

MEMORANDUM

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Subject: DRPT Apprenticeship Tailoring Support Memorandum

TAILORING SUPPORT MEMORANDUM

How to Use This Document

In 2023, the Virginia Department of Rail and Public Transportation (DRPT) expanded the scope of the Public Transportation Workforce Development grant program so the state's transit agencies could use the funding to support apprenticeship programs in operations positions. In addition to the [Transit and Commuter Assistance Grant Application Manual](#) and other guidance documents provided by DRPT (see sidebar), agencies may seek additional assistance from DRPT staff when designing their apprenticeship programs and preparing their applications. This memorandum contains guidance for DRPT staff in responding to such inquiries and addresses likely topics of interest to transit agencies. This document was developed through consultation with transit agencies in the United States with successful apprenticeship programs.¹ Links to other relevant resources, including other DRPT materials, are provided throughout.

Other Resources Supporting DRPT Workforce Development Grant Applications

This document is a guide for DRPT staff fielding requests from transit agencies looking to apply for funding for their workforce development programs. Two other DRPT documents are available to help guide agencies as they put together their applications.

The [DRPT Apprenticeship Application Guide](#) provides guidance on developing apprenticeships and on how to complete the application.

The [DRPT Workforce Resource Guide](#) contains information about other funding sources for apprenticeship programs.

Purpose of DRPT Workforce Development Funding for Transit Apprenticeships

DRPT has reshaped its workforce development grant program to address the shortage of mechanics, operators, and other frontline transit workers in the state. The grant provides agencies with funding for apprentice wages and benefits and can be combined with other funding sources, as described below.

¹ Summaries of the findings from the case study interviews conducted for this memo are provided in the [appendix](#).

The grant is intended to support agency apprenticeships for one year.² Possible uses of grant funding could include:

- Supporting the training of a larger-than-normal class of apprentices after, for example, a surge in retirements.
- Funding an apprenticeship program in its first year as the program is established.
- Providing funding to an apprenticeship program for a year when prior funding sources become unavailable.

How Apprenticeships Can Support the Transition to Low- and Zero-Emission Vehicles

Agencies may consider developing apprenticeship programs to address the workforce development challenges associated with transitioning to a low- and zero-emission fleet. Fleet transitions require agencies to make additional investments in training because new propulsion technologies will be unfamiliar to many workers, and even experienced workers may require substantial retraining before they can safely and effectively do their jobs. Additionally, fleet transitions are gradual processes. Agencies may replace diesel buses with battery-electric vehicles a few at a time; or they may transition to CNG or hybrid buses in the short term and a zero-emission technology in the long term. During such transitions, workers will need training on each of the multiple vehicle technologies they work with. For agencies undergoing fleet transitions, the advantages of apprenticeships include:

- Apprentices learn by working with the same equipment that they will use on the job. This ensures that the skills and knowledge they acquire are directly relevant to their work as regular employees. By contrast, externally conducted training may involve practice equipment from a different manufacturer than used by their agency.
- Apprenticeships provide participants with wages and benefits while they are learning, which can aid agencies in recruiting workers in hard-to-fill positions.
- Hands-on learning, such as occurs within an apprenticeship, is more effective at imparting information than classroom learning in many circumstances.

² Please see DRPT's [Transit and Commuter Assistance Grant Application Manual](#) for full eligibility information.

Program Structure

Agencies looking to start apprenticeship programs may inquire about the best way to structure their programs.

The primary feature of apprenticeships is on-the-job training, where apprentices work through a course of job skills under the supervision of a mentor or trainer. The precise contents and sequence of job skills covered will vary by the role for which the apprentice is training, the agency's size, and its mix of vehicle types.

Nevertheless, all apprenticeship programs seeking support from DRPT must include the following elements:

- A list of the job functions to be learned during the apprenticeship.
- A timeline of the course of work.
- A method of evaluating apprentices.

Beyond these required items, DRPT offers agencies considerable flexibility in how to structure their apprenticeship programs. One key decision for agencies is whether to establish a free-standing, agency-led apprenticeship program or to register their program with Virginia Works, the office in Virginia that oversees the registered apprenticeship program in the state. The characteristics of each type of program are detailed below.

Agency-Led Apprenticeships

Agency-led apprenticeship programs are created and administered by agencies themselves, thereby offering the most structural flexibility. Programs can operate as formalized mentorships, where a new employee works in a supervised capacity under a more experienced mechanic or operator. Alternatively, apprenticeships can extend existing training programs, allowing mechanics and operators more time to acquire the skills and experience to work independently. Agencies can design apprenticeship programs to meet their specific workforce needs, including the training needs of individual workers. Agency-led programs may involve partnerships with unions, community colleges, and other entities, but exist separate from the registered apprenticeship system, which is described below.

Registered Apprenticeships

The registered apprenticeships program, operated in the state by the Virginia Department of Workforce Development and Advancement (also known as Virginia Works), provides a structure for instruction, on-the-job training, and evaluation of apprentices. Establishing a registered apprenticeship program offers the following benefits:

- **Program development assistance.** Virginia Works staff are available to assist sponsors in registering their program and can provide guidance about curriculum development, program monitoring, and grant opportunities.

Resources for Developing Apprenticeship Work Plans

In their application to DRPT, agencies must provide a detailed apprentice work plan, including, "an explanation of work to be performed and learned, a timeline of tasks, and section rotation schedule." While agencies will need to customize work plans to their specific circumstances, they can use the following plans as foundations for their own.

- Department of Labor Work Process Schedules (transit bus mechanics and transit bus operators).

-Pierce Transit Journey-Level Mechanic Training Program

[-The Urban Institute's Competency-Based Occupational Frameworks for Registered Apprenticeships.](#)

- **Funding.** Registered apprenticeship programs are eligible for grant funding through Virginia Works and the U.S. Department of Labor. Agencies should be advised that such funding opportunities are competitive, and many support only certain types of expenses (like apprentices' travel), and only a small fraction of program costs.
- **Credibility.** Registration provides apprenticeship programs with additional credibility that can help attract applicants.

The criteria for becoming a registered apprenticeship program are more stringent than the criteria for receiving DRPT Workforce Development grant funding. Most significantly, registered apprenticeships must:

- Provide participants with a **nationally recognized certification**, such as the Automotive Service Excellence's (ASE) Transit Bus - Preventive Maintenance and Inspection (PMI) (H8) certification.
- Involve **supplemental education**, such as community college classes or other classroom instruction in addition to on-the-job training received in their workplace.

For more information about registering an apprenticeship program, agencies can contact [the Virginia Department of Workforce Development and Advancement](#).

Considerations

Low- and Zero-Emission Buses

Agencies adopting low- and zero-emission buses will need to provide their staff with training to understand how to operate, maintain, and plan service around their new fleets. While transit apprenticeships will have substantial similarities regardless of fuel type, agencies may want to bear in mind the following:

- **Apprenticeships at agencies with mixed-fuel fleets.** Most agencies with low- and zero-emission buses operate mixed-fuel fleets. In 2022, no agencies operated bus fleets exclusively powered by batteries or hydrogen, and 88 percent of agencies with CNG buses also had gasoline, diesel, or other high-emission vehicles in their fleets³. Given the time and expense of acquiring low- and zero-emission vehicles, it is likely that most agencies will continue to operate mixed-fuel fleets for several years. Apprenticeships at agencies with both high-emission and low- and zero-emission vehicles usually train mechanics on the systems common to all buses, including brakes and suspension, and then train mechanics on propulsion systems in separate modules towards the end of the course of training.
- **OEM training.** Given the lack of standardization among low- and zero-emission manufacturers, and the proprietary nature of those technologies, many agencies currently rely on original equipment manufacturers (OEMs) for training. Apprentices could receive training directly from OEMs or could learn from agency mechanics who have been trained by OEMs—the so-called 'train the trainer' approach. Agencies should choose the approach that is best for them based on the availability of OEM trainers, and whether the apprentice program's timeframe aligns with the vehicle acquisition timeline.

Developing a Staff of Trainers and Mentors

Many agencies find it challenging to develop a cohort of effective trainers and mentors. Agencies that have implemented transit apprenticeships offer the following suggestions:

³ Source: Analysis of 2022 Annual Database Energy Consumption data, National Transit Database.

- **Compensation for trainers and mentors.** Many agencies with apprenticeships pay an additional hourly wage for hours spent mentoring and training. Some agencies also provide bonuses to trainers whose apprentices complete the program, pass their exam, or based on some other criteria of success.
- **Guidance on pedagogy.** An agency's experienced mechanics may have not developed the skills to be an effective teacher or mentor. Agencies should plan to provide feedback and guidance to workers who step up to serve in this role.

Coordination with Unions

Transit agency staff may wonder about the implications an apprenticeship program may have for their collective bargaining agreements. Establishing apprenticeship programs often requires coordination between transit agencies and the unions representing their workers. Points of coordination include:

- **Supplemental pay for trainers.** Unions often request that additional job responsibilities, such as supervising apprentices, be accompanied by additional pay.
- **Offering apprenticeships to existing workers.** Unions may request that apprenticeship positions be open to existing workers (such as those in the general labor pool) before outside applicants.
- **Impact on seniority system.** Some apprenticeship programs offer participants the opportunity to enter the agency workforce with greater seniority upon completion, in recognition of their advancement. However, unions view the seniority system as an important way to protect the interests of members, so any program elements related to seniority must be discussed and agreed upon with union representatives.

Agencies should begin discussions with their unions early so that the bargaining unit participates in program design, thereby developing buy-in, and so that the process of developing an agreement does not delay the implementation of the apprenticeship program.

Funding

Agencies may request support identifying sources of funding for their apprenticeship programs, especially for expenditures not covered by the DRPT Workforce Development Grant Program, which can only provide funding for apprentice wages and benefits. In addition to DRPT's grant, funding for transit apprenticeships is available from several sources, including:

- **FTA grants**, including Low or No Emission Grant Program and Grants for Buses and Bus Facilities Competitive Program.
- **Grants for registered apprenticeship programs** from the Office of Apprenticeships of the U.S. Department of Labor and Virginia Works.
- The Federal Highway Administration (FHWA), through the **National Electric Vehicle Infrastructure (NEVI)** program. (Note that NEVI funding is not yet supporting education for transit workers in Virginia but may in the future.)

Agencies seeking more funding information can refer to the DRPT Apprenticeship Resource Guide.

Supplemental Education

Agencies may choose to provide their apprentices with classroom instruction to supplement on-the-job training. Such supplemental education can be provided through institutions in the Virginia Community

College System, which offers vocational education, including automotive maintenance, at schools across the state.

The easiest way for agencies to engage community colleges about developing bus mechanic course offerings is by joining the Program Advisory Committee at institutions in the Virginia Community College System (VCCS). For more information on how agencies can benefit from VCCS programs, please refer to the Workforce Development chapter of the [DRPT Modernizing Transit Fleet Guidebook](#).

APPENDIX: TRANSIT APPRENTICESHIP CASE STUDIES

As part of the research conducted to develop this guide and the other guidance documents related to DRPT's Public Transportation Workforce Grant program, the study team conducted interviews with three transit agencies that have developed apprenticeship programs to help alleviate some of their transit workforce needs. A summary of those programs is provided below to provide additional insight for DRPT staff who are advising agencies interested in developing their own programs.

IndyGo (IN)

IndyGo, the transit provider in Indianapolis, IN, launched an apprentice program for bus mechanics in 2023 to address the agency's mechanic shortage. With an initial cohort of five apprentices, the program lasts two years and is officially registered with the state of Indiana's Department of Labor (the Indiana analog to Virginia Works). In May 2024, the program had six enrolled apprentices. The curriculum consists of 12 job function modules, including brakes, suspension, diesel engine maintenance, and electric vehicle maintenance. In addition to on-the-job training, apprentices receive technical instruction at a local community college. Upon enrollment, apprentices take an aptitude test to gauge their prior knowledge and identify the types of training they need. Trainers and mentors provide apprentices with structured feedback throughout the program. Funding primarily comes from IndyGo's general maintenance budget, augmented by FTA workforce development funding and additional grants. To attract and retain a cohort of trainees, IndyGo pays participating mechanics receive an increase in their hourly wage.

Pierce Transit (WA)

Initiated in 1986 and recently updated, Pierce Transit's apprenticeship program currently encompasses three agency roles:

- Transit Mechanics
- Communications Technician
- Body Shop Technician

The transit mechanic program lasts four years and requires 8,000 hours of training. Positions are first opened to internal candidates and then, if space is available, outside workers. In May 2024, Pierce Transit had five apprentices; three mechanics, one communications technician, and one body shop technician.

Pierce Transit's programs are characterized by flexibility and personalization. Apprentices with prior experience and skills can evaluate out of modules, and new training and coursework have been added to meet specific agency needs. For example, Pierce Transit arranged for a recent body shop apprentice to take a course in welding at a local vocational school.

Trainers evaluate the skills and knowledge of apprentices via an initial baseline assessment and skills tests at the conclusion of each job function module. Apprentices receive training from a range of sources including internal trainers, external trainers, and original equipment manufacturers.

Funding primarily comes from Pierce Transit's internal training budget, covering apprentices' wages and providing tools and materials. The agency's apprenticeship program is registered with the state Department of Labor & Industries, which has provided supplemental grant funding to Pierce Transit on occasion.

Fairfax Connector (VA)

Transdev, the contractor who operates Fairfax Connector, registered its transit mechanic training program in 2022 as a joint venture with the Teamsters; in 2023, Transdev registered a second program in conjunction with the Amalgamated Transit Union. The two programs together had ten apprentices in 2023.

Both programs last one year and involve 2,000 hours of training. Transdev says it is studying whether to launch a three-year journey-level apprenticeship program to provide participants with more robust training.

Transdev independently developed its curriculum and registered its program with the Virginia Department of Labor. Although Transdev has yet to receive any funding from the registered apprenticeship program, they opted to register the program because the increased credibility conveyed by the designation was seen as a tool for recruiting applicants. Transdev collaborates with local vocational schools to recruit high school graduates into the apprenticeship program. Existing transit mechanics can serve as mentors in the program, for which they are paid a bonus.

As a registered apprenticeship program, the Fairfax Connector program must include classroom education. While Transdev approached the local community college about partnering to provide classroom education, no partnership came to fruition. Instead, Transdev constructed a classroom at one of their facilities, and participants from all the agency's garages attend classroom courses on Thursdays.

Transdev funds the program out of its operating budget, and pointed out that because it is not a federal recipient, it is not eligible for FTA-related workforce development funds.