



Making Headway

An Update on the National Rail Car Training Consortium

What's INSIDE

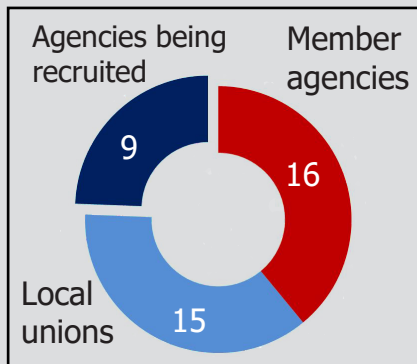
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PLUS:



Hear what our Subject Matter Experts and partner agencies have to say about their involvement in the Rail Car Training Consortium.

National Rail Car Consortium Approaching its Next Phase



locations for national standards-based courseware development. The National Rail Car Consortium provides a unique forum for sharing resources and improving rail car technician training.

Major tasks during this phase will include completing the development of all Rail Car courseware and continued delivery of Train-the-Trainer courses to member agencies. This phase is expected to last from January 2018 through December 2019.

The Rail Car Consortium is approaching its second phase of work. The Center expects to be able to keep agency contributions low by continuing to leverage resources and subject matter expertise from transit rail

Save the date for the next National Rail Car Consortium Meeting: Silver Spring, MD October 23 - 27 2017.



Leadership Connection



"VTA has a long and proud tradition of good training done in partnership with our union. It works very well. Joining the national Consortium for Rail Car Maintenance Training adds a new dimension for us. Our trainers and frontline technicians interact with peers from around the country and work together across geographical boundaries and across labor-management boundaries to develop the best training material possible. We're working with 15 other agencies to define a new transit industry standard for excellent training that will help upgrade current skills and prepare the next generation of technicians."

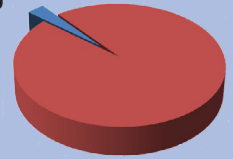
Nuria Fernandez - General Manager/CEO Santa Clara Valley Transportation Authority (VTA)

"At ATU Local 265, we take upgrading the skills of our membership seriously. Skilled workers are critical for providing better and safer transit services to our customers. Through the Joint Workforce Investment and the Joint Apprenticeship and Training Committee, we have worked with VTA on successful efforts to elevate frontline worker skills. The Rail Car Consortium brings the national perspective and focus on the rail vehicle maintenance workforce. I am pleased with the union's involvement and support this effort wholeheartedly."

Terry L. Russell - President, Amalgamated Transit Union Local 265, San Jose California

Consortium Metrics

Cost Sharing
3%



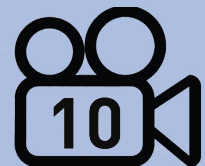
Individual Agency's Share of Cost



Minutes of Classroom Ready Courseware

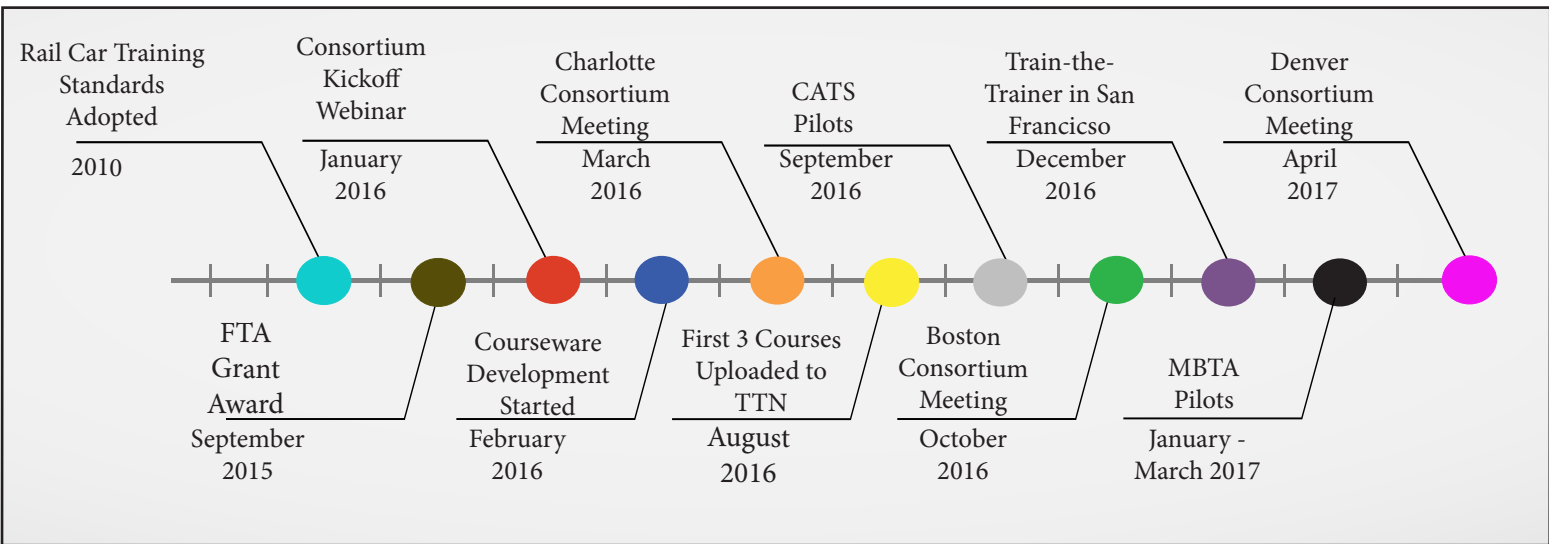


25 Modules Developed (and counting)



Instructional Videos Produced

Rail Car Consortium Timeline





National Rail Car Training Consortium's Third Meeting Hosted by Denver RTD

The National Rail Car Consortium (the Consortium) held its third in-person meeting this past April in Denver, Colorado. With Valley Transit Authority recently joining the Consortium as the newest member, labor and management Subject Mater Experts (SMEs) from sixteen rail transit locations worked on developing and validating the next round of Consortium courseware.

SMEs were welcomed by Denver RTD's Phil Eberl, Superintendent of Light Rail Maintenance, who stressed the importance of the Consortium's "group of professionals working to set a standard of excellence in training and maintenance." Teams from MBTA and CATS were recognized for their excellent contributions to the rail car courseware development and pilots. Denver RTD's team, led by Matt Younce, Manager of Maintenance Training,

also received commendations for their outstanding work to pilot the Transit Core Competencies Curriculum (TC3).

Other highlights from the Denver meeting included a tour of RTD's Mariposa and Elati Light Rail Maintenance facilities and remarks by Terry Emmons, Assistant General Manager for Rail Operations. There was also a presentation on registered apprenticeship by Colorado State Director from the Office of Apprenticeship, Cynthia McLain, as well as workshops on instructional design techniques, hands-on teaching, and other learning sessions.



"The Center has proven they know what they're doing. They've got a vetted processes and experience in this area. They work with the management side, they work with the union side, and, in all honesty – I tell people this all the time when I talk about the Transportation Learning Center – they are really in this to do the work. It's not about making a name for the organization; it's not about getting brownie points - it's about putting in the work for the transit industry as a whole."

Jeff Raven - Operations Training Supervisor - BART

Consortium Metrics

Technicians Receiving Pilot Training

39 Training Opportunities across 4 Courses

13 Modules Piloted

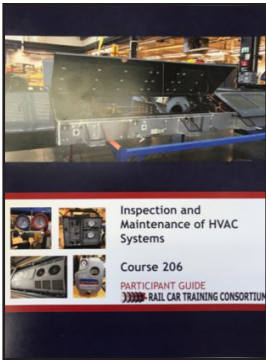
290 Total Learning Hours



MBTA Pilots Four Courses

From January to March 2017, MBTA piloted four courses developed by the National Rail Car Training Consortium. These courses covered the background knowledge, safety procedures, tools, and inspection and preventive

maintenance procedures for rail car Auxiliary Power Supplies and Battery Systems, and HVAC.



In six days of training classes, MBTA instructor delivered a total of roughly 171 participant hours to 22 pilot participants. Seventeen Certificates of Completion were awarded to technicians who successfully completed the training and passed the post-assessments.

Technicians achieved significant learning gains as demonstrated by the pre- and post-assessment score improvements. They found the instructional videos produced by the Consortium especially helpful in their understanding of the hands-on operations and maintenance of



equipment. Feedback provided by the instructor and participants is very valuable for the Center's courseware development team to continue to improve the products.

See page 5 for details on score improvements and pilot feedback.



"Seeing [the Consortium] grow is awesome. You're getting more agencies coming in and better input, which helps us and also helps other agencies around the nation. It's a great experience, I feel like I've learned a lot and definitely I feel like my company's greatly benefiting from it."

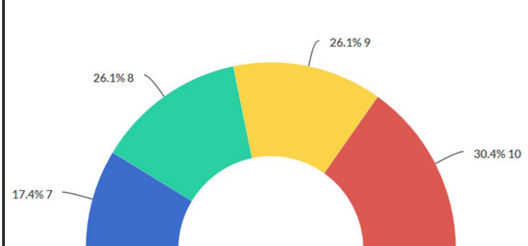
Dustin Hughes - Instructor for Light Rail Vehicle Maintenance - Denver RTD

Courseware Update

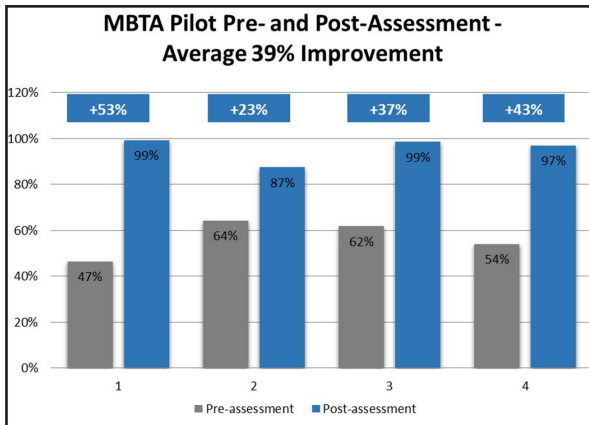
Courseware Pilots Feedback

The Center with participation from Rail Car Consortium agencies, has been actively piloting newly developed rail vehicle courseware. At present, 13 modules across four courses have been piloted. Courses 104, 106, and 204 have been fully piloted by CATS and MBTA. Course 206 is midway through the piloting process now at MBTA.

Usefulness of Course for Knowledge Needed to Complete Job (1=Least Useful; 10=Most Useful)

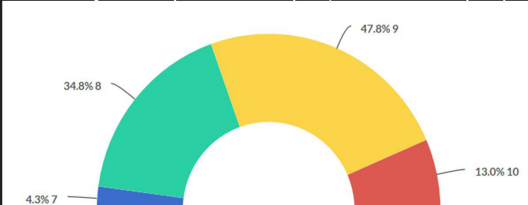


and post-assessments with each of the modules piloted in Boston. On average, students improved 39% after learning the material with Consortium courseware.



The Center has collected feedback from the three fully-piloted courses. We asked participating students to rate the “helpfulness of the courses in learning the content and course objectives” and the “usefulness of the courses for knowledge needed to complete the job”. In both cases, the vast majority of students rated the courses an eight, nine, or ten out of ten. We also administered pre-

Helpfulness of the course in learning the content and course objectives (1= Least Helpful; 10= Most Helpful).



Among the elements students found most helpful were the provided discussion materials, reminders of basic terms and their applications repeated throughout the coursebooks and PowerPoints, the way in which the courseware simplified complex topics and procedures into step-by-step information, and the instructional companion videos.

Mentor Training Delivered at GCRTA in Cleveland, Ohio

On March 21st, the Center worked with Keystone Development Partnership (KDP) to deliver a one day mentor training to GCRTA rail vehicle technicians. GCRTA is in the final stages of registration for their rail vehicle technician apprenticeship program. These mentors will be an integral part to the implementation of that apprenticeship program.

The training that was delivered by Stuart Bass of KDP covered topics such as workplace training, mentors as teachers and on-site advisors, giving instruction, mentors as communication, and problem solving. The Center is continuing to provide free mentor training courses to consortium locations.

Contact us for Mentor Training at your location!

Making Connections is open to the public. Join us!

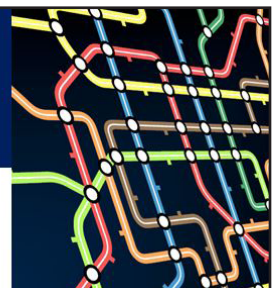
MAKING CONNECTIONS 2017

NEW DEVELOPMENTS & EMERGING OPPORTUNITIES IN PUBLIC TRANSPORTATION AND TRANSPORTATION WORKFORCE DEVELOPMENT

OCTOBER 26, 2017

SHERATON HOTEL SILVER SPRING

8777 GEORGIA AVE, SILVER SPRING, MD 20910



Rail Courseware

Rail Vehicle Sub-System Primers

Tags: primer

These materials provide a very preliminary introduction to the sub-systems of rail vehicles. These primers were developed with subject matter experts as part of the TCRP E-7 Project. Note that these primers will be expanded on and developed into instruction-ready courseware packets as part of the Rail Vehicle Training Consortium.

Rating: Not yet rated | Contains 11 Documents | [More information »](#)

Course 104: Introduction and Overview to APS and Battery Systems

Tags: rail car, overview, introduction, battery, batteries, auxiliary power supply, aps

Course 104, *Introduction and Overview to APS and Battery Systems*, is a five-module course that provides participants with an overview to the principles of APS and battery systems and prepares to work on those systems in a transit rail car maintenance facility.

Rating: Not yet rated | Contains 29 Documents | [More information »](#)

Course 204: Inspection and Maintenance of APS and Battery Systems

Tags: rail car, maintenance, inspection, battery, batteries, auxiliary power supply, aps

Course 204, *Inspection and Maintenance of APS and Battery Systems*, is a three-module course that provides steps for participants to follow when inspecting and maintaining APS & Battery systems on transit rail cars.

NOTE: This course does not have quizzes for each of its three modules. There are, however, pre- and post-assessment quizzes to be administered before and after the course.

Rating: Not yet rated | Contains 16 Documents | [More information »](#)

Course 304: Troubleshooting APS and Battery Systems

Tags: troubleshooting, rail car, rail, nicd, batteries, aps

Course 304, *Troubleshooting and Repair of Auxiliary Power Supply and Battery Systems*, is a two-module course that provides participants with the essential steps in approaching troubleshooting and repair of APS and battery systems on U.S. transit light and heavy rail cars.

Rating: Not yet rated | Contains 16 Documents | [More information »](#)

Course 106: Introduction and Overview of HVAC Systems

Tags: rail car, introduction, hvac

Course 106: Introduction and Overview of HVAC Systems is to provide participants with an orientation to rail car HVAC basic principles and key components. This course is organized into three modules: 1. Overview of Rail Car HVAC and General Safety Procedures 2. Background Knowledge 3. Tools

Rating: Not yet rated | Contains 22 Documents | [More information »](#)

Course 206: Inspection and Maintenance of HVAC Systems

Tags: transit, rail car, maintenance, hvac

Rail Vehicle Course 206: *Inspection and Maintenance of HVAC Systems* provides participants with the essential knowledge and skills in inspecting and maintaining HVAC systems on U.S. transit light and heavy rail cars. This course is organized into four modules: 1. Motors 2. Refrigerant Handling 3. Refrigeration Components 4. Heaters, HVAC and Electronic Control

Rating: Not yet rated | Contains 30 Documents | [More information »](#)

Course 306: Troubleshooting of HVAC Systems

Tags: troubleshooting, rail vehicle, rail car, hvac

Course 306: Troubleshooting of HVAC Systems provides an overview to troubleshooting HVAC systems on railcars within the context of general troubleshooting and best practices. There is only one module for Course 306.

Rating: Not yet rated | Contains 13 Documents | [More information »](#)

Transit Training Network

The Transit Training Network is part of an industry-wide effort aimed at strengthening transit training programs. This website provides a platform for industry occupational training committee members and local training practitioners to view the most updated industry training standards, and share and rate courseware developed by committees or individual agencies. For more information on the website, click "About" above.



To access restricted areas of the website, please click [here](#) and complete the sign-up form. Indicate areas of courseware you are interested in, and a site administrator will contact you to discuss any requirements that may be associated and set up your login. Once logged in, you may also share courseware and other training materials developed by your agency in the Transit Training Forums. To share courseware without a login, please email info@transportcenter.org.

Created and maintained by the Center, the Transit Training Network (transittraining.net, TTN) provides a platform for transit industry occupational training consortium/committee members and local training practitioners to view the most updated industry training standards, share and rate courseware, and engage in interactive discussions with peers on training related subjects for the frontline workforce.

TTN's training resources are developed by three training consortiums (Signals, Rail Car and Elevator/Escalator) and multiple working groups and committees with subject matter experts from transit agencies and unions representing frontline workers. By hosting these

resources on an online resource library, TTN enables learning and sharing of resources to strengthen frontline training.

Seven courses developed under the Rail Car Training Consortium have been shared on TTN, for APS and Battery Systems, HVAC, and Rail Car Train-the-Trainer. Five additional courses on the Orientation of Rail Subsystems, Propulsion/Dynamic Braking and Troubleshooting and Diagnostics Principles will be uploaded in the next quarter. For each course there are Participant Guides, Instructor Guides, PowerPoint slides, instructional videos, quizzes, and take-aways and job-aids for participants.



"The Center championed this brilliant consortium model that is an added value to the industry. SFMTA in partnership with 15 other agencies across the nation are pooling resources to develop standards based courseware to enhance training for rail car technician occupations. The feedback of SME review and pilot courses ensure that the courseware hits the mark and is effective in our field. Train the Trainer sessions have also proved to be valuable working with our instructors to help them hone their teaching techniques."

Gusti Clark - SFMTA - Talent Manager Human Resources

The Center thanks the following Consortium Subject Matter Experts for their knowledge and dedication:

Jeff Raven - BART
 Gabriel Soto - BART/SEIU 1021
 Gusti Clark - SFMTA
 Rory O'Neill - SFMTA/IBEW 6
 Sal Syquia - SFMTA
 Rich Agard - SEPTA
 Gwen Gibson - SEPTA/TWU 234
 Noah Chea - DART/ATU 1338
 Ross Holderbaum - DART
 Arthur Lowery - DART
 Jim Clear - SDMTS
 Andy Goddard - SDMTS
 Anthony Peregrina - SDMTS
 Joshua Stolz - SDMTS
 Scott Ramsey - GCRTA/ATU 268
 Doug Schneider - GCRTA/ATU 268
 Dan Tighe - GCRTA/ATU 268
 Eugene Capote - CATS
 Silvester Fulmore - CATS
 Esker Bilger - WMATA/ATU 689
 Roland Lamar - WMATA/ATU 689
 Anthony Streeter - WMATA
 Richard Gonzalez - MBTA/ATU 589
 John Graveson - MBTA/ATU 589
 Doug MacElhiney - MBTA/ATU 589
 John Nescio Jr. - MD MTA/ATU 1300
 Dave Wilson - MD MTA
 Kevin Rogers - NFTA
 Ron Smith - NFTA/ATU 1342
 Patrick Whitney - NFTA/ATU 1342
 Juston Hrubes - Denver RTD
 Dustin Hughes - Denver RTD
 Marcos Martinez - LACMTA/ATU 1277
 Jose Angel Gonzalez - LACMTA
 John E. Barrett - PATCO
 Bernard Bradley - CTA/ATU308
 Brian Johnson - CTA/ATU 308
 Christopher Sandoz - CTA/ATU 308
 Thaddeus White - CTA
 Greg Bushner - VTA
 Kristopher Hitchcock - VTA/ATU 265



"The courseware benefits us because we all have different equipment, so a lot of different backgrounds with all the subject matter experts. So you get a lot of experience and a lot of different views on things. [Other SMEs] that we met in Charlotte... had some questions about our type of equipment that we used to re-rail trains that come off the tracks and so, we shared information with them... Networking like that's really important. [The train-the-trainer] was a good experience to see the coursework in action. I get to use the books and the instructor guides - it made teaching that course pretty easy."

Dan Tighe - GCRTA - Rail Vehicle Maintenance Instructor

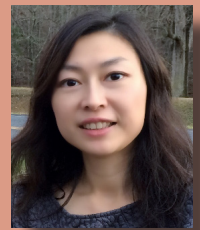


Current Members of the National Rail Car Training Consortium

BART	SEIU 1021	MBTA	ATU 589
SFMTA (MUNI)	IBEW 6	Maryland MTA	ATU 1300
SEPTA	TWU 234	NFTA	ATU 1342
DART (Dallas)	ATU 1338	Denver RTD	ATU 1001
San Diego MTS		LACMTA	ATU 1277
GCRTA	ATU 268	PATCO	
CATS		CTA	ATU 308/IBEW 9
WMATA	ATU 689	VTA	ATU 265

Each issue we will feature one member of our talented ISD and Project team.

Xing Wang, Deputy Director is the Center's lead on the Rail Car Consortium and collaborated with SMEs on the development of national standards based rail HVAC courses. She's a recognized expert on transportation workforce research and implementation, including the TCRP-funded project Building a Joint System of Qualification for Transit Rail Car Technicians, which led to the creation of the Consortium. She holds a Master's in Industrial Relations and Human Resources from Penn State University and recently earned the MITx certificate on Design and Development of Educational Technology.



The **Transportation Learning Center** is a nonprofit organization dedicated to improving public transportation at the national level and within communities. To accomplish this mission, the Center builds labor-management training partnerships that improve organizational performance, expand workforce knowledge, skills and abilities, and promote career advancement.

Contact us:

Email: info@transportcenter.org
www.transportcenter.org
www.transittraining.net
 Phone: 301.565.4713
 Fax: 301.565.4712



Engagement: Transit and Rail Training Partnerships Location Map

National Sponsors and over 40 locations that have worked together to build shared solutions



- IBEW Local 6 (San Francisco)
- IBEW Local 9 (Chicago)
- IBEW Local 103 (Boston)
- IBEW Local 465 (San Diego)
- IBEW Local 1245 (Sacramento)



- SEIU Local 1021 (Sacramento)



- TWU Local 100 (NYC)
- TWU Local 208 (Columbus)
- TWU Local 234 (Philadelphia)

