Engineering Career Ladders for Passenger Rail: APTA, Partners, Academia Explore Options

What does it take to integrate the workforce development needs of passenger rail with the curriculum of the nation’s leading higher education engineering programs?

More than 50 industry professionals and college and university professors explored this question and others at APTA’s first Passenger Rail Engineering Education Symposium (p-REES), a three-day program funded by the association’s business members and co-sponsored by the American Railway Engineering and Maintenance-of-Way Association (AREMA).

The Philadelphia event, hosted by the Southeastern Pennsylvania Transportation Authority and conducted at SEPTA headquarters, was modeled on AREMA’s Railway Engineering Education Symposium (REES), a longstanding program that predominantly fosters interest among university faculty in freight railway engineering. APTA business members and participants affiliated with the National University Rail Center (NURail) provided instructors for the symposium. The NURail Center is a consortium of seven North American colleges and universities offering railway transportation engineering research and education.

“There are tremendous career opportunities for a new generation of young professionals educated in principles of rail transport. Public transport organizations should encourage and support partnerships with colleges and universities to help them expand their rail educational and research programs; p-REES was a critical first step in achieving this,” said Christopher Barkan, NURail Center director, professor and executive director, Rail Transportation and Engineering Center, University of Illinois at Urbana-Champaign.

Michael Loehr, practice leader, transit and rail Americas, civil, CH2M Hill, was instrumental in putting the symposium together. “The inaugural p-REES session was a great success for the participants. The support of the APTA business members and

a great success for the participants. The support of the APTA business members and the entire APTA organization working together to address the workforce development needs of our industry will have a lasting benefit,” said Loehr, chair of the newly formed Business Member Workforce Development Committee.

Jeffrey Wharton, Business Member Board of Governors (BMBG), reinforced the importance of the event.
“The p-REES inaugural event began as an idea among several APTA business members several years back when discussing the difficulty of finding properly educated rail engineers,” said Wharton, president, IMPulse NC LLC. “Some of the professors in attendance were looking to hone their knowledge and expand their rail programs, while others were first time to the rail industry and looking to start new programs. Everyone got something new out of this event, including those of us from the private sector.”

As a result of the p-REES symposium and based on additional information provided by the REES program, Drexel University in Philadelphia announced that it would offer a new rail and transit engineering undergraduate course in fall 2015.

Engineering faculty also expressed their support of the symposium. “I applaud the effort of APTA for organizing this symposium. I feel students are much more familiar with highway than rail, and that plays an important role in their career choice,” said Mei Chen, associate professor, department of civil engineering, University of Kentucky.

“The symposium helps bridge the gap between the rail industry and college students. And hopefully through continued efforts of all involved parties, students will learn more about the rail transportation system and its role in economy and everyday lives, and have enough opportunities to see rail as a viable career field,” she added.

Topics included presentations and panel discussions on the rail industry in general, education and recruitment needs, infrastructure, engineering and design, shared corridor challenges, passenger rail projects and research. The symposium also featured tours of some SEPTA operations and projects, including its PTC initiative with CSX.

In addition to Loehr and Wharton, the symposium was developed with the assistance of several other APTA members, including William Thomsen, senior vice president and general manager, Urban Engineers; Lydia Grose, director of engineering and design, civil engineering, SEPTA; and Pat Morris, senior director, finance and administration, operations, SEPTA.

Bill Thomsen, Urban Engineers, left, and Mike Loehr, CH2M Hill, lead a discussion of workforce development needs with professors and industry leaders during APTA's first p-REES program.

Photo by Joseph Niegoski