E-7: Initiating a National Joint Transit Industry Rail Vehicle Technician Certification Program: Building for Success

DRAFT Components of a Work Program
Revised per Panel Meeting, March 6, 2007

Project E-7 will be fully integrated with the ongoing labor-management project for developing national training standards for transit rail car technicians. This is also part of a broader effort developing a comprehensive system of standards for transit maintenance training and a national framework supporting transit maintenance apprenticeship. The goal is to develop a national joint certification system through the Community Transportation Center for transit rail vehicle technicians.

The first year's work is expected to build on four initial major tasks, once the TCRP contract funding is in place (expected in June 2008).

Major Task 1. **Draw lessons for transit from joint training and certification systems in other US industries and internationally**

- 1.1 Analyze and produce a report on the certification/testing methods used by national labor-management partnerships in other industries
- 1.2 Identify lessons that could be most usefully adapted for use by a national labor-management certification system for transit rail car technicians.
- 1.3 Gather data on the industry-wide systems of training and certification from countries that have well developed systems for the transit industry. This will include an overview of systems in at least Canada, Germany, Denmark and the Netherlands. Data will include how transit systems and labor work together, involvement of government and educational institutions, and certification methods and criteria.
- 1.4 Deliverable: A working paper that describes the lessons identified in Major Task 1.

Major Task 2. **Produce a feasibility study of a proposed national certification system for rail car technicians (Excluding FRA for now)**

- 2.1 Analyze the number of workers likely to participate each year (consider possible inclusion of railroad rail car maintainers) – based on different scenarios: voluntary or mandatory certification. Gather data on population of rail mechanics in each technical area through a survey of all US transit rail systems.
- 2.2 Analyze the optimum frequency of testing.
- 2.3 Analyze alternative test methods and their combinations (e.g., on-line tests, paper and pencil, computer-based tests with printout option, and/or hands on – simulation for certain tests).

2.4 Analyze approaches to grandfathering incumbents and developing incentives for passing certifications.
2.5 Analyze administrative issues in testing, including cost per test, life-cycle costs, methods of assuring complete integrity of the test process, test proctoring, test scoring, protecting against liability exposure, re-certification, development of study guides and pre-tests, etc.
2.6 Analyze cost structure for ongoing system of rail vehicle technician testing, including costs for developing an initial system, and ongoing costs of administration and periodic updating of test questions.
2.7 Develop a business plan that is institutionally sound for the long term, with an analysis of options for meeting any funding shortfall for financing such a system beyond nominal per-test charges to technicians and/or their employers.

Major Task 3. Prepare interim report number one summarizing Major Tasks 1 and 2 and organize a panel meeting to review report.

Major Task 4. Analyze options and develop a consensus proposal on the best way to integrate test administration systems institutionally with the work of the Transport Center. Options to be evaluated include:

4.1 A structure combining a national labor-management policy committee supported by a joint technical committee, with members nominated by national transit organizations, as an ongoing set of activities at the Center.
4.2 A similar structure in a self-contained nonprofit 501(c)3 as a subsidiary to the Center.
4.3 A similar structure as a stand-alone organization.
4.4 Test administration processes (i.e., how and where tests would be offered, scoring, record keeping, etc.).

Major Task 5. Develop interim report #2 including revised interim report #1 and results from Major Task 4 and organize a panel meeting to review report.

5.1 Develop and circulate the second interim report, including a detailed proposal for the certification program that could then be vetted through the transit labor unions, APTA committees, transit systems, etc.
5.2 Organize a panel meeting to review two reports and the proposed review procedure
5.3 Begin to carry out industry review that will take place through presentations and discussions at relevant national meetings of APTA (the Rail Vehicle Inspection and Maintenance Committee), ATU (Maintenance Seminar) and other transit unions, and through focused discussions with leaders of transit systems and their unions in

conjunction with ongoing local, regional and statewide training partnerships.

Major Task 6. Enhance and complete the national training standards for transit rail car technicians that are currently under development with funding from US DOL and DOT. These results will directly support the proposed system of certification. It will consist of the following components:

- 6.1 Finalize rail car technician maintenance task lists and learning objectives
- 6.2 Determine the order of instruction for learning objectives in transit rail car technician national training standards
- 6.3 Develop a framework for sharing courseware among transit training systems based on learning objectives in the emerging national training standards
- 6.4 Pilot system of sharing courseware in at least two locations

Major Task 7. Prepare a final report describing the results of all tasks, including a stand-alone executive summary.

Once the draft final report is submitted the schedule will assume three months for review by the panel and Center preparation of the revised final report.

The work in the first year essentially constitutes a multi-part feasibility study for development of a joint system of certification for rail car mechanics. The elements of a statement of work for this first year's activities could usefully be viewed in the context of the multi-year effort originally proposed to TCRP in June 2007 (reproduced in the attached appendix).

Funding Needed: $400,000

Contract time: 15 Months

Appendix:
Proposed Five Year Statement of Work from TCRP Problem Statement Submitted in June 2007.

RESEARCH PROPOSED

A joint oversight committee representative of experts from transit management and transit labor unions is expected to provide guidance to this project. Maximizing overlap with the existing national joint committee for rail vehicle maintenance will ensure effective coordination and integration of training standards and certification systems. The job tasks are already being identified through the DOL/FTA funded work on standards for training. The research work plan is proposed to be a five-year program, as follows:

A. Years 1-3: Develop Certification Framework and Procedures

1. Complete and review the ongoing development of rail car maintenance task analysis, consensus skills curriculum in the current labor-management project identifying task lists, required knowledge, skills and abilities, and curriculum and courseware. Compare those results with already existing certification systems in transit agencies and railroads.

2. Analyze and report on testing methods, including paper-and-pencil and hands-on testing, used by labor-management partnerships in other relevant industries (electrical industry, heavy equipment, railroads etc.).

3. Building on this research base, develop an initial proposed framework for testing and certification in transit including implementation guidelines that will work well for all transit stakeholders. At the discretion of the joint oversight committee, this testing may include hands-on testing in addition to pencil and paper.

4. Prepare this initial agreed framework with necessary materials and support systems for pilot test implementation.

B. Year 3: Initial Pilot Testing

1. Initial pilot implementation at partnering sites with cooperating transit systems and unions for tests developed each year.

2. Rigorous evaluation of pilot implementation experience, including quantitative measurements and participant survey analysis.

3. Modification of first testing and certification framework based on evaluation

C. Year 4: Second Round Pilot Testing

1. Second round pilot implementation of complete testing program at partner transit sites.

2. Evaluation of pilot results, with recommendations for further improvement.

3. Proposal for final system, including system of “evergreen” maintenance for future years as new technology is introduced.

D. Year 5: Final Pilot, Evaluation and System Rollout

1. Final pilot implementation of final system.

2. Collection of metrics and evaluation.

3. Finalize ongoing structure and system to support training and testing in rail car maintenance occupations.