



***TRANSIT  
WORKFORCE  
CENTER***

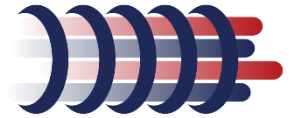




Federal Transit  
Administration

# Transit Workforce Center

National Technical Assistance Center  
for Transit Workforce Development



INTERNATIONAL  
TRANSPORTATION  
LEARNING CENTER

## ATTAIN Bus Maintenance Apprenticeship

May 21, 2025



**TWC • TRANSIT WORKFORCE CENTER**





# Transit Workforce Center – Mission

Operated by the **ITLC**, the **Transit Workforce Center (TWC)** is **FTA's** national technical assistance center for transit workforce development.



## mission

TWC supports the workforce development needs of urban, suburban, tribal, and rural public transportation entities across the country.

Please enter your name, title, organization location in the chat box



# Welcome – Today's Agenda

- Overview of registered apprenticeship
  - Benefits
  - Development process
  - TWC resources
- Apprenticeship in Practice Panel
- Q&A
- Open Discussion

Please enter your name, title, organization location in the chat box





# What is Apprenticeship?

## A structured training program to acquire skills and master a craft

- Registered apprenticeship is a proven strategy to help get people trained while they earn money.
- Apprentices start as novices, progress to become expert, journey-level technicians
- Highly-skilled mentors pass on their skills
- Labor-management partnership essential – collaborative effort
- Vast majority of training (about 70%) is on-the-job learning – Learn by doing
- Related technical instruction (i.e., classroom) plays supporting role





# Benefits of Maintenance Apprenticeship/Mentorship

1

Ability to grow your own techs following agency procedures/practices

2

Apprentices gain increased confidence & morale

3

Funding available when registered, veteran benefits

4

Increased level of professional recognition for bus technicians

5

Less reliance on trying to find non-bus techs from the outside

6

Reduced shop comebacks/ repeat failures through improved skills

7

Mentors gain satisfaction by passing on their skills & insights





# Developing your apprenticeship program!

Form the committee that will oversee and run the program

Contact Apprenticeship Office

Decide criteria for apprentices

- Entrance exam
- Incumbent or new employees

Determine training schedule

- Length of program
- Hours and topics of training
- Training provider

Develop mentor selection and pairing process

Register and launch your program!





Form the committee that will oversee and run the program

Equal members from labor/frontline workforce and management

This committee will develop Standards of Apprenticeship.

- Your local apprenticeship office representative will guide you through process of filling out
- Apprenticeship Standards specify:
  - length of program
  - how apprentice progress will be measured
  - wage progression
  - related technical instruction topics and order









Decide criteria  
for apprentice  
selection

### Criteria can include:

- Incumbent or new employees
- Aptitude testing
- Prior work experience





Determine  
training  
schedule

## **Determine length and type of apprenticeship:**

- Time-based, competency-based, or hybrid

## **Resources to get you started:**

- Bus Maintenance Apprenticeship Framework
- Examples from other agencies
- Local training providers





# Overview of Registered Apprenticeship Model

- 2000 hours of on-the-job learning per year
- At least 144 hours technical instruction per year
  - In-house training
  - Community College
  - Online Courses
  - Career & Tech Centers







## Develop mentor selection and pairing process

- Mentors facilitate on-the-job learning for the apprentices.
- Apprentices should be paired with mentors to complement classroom training.
- Mentors generally receive a wage premium for time spent with apprentice. This is determined during collective bargaining.





## Program Registration

- Submit to local office of apprenticeship
- Record keeping
- Periodic review
- Funding opportunities






## Program Launch

- Mentors are notified and trained
- Program coordinator tracks apprentice progress and metrics that show program impacts





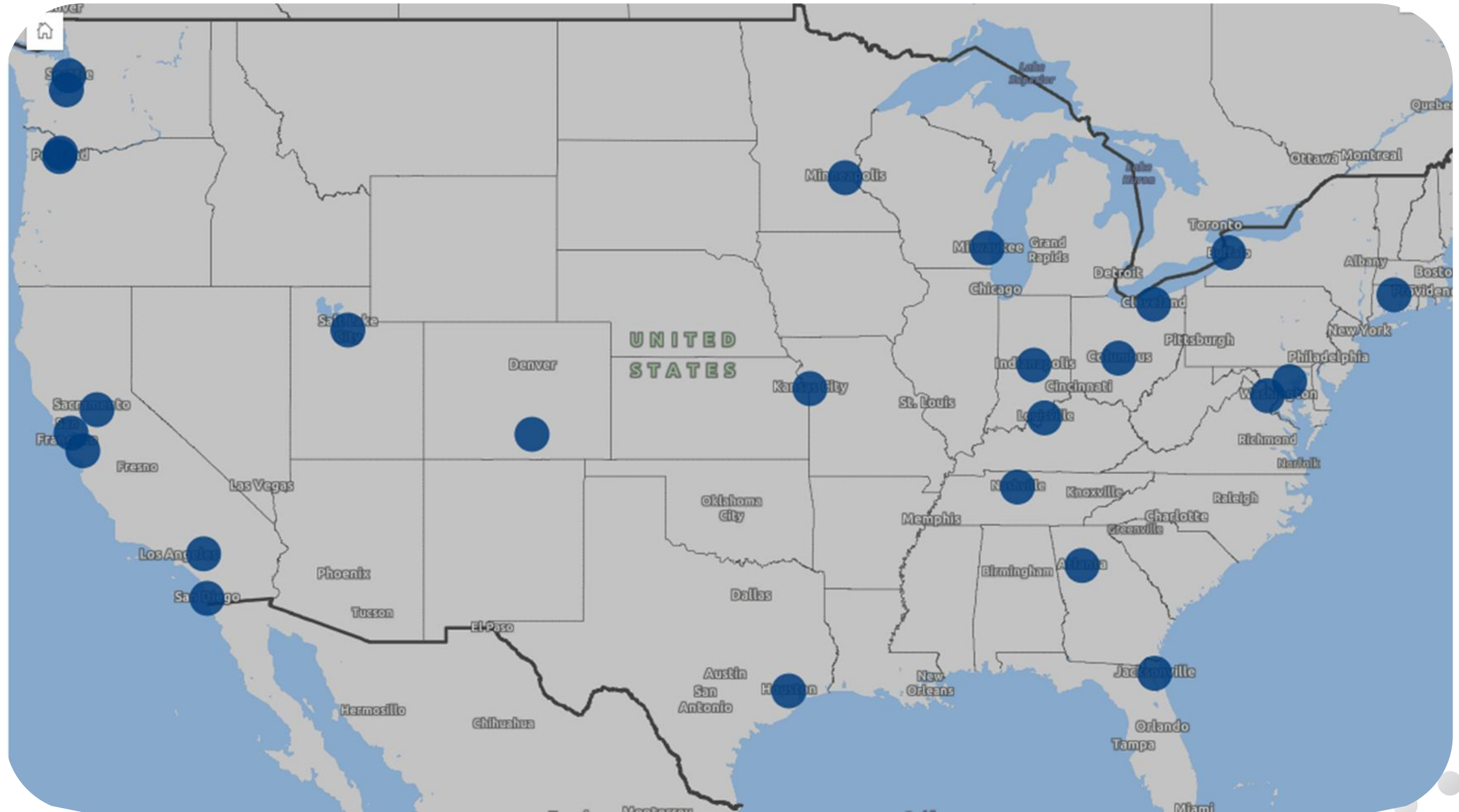
# Resources

- [American Transit Trainers and Apprenticeship Innovators Network \(ATTAIN\)](#)
  - [Apprenticeship FAQs](#)
  - [Mentor Guide](#)
  - [On-the-Job Learning Task Book](#)
  - [Mentor Training](#)
  - [Apprenticeship Funding Sources](#)
  - [Map of Apprenticeship Programs](#)
  - [Training Framework](#)
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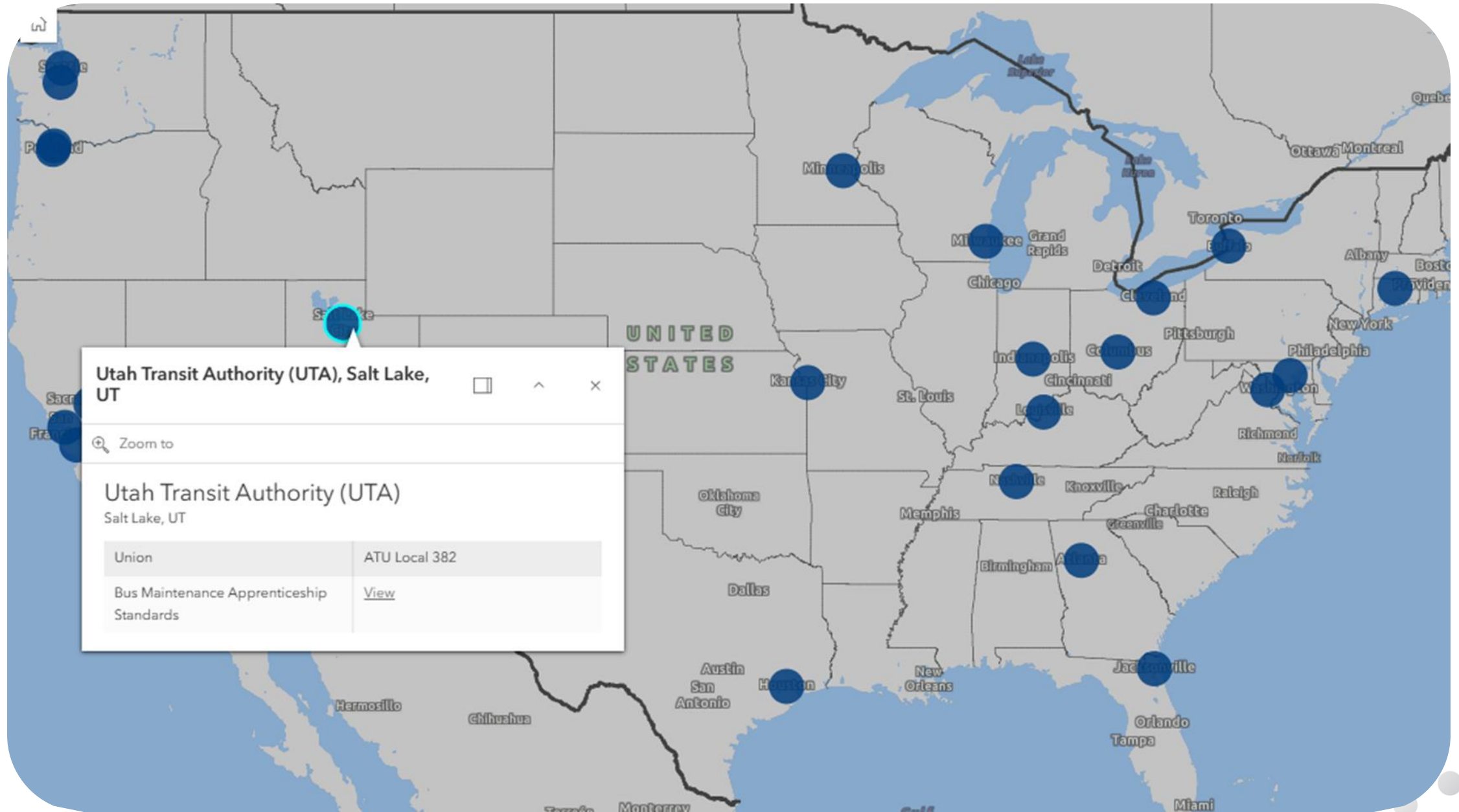
# Transit Agencies with Apprenticeship Programs







# Transit Agencies with Apprenticeship Programs







## WORK PROCESS SCHEDULE

Job Title:	Transit Bus Technician
Company Contact:	
Apprenticeship Type:	Hybrid, competency, or time based
Minimum Time Requirements or time range:	
Certification or Licensure	Commercial Driver's License (CDL); drug testing; Automotive Service Excellence (ASE) Transit Bus (per individual agency requirements); air conditioning refrigeration license; or others
JOB FUNCTION 1:	Demonstrates Mastery of Fundamental Skills
JOB FUNCTION 2:	Maintains, Diagnoses and Repairs Electrical and Electronic Systems
JOB FUNCTION 3:	Maintains, Diagnoses and Repairs Brake and Air Systems
JOB FUNCTION 4:	Maintains, Diagnoses and Repairs Propulsion Systems
JOB FUNCTION 5:	Maintains, Diagnoses and Repairs Automatic Transmissions and Drivetrains
JOB FUNCTION 6:	Maintains, Diagnoses and Repairs Steering and Suspension Systems
JOB FUNCTION 7:	Maintains, Diagnoses and Repairs Heating, Ventilation and Air Conditioning Systems
JOB FUNCTION 8:	Maintains, Diagnoses and Repairs Body and Chassis Equipment and Systems
JOB FUNCTION 9:	Conducts Preventive Maintenance Inspections
JOB FUNCTION 10:	Maintains, Diagnoses and Repairs Articulated Bus Systems





<b>JOB FUNCTION 2: Maintains, Diagnoses and Repairs Electrical and Electronic Systems</b>	<b>Level</b>	<b>Required</b>	<b>Optional</b>
Competency 2a: Follows Safe Procedures		X	
Competency 2b: Performs General Electrical/Electronic Diagnosis		X	
Competency 2c: Performs Battery Diagnosis and Repair		X	
Competency 2d: Performs Starting System Diagnosis and Repair		X	
Competency 2e: Performs Charging System Diagnosis and Repair		X	
Competency 2f: Performs Lighting Systems Diagnosis and Repair		X	
Competency 2g: Performs Gauge and Warning Device Diagnosis and Repair		X	
Competency 2h: Diagnoses and Repairs Related Electrical/Electronic Systems		X	
Competency 2i: Maintains, Diagnoses and Repairs Data Communications Systems (CAN, J1939, J1708, etc.)		X	
Competency 2j: Maintains, Diagnoses, and Repairs Multiplex systems		X	
Competency 2k: Maintains, Diagnoses, and Repairs Fire suppression/ detection systems		X	
Competency 2l: Maintains, Diagnoses and Repairs (Electronic) Signage Systems		X	
Competency 2m: Maintains, Diagnoses and Repairs Fare Collection Equipment		X	
Competency 2n: Maintains, Diagnoses and Repairs Radio Communications Systems		X	
Competency 2o: Maintains, Diagnoses and Repairs Automatic Stop Announcement Systems			X
Competency 2p: Maintains, Diagnoses and Repairs Video Surveillance Equipment			X
Competency 2q: Maintains, Diagnoses and Repairs Automatic Passenger Counters			X
Competency 2r: Maintains, Diagnoses and Repairs Wireless Communication Systems			X





## JOB FUNCTION 2: Maintains, Diagnoses and Repairs Electrical and Electronic Systems

Core or Optional	<u>Competency 2a: Follows Safe Procedures</u>	<u>Program Hours</u>	
	Related Tasks	OJT	RTI
	Performance Standards		
	Performance Standards identified in Job Function 1: Demonstrates Mastery of Fundamental Skills, Competency 1a: Follows Safe Procedures		
	Utilizes shock protection tools and equipment when required		
	Properly use test equipment to confirm an electrically safe work condition		
	Plans electrical jobs in advance of performing the work to insure safe working conditions		
	Properly performs lock-out, tag-out procedures		
	Proper use and knowledge of specific high voltage PPE, including 1,000 volt gloves and fire protective clothing		





# Implementing your apprenticeship program

## Agency/Shop Orientation

### Review:

- agency procedures
- work hours
- purpose and goal of apprenticeship program
- apprentice responsibilities, mentor
- responsibilities, clothing/uniform requirements
- safety procedures, etc.

## Union/Labor Requirements (as applicable)

Review labor requirements, procedures, etc.

Conduct skills gap assessment of fundamental skills

Establishes basic apprentice skill level  
Allows agency to target training at specific fundamental areas in advance of more substantial apprenticeship work





# Implementing your apprenticeship program

## PM inspections (See Job Function #9)

- Basic safety protocols
- How to hoist and secure bus
- How to perform lubrication services (engine oil, transmission fluid and differential fluid changes)
- Theory behind preventive maintenance and why it's important
- What bus items to inspect and why
- Trouble areas of specific bus types
- Basic running repairs

## Brake & Air Systems (See Job Function #3)

- Brake specific safety
- Difference between air and mechanical/foundational brake systems
- Essential air system tasks
- Essential mechanical/foundational system tasks
- Essential wheel bearing tasks

## Steering and Suspension Systems (See Job Function #6)

- Steering and suspension specific safety
- Maintain, Diagnose and Repair Steering System
- Maintain, Diagnose and Repair Front Suspension System
- Maintain, Diagnose and Repair Rear Suspension System
- Wheel Alignment
- Repair Wheels and Tires



# Locations with Bus Maintenance Apprenticeship Programs

Valley Transit Authority  
San Jose, CA

Golden Gate Transit  
San Rafael, CA

Metro Transit  
Minneapolis, MN

KCATA  
Kansas City, MO

IndyGo  
Indianapolis, IN

GCRTA  
Cleveland, OH

AC Transit  
Oakland, CA

COTA  
Columbus, OH

CTtransit  
Hartford, CT

DART  
Des Moines, IO

Fairfax County Connector  
Fairfax, VA

Pierce Transit  
Takoma, WA

MARTA  
Atlanta, GA

SacRT  
Sacramento, CA

King County Metro  
Seattle, WA

UTA  
Salt Lake City, UT

TriMet  
Portland, OR

SDMTS  
San Diego, CA

Denver RTD  
Denver, CO

Maryland MTA  
Baltimore, MD

OmniTrans  
San Bernardino, CA

C-Tran  
Vancouver, WA

Community Transit  
Everett, WA

WeGo  
Nashville, TN



# **Locations with Bus Maintenance Apprenticeship Programs**

**Milwaukee County Transit System**

**ATU Local 998**

Milwaukee, Wisconsin

**Jacksonville Transit Authority**

**IAM Lodge 759**

Jacksonville, Florida





# **Milwaukee County Transit System (MCTS)**

## **ATU Local 998**

Milwaukee, Wisconsin



**Bruce Freeman**

President, ATU Local 998

**Benjamin Stark**

Chief Human Resources Officer, MCTS





# **Jacksonville Transit Authority**

## **IAM Lodge 759**

Jacksonville, Florida

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Senior Manager, Recruitment & Workforce Development, JTA

**Mary Smith**

Vice President, Human Resources & Organizational Development, JTA

**Melvin Nesmith**

President, IAM Lodge 759







# Apprenticeship in Practice Panel



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Chief Human Resources Officer  
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# Q&A





# Thank You!



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