Lessons Learned in Implementing E-ATC for PTC

James C. Cline, Jr., P.E.
Denton County Transportation Authority, President
Lewisville, TX
Key Presentation Take-Aways

• Challenges overcoming requirements as a small operator
• EATC is a viable solution in some cases and overcomes many technical issues
• Many benefits and lessons learned with User Group
• Potential for future improvements/efficiencies
DCTA A-train Characteristics

- 21 mile corridor, single track with sidings
- 11 – Stadler GTW DMUs
- 6 stations, Mon. to Sat. Passenger Svc.
- 60+ trains/day
- 9 Control Points/10 Int.
- No Interoperability Req’d
DCTA A-train Corridor
Challenges Facing a Small Operator

• Same need to implement a positive stop (Train-Train Collisions, Misaligned Switch, TSR/MD, Overspeed)

• Difficult deadline – 31 December 2018

• High profile incidents keep attention

• All in “discovery learning” at the same time

• Small budgets and limited staff resources
Technology Selection

• Multiple attempts were made to purchase a PTC system within budget which didn’t prove successful (I-ETMS and ACSES II)

• Tried a regional approach, but I-ETMS costs, technical needs of the other regional partners, and required timing proved too limiting

• DCTA proved to be too small of a project to interest ACSES II suppliers
Why an EATC System?

- GE ElectroCode 5 system in place
- E-ATC utilizes Cab Codes over rail vs RF
- Vehicles pick up signal from rail, no 220MHz radios
- Wayside linked via Fiber network
- $17M budget – Total - $900K/mile
Implementation Status

- Installation 100% Complete
- Static Testing 100% Complete
- Dynamic Test Procedures Approved
- Training underway
- On path to enter RSD NLT 12/31/2018
- **Key Risk Area:** Unknown Issues Discovered During Dynamic Testing
E-ATC Systems Being Implemented

- Tri-Met/PNWR (initial type approval)
- Sonoma Marin Area Transit (SMART)
- UTA Front Runner
- CapMetro
- Florida East Coast
- DCTA
- SFRTA Pending (dual equipped)
User Group Formation

• Initial suggestion from FRA/APTA staff
• Buy-in from other users – starting with TriMet/PNWR – on a common platform
• Common technology
• Not sure of willingness to commit time/resources
• Proved very beneficial as time has progressed
• Many lessons learned
E-ATC User Group

- Members: Agencies, FRA, Manufacturer, Consultants, Contractors
- Many participants on multiple projects
- Lessons learned from all phases of implementation
- Simplified messaging from FRA
- Shared common documents – PTCSP base
Clear Need and Purpose

- Share lessons learned
- Gain quick feedback from regulators – all at once
- Share documents
- Resolution of technical issues
- Better understanding of process
Get the Right Participants

Agencies

FRA

Industry

Alstom
Consultants
Installers
Communications

• Conference Calls
• On-site Meetings
  – Great to see the installation and application
  – Value of face-face meetings cannot be over-stated
• Document Management
• Conferences/”Woodshed” sessions
Vehicle Installations
Next Steps

- All agencies working to begin RSD or alternative compliance (with extensions)
- While current focus is on the 31 December 2018 Deadline, Completion of Safety Plans and Certification will be next up
- Ongoing upgrades/Maintenance issues
- Ongoing lessons learned
- Move from compliance to efficiency
Questions?