



*American Public
Transportation Association*

Meeting Minutes

Streetcar and Heritage Trolley Subcommittee

James Graebner, chair

Tampa, FL October 30, 2007

Jim Graebner called the meeting to order at 8:35am. On Behalf of APTA and the Streetcar Subcommittee, Jim expressed his thanks and appreciation to Tim Borchers and HART for hosting the meeting. On behalf of HART and general manager David Armejo, Tim Borchers made a few opening remarks and welcomed the Streetcar Subcommittee to this two-day meeting and technical tour. The group acknowledged the top-level support HART has given to the Subcommittee.

OCS Standard

The meeting proceeded with agenda items beginning with the OCS standard effort. Martin outlined the joint IEEE / APTA effort to develop recommended practices and standards for OCS systems specific to constant tension and fixed tension wire of heritage trolley cars. Martin noted that at a meeting of the IEEE OCS committee in New Orleans recently, a request was made by APTA to prepare a position statement regarding OCS standards initiatives. Led by Paul White, IEEE subsequently prepared such a document. Martin shared this document with the Subcommittee and asked for comments or need for clarifications. Jim Schantz shared guidelines on pole design he developed as a starting point for the discussion on pole placement, visually appealing design, and wire placement. The document was provided to the Subcommittee for review of which an earlier version was provided to IEEE for use in development of their position paper. Cam Beach made reference to California GO-95 that was last updated in 1942, and which does not adequately address constant tension catenary or fail-safe use. Bill Moorhead suggested that development of recommended practices for OCS might fight well in extended form as part of something like TRB Report 57. Tom Furmaniak also pointed out that design specifications will need to consider the impact of regenerative braking through contact shoe. Large current from braking may exceed capability of contact shoes. Tom also emphasized the need to jointly consider pantograph and pole operation in the development of standards.

Martin asked for volunteers to help support the effort and coordinate with IEEE. Martin emphasized that the resulting work would be a joint IEEE / APTA standard and that an MOU between APTA and IEEE similar to such an agreement with AREMA, may be needed. The following agreed to support the effort and constitute the Streetcar Subcommittee working group on OCS standards development: Frank Pierson, Cam Beach, Ron Bennell, Chris Pagne, Butch Campbell, and Jim Schantz.

- Jack Borse asked members of the Streetcar Subcommittee to participate in the TRB meeting at the TRB Annual Conference this January to help formalize reports and encourage release of recommended practices. Jim Graebner sees the Subcommittee's role as participating in review and general guidance of proposed standards, realizing that IEEE would lead the technical aspects of electrical design.

Martin thanked those who volunteered and further agreed to contact Paul White with the workgroup list and encourage coordination between IEEE and APTA.

Track Recommended Practices

Jim asked Martin to continue the discussion on track recommended practices. Martin summarized the track recommended practices effort noting the seven groups that have been established by the Track and Noise/Vibration Technical Forum. These groups were established in an effort to break down the task into smaller efforts, with the realization in practical terms that there would be some level of overlap and interdependence between these groups. With regard to tight radius curves Jack Boorse noted the work performed by TRB and that APTA has made available a report from this effort. Tom Furmaniac noted a concern for negotiating tight radius curves with single point turnouts coupled with the use of solid axels. Jim Schantz added the concern for vertical curves and grade negotiation in street running systems.

Martin asked Bill Moorhead, leader of the embedded track work group and member of the Track and Noise/Vibration Technical Forum, to help the group understand the efforts now underway in revising the AREMA recommended practices related to embedded track. Bill noted that his working group met in Pittsburgh this week to discuss alignment issues and the effect on jerk and vehicle acceleration limits as metrics for establishing guidelines for alignment specifications. Bill reported that acceleration limits of 0.15 g were a good point from which to then define track design guidelines. This value is much larger than the current AREMA specifications designed for long-term commuter railcar exposure, and in agreement with similar EU recommendations.

With regard to jerk and acceleration limits, Jim Graebner and Cam Beach noted the contributing effects from vehicle control systems and slip problems. Bill Moorhead made a plea to the group to encourage more vehicle experts to join the discussion. Martin seconded the appeal, noting support from John Smatlak, Tom Furmaniac and Steve Bonina. Martin will expand the request to the larger Streetcar and Rolling Stock Subcommittees.

Other considerations that will need to be part of the track RP work include wheel/rail noise, ground resistance and use of girder rail as noted by Jim Graebner and John Smatlak. John further noted the importance of being connected to methods used in

Europe for grass track design and that we should learn from their superior experience. Bill Moorhead noted that ground resistance specifications are highly dependent on substation placement; the closer the substations the less potential for leakage.

Dave Dobbs made a plea for making information on track design more readily available either as web site enhancement or publication. Martin agreed and has taken on responsibility to increase exposure and integration of this information. Martin also noted that the APTA Track and Noise/Vibration Technical Forum web page does contain a good collection of documents useful in defining track recommended practices. Similar enhancements are planned for the Streetcar site.

Vehicle Standard

Martin encouraged a discussion on initiation of an APTA effort to write technical standards for vehicle design that could lead to less expensive vehicle procurements noting that more common design practices could significantly reduce costs. Martin noted that he had send out an email letter of interest to the Streetcar, Light Rail and Rolling Stock groups. A number has requested their involvement in the effort. Tom Furmaniac noted that in discussion with Tom Peacock, many areas of design already seemed to have been standardized and that a better way to encourage less expensive procurements was to write specifications that permit variations. Transit agencies may need the flexibility for the particular needs.

ACTION SUMMARY:

- Better coordination with IEEE on OCS
- Need better support for AREMA track standards effort, especially regarding wheel/rail integration.

NEXT MEETING:

The next meeting of the Subcommittee is scheduled during the Rail Conference in June of 2008.

RECOGNITION:

Thanks again to HART and our sponsors (**Gomaco and TranSystems**) for hosting a very successful meeting.

Respectfully submitted,
Martin Schroeder, P.E.
Staff Advisor