2016
TRIENNIAL
SECURITY REVIEW OF THE
BAY AREA RAPID TRANSIT DISTRICT
OAKLAND AIRPORT CONNECTOR
(BART OAC)

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(REDACTED)

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2016 TRIENNIAL SECURITY REVIEW OF BAY AREA RAPID TRANSIT DISTRICT OAKLAND AIRPORT CONNECTOR

ACKNOWLEDGEMENT

The California Public Utilities Commission's Rail Transit Safety Branch (RTSB) staff conducted this system security program review. Staff members directly responsible for conducting review and inspection activities include:

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1. EXECUTIVE SUMMARY

The California Public Utilities Commission's (Commission) Safety and Enforcement Division (SED), Rail Transit Safety Branch staff (Staff) conducted an on-site system security review of the Bay Area Rapid Transit District (BART) Oakland Airport Connector (OAC) in October 2016. The review is focused on verifying the effective implementation of the System Security Plan (SSP), addressing Threat & Vulnerability Assessment (TVA) and emergency response.

The on-site review was preceded by an opening conference meeting between BART personnel and Staff, on Monday, October 24, 2016. The security review took place on October 28, 2016 and focused on verifying the effective implementation of BART's SSP.

Following the on-site security review, staff held a post-review conference with the BART Manager of Security Programs, on November 29, 2016. Staff provided a preliminary summary report detailing the on-site review findings.

The security review results indicate BART has a comprehensive system security program plan and has effectively implemented the SSP. Staff made no findings of non-compliance and issued no recommendations during the review.

The report Introduction is presented in Section 2. The Background, in Section 3, contains a description of the BART rail system. Section 4 provides a description of the 2016 security review procedures. The review's findings and recommendations are listed in Section 5. A listing of the Acronyms is in Appendix A. The BART 2016 Triennial Security Review Checklist Index and the Recommendations List are included, respectively, in Appendices B and C. The Triennial Security Review Checklists are presented in Appendix D.

2. INTRODUCTION

The Commission's General Order (GO) 164-D, *Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems*, and the Federal Transit Administration's (FTA) Rule, Title 49 Code of Federal Regulations (CFR) Part 659, *Rail Fixed Guideway Systems: State Safety Oversight*, require the designated State Safety Oversight Agencies to perform a review of each rail transit agency's system safety and security program(s) at a minimum of once every three years. The purpose of the triennial review is to evaluate the effectiveness of each rail transit agency's System Security Plan (SSP) and to assess the level of compliance with GO 164-D as well as other Commission safety and security requirements. Staff conducted the previous BART on-site security review in January 2014.

Staff first notified BART's General Manager by letter, dated September 23, 2016, of the scheduling of the Commission's Security Review to begin on October 24, 2016. The notification provided BART with the opportunity to review the Triennial Safety and Security checklists as well as to provide comments.

The Review began with an opening conference meeting on October 24, 2016, attended by CPUC Staff and BART's Manager of Security Programs.

Staff performed the triennial security review on October 28, 2016, at the BART offices. Staff developed five (5) checklists for the inspection of the System Security Program. Staff derived the checklist review questions from CPUC's GO 164-D, FTA's 49 CFR659, Transportation Security Administration's (TSA) Baseline Security Review, and BART's SSPP. At the conclusion of each review activity, staff provided BART personnel a verbal summary of the preliminary findings and discussed preliminary recommendations for corrective actions.

On November 29, 2016, staff conducted a post-review exit meeting with the BART Manager of Security Programs and Superintendent eBART/OAC Systems. Staff provided a finding synopsis from the 5 checklists but did not issue any recommendations.

3. BACKGROUND

The Bay Area Rapid Transit District (BART) began operation on September 11, 1972 with 28 miles of track in Alameda County, servicing Oakland to Fremont. The second segment opened on January 29, 1973, with 12 miles of track extending the service from Fremont to Richmond. The third segment opened on May 21, 1973, with 17 additional miles of track marking the opening of the Concord Line. On November 5, 1973, service began between the Montgomery Street Station in downtown San Francisco and the Daly City Station, adding another 7.5 miles of track to the system. Transbay service began on September 16, 1974, bringing the full 71.5 miles of track into service. On May 27, 1976, the Embarcadero Station officially opened for revenue service, bringing the total station count to 34. The Embarcadero Station added no additional track miles.

Additional Extensions

The extension to North Concord/Martinez Station opened on December 16, 1995, adding 2.25 miles of track north of the Station. On February 24, 1996, Colma Station opened for revenue service, adding 1.6 miles of track south of the Daly City Station. The Pittsburg/Bay Point Station was the next to be opened for revenue service on December 7, 1996, completing a 7.8-mile segment of the Pittsburg/Antioch Extension from the Concord Station. The Dublin/Pleasanton extension opening followed on May 10, 1997, adding 14 miles of track and two stations to the system. The San Francisco Airport extension opened on June 22, 2003 adding four stations and 8.7 miles of track. Currently, the system operates six lines on 107.2 miles of track with 44 stations.

The BART system operates six lines. These are:

- Fremont – Daly City Line
- Dublin/Pleasanton – Daly City Line
- Pittsburg/Bay Point – SFO Line/Millbrae Line
- Richmond – Millbrae Line
- Richmond – Fremont Line
- Oakland Air Connector

Oakland Airport Connector (OAC)

BART's Oakland Airport Connector (OAC), also known as BART to OAK, began revenue operation on November 22, 2014. The system was designed and constructed by Flatiron Construction and Parsons Transportation along with Doppelmayr Cable Car (DCC) who designed, manufactured, and supplied the Automated People Mover (APM) system and guideway. DCC now operates and maintains the system as part of a 20 year BART Operations and Maintenance Contract.

The OAC is a fully automated driverless transportation system operating along a 3.2 mile partially elevated, partially at-grade, partially below-grade, dual guideway, providing a comfortable and reliable link between the Airport Station and Coliseum Station. The APM system operates with up to four cable propelled 3-car trains. Each station consists of a single-sided passenger boarding platform with a barrier wall and automatic platform door system separating the passenger platform from the guideway tracks. Near the mid-point of the end stations is the maintenance and storage facility (or Wheelhouse). The Wheelhouse houses administrative offices, the Central Control Room, the ropeway drive machinery, and provisions for trains to be stored off of the mainline for maintenance. Two Tow/Maintenance Vehicles allow personnel to perform guideway inspections and maintenance activities, including towing revenue vehicles in and out of service.

The initial system consists of four 3-car trains operating in a pinched loop configuration on two separate lanes. The system is expandable, when built to ultimate capacity (4-car trains), to provide a peak period line capacity of 1900 passengers per hour per direction (pphpd).

Planned Extensions

BART has several system extensions currently in the construction phase.

Warm Springs Extension Project

The Warm Springs Extension Project will add 5.4 miles of track, extending from the Fremont Station to the new Warm Springs Station in South Fremont. Staff has been monitoring the engineering design and construction phases of this project through its Safety Certification process, and the Commission approved BART's Safety Certification Plan with Resolution ST-80.

Santa Clara Valley Transportation Authority/Silicon Valley Rapid Transit (VTA/SVRT) Project

The Santa Clara Valley Transportation Authority/Silicon Valley Rapid Transit (VTA/SVRT) Project is a 16.3 mile extension from the planned Warm Springs Station to Milpitas alongside Union Pacific Railroad tracks, continuing to 28th Street and Santa Clara Street in San Jose, then proceeding underground through downtown San Jose to the Diridon Caltrain Station and finally terminating at the Santa Clara Station. Staff has been monitoring the engineering design and construction phases of this project through the Safety Certification process, and the Commission approved BART's Safety Certification Plan with Resolution ST-83.

East Contra Costa BART Extension (eBART) Project

The East Contra Costa BART Extension (eBART) Project will provide passenger service along 10 miles of the California State Route 4 corridor connecting east of the Pittsburg/Bay Point Station. The extension will use unique Diesel Multiple Unit (DMU) vehicles instead of standard BART's heavy rail trains, and includes two new stations and a transfer platform to provide timed transfers between eBART and traditional BART trains. Staff has been monitoring the engineering design and construction phases of this project through the Safety Certification process, and the Commission approved BART's Safety Certification Plan with Resolution ST-112.

New Vehicle Procurement Project

BART has a new vehicle procurement project underway to add up to 1000 new rail cars to its existing fleet. The new cars will be rolled out between 2017 and 2021. Staff has been monitoring the procurement project through the Safety Certification process, and the Commission approved BART's Safety Certification Plan with Resolution ST-150.

4. REVIEW PROCEDURE

BART's Oakland Airport Connector has been in service since November of 2014, which was just less than 2 years at the time the review was conducted. After internal discussions and external discussions with BART, RTSB determined it would be advantageous for both BART and its contractor operator of the OAC for staff to conduct its first triennial review within the first two years of operation. That would allow staff to identify any deficiencies or gaps in the safety and security programs to address them early in the operations of OAC, as well as use the process as an educational tool for the contract operator of OAC.

Staff conducted the 2016 Triennial Security Review in accordance with Rail Transit Safety Section Procedure Four (4), *Procedure for Performing Triennial Safety & Security Reviews of Rail Transit Systems*. Staff developed five (5) checklists to evaluate the adequacy of BART's system security plan and the efficacy of its implementation.

The security evaluation includes the BART security department, programs and processes which have system security functions and responsibilities. The review is based on Commission and FTA requirements, BART's SSP, TSA baseline review list, TSA security related documents, and the staff's knowledge of the BART transit system. The five (5) checklists are listed in Appendix D.

Staff's checklist identifies the core security-related elements and characteristics reviewed. Each checklist references Commission, BART, and other documents that establish the security program requirements. The methods used to perform the review include:

- Discussions and interviews with BART Police and DCC Management
- Reviews of rules, procedures, policies, and records

Immediately following the security review, staff summarized the findings and the preliminary recommendations (if appropriate) with BART's Manager of Security. The post-review summary is beneficial for clarifying findings or best-practices and provided BART an opportunity to promptly address any necessary security improvements.

5. FINDINGS AND RECOMMENDATIONS

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APPENDICES

APPENDIX A
ACRONYMS LIST

Abbreviation / Acronym	Description
APM	Automated People Mover
BART	Bay Area Rapid Transit District
CAP	Corrective Action Plan
CFR	Code of Federal Regulations
Commission	California Public Utilities Commission
CPTED	Crime Prevention Through Environmental Design
CPUC	California Public Utilities Commission
DCC	Doppelmayr Cable Car
DMU	Diesel Multiple Unit
eBART	East Contra Costa BART Extension
FTA	Federal Transit Administration
GO	General Order
ICS	Incident Command System
ISA	Internal Security Audit
OAC	Oakland Airport Connector
OCC	Operations Control Center
RTCB	Rail Transit and Crossing Branch
RTSS	Rail Transit Safety Section
SARA	Scanning Analysis Response Assessment
SSPP	System Security Program Plan
Staff	Safety and Enforcement Division personnel
SVRT	Silicon Valley Rapid Transit
TSA	Transportation Security Administration
TVA	Threat and Vulnerability Assessment
VTA	Santa Clara Valley Transportation Authority

APPENDIX B
BART 2016 TRIENNIAL SYSTEM SECURITY REVIEW CHECKLISTS INDEX

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APPENDIX C
BART 2016 TRIENNIAL SYSTEM SECURITY REVIEW
RECOMMENDATION LIST

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APPENDIX D

BART 2016 TRIENNIAL SYSTEM SECURITY REVIEW CHECKLISTS

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