Training Needs Assessment History; Training Gaps Identified and Filled’

SCRTTC Contacts:

**Nina Babiarz, SCRTTC Training Director**
APTREX Institute
7918 El Cajon Blvd.
Suite N-313
La Mesa CA 91942
ph (619) 667-6636 fx (619) 619) 698-4422
Babiarz@scrttc.com

**David Stumpo, President**
APTREX Institute
2295 Berry Lane, Suite 800
Point Roberts, WA 98281
ph (360) 945-2150 fx (775) 628-6494
dstumpo@aptrex.com
webmaster@scrttc.com

May 15, 2015

This SCRTTC Workforce Training Needs Assessment summary was supported by funds from the SCRTTC and the LA BOS funding.
Table of Contents
Preface .................................................................................................................................................. 2
Executive Summary .......................................................................................................................... 4
Needs Assessment History; Training Gaps Identified and Filled .................................................. 5
  2004 Needs Assessment .................................................................................................................. 5
  2007 Needs Assessment .................................................................................................................. 5
  2009 Needs Assessment .................................................................................................................. 7
  2011 Needs Assessment .................................................................................................................. 8
Preface

Southern California transit agencies were first in the country confronted with the problems that accompanied air quality mandates and the need to procure low and zero emission buses. Taking a grassroots approach, they sought out their local community colleges for needed training solutions.

This collaboration ultimately evolved into the formation of the Southern California Regional Transit Training Consortium (SCRTTC) in 2003/04. The community colleges were the core to the very foundation, formation and implementation of the consortium concept and provided the key academic component into the development of a new “Learning Model.”

The transit agencies contributed a critical expertise to the process. Their working knowledge of the transit industry was the key to the training development and delivery by the community colleges. As another outcome of this collaboration, the SCRTTC knew a full needs assessment was pertinent to the success of any training development. Furthermore, it provided the structural relevancy for the appropriate career pathway programs.

Prior to its formal incorporation as a 501c(3) non-profit organization, the SCRTTC founding members pursued and were provided a small grant funded by FHWA and administered through ITS America to conduct an initial transit training needs assessment.

Subsequently, this documentation warranted the Federal Transit Administration (FTA) to fund a research grant enabling the SCRTTC to further explore its transit training consortium “Learning Model” concept with the intention of possible national replication.

Additionally, the SCRTTC secured member fees, sought local funds, participated in California community college initiatives and secured a non-profit grant award.

Henceforth, the SCRTTC has grown to comprise transit agencies, community colleges, universities and private industry partners.
Executive Summary

As the SCRTTC’s maturity continues to evolve, on July 1, 2013, the Board of Directors implemented a 5-year strategic plan. This plan identified (7) key goals with an emphasis on two-categories; Training Effectiveness and Organizational Effectiveness.

Like any plan, having an understanding of the history is important to having an understanding of the outcomes. This report first satisfies the requirements for FY2014 to conduct an “Annual Training Needs Assessment” and second builds upon the credibility of the SCRTTC that it is meeting the requirements of the membership.

Training needs assessments were conducted since the inception of the SCRTTC, with reports completed and published in 2004, 2007, 2009, and 2011. The summary details of these reports can be found on page(s) 5-10.

Finally, the SCRTTC members have a successful history of interactive and collaboration by which it coordinates a regional mechanism for the development and delivery of transit workforce training. The training delivery process enhances the skills of the transit employees and enables transit agencies to be current in the maintenance and operation of current and new vehicle technologies, integrated systems and alternative fuels. The result is the ability to provide a safe and reliable public transit service that complies with air quality mandates while increasing fuel efficiency.
Needs Assessment History; Training Gaps Identified and Filled

Training Needs Assessments were conducted since the inception of the SCRTTC. They were completed in 2004, 2007, 2009, and 2011. The results of these assessments resulted in the following:

2004 Needs Assessment

Source of Funding: FHWA funded via ITS America

- Included Transit Agency ITS Surveys
- Included Transit Agency Maintenance Manager and Trainer ITS Surveys
- The results of the assessment provided funding for initial Digital Volt Ohms Meter (DVOM) course inclusive of ITS Technologies overview and ITS Awareness training
- Provided documentation to secure FY06-FY09 FTA Earmark funding

NOTE: All training delivered as a result of this assessment can be viewed by Year, Course and/or recipient Organization in Appendix B and Appendix C.

2007 Needs Assessment

Source of Funding: The SCRTTC was a recipient of a Federal Transit Administration (FTA) funding Research Program Plan for $1.2m over four years from FY06 through FY09.

As part of the statement of work, the SCRTTC was requirement to review the past preliminary needs assessment to determine an inventory of training topics to be developed and delivered. This resulted in 2 training inventory matrix; (1) transit topics and (2) existing college training programs. A comparison of the training inventory matrix helped to identify transit specific skills in order to diagnosis, repair and maintain transit buses.

Needs Assessment Findings

- A basic skills list was then prioritized which included:

  ✓ Digital Volt Ohm Meters for ITS Diagnosis and Repair
  ✓ Electrical System Diagnosis for Transit
  ✓ Basic Brake I for Transit

- Transit surveys revealed additional industry specific requirements:

  ✓ Replicate Vendor training information to aid and improve abilities
  ✓ Hybrid Safety Training; fulfill safe operation & pre-requisites
  ✓ Advanced Electrical
  ✓ Electronics Systems; include troubleshooting and schematics
College surveys identified concerns to respond to transit specific needs:

- Cultivate and increase a pool of Instructors
- Availability of transit specific instructional aides
- Instructor accessibility required to rotate regional delivery

Final recommendations resulted in:

- Course Development Standard Operating Procedure (SOP)
- SOP for Instructor Certification via Train-the-Trainer
- Request for Proposal (RFP) process to facilitate course delivery
- Data collection to meet FTA required work-plan performance
- Identification of immediate & intermediate course development
- Anticipation of future course development
- Prioritization of future transit training needs delivery
- Alignment of training priorities with existing budgets
- Identification of unfunded needs for pursuit of required revenue
- Foundation of training development and delivery timelines
- Established 2008/2009 course development and delivery calendar
- Identified top training gap: pool of SCRTTC certified instructors
- Identified need for replicable Mentor/Internship program template
- Implementation resulted in the following course development and delivery:
  - DVOM for ITS Technologies-Digital Volt Ohm Meters
  - ITS Awareness for Public Transportation
  - Leadership Transition to a Management Position
  - Electrical I for Transit*
  - Electrical II for Transit*
  - Electrical III for Transit*
  - Electrical IV for Transit*
  - Electrical V for Transit*
  - Brakes I for Transit Systems
  - Brakes II for Transit Systems
  - HVAC I - Heating Ventilation Air Conditioning
  - HVAC II – Service/Diagnosis of Heating Ventilation Air Conditioning
  - CNG Tank and Systems Inspection
  - Hybrid Bus Safety Course (4-hour)

* Denotes development with SCRTTC and Rio Hondo College’s Industry Driven Regional Collaborative (IDRC) grant which leveraged membership grants with FTA funds to address additional intermediate courses.

Needs Assessment Results

- Implementation enabled the top training gap identified i.e. the pool of SCRTTC certified instructors to be addressed concurrently with each course development as the SOP for Instructor Certification via Train-the-Trainer.
- Implementation provided the catalyst for SCRTTC to shadow the Long Beach Transit (LBT) Mentor/Internship program. The primary objectives
were to: (1) introduce students to transit maintenance & support departments (2) expand partnerships with educational institutions to offer training. A complete report is available upon request.

- Implementation resulted in the development and documentation of Key Performance Indicators (KPI) that fulfilled the required FTA data collection and work-plan documentation.

- Those KPI factors were defined as:
  - Number of students trained
  - Number of hours of training provided
  - Student Evaluations/Survey
  - Number of Courses Developed
  - Certification of Instructors

- Implementation resulted in the development of KPI Chart, approved by FTA and SCRTTC the Board, as the means by which to consistently capture KPI factors for Lifetime-To-Date (LTD) performance documentation.

- **NOTE:** All training delivered as a result of this assessment can be viewed by Year, Course and/or recipient Organization in Appendix B and Appendix C.

### 2009 Needs Assessment

**Source of Funding:** Board’s interest to update assessment of training needs was not funded by FTA in this final FY of the Earmark. Therefore, this transit workforce needs assessment was supported by funds from the Chancellor’s Office of the California Community College’s ATTEi HUB program, in collaboration with and contributions by its primary partner, the SCRTTC.

The objective of the 2009 needs assessment was to:

- review the past needs assessments
- provide data demonstrating expanded work-plan met training relevant to the transit industry training requirements identified
- identify courses developed that require replicated delivery
- identify new and emerging transit training needs anticipated
- identify subject matter expertise enabling course development
- prioritize by available funding
- explore any/all funded human resources for supplemental support

The surveys revealed the need for repeated delivery of courses already developed:

- DVOM for ITS Technologies-Digital Volt Ohm Meters
- ITS Awareness for Public Transportation
- Leadership Transition to a Management Position
- Electrical I for Transit*
- Electrical II for Transit*
- Electrical III for Transit*
- Electrical IV for Transit*
• Final recommendations resulted in:
  o Identification of immediate course development needed
  o Identification new/emerging training that should be anticipated
  o Identification of existing course resources for replicated delivery

• Implementation resulted in the following course development and delivery:

  ✓ Cummins 8.3 C+ Beta 1 conducted by Cypress College at OCTA
  ✓ Cummins 8.3 C+ T-t-T conducted by Cypress College at OCTA
  ✓ Twelve (12) participants (4 college and 7 transit) certified to instruct
  ✓ Increased SCRTTC pool of Certified Instructors
  ✓ Enabled broad-based, regional technician course delivery

• Implementation also resulted in identification of new/emerging training anticipated:
  o ISE Gasoline Hybrid Electric; Beta and T-t-T, Phases I–III
  o Cummins 8.9 ISLG CNG Engine; Level I, Insite, Level II
  o Proterra Electric Bus

NOTE: All training delivered as a result of this assessment can be viewed by Year, Course and/or recipient Organization in Appendix B and Appendix C.

2011 Needs Assessment

Source of Funding: When Title IV of the Hiring Incentives to Restore Employment Act (HIRE Act), Pub. L. 111-147, extended authorizations of National Research and Technology Programs under section 3046 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for User (SAFETEA-LU), P. L. 110-59), Title IV of the HIRE Act also provided that the Secretary of Transportation may allocate funds for these activities only if the activity has not been sufficiently funded to meet the purpose for which funds were allocated before or during fiscal year 2009. Therefore, the Department of Transportation (DoT) reviewed SCRTTC’s project and determined that it had not been sufficiently funded to meet its purpose. Subsequently, SCRTTC was authorized funding for FY 2010, January 1, 2011 to December 31, 2011, at the same level of FY 2009 ($450,000).
The 2011 needs assessment, limited by time/budget restraints, was required to:

- identify all training development and delivery needs
- tap existing training resources available from both the transit industry and the educational community
- identify industry training and preparation for Train-the-Trainer potential (T-t-T) opportunities
- determine course delivery priorities
- determine course development priorities
- differentiate which course delivery/development achievable with FTA budget vs. other industry and/or educational resources

One-to-one interviews, input from the Education Services Committee members and surveys of the Transit Maintenance Supervisor served to identify all the SCRTTC training and development and delivery needs, they were:

- Brakes I and Brakes II
- HVAC I and HVAC II
- HVAC 608 Certification
- 2-day Cummins 8.3 (CNG) Level I
- 2-day Cummins 8.3 (CNG) Level II
- 2-day Cummins 8.9 (CNG) Level I
- 2-day Cummins 8.9 (CNG) Level II
- 2-day Cummins 8.9 (CNG) Level II
- 2-day CNG Cylinder Tank Inspection (CSA Certification)
- 1-day CNG Safety Course
- Electrical Series I – V; Upgrade required by course SOP
- Electrical Series I-V Upgrade all inclusive of T-t-T for each
- Electrical Series I-V; delivery of all upgraded courses
- Hybrid Bus Series topics as assessed by SCRTTC Transit and Community College members and ISE Corporation; Safety, Familiarization, Operations, Preventative Maintenance, Advanced Diagnostics and Ford Engine
- Prius Hybrid Auto; transit agency fleet maintenance
- On-line Distance Learning, computer based training
- Leadership Management for Succession Planning
- Budget and Financial Management

Implementation of the FTA 2011 Training Needs resulted in the following existing courses delivered with the 1-year FTA budget allocation:

- Brakes I
- Brakes II
- HVAC I
- HVAC II
- HVAC 608 Certification
- 2-day Cummins 8.3 (CNG) Level I
- 2-day Cummins 8.3 (CNG) Level II
- 1-day CNG Safety Course
- CDX Modern Bus Electrical System; On-line & In-class T-t-T

Implementation of FTA 2011 Training Needs resulted in the following new course development and delivery with the 1-year FTA budget allocation:
Implementation of FTA 2011 Training Needs of Leadership Management delivery was sponsored by the SCRTTC/APTREX/CSULB in conjunction with a FHWA Grant. Entitled ‘Transition Leadership for Transit’, and this delivery required both In-class and Online session participation in order to receive credit for the course.

Implementation of the balance of the FTA 2011 Training Needs was accomplished with a 3-year SCRTTC Reformulated Gasoline (RFG) Settlement Grant. The Goals, Work Plan, and Budget to measure the outcomes were provided for this grant from April 1 2011 to March 31, 2014. RFG enabled SCRTTC to upgrade/develop the remaining courses assessed but not funded by FTA:

- Preventive Maintenance Hybrid Course
- Advanced Diagnostics Hybrid Course
- Update E1 and E2 Electrical Courses**
- Ford Engine Hybrid Course
- Update E3 and E4 Electrical Courses**
- Update E5 Electrical Course**

** Included Beta 1 and T-t-T

The 3-year SCRTTC Reformulated Gasoline (RFG) Settlement Grant also enabled SCRTTC to deliver the remaining courses assessed but not funded by FTA. The Goals, Work Plan, and Budget to measure the outcomes were provided for this grant from April 1 2011, to March 31, 2014. The RFG courses delivered over the contract period were:

- (6) Introduction Safety and Basic Familiarization Hybrid Courses
- (6) Advanced Familiarization and Operations Hybrid Courses
- (6) Preventive Maintenance Hybrid Courses
- (6) Advanced Diagnostics Hybrid Course
- (4) Ford Engine
- (36) Electrical 1-5 Courses