Rail Car Evaluation and Replacement Summary

RTA Mission:

To Provide Safe, Reliable, Clean, and Courteous Public Transportation
GCRTA HRV & LRV Fleets

- **LRV (Light Rail Vehicle) Fleet**
  - 34 of 48 Breda Cars
  - In service in 1981 (36 years)

- **HRV (Heavy Rail Vehicle) Fleet**
  - 40 of 60 Tokyu Car Corp. Airporter II Cars
  - In service in 1984 (33 years)
How does the GCRTA fleet service age compare to the national average per NTD data?

**LRV (2,445 active)**
- Avg Age = 20 years (1997)
- GCRTA Age = 36 years (1981)

**HRV (11,967 active)**
- Avg Age = 24 years (1993)
- GCRTA Age = 33 years (1984)
What is the useful life of a rail car as defined by FTA?

- FTA Useful Life Benchmark (ULB), published 10-26-2016 defines the useful life of LRVs and HRVs as 31 service years
- The GCRTA LRV fleet is 5 years past FTA ULB
- The GCRTA HRV fleet is 2 years past FTA ULB
LRV Overhaul

- Completed in 2005-2009
  - Car body and interior refresh – Floor, roof, side paneling, structural members, seating, window seals
  - Exterior refresh – Structural members, paint, body work, undercoat
  - Component overhaul - HVAC System, Propulsion, Braking, Doors (not modernized or upgraded, new part – old tech)
  - No wiring upgraded or replaced throughout the car
HRV Overhaul

HRV – Mechanical components completed in 2013
  o HVAC, Propulsion and other components replaced with new (old tech)
  o No modernization upgrade of components

HRV – Interior completed in 2016
  o Interior refresh – floors, seating, panels
Maintenance Challenges

- Sourcing parts due to market obsolescence and uniqueness (one of a kind)
- Increased part lead times and costs
- Outmoded technology – several component replacement/modernization projects
LRV & HRV Fleet Evaluation

- RFP for consulting/engineering services for Rail Car Evaluation for both LRV and HRV fleets
  - Includes structural testing and 3D model analysis
  - Component & System modernization analysis
  - Maintenance practice analysis
  - Fleet improvements and costs to extend life 10 – 30 more years
  - Recommendation to purchase new or overhaul
Funding Challenges

- New rail cars are a significant capital cost
- Average cost: $4M - $5M
- Replacing 40 HRV and 35 LRV cars with new would cost approx. $300M - $375M plus any maintenance upgrades to the Rail Shop
- From NTP – 5 years to receive first car
Rail Manufacturer Meetings

- Siemens (2/2/2017)
  - San Diego - 190 LRV order
  - Seattle – 152 LRV order

- Bombardier (3/6/2017)
  - New York MTA – 1,172 HRV order

- Kawasaki US (3/20/2017)
  - Washington DC – 220 HRV order

- CRRC (10/31/2017)
  - Chicago – 846 HRV order
  - Kinkisharyo (sched. 12/7/2017)
    - Los Angeles – 235 LRV order
    - Boston – 120 LRV order
Rail Manufacturer Meetings

Other Manufacturers:
- CAF USA (4/27/2017)
- Stadler US (5/31/2017)
- Brookville (10/5/2017) - Rail Car Rebuilder
- Hitachi (sched. 11/28/2017)
Procurement Overview

LRV & HRV Fleet Evaluation

- RFP was issued on November 13, 2017
- RFP due date December 20, 2017
- Anticipated Board Award March 2018
Procurement Overview
LRV & HRV Fleet Evaluation
Evaluation Panel Members:
- Rail Equipment
- Fleet Management
- Engineering and Project Management
- Office of Management & Budget
- Safety
- Procurement
Procurement Overview
LRV & HRV Fleet Evaluation

Evaluation Criteria:
- Technical Evaluation
- Firm Experience
- Cost Effectiveness/Price