



Light Rail Vehicle (LRV4) Brakes Overhaul

Phase 1 Vehicles

SFMTA Board of Supervisors

June 4, 2025

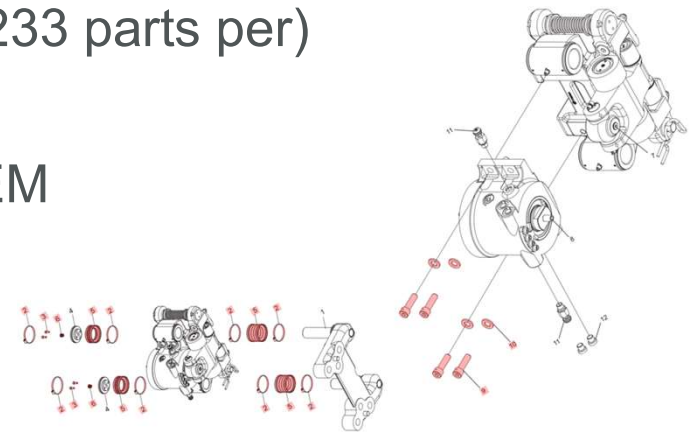
LRV4 Fleet Status

- LRV4 Contract with Siemens, NTP September 2014
- \$1B – On Schedule – On Budget – 75% Complete
- 165 of 219 LRV4s Conditionally Accepted and in revenue service
- 54 Vehicles remaining, final delivery in early 2026
- Phase 1: 68 expansion vehicles 2017-2019
- Phase 2: 151 replacement vehicles 2021-2026



Phase 1 Brakes Overhaul

- 68 Phase 1 LRV4s over 5 years old
 - End of base 5-year warranty
 - First overhaul interval – Trucks, Couplers, Brakes
- All 68 Phase1 LRV4s due for Brakes Overhaul – 6 years
- Maintain Warranty – SFMTA fulfills obligation to keep system in state-of-good-repair per Siemens maintenance recommendations
- Complex System Overhaul:
 1. Rebuild Calipers (10 Calipers per vehicle, 230 parts per MT caliper)
 2. Rebuild Hydraulic Power Units (3 HPU, 233 parts per)
 3. Replace Accumulators (6 per vehicle)
- Overhaul components to original standards in OEM factory clean room facility, Duncan SC



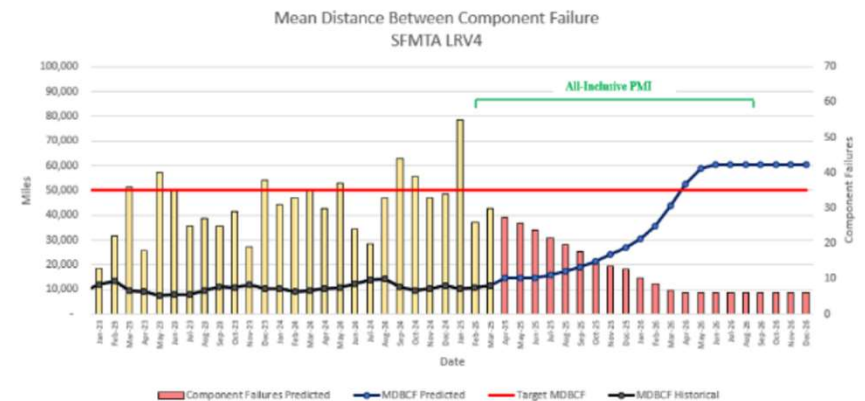
LRV4 Motor Truck Partial Brake Assembly

Phase 1 Brakes Overhaul

- Phase 1 Overhaul simultaneous with corrective actions required to address warranty defects under the Siemens LRV4 contract
- No safety related brakes concerns – unmet contract reliability target, recurring failures, entitles SFMTA to system improvements/upgrades
- Ensures enforceability of all warranties, maintains Siemens/Wabtec responsibility for ongoing system performance
- Combining overhaul activities with corrective actions (one program) saves money and increases vehicle availability
 - no-cost removal and replacement
 - no-cost shipping
 - non-standard 3-year warranty

SFMTA LRV4 Reliability Report March 2025

Component Failure Prediction Summary



Brakes Overhaul Contract

- Not to exceed \$15,527,933 – parts and labor
- 18-month project schedule – roughly 1 car per week
- Sole source contract with Wabtec Passenger Transport
 - Original Equipment Manufacturer (OEM) to optimize production
 - Delivers upgrades due SFMTA to meet performance targets, address defects
 - Re-warranties the brake system components



Recommend Approval

Authorizing the Director of Transportation to execute Contract No. SFMTA2025-28-LOC: Phase 1 LRV4 Brake System Overhaul with Wabtec Passenger Transit to perform the scheduled overhaul of key components of the LRV4 brake system on 68 vehicles, for an overall amount not to exceed \$15,527,933, and a term not to exceed 2 years and 6 months.

