



SFMTA

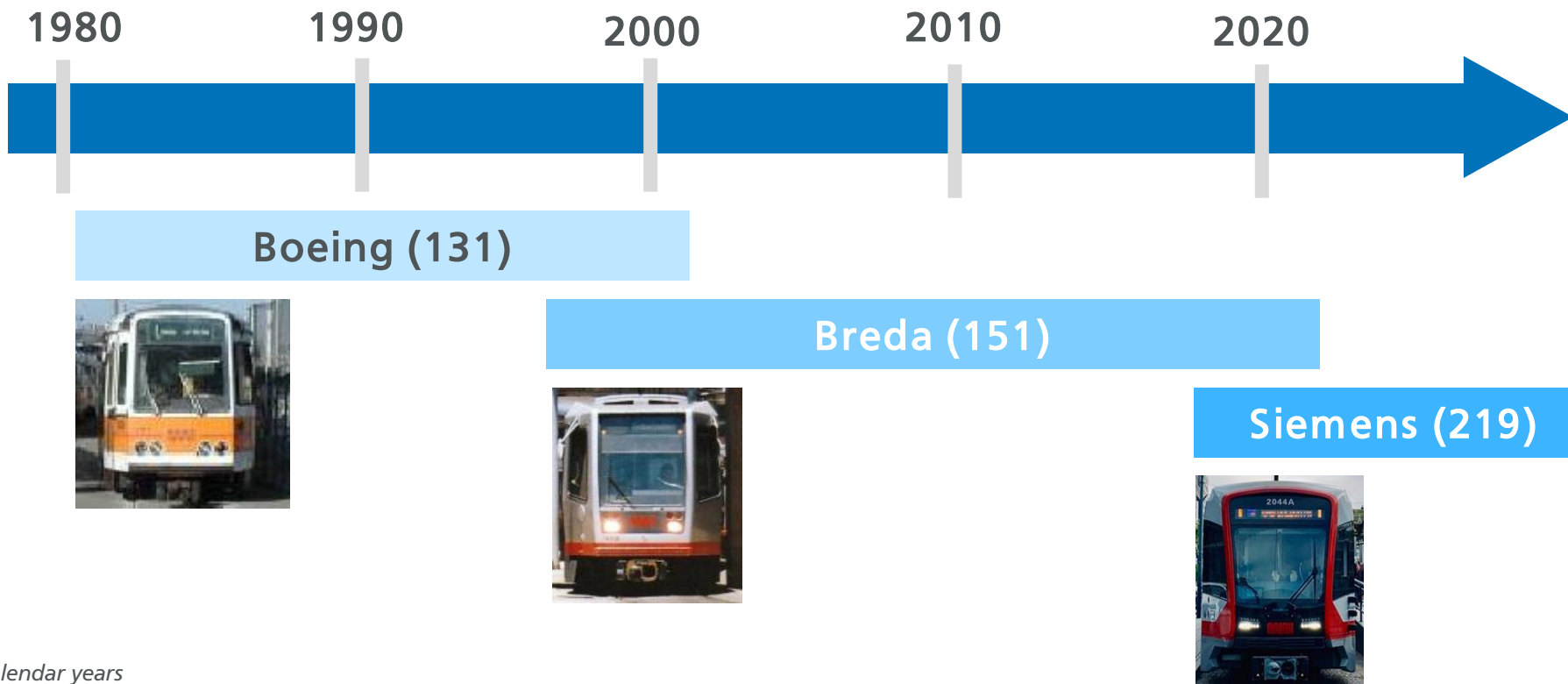


LRV4 Project Update

Julie Kirschbaum
Director of Transit
November 19, 2019

SFMTA Light Rail Fleet

SFMTA is in the process of a fleet transition. 68 Phase I expansion vehicles (LRV4) have been purchased from Siemens. Phase II replaces the Bredas (2021 to 2025).



Recent Activities



Accepted delivery of final expansion vehicle!

Authorized Siemens to begin work to address flat wheels (track brake work)






Continuing to resolve outstanding technical issues (e.g. HPU)

Continuing to work to improve on-board cameras and screens for operators

90-Day Plan

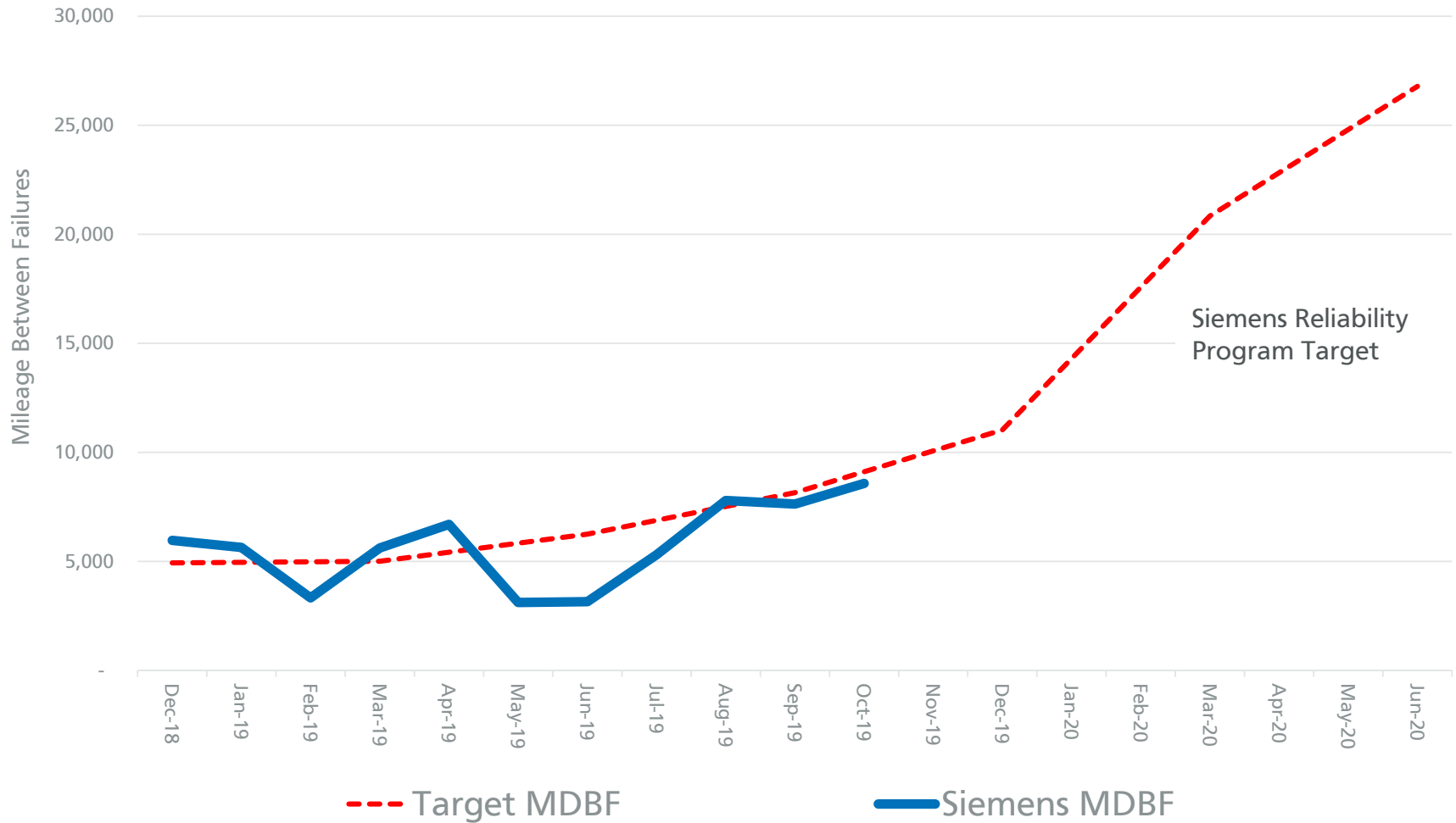
LRV4 initiatives in the most recent 90-Day Plan included the following targets:



Availability	Delivery	Doors	Reliability	Track Brakes
<p>Increase vehicle availability to 35 vehicles per day</p> <p></p> <p><i>Averaging 35+</i></p>	<p>Complete delivery of the first phase of 68 vehicles</p> <p></p> <p><i>Arriving first week of Oct.</i></p>	<p>Correct issues with doors and couplers, remove all restrictions</p> <p></p> <p><i>Completed</i></p>	<p>Increase reliability to 8,000 miles MDBF or greater</p> <p></p> <p><i>August at 7,793 miles</i></p>	<p>Submit new design for track brakes to CPUC</p> <p></p> <p><i>Completed</i></p>

Building Reliability

Mean Distance Between Failures



Contract Mod. No. 6 Summary

LRV4 Contract Modification 6 includes a number of changes based on input from customers and our transit operators and maintenance staff:

- Phase I design enhancements, such as improved operator switch functionality and easier maintenance through relocation of equipment
- Adding track brakes to the power trucks to Phase I vehicles
- Addressing long lead engineering items for Phase II (seating improvements)
- Initiating long-lead activities to preserve the opportunity to accelerate the retirement of the Breda fleet

Seating Layout Summary

FLEET	INTERIOR DESIGN MODIFICATION
50 replacement	Convert half of longitudinal seats to single transverse
101 replacement	Convert half of longitudinal seats to double transverse
68 expansion	Retrofit bench seating style to individual seats, convert half of longitudinal seats to single transverse

Seating Arrangement – Single



Seating Arrangement - Double



Project schedule

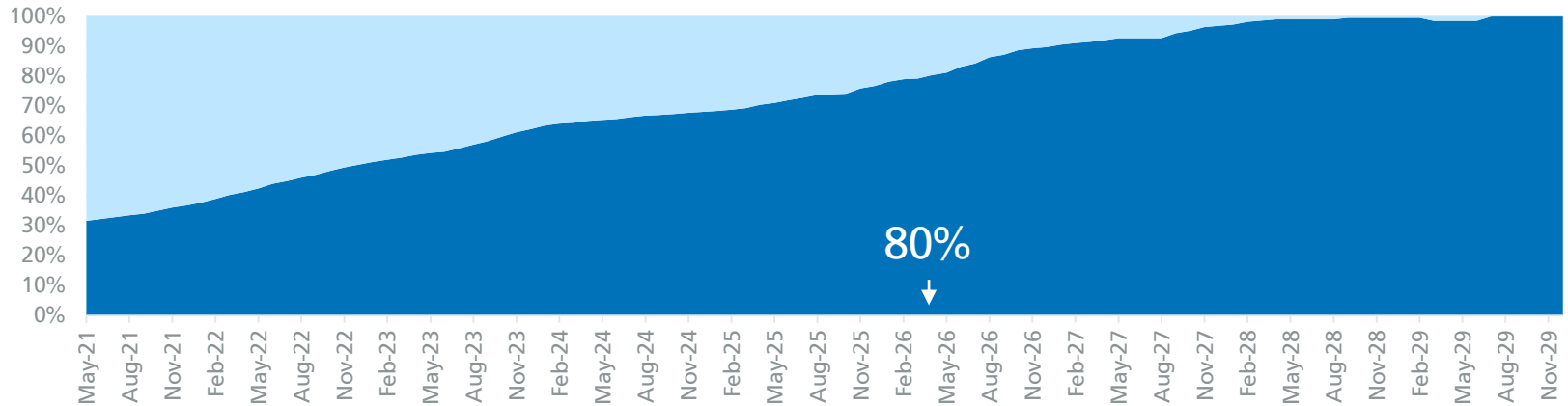
We have the opportunity to compress delivery of vehicles to retire the Breda fleet ahead of schedule:

- Increase production rate with delivery of final LRV 14-16 months early
- Federal Transit Administration has approved early retirement of the Breda fleet

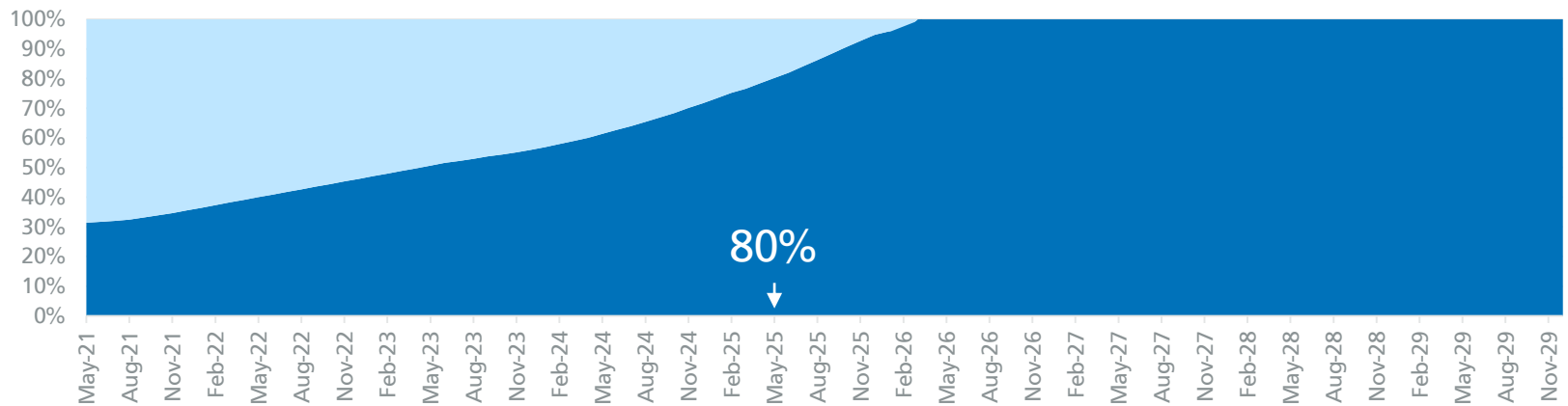
Original	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expansion	68													
Replacement					151									
Accelerated	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Expansion	68													
Replacement					151									

Fleet Saturation Rate

Original Schedule



Accelerated Retirement



■ LRV4 ■ Breda

Ongoing Work

We continue to work to address ongoing feedback we have received and will incorporate into final Phase II production

- Pole placement at front entrance to enhance accessibility
- Improved monitors for Operators
- Improved customer information
- Determining location and number of additional blue seats

Next Steps

- Continue progress on reliability and availability
- Oversee initial retrofit work
- Anticipate returning with Phase II next steps in early 2020 (Modification 7)

