



American Public Transportation Association

Streetcar Subcommittee

2019 APTA & TRB LRT & Streetcar Conference

Jersey City, NJ
Hyatt Regency Jersey City
Sunday April 7, 2019
1:00 pm – 2:30 pm
Hudson Prefunton, Third Floor

Timothy R. Borchers	Chair
Eric Sitiko	Vice Chair (Not Attending)
James D. Schantz	Secretary

Summary Notes

1. Welcome & Introductions

Tim Borchers

Committee Chair Tim Borchers called the meeting to order shortly after 1:00 pm.

2. Meeting minutes from Tucson, AZ

Jim Schantz

Subcommittee Secretary Jim Schantz reviewed the main points covered in the minutes of the February 27, 2019 meeting in Tucson. The notes had been circulated in advance. After the review, the attendees voted to accept the Notes..

3. Presentation

- OFF Wire & ZEMU (Zero Emissions Multiple Unit), latest developments in OCS Free Operation
Eric Garzon, Business Development, Centum Adetel

Centum Adetel is a French-Indian firm with a North American presence in Montreal. Energy management systems in rail vehicles are a key area of their activity. They consider a variety of combinations of power components in offwire systems, such as conventional overhead and ground level power supply; battery hybrid; onboard power generation with diesel, battery-diesel-hybrid, or hydrogen fuel cell; and onboard/wayside energy storage. For hybrid approaches they have developed a combination of High Efficiency Super Capacitors (HESC) and a Long Life Battery (LLB). The LLB is optimized for running at speed and the HESC helps with boosting acceleration and recuperating energy during deceleration. The Primary Power system uses HESC also known as Lithium Iron Capacitors. All the components are tightly mounted together in compact boxes, with a custom cooling system design about to be announced. On board power (diesel or hydrogen) can be combined with these components to optimize both power output and fuel consumption. The hybrid combination allows the complementary system to take over and shutdown the diesel/hydrogen system at noise sensitive locations such as stations or residential areas. Two systems using this technology are running now, one in France and one in Taiwan. A completely catenary free solution can be implemented by mounting at a station one of the same hybrid units used on board; trickle charging it from the grid (with no dedicated high capacity power feed needed); and charging the car from this unit during station stops.

A copy of the presentation is available on the Subcommittee's web site at http://heritagetrolley.org/images/Centum_Adetel_APTA_NJ_190407.pdf.

4. Updates

- Qualification and Acceptance Testing Database
Devon Salmon
Engineer, Transport Technology Center

This project is the output of an FTA funded grant to document all of the different ways an agency can

acceptance test new vehicles or components. The task was to list all of the tests, be they agency specified, regulatory, or international standards for the U.S. then next identify facilities that can undertake the selected tests. These tests can include modeling, static testing, or dynamic testing. A report of the team's findings has been published and they have established and now maintain a database. To find the database follow this link: <http://fta.aar.com>. As the development of this database is essentially complete, APTA has offered to take over its maintenance on a long term basis. During this transition, the web URL will remain the same.

- Light Rail Technical Forum Tom Furmaniak

The Forum was beginning later in the day of the Subcommittee meeting.

- Web Site Update Jim Schantz

The Subcommittee's site at www.heritagetrolley.org and www.streetcarcommitte.org continues to be updated regularly with news and other resources that could be of use to groups planning or implementing modern or heritage streetcar systems. The latest draft of the off-wire status paper and the level boarding white paper are among postings in the Technical section. The Centum-Adetel presentation from this meeting is also on the site in the Technical section.

- Suggested topics for 2019 APTA Rail Conference June 23-26 Tim Borchers

The Subcommittee would welcome a lunch sponsor so that the meeting could be extended to 2 to 2½ hours, including a lunch break, to accommodate the large number of potential presentations. Tim Borchers suggested topics including an in depth review of the TTC Bombardier Flexity Outlook streetcar and the Flexity light rail vehicle for the new Metrolinx system. Another topic could be the TTC's practices for interworking of heritage cars and the new Flexity cars, a practice that many agencies say can not be done safely. A Subcommittee member also suggested a tour of the new Leslie Barns where the Flexity streetcars are serviced.

- Chinese Guided Trackless Tram Lyndon Henry

Lyndon Henry called the Subcommittee's attention to a system demonstrated in China by CRRC using an autonomous vehicle that looks very much like an articulated tram but which is equipped with rubber tires and optically follows a string of white squares painted on the pavement. Though very little has been published by CRRC (and the system was not featured at Innotrans) a number of U.S. cities have dropped rail plans in favor of this unproven technology and its alleged low cost. Another member mentioned that the Mayor of Miami had become interested in this technology, visited China to see it in operation, but came back less than enamored. AECOM studied it for use in Miami and feels there is some potential. TRB and FTA are also evaluating this technology. This topic would be of interest for a future meeting.

- Innotrans Report John Smatlak

The biennial conference in Berlin in September 2018 featured 55 vehicles on outside display and there were 161,000 visitors from 149 countries. APTA signed an MOU with the European consortium of vehicle manufacturers to promote information exchange. Trams on display were all low floor and generally five section cars. Many designs feature integration of more operator control functions into the operator's seat arm rests. Siemens offered the autonomous tram demonstration in nearby Potsdam.

5. FY18/19 Work Plan John Smatlak

John Smatlak gave a preview of the Subcommittee's activities that would be presented during the conference in the coming days. Research based on the need for streetcars to operate in a mixed traffic environment has led to a checklist of safety criteria for both the vehicle and the alignment to prevent accidents to the greatest degree possible. This checklist is a good candidate for incorporation in the next edition of the streetcar guideline document developed by the Subcommittee. In the realm of innovation, connected vehicle capability and driver assistance technology also can serve as precursors to automated vehicle operation. Developments

in this area are most frequently adaptations of safety technology pioneered by the automotive industry. Energy absorbing bumpers are another area of safety that may be a candidate for more work by the Subcommittee.

6. Next meeting:

- APTA Rail Conference June 23-26, 2019
Toronto, Canada

A specific agenda and list of technical tours will be distributed as soon as they are available. The Subcommittee meeting will most likely be held on Sunday, June 23, 2019.

Summary Notes prepared by Jim Schantz