meets the needs of the transit industry
- Internet-based modules to expand the reach of the training program while reducing costs associated with travel for training
- By targeting new supervisors and managers as well as talented non-managers interested in managerial roles, improved supervision and management capacity in the state's transit agencies

Proposed goals for the program listed in the proposal were to:

- Effectively identify, train, and provide resources to develop transit leadership and management capacity-building initiatives for every type of transit agency.
- Develop a comprehensive training program, appropriate and scalable to specific organizational needs that can be easily implemented and tailored to the specific needs of a region to promote national applicability.

Partnerships

PennDOT's primary partner to assist in the development of PILDIP was SEPTA. SEPTA serves the greater Philadelphia area with bus and rail service, carrying more than 500,000 passengers daily and employing more than 9,000 people. SEPTA's role in this project was to develop a model that can apply to urban transit operations with emphasis on succession planning.

Partnership formation went smoothly, although PennDOT and SEPTA essentially were operating independently. The PennTRAIN project manager was kept apprised of the work the SEPTA staff were doing, but primarily focused on the development of PennTRAIN's portion of the project.

Program Implementation

Steering Committee

The project was guided by a Steering Committee comprised representatives from PennDOT, PennTRAIN, SEPTA, the Pennsylvania Public Transit Association (PPTA), and 20 Executive Directors from transit agencies across

the state. The project leaders recognized this was a large committee, but believed it was important to have a number of knowledgeable executives to ensure the needs assessment was accurate.

The Steering Committee met to develop a list of critical needs and identify what the main topics should be. They also learned about development of web-based training versus instructor led. The committee reviewed the materials from two major PennTRAIN leadership courses. The committee reviewed the storyboards and course content in detail to ensure it the training produced met the needs of transit authorities.

Program Development

A two-day retreat was held involving a representative group of transit-agency professionals, PennDOT and PennTRAIN representatives, and consultants. The retreat included a day-long facilitated needs analysis from which a list of critical topics was developed. They identified areas to eliminate, and some that were developing that needed training. For example, there is no available “Introduction to Transit Agencies” course to teach people the fundamental concepts about what a transit agency is and how one works (e.g., what fixed-ride is, what demand response/shared ride are, how an agency works as far as maintenance, dispatch, and all the components, funding, operations, etc.). The committee also identified areas of overlap between current courses that could be trimmed, instead focusing on filling in gaps and not reproducing existing training available elsewhere, such as driver training, for example.

An instructional design company specializing in web-based training was hired to develop the courses and modules for a combination of web-based and instructor-led training. The web-based training would provide efficiency, but requires that the content be defined and written ahead of time. The group determined that basic information, such as regulations, would be better suited for online delivery, while hands-on or case study activity would be better delivered in an instructor-led environment. They also decided that the online modules would be prerequisites for the instructor-led courses.

PennTRAIN representatives note that their web-based courses are more than just lectures and slides. They are interactive experiences, enabling the participant to be actively engaged in his or her learning. There are exercises embedded into the training, knowledge checks, and other opportunities for interactivity.

Instructor-led training is more flexible, requires less development time, and can extend or shorten content based on audience feedback. However, it requires travel by the participant, can take longer, and may suffer a lack of consistency across instructors.

Meanwhile, SEPTA proceeded with the development and implementation of a succession planning program. The program was championed within human resources where they developed an SP Project Team. They recognized that this effort required the support of the SEPTA Executive Team to become institutionalized. The SP Project Team conducted extensive field and academic research before approaching the Executive Team. An outside consultant was hired to assist with building the business case before the meeting, to conduct one-on-one executive interviews to identify key leadership competencies, and to ensure consensus among the Executive Team regarding critical success factors.

Program Implementation

The Steering Committee determined that the two primary existing courses (TransitSCORE and the Professional Supervisor Program) were dated and could be combined to be more efficient. The PILDP was developed along three “tracks.” The first track provides basic information for any level of transit employee and consists of online modules only. It is referred to as “Transit 101” and covers such core topics as communication skills, customer service, funding, passenger assistance, and disability awareness.

Track 1 modules are a prerequisite for the second track. Track 2 is designed for managers, supervisors, and employees aspiring to become supervisors. It is delivered via a combination of online and classroom instruction. This training covers topics like prioritizing, delegating, ethical leadership, and establishing an effective organization. As the learner progresses to the more advanced level, they attend the instructor-led training. This training includes exercise, discussion, case study, and interaction. Instructor-led training was thought to be more powerful for teaching topics like monitoring performance, hiring, and recruiting where learners could benefit from discourse.

Finally, the Track 3 was designed for transit employees who want to become trainers. The content of this track is an instructor-development program. The Steering Committee noted that some employees need to be knowledgeable enough to train others at their own agencies to be efficient, as there were not enough trainers around the state. So, the third track was a train-the-trainer program. It covers how to train, how to interact with participants, how to train physical activities that participants really need to perform to understand. It is all instructor-led training.

Table 2-3*PILDP Tracks, Courses, and Modules***Track 1 (online only) – for any level of transit employee:**

- Communication Skills 101: Introduction
- Communication Skills 101: Module 1: Communication Essentials
- Communication Skills 101: Module 2: The Effective Communicator
- Customer Service 101: Introduction
- Customer Service 101 Module 1: Customer Service Overview
- Customer Service 101 Module 2: Passenger Sensitivity and Disability Awareness
- Customer Service 101 Module 3: Passenger Assistance
- Customer Service 101 Module 4: Stress Management and Conflict Avoidance
- Customer Service 101 Module 5: Difficult Customer Service Situations
- Transit 101: Introduction
- Transit 101 Module 1: Public Transit Programs
- Transit 101 Module 2: Transit Funding, Regulations, and Performance Reviews
- Transit 101 Module 3: The Scheduler and Dispatcher
- Transit 101 Module 4: Safety and Security

Track 2 (online only) – for managers, supervisors, and those aspiring to these roles:

- Supervisory/Leadership Skills 101: Introduction
- Supervisory/Leadership Skills 101 Module 1: Understanding Organizational Policies and Procedures
- Supervisory/Leadership Skills 101 Module 2: Establishing a Performance-Based Organization
- Supervisory/Leadership Skills 101 Module 3: Prioritizing and Organizing Your Work
- Supervisory/Leadership Skills 101 Module 4: Delegating Effectively
- Supervisory/Leadership Skills 101 Module 5: Resolving Conflict
- Managing Employees 101: Introduction
- Managing Employees 101 Module 1: Recruiting and Hiring Employees
- Managing Employees 101 Module 2: Managing Performance
- Managing Employees 101 Module 3: Managing Consequences
- Managing Employees 101 Module 4: Coaching and Developing Employees

Track 2 (instructor-led only):

- Supervisory/Leadership Skills 201
- Managing Employees 201

Track 3 (instructor-led only) – for those who want to become trainers:

- Instructor Development

The program was developed during 2012 and was implemented across Pennsylvania through web-based modules and onsite training sessions, accessed via the PennTRAIN website through its Learning Management System (LMS).

PennTRAIN
Pennsylvania
Transportation Resource
And Information Network
Educating the Transit Industry

Home Board Training Register PennTRAIN Calendar About Us Contact PPTA

Log In for Online Training

Hosted as a community service
windstream

Transit Board Training – available now! [Click here for more](#)

PennTRAIN Online Training Transitscore and PSP Trainings

This training is available to all Pennsylvania Department of Transportation Grantees and their transportation providers....free of charge!!!

The Pennsylvania Innovative Leadership Development Program aims to effectively train leaders and managers to proficiently guide transit agencies into the future. In a climate where public funding becomes increasingly scarce, it is important to have in place effective leaders and managers who balance available funding and actively seek ways to improve their transit system.

Our new training program offers online training and instructor-led training in three tracks:

COMPLETE TRACK 1 & 3 TO BE A TRANSITSCORE GRADUATE
COMPLETE TRACK 1 & 2 TO BE A PSP GRADUATE

TRACK 1 - CORE TRAINING
ONLINE TRAINING

This is a pre-requisite course for other tracks but a great core training for all employees. The online program includes Communication Skills 101, Customer Service 101, and an introduction to the transit industry, Transit 101 and more.

Figure 2-2

PennTRAIN's PILDP website

SEPTA, meanwhile, developed a Succession Planning guide and toolkit. The toolkit is approximately 70 pages, and contains detailed instructions on how to assess positions and personnel to develop a succession plan.

The guide is structured around seven elements for the development of succession planning:

- Strategy
- Program Evaluation Criteria
- Program Budget
- Communication Plan
- Eligibility and Selection Process
- Individual Development Planning
- Monitor and Review Process

The toolkit is structured sequentially, based on the key elements and with each section containing methods for identifying key positions and competencies, methods to identify leadership candidates, project plans, executive briefing materials, and assessment tools. Although some of the elements occur simultaneously, others depend on the design of its predecessor(s). The guide walks the reader through the process SEPTA engaged in, the questions asked, and provides sample letters, interview questions, presentations, and so on.

Development of a Learning Management System (LMS)

As part of this project, PennTRAIN determined that it needed an LMS to house the training, even though this was not part of the initial proposal. It decided to add this element from its own funds.

The LMS is the technology platform in which the training modules reside. The learners go to the PennTRAIN website to log in, and the LMS tracks their progress. PennTRAIN evaluated a number of LMS products, but found many to have excessive functionality and complexity. They partnered with a company that used an open source product to customize the LMS for PennTRAIN. It tracks what courses users have taken, and which are unavailable until prerequisites are complete. Learners can leave a module and the LMS saves their progress. When they finish, the LMS delivers a quiz. Learners must get a 70% to pass from the 20 questions drawn at random from a bank of questions. The LMS saves the scores and determines whether the learner can move on. The system will print the certificate, then notify PennTRAIN that the learner completed the module and can now move onto the next module or training. There is a database behind the LMS that provides standard reports and allows PennTRAIN to run statewide queries to see how the system is working for everyone.

By leveraging a custom LMS, efficiencies were gained by PennTRAIN staff. Tasks such as registration notification, setting prerequisite permissions, issuing certificates, providing forgotten passwords, recording scores, and tracking instructor led training attendance are automatically processed by the LMS.

Outcomes

The first goal of PennDOT's program was to effectively identify, train, and provide resources to develop transit leadership and management capacity-building initiatives for every type of transit agency. This goal was accomplished. The project developed the PILDP, 38 modules along 3 progressive tracks. The web-based modules can be used as standalone introductory courses to the basics of transit and service provision, or the learner can continue to progress into instructor-led modules covering more advanced leadership and managerial topics.

In addition, SEPTA's 70-page Succession Planning toolkit is a resource that has been provided to FTA and may be used by any agency as a model for creating their own succession planning program.

The second goal was to develop a comprehensive training program, appropriate and scalable to specific organizational needs which can be easily implemented and tailored to the specific needs of a region to promote national applicability. This goal also appears to have been met (or is in the process of being met), as versions of products developed by this project are being used elsewhere. The State of Maryland had PennTRAIN demonstrate its new online training and, “they were so impressed, they wanted it.” PennTRAIN asked its consultant to adjust it as needed and gave the training to Maryland to use. It also allowed Maryland to use the LMS developed to track its training. Maryland has signed people up for PennDOT’s Track 2 and 3 trainings, as well. “The PILDP has been a huge success story for us, and we’re happy to share it with anyone. Other states I know are interested. New York is interested.”

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$200,000 in federal funds (54% of total project funds). The majority of this went for curriculum development and a lesser portion toward web-module development. There was also a portion for SEPTA’s toolkit development. Matching funds from PennDOT involved \$170,000, including funds for evaluation of existing training programs, web module development, and curriculum development.

In general, PennDOT reported that the budget expenditures were in line with expectations, although it realized during the project it would need an LMS. It paid for this with roughly \$40,000 of its own funds.

Impact

The program has had an almost immediate and substantial impact. According to PennDOT’s calculations, the program has already resulted in considerable cost savings. For example, the attendance costs for 30 attendees of both prior PennTRAIN programs in one year alone was \$201,690. By comparison, assuming a conservative 30 participants per year, the total cost for training for the first year alone was \$14,940. Compared to the original, the new online training amounts to a savings of \$186,750 for the transit agencies for this program alone, in addition to eliminating travel time and other hidden costs. That was 18 months ago, and program representatives believe the cost savings are only increasing as more people attend the training.

More than the cost savings, there is also the core base of knowledge provided to transit employees in Pennsylvania. Everyone PennDOT hires is required to take the Transit 101 training, one of the first assignments employees received when they start. “Without fail, they say how informative it was and they have a true understanding of public transit after those few modules.”

Moreover, because there is now a much lower cost to providing this training, people are being trained that never would have been able to participate before.

Lower-level people are receiving this training, providing more universal access to employees across transit organizations. This may spark interest and make employees more interested in staying with their agency and moving up to other levels.

Another benefit is that when participants show up to the instructor-led training, the instructor knows that they have completed the prerequisites and that everyone is coming in with at least the basic core of knowledge, so there is not a class full of people at very different levels of knowledge.

PennDOT and PennTRAIN representatives report that the whole PILDP program has been more than paid for by savings to date. They are, therefore, sustaining this development effort. They report that the program has been so successful that they recently completed an online Board of Directors of Transit Agencies training program for the State of Pennsylvania. PennDOT put \$150,000 into creating this online Board training, consisting of 15–20 minute modules that they complete one at a time per meeting during a series of several meetings.

PILDP Success Story 1

Crawford Area Transit Authority (CATA) has seen success with the online modules from PennTRAIN. It recently promoted two bus drivers to supervisor positions and found that the online modules provided a great starting point for learning the basics for supervision and general transit management. It reported seeing a distinct improvement in supervisor performance when requiring employees to complete the modules, as opposed to its historical practice of “training on the fly” prior to having access to the PennTRAIN material. As CATA has grown as an organization, the online modules have become a great addition to its training and promotion programs in Meadville.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program suggested by PennDOT representatives include:

- Have a Steering Committee that represents end users and their needs. They should be heavily involved at each step.
- Work with a firm that has expertise on web-based training. Develop training according to adult learning principles to be engaging.
- Keeping training modules short (20 minutes was the target) means some negotiation will occur about what will be included and excluded. When people wanted to add things, we had to consider what would be cut.
- People are busy, so when you work in committee or ask people for information, be concise. Know what you are looking for, get what you need, and move on. Don't drag it out.

- It helps to have a diverse group on the Steering Committee—large systems, fixed grid, demand response, subject experts in ADA, passenger assistance, etc. You need subject experts on the team.
- Make sure you have a documented review process to review everything written and every picture to make sure it is correct. That's a labor intensive process, but well worth it.
- Divide and conquer. PennDOT had different sub-groups, subject matter experts, and those raising issues in which they had a vested interest were responsible for developing or editing content. Different amounts and types of content were dispersed to different people, and second opinions were obtained, then the whole committee reviewed the final drafts.

Conclusion and Further Investment Recommendation

The PILLDP project met the goals it set out to achieve. PennDOT has developed a mixed-media training program that is appropriate for new employees but progresses to increasingly advanced training for supervisors and managers. The web-based portion of the training was carefully developed, starting with a thorough needs analysis and resulting in a series of short, interactive modules. It is housed in a custom LMS developed for PennDOT to track trainee progress. It has supplemented this training with a toolkit to aid agencies with succession planning.

The project appears to have created efficiencies that save agencies training funds and opened training up to more people. It has been well-received internally, and been shared with transit agencies in their states with minor modification.

This program appears to be a program worthy of further investment by FTA. In an age in which turnover will be substantial across the industry, taking advantage of the efficiencies of well-developed web-based training is proving to be an effective way to provide the fundamentals to a wide audience. This makes the instructor-led portion more efficient and effective as all participants have demonstrated their mastery of the prerequisites. Further investment may come in the form of sharing this program with other agencies looking for similar introductory and managerial training and succession planning assistance. The online modules can be readily shared, and agencies can model their instructor-led portion on the model used in the PILLDP.

Likewise, this funding might go toward creating other carefully-developed modules in the same manner to supplement those that have been developed, thus broadening the catalog of training available.

PILDP Success Story 2

Three Operations Supervisors from one agency completed the Professional Supervisor training, taking the classes before they were even online. All three were promoted from bus operators to Operations Supervisors. One maintenance employee completed the online portion of the classes and was promoted from Mechanic to Working Foreman. Another was promoted from Mechanic to Fleet Manager.

River Cities Public Transit – Center for Transit eLearning

Background and Problem Addressed

River Cities Public Transit (RCPT) serves an area that includes central South Dakota and part of North Dakota, an area twice the size of the state of Maryland. RCPT provides 300,000 trips per year (up from 12,000 in 2001) with just 94 full and part-time employees based in Pierre and six off-site locations, including a transit agency that serves the Cheyenne River Sioux Reservation. Parts of the RCPT system run 24 hours per day.

Despite training's many benefits, rural transit agencies have challenges providing high-quality training. These challenges include travel time, inflexible schedules, high costs, unmet training needs, a lack of formal programs and certifications, small staff sizes making in-house training prohibitive, too much time required on fundamentals, and ineffective or inconsistent training. In 2009, RCPT hired a transit training expert and is one of the few rural agencies to have in-house training expertise. RCPT recognized that with a growing staff and operations, increasing skill demands, and growing costs, they must innovate to meet their training needs.

Proposed Workforce Solution

RCPT proposed development of the Center for Transportation eLearning (C-TEL), an accessible, scalable, sustainable online learning system that will meet the diverse training needs of transit employees. C-TEL was to be built and managed by RCPT in conjunction their partners. It would use a proven eLearning technology platform to provide high-quality, low-cost training solutions to transit employees regardless of agency size or location. C-TEL would be centered around a Learning Management System (LMS) that would be both a virtual meeting place for administrators, instructors, and participants and provide the necessary delivery, tracking, and management of C-TEL training activities.

C-TEL was expected to provide several potential benefits:

- Low-cost, high-quality training for transit agencies regardless of size or location
- Access anywhere there is Internet access, with some courses available 24 hours a day
- Innovative learning methods including game-based techniques to test learning
- A catalogue of courses on a wide variety of transit-related topics
- Content by partner organizations modified and offered on C-TEL
- New national certifications could be developed such as a Certified Community Vehicle Operator
- C-TEL standards will ensure uniform consistency and effectiveness
- C-TEL will be built on a self-sustaining business model so it pays for itself over time

Proposed goals for the program listed in the application were to:

- Develop an accessible, scalable, sustainable online learning system.
- Provide high quality, low cost training to agencies regardless of size.
- Develop at least 80 hours of content, including 16 short courses, 8 hour-long courses, 4 half-day, and 2 full-day courses, with at least half of the courses for drivers, dispatchers, schedulers, and other non-management personnel.

Partnerships

RCPT engaged several partners when developing the C-TEL proposal. One partner was the Community Transportation Association of America (CTAA), whose role was to create a curriculum for drivers and a Certified Community Vehicle Operator certificate. It would also create primers and refreshers for those attending CTAA EXPO onsite training (short pre- and post-training programs to prepare learners for the course, and reinforce what was learned). A second partner was the National Transit Institute (NTI), which was expected to help update RCPT's existing courses for C-TEL, establish a way to provide Continuing Education credits for C-TEL, and liaise with FTA on the use of NTI courses in CTEL. Although not initially a partner in the proposal, the Small Urban and Rural Transit Center (SURTC) joined the project as a partner during the grant, as there was a prior relationship between a key team member and SURTC. The National Rural Transit Assistance Program (RTAP) recently came on as a partner. National RTAP's Safety Training for Rural Transit (START) is being adapted for C-TEL.

Despite initial interest, as the project progressed partnerships did not develop as intended. CTAA became concerned that C-TEL could become a competitor as a

training vendor. RCPT project staff tried to reassure them RCPT had no interest in doing so, but CTAA's engagement is limited to short pre- and post-training modules around CTAA's large EXPO on-site training. NTI had excellent courses, but RCPT project representatives found that its material was not applicable to the rural transit setting. To date, nothing has come from this relationship.

Program Implementation

Program Development

The RCTP project team had an initial business plan to begin the program. The vision is to become a national provider of eLearning for transit. The project team was unsure about the nature of their partnerships at the outset, so they modified their plan as they met with partners and learned more about what would or would not be feasible. The RCTP representatives indicated that more important than the business plan was the process of developing partnerships, such as finding course developers and content partners. They found that they could not pattern this effort on anything else and needed to remain flexible. They conducted a survey of rural transit agencies about how they get training that helped inform the development of the project. They determined the first key steps were to procure the LMS and then spend a considerable amount of time on the first few classes to ensure they were high quality to get the project moving in the right direction. They wanted to ensure that once participants took a C-TEL training program, they were happy with the training. This meant they had to find people to thoroughly pilot test any courses before they were made available because changes afterward became significantly more expensive.

Program Implementation

The first step in implementation was the procurement of the LMS to house the program. The RCTP project team created a list of functions they wanted from an LMS, for example testing, automated printing of a certificate for a passing score, tracking of metrics like time on course, tracking of course progress so a person can pick up where they left off, etc. Because their staff was not uniformly computer literate, the project team also felt it was critical to find an LMS that was simple to use.

A SURTC employee was very knowledgeable about these types of systems and helped the project team select among the options. After conducting research on different systems, the team decided on a product called Moodlerooms, an enterprise open-source LMS. It was significantly less expensive than other commercial products and was scalable for anticipated C-TEL growth in the future. (Moodlerooms was shortly thereafter acquired by Blackboard.) They underwent the process of learning how to administer the LMS, load courses, register participants, etc. The process of implementing the LMS was reportedly smooth, as the system is used worldwide by millions of people. A former Moodlerooms

employee hired as a consultant was able to address any issues that came up. Minor administrative problems were addressed as they arose, such as registration emails from the system being blocked by spam filters.

The development of classes began with identifying topics or courses that would be developed or partners that had content to put online. To select a vendor for creating the web-based modules, each course went through the FTA prescribed Request for Proposal (RFP) process. The winning firms were either given content, or the firms sent instructional designers to work with subject matter experts from the partner organizations. Courses were then thoroughly pilot tested by RCTP members before being uploaded to the LMS.

A challenge was how to set pricing. The goal of the project team was to keep each course below \$100 per participant. Commercial courses can begin at \$299. Some partners provide free training, which makes it difficult to justify charging for the content via C-TEL. However, even if the partner's course is free to attend, there can still be travel costs associated with sending participants (e.g., travel, hotel, per diem). In some cases, the project team had to find a model to compensate the partners that provided content.

As shown in Figure 2-3, there are currently only two classes on the system:

- Wheelchair Securement, which covers the correct way of securing a wheelchair passenger on a cutaway bus
- Hiring the Right Staff, which covers how to hire personnel, create job descriptions, write questions, and interview.

There are also three courses currently under development for C-TEL:

- Financial Management, a course that will help participants from small transit systems run their financial operations. The program will be challenging but not too complex and will follow FTA guidelines.
- Supervisory Training, developed with the help of CTAA. There will be three types: standalone training, pre-course training for CTAA's class at conferences, and recertification (every 3 years).
- Safety Training for Rural Transit (START) from National RTAP. RTAP paid for the development and conversion to web-based training. It will pay RCPT a small fee for management costs and use of the LMS and is testing this approach with a one-year timeline for the arrangement. The goal is to have this one completed by the end of the 2nd calendar quarter in 2015.

Figure 2-3

C-TEL Website

CTeL The Center for Transportation e-Learning
Training Opportunities for All

Home About CTEL Contact Benefits of e-Learning Survey Course Descriptions

Developed and Managed by
River Cities Public Transit

River Cities
Public Transit

1600 East Dakota Ave.
Pierre, South Dakota
www.rcptransit.com

facebook

Feedback

Name:

Email Address:

Check out these course description videos:

- **Wheelchair Securement**
- **Hiring the Right Staff**

CTel Wheelchair Securement
Silver Horizon Award!
Click Here!

CTEL e-Learning courses are...
"Self-paced. Designed to allow the participant to master the subject matter covered in the course."

Recruiting Content Partners and Participants

To date, the RCPT project team has been more focused on getting additional partners or content providers interested in putting their content onto C-TEL, as well as getting the word out about the system. "We want to be the go-to LMS for transit in the country." They have attended five or six vendor shows with banners and materials to hand out about C-TEL. For example, they have attended two CTA conferences, SWTA, and the Rural Intercity Bus Conference. They note that Minnesota has expressed some interest in using C-TEL content.

To date, they have had roughly 250 people take the Wheelchair Securement class after the first year it has been available. Interestingly, according to RCPT, approximately 33% of those participants have been from outside the United States. Roughly 25 people have taken the Hiring the Right Staff course, which has received less publicity.

The RCPT project team representatives noted that they believe they need to stay the course and continue promoting until they have a larger course catalogue to offer. Right now they need to stay the course and keep developing content.

Outcomes

The first goal of the C-TEL project was to develop an accessible, scalable, sustainable online learning system. This goal has been accomplished, as RCPT has procured the use of an LMS platform that can scale from 5,000 to 50,000 users as needed and provides the core functionality needed to administer the C-TEL.

The second goal of the project was to provide high-quality, low-cost training to agencies regardless of size. This goal has also been accomplished, at least in part. RCPT has created two courses, with three more in development. Courses are priced at or below \$100 and can be taken from anywhere the participant has Internet access. Their first course, Wheelchair Securement, won Silver in the Horizon Interactive website design competition, a 13-year-old international competition recognizing excellence in interactive design. It also has attracted users from overseas. Unfortunately, they have not yet implemented course evaluation ratings that would provide more direct user feedback.

The third goal of the C-TEL project was to develop at least 80 hours of content, including 16 short courses, 8 hour-long courses, 4 half-day, and 2 full-day courses. At least half of the courses were to be for drivers, dispatchers, schedulers, and other non-management personnel. To date, this goal has not yet been accomplished. RCPT is making progress in this direction, and three courses are in development, but they have not yet achieved the depth of content they intended and hope to have in the future. In part, they note that this was due to the perceived importance of having the first courses be outstanding.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$275,000 in federal funds for the C-TEL project (approximately 60% of total project cost during the grant period). The bulk of the cost was for professional fees for instructional designers and subcontracts, staff salaries, and the LMS. Matching funds were proposed from the various partners (each contributing roughly \$4,000 to \$7,000) and RCPT providing \$102,000 in overhead costs, for a total proposed match of \$129,213. RCPT project staff estimated that they spent at least this much and perhaps a bit more in staff time and overhead across the length of the project. They estimated coming closer to \$150,000 during the project period.

In general, RCPT reported that the budget expenditures were mostly as expected. It found that it was able to get the LMS for a slightly lower cost than anticipated and spent more on course development, review of the course material, changes to courses after pilot testing, and travel to promote C-TEL.

Impact

The impact of the C-TEL is just coming into fruition. Locally, RCPT has put all of its drivers through the wheelchair securement course, which has already made the project successful in their view, as it saved considerable time and cost. It has recently improved its hiring and on-boarding process, having taken to heart the lessons of the Hiring the Right Staff training. RCPT representatives believe it has paid off in that drivers are more prepared for the job, and they have had good staff retention. Because RCPT also runs two other transit agencies, and when it takes over operation of 20–30 employees, having some online training available has been invaluable.

C-TEL Success Stories

Because C-TEL is web-based, it does not always have direct contact with trainees; however, it does receive feedback. The entire staff of a medical transport company in Orlando is taking the wheelchair securement course. It accepted this training as credible wheelchair securement training and is allowing the provider to continue service. A representative told RCPT that “it is by far the best online training he has ever experienced.”

Another small company in Michigan had two drivers that needed certification to be eligible to win a desired contract and provide service. They took the course, and C-TEL gave them signed completion certificates. The company won the job.

Another small company in southern Nevada noted that its Director had to travel many miles to provide training to a remote site. After finding the wheelchair securement course, she no longer needs to travel to provide this training. She is requiring all of her staff to take the course.

An individual transit operator in Hawaii called to compliment RCPT on a job well done in developing the course. He said he was going to require all of his staff to take it.

C-TEL has not achieved a nationwide reach yet. RCPT believes that this will continue to improve once it has a menu of courses to cover more of the gamut of transit needs. It is currently focused on continuing to develop course and find partners with content.

This is one of the few projects that has a truly built-in sustainability plan. The goal is to make C-TEL self-sustaining. RCPT estimates that it will need 2,000 annual participants paying \$50 to \$70 per person to sustain C-TEL. Management training programs might be priced higher and bus and dispatch courses lower. This could be a function of both the level of the training and the numbers of participants taking it. As a benchmark, CTAA had 17,000 participants take its driver training course. There is demand; the key will be forming partnerships and not competing.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program from RCPT representatives include:

- Work with C-TEL; do not “reinvent the wheel.” It has already put in the hard work to create a system.
- It is much more cost effective to change content before it is finalized and goes live. After that time, it becomes more expensive to make changes. Be sure your review and pilot tests are thorough.
- The first courses are critical for acceptance of the system. Devote the time and effort to be sure they represent the quality you want to promote for your system.
- Take recommendations from people, be open to input.
- Flexibility is a key. A project like this does not often go as planned, but there are opportunities you will not have anticipated.

Conclusion and Further Investment Recommendation

The C-TEL project met the goals of establishing a platform to be a center for eLearning and has populated it with some initial high-quality content. The task remaining is to populate it with additional content and publicize it to gain sufficient users to at least be self-sustaining.

Having one or more centers for transit eLearning seems like a worthy investment. Clearly, high-quality interactive web-based training is an efficient model, and many transit agencies have similar training needs. Even if C-TEL focused only on rural training needs (as it is doing to some extent), they could be a boon to many such agencies.

Several of the Innovative Transit Workforce Development projects have developed web-based training content (e.g., PennDOT’s Innovative Leadership Development Program or UTA’s Blended Leadership Training program). Whether C-TEL will ultimately become “the” repository for such training and whether it can identify its optimal cost structure are challenges.

FTA should continue to fund the development of quality web-based training programs to help develop transit personnel. The two basic questions for FTA to consider are how to avoid competition with the private sector as a training developer and how many “repositories” of this training to support. The first question can be addressed by ensuring proposed training programs examine the market to build a case that they are not redundant before development. The latter is more difficult, because if too many programs are developed by different agencies, then there can be unnecessary redundancy as agencies produce similar content. Perhaps a “center for excellence” model would avoid this problem, where each repository can focus on particular areas of transit training. For

example, C-TEL could become a rural center for excellence, and others might focus on urban transit, leadership, advanced technology in busses, advanced technology in rail maintenance, etc.

UMass Transit Service – Certificate in Transit Management for College Students

Background and Problem Addressed

The UMass Transit Service is a contract carrier for the Pioneer Valley Transit Authority located in Western Massachusetts. UMass Transit operates 12 routes originating from the University of Massachusetts Amherst campus to 4 other colleges and 8 surrounding communities. The bus system carries 18,000 passengers a day and 2.6 million per year, traveling more than 1 million miles annually. The system operates 22 hours per day during the academic year. UMass Transit employs 15 full-time staff members and 200 students who clean, drive, perform minor maintenance, and dispatch the buses.

The UMass Transit proposal noted that according to American Public Transit Association (APTA), more than 50% of public transit workers could retire within 5–10 years. APTA further suggests that attracting and training a diverse workforce able to deliver high-quality service that can effectively and efficiently respond to the evolving needs of public transportation customers is critical to future success. Therefore, this project was geared toward attracting young, educated individuals into careers in public transit. Over the prior 30 years, UMass Transit was able to identify 30 student drivers who went on to transit careers. Their intent was to create a program that could bring 8–10 students each year into transit, representing a large increase. To do this, a program was needed to expose students to a broader view of transit careers and better prepare them.

Proposed Workforce Solution

UMass Transit proposed to create a Certificate in Public Transit Management and Operations program for students working toward undergraduate and graduate degrees who have an interest in transit. The certificate would be issued jointly by UMass Transit and its partners, the University of Massachusetts Transportation Center (UMTC) and CTTransit. Many students gain experience with transit as part-time drivers for UMass Transit. This certificate program would expand their vision of what transit careers can be to include management and technical positions, and prepare them for work in these careers through a rigorous program of coursework and internships in transit agencies.

The Transit Management Certificate program was expected to have several potential benefits. It would:

- Provide students with an educational and hands-on experience with employment opportunities in the Public Transit industry
- Serve as a model to other public transit agencies and universities in New England and elsewhere interested in encouraging college students to consider careers in public transit

Proposed goals for the program listed in the application were to:

- Demonstrate ways local transit agencies might work with university transportation centers to recruit college graduates to work in the transit industry.
- Increase the likelihood that participating students will consider transit employment opportunities upon graduation.
- Offer certificates to 12-18 students who would receive education, training, and hands-on experience regarding job opportunities in the transit sector.

Partnerships

UMass Transit had two partners in this endeavor. The UMTC is housed in the College of Engineering and is a USDOT-funded University Transportation Center. UMTC conducts research and training on transportation-related issues (e.g., transportation congestion, safety, and air quality) and provides technical assistance to agencies. The Department of Civil and Environmental Engineering and UMTC run the Massachusetts Regional Traveler Information Center (RTIC), a real-time highway and transit traveler information system covering 2,500 square miles of the western part of the state. This would serve as a teaching laboratory for the program.

CTTransit, the second partner, is a private transit management company in the Hartford, Connecticut, area, approximately 40 minutes from the Amherst campus of UMass. It is an operating arm of First Transit, a U.S.-based private transit management company, and provides transit management services for Hartford and other cities in Connecticut. The CTTransit General Manager sat on the advisory board of the certification program and assisted in the development of a year-end workshop. He was also the contact for sending interns to CTTransit.

Massachusetts Bay Transit Authority (MBTA) in Boston joined as a partner during the grant term. The project team invited an executive from MBTA to their first workshop as a speaker. Their interest in workforce development led them to join as a partner. Initially, their role was to be a part of the program's first year-end workshop. As they learned more they asked to deepen their involvement and for students to serve as summer interns.

Partnership formation reportedly was a simple process. There were prior working relationships among everyone involved, with the exception MBTA. In fact, representatives from the project reported that the proposal was built on activities underway at UMass for 10 years or more, including work with AFTA in workforce development, work on workforce development taskforces, and in placing students with CTTransit. The grant represented an opportunity to formalize these activities into a more comprehensive, organized program.

Operationally, the core team (the UMTC academic unit and UMass Transit) would meet frequently to discuss administrative matters and communicated effectively via conference calls and e-mail. The project's full oversight committee met annually, and the project team tried to keep them updated quarterly. Each project partner appears to have performed well, as feedback on the courses and internships were positive.

Program Implementation

Program Development

The first step by the project team was to form an Advisory Committee, which was made up of representatives from the partners, from other transit operations, and the Project Coordinator. They provided basic advice and oversight. There were initial plans to include representation from a union and regional FTA, but that did not materialize.

The core of the Certificate Program was already in place. For example, there was a series of transit management courses offered by a member of the project team from UMass. However, a certificate program must be approved by the Faculty Senate to ensure the integrity of such programs. In addition, they had to get approval from other departments to allow their students to take classes as electives. (For example, the project team wanted to give their students the opportunity to take business courses as electives in the certificate program, but this requires the approval of the Business School.) Although they expected this to be a simple process, it ended up taking two academic semesters and many meetings with representatives of the Faculty Senate and department heads to ultimately get the necessary approvals.

Recruiting and Selection

Once they were ready to begin, a graduate student developed a brochure for the Certificate Program that was distributed to the Transportation Center and to UMass Transit employees. It was also publicized in an electronic newspaper. The program was also promoted within the College of Engineering. Their first class offering was set at 12 people to assess how the program went.

Figure 2-4

Brochure for Transit Management Certificate Program



Graduate Certificate in Transit Management and Operations

“Within the next 5-10 years more than 50 percent of transit industry workers are expected to retire.” - APTA

UMass Transit, in partnership with the UMass Transportation Center and CTTransit, are pleased to offer “A Certificate in Transit Management and Operations” to students at the University of Massachusetts.






This exciting program includes:

- Formal course work in Civil Engineering and the School of Management
- Internships with UMass Transit and CTTransit
- A summer workshop with transit professionals
- Opportunity for non-credit workshops through NTI, ITE and CITE
- Hands on experience in the exciting world of public transportation

For information on the program please contact:

Allan Byam
UMass Transit Service
Bus Facility Building
University of Massachusetts
Amherst, MA 01003

Phone: 413-545-0056 Fax: 413-545-1930
Email: aeb@admin.umass.edu






Gain valuable hands-on, real world experience through internships with UMass Transit and CTTransit plus the educational background needed to become a successful leader in the transit industry.





CTTransit

CTTRANSIT, Inc. is under contract to provide transit management services in Hartford and other cities in Connecticut. CTTRANSIT is an operating arm of First Transit a U.S. based private transit management company with more than 51 years of experience in passenger transportation contract and management services in the United States, providing operation, and management. They provide consulting for nearly 150 systems in 42 states, Canada and Puerto Rico for transit authorities, state departments of transportation, federal agencies, municipal organizations, and private companies. First Transit employs more than 7,300 dedicated transit professionals.



Potential Courses

CEE 510	Public Transportation Systems
CEE 518	Intelligent Transportation Systems
CEE 509	Transportation System Analysis
CEE 596	Independent Study
CEE 611	Transport Investment & Pricing Analysis
SCH-MGMT 521	Leadership Communication
SCH-MGMT 632	Information Management
SCH-MGMT 660	Marketing Management
SCH-MGMT 770	Human Resource Management
LABOR 741	Introduction to labor
ECO 6971	Info Technology - Public & Nonprofit Sectors
M&I-ENG 754	Economic Decision Making II
PUBP&ADM 602	Public Management
PUBP&ADM 660	Marketing Management
PUBP&ADM 770	Human Resource Management

UMass Transit Service

UMass Transit Service is a contract carrier for the Pioneer Valley Transit Authority located in Western Massachusetts. The bus system runs 12 routes, carries 2.6 million passengers per year and travels more than 1,000,000 miles. Service is operated by 15 full time employees and 200 students who drive the buses, dispatch, clean, train, perform minor maintenance and staff responsibilities. UMass Transit has been a fare free public transit system since 1969 and is one of the original demonstration projects funded under FTA's (formerly UMTA) Service and Methods Demonstration Program.



Potential Job Opportunities in the Field of Transit Operations

Operations Supervisor • Transit Manager • Manager of Safety • Assistant Manager - Transit Operations • Transit Base Superintendent • Transportation Planner • Manager - Rail Operations • General Manager • ITS Specialist



Transportation Center

The University of Massachusetts Transportation Center (UMTC) was established in the early 1990's and is one of the official University Transportation Centers (UTCs) approved and funded by the U.S. Department of Transportation. A major goal of the Center is to promote comprehensive transportation research and training activities that engage academic resources throughout the University of Massachusetts System.





Interested students completed a detailed application. Two program staff members then interviewed the participants to ensure they understood the program and were ready to participate. Between the two cohorts, 25 students were accepted. A few were turned away because they did not meet basic prerequisites. The program attracted roughly half of the students from the Department of Civil and Environmental Engineering focused on transportation, but there were also students studying management, political science, legal studies, computer science, regional planning, and landscape architecture.

The end-of-the-year workshop was advertised more broadly, particularly the second year. At the first workshop the goal was 30 attendees total. They advertised with the New England Public Transit Association (NEPTA) and were able to fill the workshop. They opened the workshop to transit professionals in the New England area and were interested to get feedback on whether such a program would be useful to others and could be expanded.

Program Implementation

The initial design of the program, as per the proposal, was to have each student enroll in four credit and non-credit courses. In addition, each student was expected to be employed as a bus driver for at least 500 hours and receive another 500 hours of experience through an internship with UMass Transit, in the RTIC, or with CTTTransit.

Based on Faculty Senate feedback, the project team adjusted these requirements. Based on a concern about student time, they reduced the work and internship hours to one 200-hour internship. The academic requirements were adjusted to include five classes, comprising two required courses and three electives. The two foundation courses required of all students were:

- Public Transportation Systems, an introduction to public transportation systems and focused on the many facets of public transit
- Intelligent Transportation Systems, a critical review and analysis of intelligent transportation systems as applied to the management and operation of surface transportation facilities and technologies

Students selected at least three electives from the following:

- Introduction to Accounting
- Introduction to Transportation Systems
- Special Topics Transit Management
- Transportation Systems Analysis
- Transportation Investment and Pricing Analysis
- Logistics and Transportation Functions
- Introduction to Operations Management

- Introduction to Law
- Principles of Management
- Economic Decisionmaking
- Urban Government and Politics
- Public Management
- Organization Theory and Design
- Economics and Public Policy
- Financial Accounting
- Information Management
- Marketing Management
- Human Resource Management

The program staff met with the students individually to discuss what electives made the most sense for them based on their current course of study and their goals. The primary difference between the undergraduate and graduate certificate was the coursework. Graduate students were required to take upper level elective courses. Undergraduates with ambition may elect to take graduate level courses, but they were not required to do so. The students were also required to attend a professional development workshop, set up by the certificate program, and offered at UMass.

Every program student also had to complete at least 200 internship hours with CTTransit and UMass Transit (or similar-size transit agencies). The student was expected to split the 200 hours between UMass Transit and CTTransit, with a minimum of 100 hours at each so the student gained experience in both a small and large transit operation. The internships provided the student with real-life experience in the transit field.

The UMass internship was completed over the course of a year to ensure that students had enough time to both attend classes and complete the internship. The CTTransit portion of the internship was fulfilled during the summer session months when students had greater availability to travel to that facility.

During the internship, the students shadowed staff members from various departments, attended lecture-type classroom learning, and participated in fieldwork. Each intern had a checklist and sign-off sheet that their supervisor approved.

Although the proposal indicated each student would receive bus driver training and be employed as a bus operator, this turned out not to be feasible due to the need to have a commercial driver's license. If students were already bus drivers, they could continue. Otherwise, they did more hours of the program in other aspects of the internship, such as working with UMass Transit staff on day-to-

day management and operational issues in the dispatch center and the Regional Traveler Information Center (RTIC), or in the routing and scheduling office.

Workshops

The certificate program held a workshop for both their students and transit professionals. The project team conducted two such workshops (in March 2013 and April 2014). Both workshops were attended by participants from various institutions from around the New England region. The goals of these workshops were to 1) bring together students and professionals under the auspices of the certificate program, 2) encourage regional transit authorities located near a university to consider a program like this one, and 3) educate local professionals on modern issues and solutions within transit.

More than 25 people attended the first day-long workshop, with students and representatives from several area transit agencies, including four that were not partners in the project. The second workshop saw an increased attendance of over 30 individuals representing various local and regional properties, including several from the prior year and four additional transit agencies. (In total, students were 26% of the participants.) Topics at the workshops including electric bus implementation, bus rapid transit, and modern mechanical repair techniques. This second workshop also included a 90-minute group discussion on addressing the problems with transit labor in the near future. This discussion touched on topics from union relations to workforce development.

After each workshop, the project coordinator administered a survey inviting feedback from those in attendance. Out of a possible 10 points, cumulative average ratings ranged from 8.7 to 9.4, indicating that the workshops were very well-regarded by those in attendance, as was the certificate program. In fact, the two highest-rated items were about the likelihood of recommending the certificate program to others (9.1) and the benefits of the certificate program to the transit industry (9.4).

Outcomes

The first goal of the Certificate in Transit Management project was to demonstrate ways local transit agencies might work with university transportation centers to recruit college graduates to work in the transit industry. This goal has been achieved. UMass Transit and their partners have created a unique program aimed at attracting college-educated students into transit. They have successfully attracted a cadre of students from various disciplines into the program. Moreover, they have conducted workshops to publicize this program to other transit agencies that could work with nearby universities to develop a program modeled on the UMass program.

The second program goal was to increase the likelihood that participating students would consider transit employment opportunities upon graduation.

Without a carefully-constructed study, it is impossible to assess whether students are actually more likely to consider transit or whether students already interested in transit self-selected into the program. However, an exit survey of students conducted by the program staff indicated that all of the students at least intend to pursue a transit career. Those certificate earners who have found employment have indeed gone into transit or transportation.

The third goal of the program was to offer certificates to 12–18 students who would receive education, training, and hands-on experience regarding job opportunities in the transit sector. This goal was clearly met. The program attracted 25 applicants, and 19 students entered the program. A total of 7 have attained the certificate (5 graduate students and 2 undergraduate), and 12 were near completion as of this report (6 graduate students and 6 undergraduates).

The program was well-regarded by the students who completed it. Program staff surveyed students at program exit to gauge satisfaction and again three months later to determine employment outcomes. Results indicate the average overall rating for the program was 8.6 out of a possible 10 points. Ratings of all elements including staff availability, internships, and field trips ranged from 8.9 to 10. Of the three follow-up respondents, all reported finding jobs in transportation or transit.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$127,284 in federal funds (74% of the total project costs). UMass Transit proposed adding \$38,281 in matching funds from the partners in the form of Project Director and other staff salaries and benefits and indirect costs. Program representatives indicate they probably put in 10–20% more time than originally estimated for the proposal.

In general, UMass project staff indicated that the budget expenditures went according to plan. One initial problem area was the cost of paid internships, which would have been higher than budgeted. UMass Transit resolved this issue by decreasing the required internship hours. The majority of project funds (federal and matching) went to staff and Project Coordinator salaries and benefits, and paid internships for participants. UMass devoted additional time into matching mostly due to the difficulty of getting the program accepted by the Faculty Senate and getting departments to permit students to take their courses as electives.

Impact

UMass Transit and their partners have created a unique program that met all project goals. No other project among the Innovative Workforce grants is devoted to specifically targeting students in college and graduate school to promote and support interest in transit careers.

The program has been well-received by both academia and industry. For students, it has provided the education, exposure, and a certification to help them transition into transit careers. Those awarded the certification believe it had value. UMass Transit representatives reported that a few students were asked about the program on job interviews because the interviewer had never seen a program like it. The certification helped these students win the job. One graduate student indicated to UMass Transit staff that the certification helped him get onto hiring short lists at major consulting firms (coupled with an MS in Engineering).

UMTC felt the program added value to its Engineering program. The program helps to attract students when they learn that at UMass they can earn a certificate just by doing course work and an internship. Plus, the program helps close the gap between the theory and practice of transportation

Those in industry, too, have been supportive. When they attend AFTA and other industry meetings, they often get questions about the program. This demonstrates the potential excitement, as people ask, “When will it be available to us?” Two students in the program received scholarship awards from the NEPTA to help them pursue their education. Ultimately, the program has been successful at having at least three of the initial seven certificate earners begin careers in transportation.

Now that the grant is over, the project team will sustain the program at least to make sure those still in the program complete it. Afterward, the program depends on local budgets of UMass Transit and UMTC to see to what extent they can continue support. Paid internships are a high-cost item. UMass Transit, UMTC, or one of the partnering transit properties could potentially fund them. This has yet to be fully explored. Program staff also noted that to date, all participants were fully matriculated students earning degrees. But there is a long-term plan to move into Continuing Education as well. They could bring back students already graduated who want to continue their education or learn more about public transit. Unfortunately, they have found that going through the UMass Continuing Education program is costly. Unless a transit agency has funds to further education, the continuing education notion is in doubt at this time.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program from UMass Transit representatives include:

- Students from many collegiate backgrounds have interest in a career in the transit industry.
- Students respond positively to hands-on experience that is beyond the normal experiences expected in an academic program.

- To establish a program similar to this certificate program, staff must account for the potentially lengthy process needed to gain approval from the leadership of various academic departments before the program will be fully ready to implement. They must also prepare for the questions from the academic faculty about the program.
- Although it was relatively easy to establish the program with matriculated students, making the program available as a Continuous Education program for professionals can be hindered by systemic challenges and financial implications.
- This program was developed at a very transit-friendly campus with very academically-friendly transit operators. This combination contributed to the success of the program.

Conclusion and Further Investment Recommendation

The UMass Transit Management and Operations Certificate program met the goals it set out to achieve. Currently, the impact of the UMass program is only moderately high, simply because it is a relatively small program, graduating at most 19 students under the grant. However, given that in the past 30 years UMass identified only a handful of students that moved from UMass transit jobs into transit careers, a program that helps even a small number of students prepare and move into transit careers on an annual basis can create a pipeline for transit agencies in surrounding area. More importantly, the program could serve as a model for other college and university certificate programs and have a much broader future impact.

Given that transit associations nationally have focused on the importance of a well-educated workforce capable of meeting the many challenges that face transit agencies—from leadership turnover to evolving technology—programs that help expose, attract, and prepare college educated students into transit careers is a worthwhile investment.

In trying to replicate the program elsewhere, it is worth noting the key elements that the certificate program UMass Transit staff identified as important for a successful program:

- A transit property that employs student hires
- A university Transportation Center focused on education and research in transportation
- A well-established Transit Graduate Degree Program
- A university-operated transit system

A secondary benefit to the program was the interest it generated from the transit industry. Several transit agencies attended the two day-long workshops hosted by the program. One large transit agency partnered to provide internships

upon learning about the program. It is unfortunate that the systemic and overhead cost challenges have to date prevented the program from implementing a Continuous Education version. This also might be an area for further investment.

Utah Transit Authority – Blended Learning Leadership Training Program

Background and Problem Addressed

The Utah Transit Authority (UTA) operates a fleet of more than 600 buses and paratransit vehicles, 400 vanpools, 146 light rail vehicles, 63 commuter rail cars, and 18 locomotives in a 1,600-square-mile service area that stretches over 6 counties from Payson to Brigham City. UTA serves approximately 1.8 million people and operates in one of the largest geographical service areas of any transit agency in the nation.

Ridership growth, capital construction projects, advancing technology, and an aging workforce highlight the need for UTA to attract, develop, and retain talented people who will be the future of the transit industry. In the years prior to the proposal, UTA saw a 3% increase in ridership. UTA's current construction projects will further increase ridership as they implement their "70 miles in 7 years" program that includes 5 new rail lines targeted to open in 2015. At the same time, UTA faces the looming challenge of an aging workforce. The average age of supervisors at the time of the proposal was 49. Of those supervisors, 63% were age 50 or older, and 45% were age 55 or older. UTA faced the potential to lose 23% of its supervisory workforce and 27% of its total workforce to retirement in the decade following the proposal.

Preparing the next generation of supervisors and leaders was imperative. UTA recognized that well-trained supervisory personnel are required for effectively running a transit agency. It undertook a deliberate systematic effort to ensure the continuity of leadership as supervisors retire. Improving training for supervisors means improving the quality and frequency of training, while concurrently increasing the flexibility and affordability of delivering this training.

Proposed Workforce Solution

To address the challenge of training future leaders, UTA began to develop a Leadership Certificate program with the University of Utah to assist with the transfer of knowledge and skill to mid-level supervisors who will lead UTA in the future. UTA proposed to improve its existing essential supervisor and leadership development training by developing new supervisor training content and innovatively developing a new computer-based training (CBT) delivery system to improve the distribution, quantity, and timeliness of training.

UTA proposed to continue its strategic partnership with the University of Utah to augment their existing supervisor and leadership development training to complete the Leadership Certificate program, including learning and coaching sessions as well as succession planning exportable to all U.S. transit agencies.

The Blended Leadership Development approach was expected to:

- Enhance skills and knowledge of supervisory personnel to have an agency better prepared for anticipated upcoming retirements
- Provide CBT that could be used or modified by other agencies according to their needs
- Provide a model and training curriculum for addressing leadership competencies and behaviors

Proposed goals for the program listed in the application were to:

- Enhance the skills and knowledge of supervisory personnel with new supervisor training delivered through a variety of modes.
- Develop a curriculum for addressing leadership with university level leadership certification and succession planning.
- Minimize overhead costs for managerial training including time away and travel.
- Develop CBT for supervisors to aid retention and access to material.

Partnerships

UTA's primary partner for this program was the University of Utah Continuing Education Division. As the state's flagship university, the University offers more than 100 undergraduate majors and more than 92 graduate degree programs. Continuing Education offers credit, noncredit, and professional courses in a wide range of topics. They also provide business services that include consulting and custom training. The University's primary role as a partner in this project was to complete the development of the six remaining leadership courses that formed the core of the Leadership Certificate training. The University also assisted in the development of CBTs, providing the facilities for recording audio to accompany the presentations.

Partnership formation was minimal in this case as the project had, in essence, already begun. There was a prior working relationship between UTA and the University as they began working on this effort in 2009. The University had already prepared the curricula for 4 out of the 10 leadership courses for the certificate at the time the proposal was written. Therefore the roles and responsibilities were already established. UTA staff report that the working relationship was effective, as all required training was developed and delivered with no unexpected problems.

Program Implementation

Program Development

The process of developing this program began with a needs assessment conducted by the UTA Human Resources (HR) department in 2007. They identified skills that were needed for leadership in the future, and conducted a gap analysis between current skill levels and the future required skills. HR staff members asked UTA executives to rate how managers (generically) were performing in different skills and competencies. This process led to the identification of a number of skills that needed to be improved.

As part of normal operations, UTA provided new supervisor orientation training in a classroom setting requiring six days spread over six weeks. UTA used the information they learned from the needs assessment and began developing a Leadership Certificate program with the University of Utah. They identified 10 specific courses to develop and had developed curricula for four of the courses at the time of the proposal.

However, UTA wanted to create a series of courses that could be used by transit agencies nationwide. To gather more information, UTA surveyed 47 transit authorities across the country about their top supervisor development training needs. They received nine responses, which identified a number of courses. Between the Leadership Certificate courses and the survey topics, UTA identified 18 topics needed for new and existing supervisors to strengthen core competencies.

UTA decided that it would develop both classroom and computer-based training. The core 10 classes needed for the Leadership Certificate would be instructor-led. Others would be computer-based or possibly blended classes.

To develop the remaining six Leadership Certificate classes, UTA contracted with the University Continuing Education Division to continue the work it started in 2009 and complete content development for the certificate program. UTA provided subject matter experts to work with the University instructional designers to create the course content.

UTA decided that to be efficient in developing the computer-based training, it would create this training in-house. The topics were assigned among the members of the HR department. The staff researched their topics and developed slide presentations for each. The person responsible for a topic would find the appropriate information to create an overview training fit for supervisors. For example, to create the Security Awareness training, a representative of UTA spoke to the transit police who, in turn, received information from the Department of Homeland Security. UTA staff used subject matter experts, industry best practices, and outside experts to inform the content development. Once the HR staff had completed the slides, they wrote scripts for narration.

The HR staff peer reviewed the content that was HR-related, and relied on the subject matter experts to review the other content. A standardized template was created to give each CBT program a standardized look and feel.

Because professional voice-over experts were prohibitively expensive, the UTA team decided to provide the narration for the presentations themselves. The University assisted by providing a recording studio and editing to create the audio for the training. Once the audio and slides had been combined, the computer-based courses were supposed to be uploaded onto the UTA LMS to be made available to everyone.

Recruiting and Selection

Because the Leadership Certificate program already had courses in development, UTA staff were aware of the program already. To recruit participants, the Senior Corporate Training Administrator at UTA sent an e-mail to all supervisors across UTA. A course list in the email provided with the scheduled dates. A participant that wished to attend clicked on a “click to enroll” link. A note was sent to the person’s supervisor who must approve their participation. They could enroll for as many classes as they chose to, pending supervisor approval.

Program Implementation

The Leadership Certification program now includes 14 courses, including the 10 that are considered “core” classes, which are required to obtain the Leadership Certificate, and four “optional” classes that participants can attend to develop their skills. These classes are not required to obtain the Leadership Certificate. The classes offered are listed below (asterisks indicate courses already developed at the time of the proposal):

- Emotional Intelligence*
- Teams of Trust and Collaboration
- Creating Change-hardy Organizations
- Effective Decisionmaking and Problem Solving
- Difficult Conversations
- Managers as Coaches*
- Effective Business Communication
- Collaborative Leadership*
- Managing Performance Collaboratively*
- Negotiations and Conflict Resolution
- Making the Transition from Worker to Supervisor (optional)
- Writing for the Workplace (optional)
- Legal Basics for Supervisors (optional)
- Introduction to Project Management (optional)

The Leadership Certificate classes themselves are each eight hours long. Each class is limited to 30 participants and may be conducted in one day or split across two half-days. They are offered multiple times each year (e.g., Spring and Fall) so potential participants have opportunities to complete them. Generally, representatives from UTA indicate that it takes 2 years to complete the 10 core Certificate requirements if participants are diligent about signing up when classes are available.

Although the program content was developed in close partnership with the University of Utah, the program is not an official University certification, and participants do not enroll in the University. University instructors contracted by UTA teach the classes at UTA locations. When awarded, the UTA President and CEO present certificates that have the imprimatur of both UTA and the University of Utah Continuing Education Division.

The CBTs are not part of the Leadership Certification training process. They are meant to be a supplemental resource for supervisors. They are all slide shows with voice-over narration. There is some quizzing built-in to check knowledge as the participant progresses.

The CBTs developed include the following subjects:

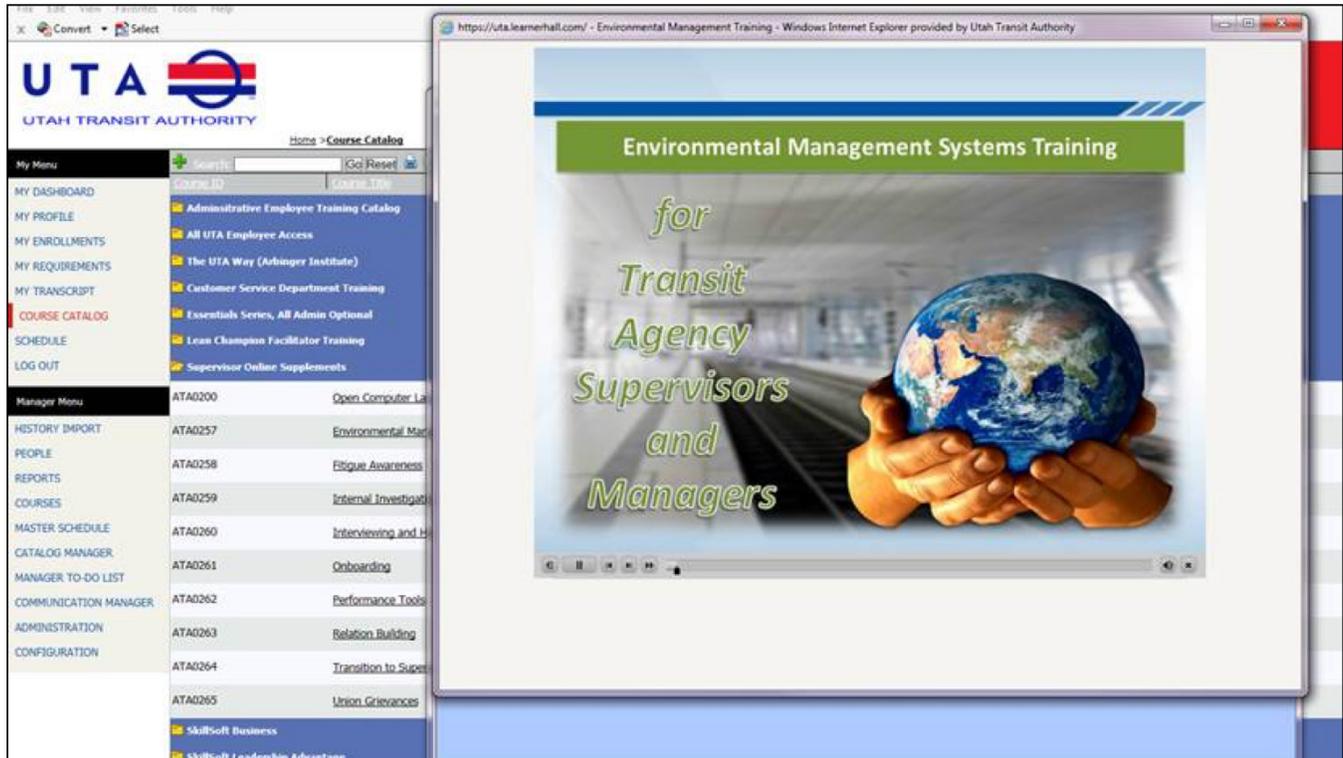
- Drug and Alcohol Reasonable Suspicion
- Union Grievances
- Motivation and Engagement
- Security Awareness
- Internal Investigations
- Environmental Management and Systems Awareness
- Transition from Worker to Supervisor
- Onboarding
- Relationship Building
- Interviewing and Hiring
- Performance Tools
- Accident Investigation
- Fatigue Awareness

“Making the Transition from Worker to Supervisor” is available in two formats, classroom (as an optional course) and CBT. The idea behind developing a CBT for a course that was also instructor-led was that it could be used in two ways. First, a newly-promoted supervisor could watch the CBT to assist him or her in learning how to be a supervisor if the instructor-led course would not be taught for many months. In addition, the CBT could be used as a refresher after

someone has attended the classroom training. The CBTs are self-contained to allow a supervisor that cannot attend a class in the middle of the day to take the training as his or her schedule permits.

Figure 2-5

Example of a Computer-Based Training Module



Unfortunately, although it was anticipated to have the capability, the LMS system that was in place until January 2015 could not support the computer-based courses UTA developed. Prior CBTs worked on the system, but for some reason the new courses would not play. A new LMS was installed that should be able to play the new courses and track participation.

Outcomes

The first goal of the Blended Leadership Training program was to enhance skills and knowledge of supervisory personnel with new supervisor training delivered through a variety of modes. The second goal was to develop curriculum for addressing leadership with university-level leadership certification and succession planning. These goals were met for the most part. UTA worked with the University of Utah to complete the development of the final six courses needed to complete a Leadership Certificate program.

This training was offered across the two years of the grant. In the first year, 14 topics were offered and 73 participants took one or more courses. In the second

year of the grant, 13 topics were offered and 88 participants took one or more courses. In the first two years the full program has been available, 23 people have completed all 10 courses and been certified; of those, 2 have been promoted to higher positions.

The third goal of the training was to develop computer-based training for supervisors to aid retention and access to material. This goal was accomplished, as 13 separate computer based training courses have been developed.

The fourth goal of the training is to minimize overhead costs for managerial training including time away and travel. The proposal suggested UTA might save as much as \$124,500 annually in travel savings. This goal has not been met yet due to the incompatibility of the new computer-based courses to the LMS. To date, the computer-based courses have not been available to staff. UTA representatives reported that they implemented a new LMS in January 2015, and the courses have been uploaded. They anticipated making these courses available to UTA staff in the second week of February, so, although the potential for savings exists, to date this goal is unmet.

Budget and Matching Funds

The Innovative Transit Workforce Development Program provided \$113,193 in federal funds (80% of total expenditures). This was expected to be mostly for salary and benefits, with \$49,000 for training development, delivery, and materials. Matching funds proposed by UTA were \$42,133. The proposal also suggested \$204,376 worth of “in-kind” contributions for space, desks, computers, and prior training.

Representatives indicated that the total expenditure for the program was \$141,491. Interestingly, all of the federal funds went to the University of Utah for the development and delivery of the leadership training courses. The remaining \$28,298 of expenditures were matching funds and were the costs of the UTA staff to oversee the project and develop the 13 computer-based trainings. Representatives could not determine how the person that wrote the proposal calculated his/her in-kind estimate and could not say whether it had been realized.

Expenditures, in terms of hours spent by UTA, were reportedly in line with what it wanted to devote. Representatives did indicate that they did not realize how long it would take to create one hour of CBT. One representative indicated that the two CBTs he developed took 70 hours together.

Impact

The Blended Leadership Training program has had a moderate impact to date, but one with a potential to continue to increase as the additional computer-based courses become available. In the period of the grant, the program has trained a

considerable number of their leadership staff. Although only 23 people have been certified and only 2 of those promoted, representatives from UTA are certain these numbers will continue to increase.

UTA has been filling supervisory and leadership positions as experienced personnel retire. These positions are often filled from within, and the leadership courses have better prepared the candidates for their duties as supervisors and ultimately as leaders at UTA.

The computer-based training courses have had no impact to date, unfortunately, due to the compatibility problems with the LMS. Now that those have been resolved and the courses will become available, some impact may be derived over time. However, it is worth noting that these courses were developed in-house to save resources. Novice instructional designers developed them, and all used a narration over slide show format. It is, therefore, debatable as to whether this program conforms to the best practices in adult learning possible with more advanced web-based training.

UTA intended this program to be shared widely, and have made all of the courses discussed above available to FTA and to other transit agencies. They have provided the computer-based courses to two transit agencies, including the Chicago Transit Authority.

There does appear to be the intention to sustain the program. The course offerings for the coming months were recently sent to all UTA managers via e-mail with links for them to sign up. The computer-based courses are set to go live in the coming weeks, so UTA appears well-situated to continue the Blended Leadership Training program.

UTA Blended Leadership Training Success Story

Michelle S. was a Transit Systems Coordinator with UTA. She began taking leadership certificate courses in 2010 when the first classes developed by the University of Utah became available. Between 2010 and 2013, she earned rapid promotions at UTA, rising from Coordinator to Dispatcher to Supervisor to Manager of Transit Communications. In her current position, she replaced someone with 30 years of experience, normally a challenge for someone who had risen so quickly. But her rapid advancement was supported by the Leadership Certificate program. She was one of the first people to complete the program and earn her certification. She is performing well and even coordinates the Manager's meeting each month attended by all UTA Managers.

Lessons Learned and Recommendations

Key lessons learned and advice to those wishing to implement a similar program offered by UTA representatives include:

- A good training program begins with a needs assessment. An organization has to know what the gap is between what they want managers to do and what their managers are doing, and target the classes to fill that gap.
- When developing computer-based training, ensure that your LMS platform is compatible with the format of the training modules.

Conclusion and Further Investment Recommendation

The Blended Leadership Training Program has met most of the goals it set out to achieve to date. The project team has developed a quality leadership program in conjunction with the University of Utah that is needs-based and targeted. They have 14 in-person courses offered on a regular basis to all supervisors, the core 10 of which comprise their Leadership Certificate program. UTA has further created a set of 13 CBTs to assist new managers and serve as refresher training. The primary unmet goal is making these courses available and reaping the savings that may come with this program.

The Leadership Certificate Program is worth investing in, and the model of pairing with a reputable academic institution is one that has appeared to create good training at UTA as in other grant programs. The more questionable portion of this training is the computer-based modules. While well-developed computer-based training can be an effective investment, the question is whether the manner in which UTA created them led to effective training.

UTA chose to pursue a very inexpensive approach to developing the computer-based modules. However, the fact that they were created by novice instructional designers and all use a “slide with narration” format suggests they may not be as effective as more sophisticated programs. For example, it is unclear to what extent these courses take advantage of the computer-based format to leverage adult learning principles such as interactivity, active engagement in learning, and so on. Since these courses are not yet available, it is not possible to make a determination as to how effective they are or how well participants rate them.

Interestingly, because all of the grant funds for the program went to the University, it is debatable if FTA did, in fact, invest in the computer-based courses or whether they were an “in-kind” aspect of the grant since only matching funds went toward their development. In any case, FTA should consider whether this is the most cost-effective approach for investing in computer-based training in the long term before investing in this type of process for replication.

Overall Conclusions and Recommendations

Conclusions

Several overall conclusions can be drawn from an examination across the 12 projects evaluated. This section highlights a few of these conclusions.

- **Grantees met their goals.** Each grantee specified goals in its proposals that it intended to achieve with the project. Although many grantees required additional time (extensions), in the end the majority of goals set were met or exceeded; the rest were at least partially met. This suggests that the programs funded were generally well-planned and executed. Only one goal was not met, but it likely will be met in the future, as the technical problem at fault has been resolved. FTA allowed for the extension of project completion up to 24 months.
- **The Grant Program was successful at identifying promising approaches for workforce development.** A major goal of this grant initiative was to foster innovative approaches to workforce development that would address the many challenges faced by our nation’s public transit agencies. FTA viewed many of these programs as “pilot projects” to identify approaches that may be worth further investment. In this, FTA was successful. Several different approaches appeared to have a large to moderate impact on the workforce in the near term and are worthy of possible further replication and investment.
- **Industry–academic partnerships work for workforce development.** Reviewing the projects funded by this program, it is evident that when the public transit industry partners with academic institutions on workforce development programs, the results were generally positive and well-received. Colleges offered their transit industry partners everything from instructional design capability to advanced technology and research facilities to use as learning laboratories. The prestige of an academic credential was attractive to participants, and the rigor the institutions brought to the training helped ensure it was on point and of high quality. Industry brings to this partnership the subject matter expertise, hands-on capabilities, and real-world experience that is needed to create well-rounded programs. There are also potential pitfalls that must be managed in these relationships, as industry and academics often work on different timeframes and with a differing sense of urgency. Holding academic partners to deadlines was a common frustration among grantees. However, they were often pleased with the results, and the dedication of their academic partners. This is just a cultural difference that has to be managed.

- **Projects that recruit and train participants must have a place for them.** One challenge faced in workforce projects that intend to fill positions with trainees is making sure there are appropriate positions for them. In Denver's WIN project, the rapid expansion meant there were many jobs for WIN graduates. However, New Orleans RTA struggled when faced with the situation in which predicted or possible retirements did not materialize, leading to trainees being put in jobs they were not training for. That led to turnover and, ultimately, wasted resources as trained employees left. Likewise, NJT did not have an appropriate internship program for interested high school students graduating from their Transit Academy, so interested youth were potentially lost.
- **America's Job Centers were effective recruiters.** A few of the projects partnered with the public workforce system and America's Job Centers (AJCs) to take advantage of their recruiting capabilities. These were successful partnerships. The AJCs publicized programs and recruited and screened participants. AJCs may also offer wrap-around services and access to other workforce programs that can be leveraged by transit industry partners, e.g., the potential for partially funded on-the-job training. Since the public workforce system is in the business of addressing community workforce issues, it is logical that it is a useful partner in any broad workforce effort.
- **Invest in important populations.** In some cases, just because the projects as implemented did not have a large impact in terms of the number of people affected does not mean they are not worthy of future investment. Even a modest impact on important sub-groups can be worthwhile. For example, if the transit industry needs to target young, educated people as national transit associations have suggested, then a project such as the certificate program created by UMass Transit effectively attracts and prepares college-educated students an advanced level is potentially very valuable. Even if operating only on a small scale currently, these may be the future leaders of public transit.
- **eLearning cut overhead and increased access to training.** Several of the projects developed eLearning courses that proved successful for cutting travel, time, and other overhead costs. They also create the opportunity for more people to take the courses, as there is minimal cost for each additional trainee. It also creates the opportunity to share programs with agencies nationwide. To be effective, eLearning must be well-developed, engaging, and make use of best adult learning practices. It is worth some up-front investment to ensure courses are of high quality. Florida DOT's use of virtual classrooms and 3D modeling, PennDOT's web-based training, or RCPT's Wheelchair Securement training are good examples. Although substantial savings can be found by using eLearning, some funds will be necessary to keep these courses up-to-date. Courses that refer to rules, regulations, or technologies that will change have particularly short half-lives. Therefore, web-based training is not a panacea for all training needs.

- **Indirect impact can be high impact.** Many of the programs supported by the Innovative Transit Workforce Development funds were projects with very direct benefits. That is, they identified a problem in the current workforce and target a solution to address that specific problem. However, it is possible to have a project that has a more indirect, but even greater, impact. CTA's leadership competency model is not as direct as a leadership training program would be at addressing the need for good leadership. However, a good competency model forms the foundation upon which other human resources practices are based. In CTA's case, its competency model led to widespread changes to its human resources activities; recruitment, applicant screening, selection, training, succession planning, and intra-agency mobility all were affected by the creation and implementation of a competency model.

Attributes of High-Impact Projects

A careful examination of the projects that appeared to produce the greatest impact (e.g., CTA, FDOT, DRTD, GCRTA, and PennDOT) reveals that they tended to have one or more attributes in common. This section discusses those attributes, as they may help inform FTA as it considers proposals for future workforce grant projects.

- **Leadership buy-in.** The most impactful programs tended to have the explicit endorsement of management. This can take different forms. One example is GCRTA's Executives listening to presentations of group project results and implementing those ideas that appeared to have merit. Similarly, at CTA, the organization's leadership supported the development and implementation of a transit leadership competency model, expanding the training on "interviewing for competencies" to a wider group of managers than originally anticipated to ensure broad application of the model. Leaders set the tone for such initiatives, and other employees will look to leadership for cues on how to judge the importance of the program.
- **Strong pre-existing relationships among partners.** Most of the high impact projects had relationships that pre-dated this particular project. Often, they had worked together on various workforce projects, prior training programs, or other initiatives. This helps foster a successful grant in which time and funds are limited, as there is an established trust, communication process, familiarity with organizational culture, and roles and responsibilities that are already established. For example, GCRTA had worked with its academic partner CSU on leadership training in the past, and some GCRTA staff members taught at CSU. GCRTA leveraged this relationship to help adjust and customize the existing curriculum to create the Public Management Transit Academy.
- **Pre-grant progress.** Several of the award recipients had already begun their project in some fashion before receiving funds. Denver RTD's WIN program,

for example, had been in the planning and early implementation stages. Florida DOT had already conducted needs analysis, created the Certified Technician curriculum, and attained adult vocational certificate approval. Programs such as these that were already underway had less ground to cover to begin achieving outcomes and tended to achieve more during the grant period. Those programs that started from scratch may, of course, improve their outcomes and impact in the future.

- **Training developed with academics or instructional design experts.** Over three quarters of the projects funded involved training. In general, the most successful projects worked with academics (e.g., college or university) or training design experts (e.g., contractors specializing in eLearning) in developing the training. This ensured the rigor and adherence to best practices required to produce successful programs. For example, Florida DOT's work with an academic institution led to innovative technology application like Virtual Hands-On training and 3D modeling. PennDOT and RCPT worked with experts in eLearning to create well-regarded, interesting, and even award winning classes.
- **Clear plans that link program outcomes to transit agency needs.** An important aspect of a high-impact project is the ability to ensure that the outcomes of the project, if achieved, fulfill the needs of the agency. The clearer this link, the more likely it is the project will affect positive results. When this link breaks down, a project can achieve all of its stated goals and still have minimal impact on the agency. An important first step is a careful analysis of the problem or agency need. High-impact project teams carefully studied the problems and conducted a thorough needs analysis. Training is important, but it can address only "can do" problems or problems for which behavior is not enacted because employees do not have the requisite skills. However, often the problems are "will do" motivation problems caused not because of skill deficits, but because incentive systems reward the wrong behavior or create competing interests. In such cases, training alone will not provide a solution. A second step is to consider the potential project outcomes in the planning stage and ask whether if the intended outcomes are achieved, will they address the problem or need identified. For example, NJT successfully achieved all of the established goals, but a mismatch between the agency needs (entry-level employees with experience and a CDL) and program outcomes led to minimal impact.
- **Clear, measurable outcomes and a process for measurement.** The best projects instill accountability by having both clear intended outcomes and a method for measuring the outcomes. These projects established targets against which to be assessed. A scale for these targets can be the immediate post-training outcomes, such as the number or percent of participants attaining certification or graduation or the creation of a particular product. The scale also can be long-term outcomes, such as the number or percentage

hired, promoted, or retained. Even though longer-term outcomes can be more difficult to measure, they may be a more powerful demonstration of benefit, such as operational improvements or cost savings realized.

- **Rigor in all aspects of the program.** The best programs worked hard to instill rigor in every aspect of the project. Often, academic institutions that will house the program insist on rigor to protect their name. This is ultimately beneficial to the program, as it ensures each aspect of the program has been carefully constructed. One way to ensure rigor is to have the program guided by a Steering Committee with appropriate leaders, which, if properly formed and dedicated, can help ensure the project follows many of the important practices discussed here. Steering Committees should have leaders from all key stakeholder agencies and subject matter experts as needed to ensure the programs are heading in the right direction. For example, FDOT's program has a strong Steering Committee with representation from the partner agencies as well as Directors of Maintenance from transit agencies around the state who help ensure the training they created would address the appropriate issues. A second important aspect of the program is having quality standards and a means of monitoring against those standards. For example, where part of the training was "hands-on" at the home property, Florida's Certified Transit Technician program ensured that work was guided by task lists on which the supervisor signs off for each task and that each hour and skill are tied to a specific work order number. A program representative conducted audits to verify this information periodically. This kind of rigor builds the confidence of the participant and makes the program more meaningful.
- **Plans to sustain the project after the grant ends.** Sustainability is an important element for a project's potential impact. Project personnel often dedicate a considerable amount of time, resources, and effort into creating a strong program. Unfortunately, without grant funds, their efforts will amount to only a one-time implementation. This lowers the potential impact of the program. Those programs that have long-term sustainability plans may be of lower impact initially, but in the long run could result in the deepest impact on transit.



U.S. Department of Transportation
Federal Transit Administration

U.S. Department of Transportation
Federal Transit Administration
East Building
1200 New Jersey Avenue, SE
Washington, DC 20590
<http://www.fta.dot.gov/research>