

Fleet of the Future Procurement

Board update June 10, 2021





Agenda

- ☐ Vehicle acceptance status
- ☐ Performance Improvement Effort
- ☐ Budget Forecast
- ☐ Planned Activities Next Quarter
- ☐ Schedule
- ☐ Progress Photos



Vehicle Acceptance Status

- ☐ 286 cars conditionally accepted and ready for revenue service.
- ☐ Trains are in Service on all Lines.
- ☐ The District stopped accepting vehicles for revenue service on January 8, 2021, due to poor reliability performance and car availability issues related to wheel flats.
- ☐ Main contributors to poor reliability were the VATC, TCMS, and Propulsion systems.
- ☐ The Project Team is continuing to work with Alstom to identify both short- and long-term changes to improve the performance of the brake system and significantly reduce the number of flat wheels.



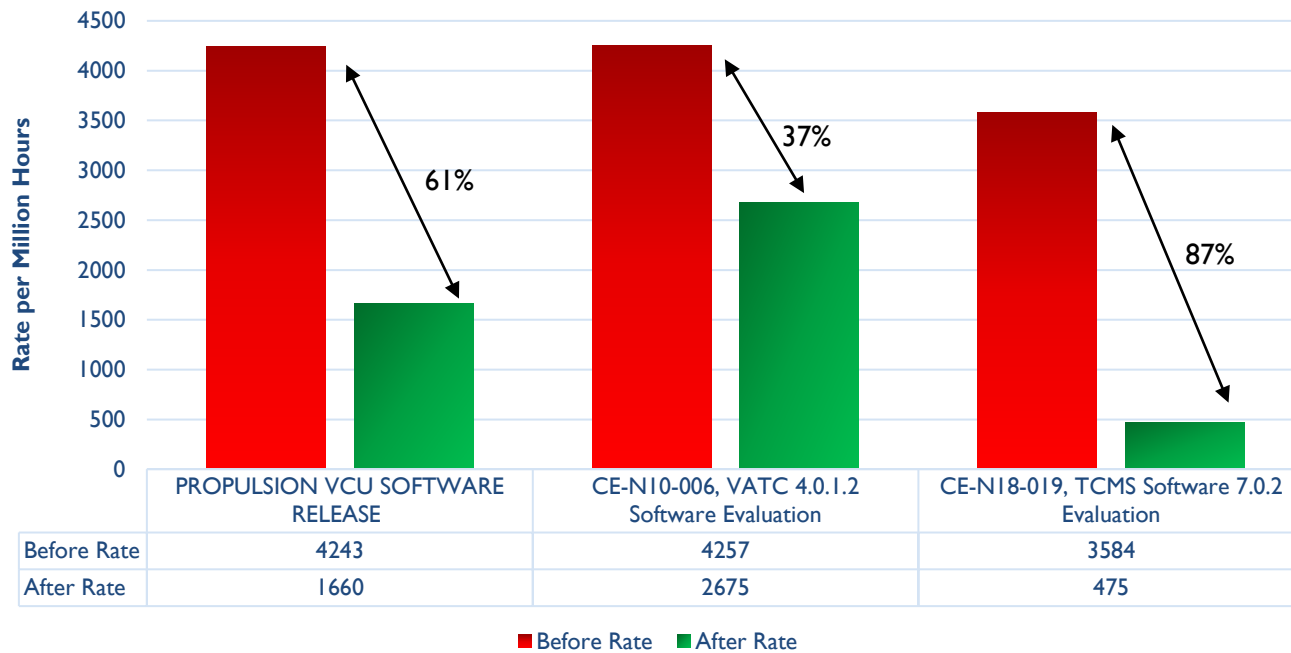
Early Reliability Improvement Results

- ❑ VATC software revisions correcting the signal 14 issues and related service delays as well as supporting TCMS software. Full testing started in March and installation began in April and has been completed on all active cars.
- ❑ Over **42,000** hours of operation to date with ***no signal 14 failures***.
- ❑ Propulsion software updates were installed in March which have further improved the performance of that system by **61%**, and another revision is due this month.



Early Reliability Improvement Results

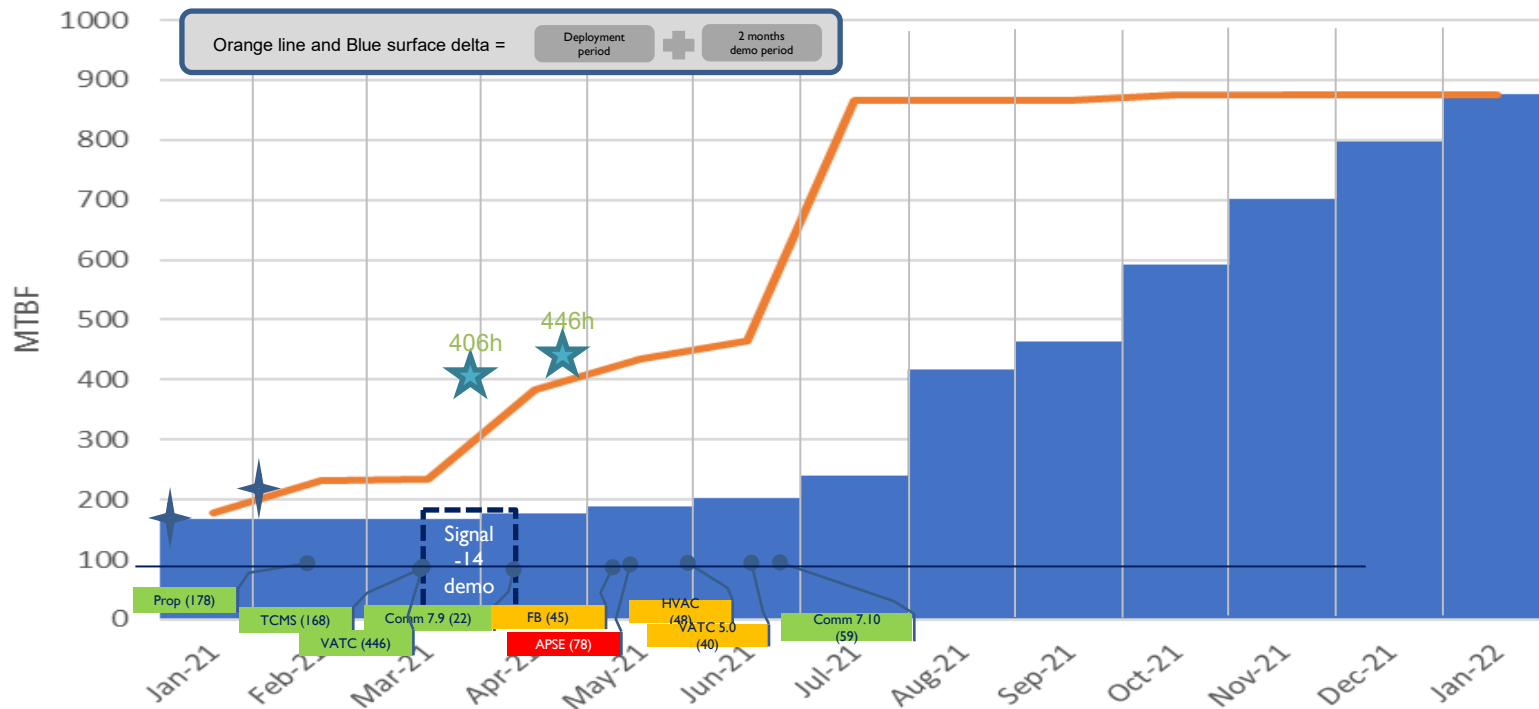
Incident Rate for Reliability Mods





Reliability Growth

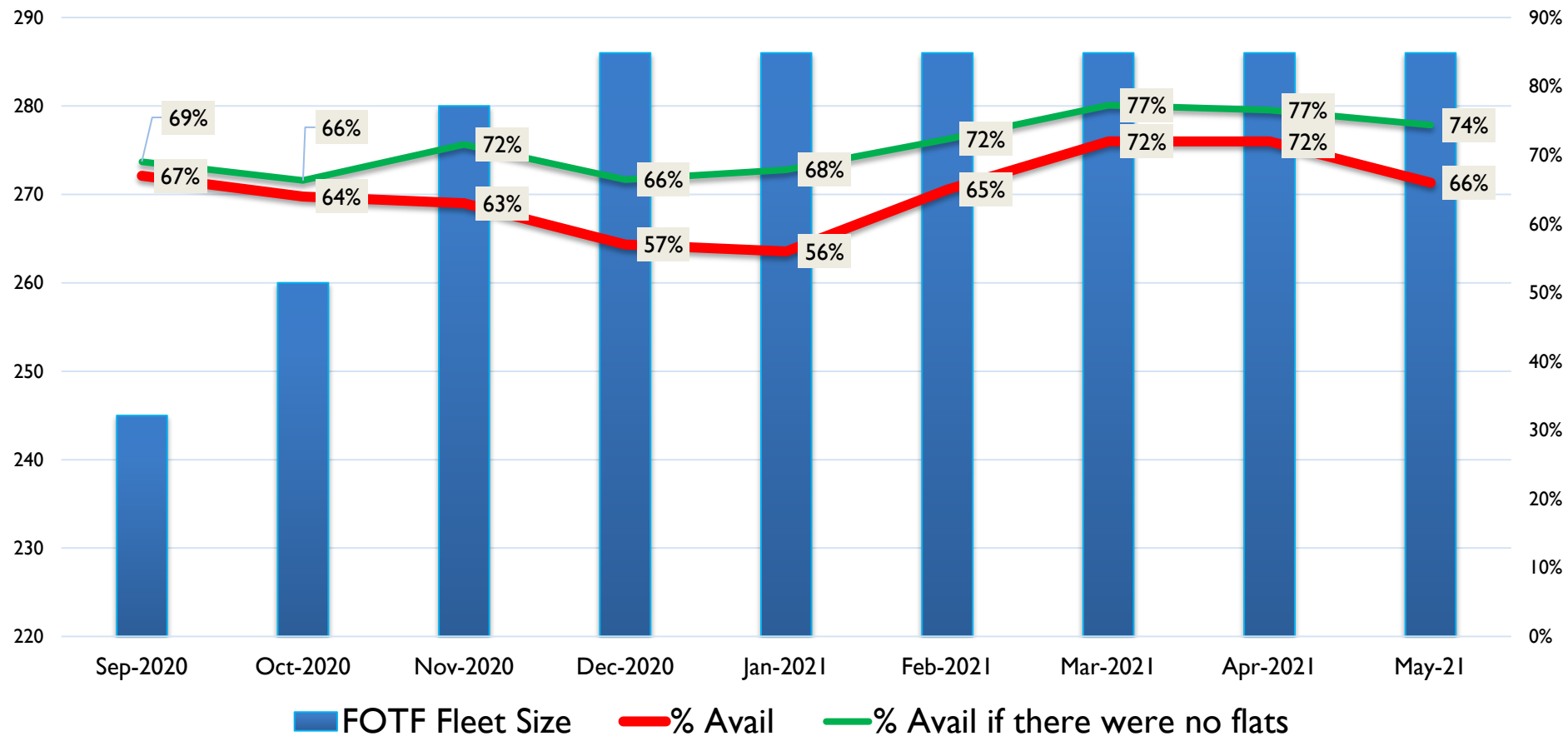
Projected Aggregated Mean Time Between Failure – All Cars





Flat Wheel Car Availability Impacts

Rush Hour Weekday Non-Holiday Car Availability





Budget Forecast

(Fed-MTC / State / BART / VTA Funding)

Description	Baseline Budget (775 Cars)	Expended ITD	Cost to Complete	Forecast at Completion (775 Cars)
New Car Procurement Contract	\$1,862,912,122	\$845,030,919	\$1,053,717,486	\$1,898,748,405
Vehicle Consulting Services	\$53,807,035	\$24,374,152	\$6,415,455	\$30,789,607
Professional Services Consultant	\$10,731,662	\$5,397,681	\$155,940	\$5,553,621
Misc. Expenses	\$5,568,150	\$1,504,381	\$1,542,543	\$3,046,924
Direct Purchase Material	\$3,098,020	\$1,671,562	\$772,277	\$2,443,839
Project Management	\$75,323,502	\$62,744,785	\$37,243,074	\$99,987,859
Escalation	\$326,879,920	\$26,687,227	\$115,434,763	\$142,121,990
Subtotal	\$2,338,320,410	\$967,410,706	\$1,215,281,538	\$2,182,692,244
Reserve	\$245,679,590	\$0	\$401,307,756	\$401,307,756
Total	\$2,584,000,000	\$967,410,706	\$1,616,589,294	\$2,584,000,000



MOD Cars

- Plattsburgh (Pilots)
 - 1st 4 Cars arrived in Plattsburgh 15th March; 5th Car arrived 7th May
 - 1st completed Car arriving back in Hayward 28th May
 - Subsequent completed Cars back in Hayward at an average 9-calendar day interval rate
 - Last (11th) completed Car back in Hayward delayed to 20th August
- Pittsburg
 - Mod car completion forecast:
 - May: 12 of 14 completed
 - June forecast: 16
- Hayward Test Track
 - Allocated to MOD Cars and Engineering testing (reliability and compliance)
 - 43 Cars re-commissioned/transferred to BART
- BART test station
 - All equipment ordered / 63% in-hand
 - Delivery of equipment in Hayward planned for 2 July



Planned Activities Next Quarter

- ☐ VATC software upgrade is scheduled for July.
- ☐ Communication software releases in June.
- ☐ APSE software installation



Schedule

Milestone	Approved Schedule	Bombardier Current Forecast	Actual	Status
Award of Contract	N/A	N/A	5/30/12	Complete
Complete Final Design Phase	9/30/14	9/30/14	9/30/14	Complete
Commence Pilot Vehicle Delivery	4/30/15	3/15/16	3/15/16	Complete
Complete Pilot Car Delivery	8/25/15	11/19/16	11/19/16	Complete
Delivery of First Production Vehicle	12/30/16	11/6/17	11/6/17	Complete
Complete Delivery 260 th Vehicle	9/21/18	11/24/20		Complete
Complete Delivery of 775 th Vehicle	9/27/21	11/20/23		In Process
Complete Warranty of 775 th Vehicle	10/27/25	11/21/27		In Process



Pittsburg Mod Stations





Pittsburg Production Stations





Hayward Shop Mod Stations





Hayward Shop Mod Team

