



**Massachusetts Bay
Transportation Authority**

DGM Remarks

Fiscal & Management Control Board

October 30, 2017



Overview

- Blue Line Modernization
- Current Blue Line
- Ongoing/Upcoming State of Good Repair Initiatives
- Climate Resiliency
- Planning Ahead



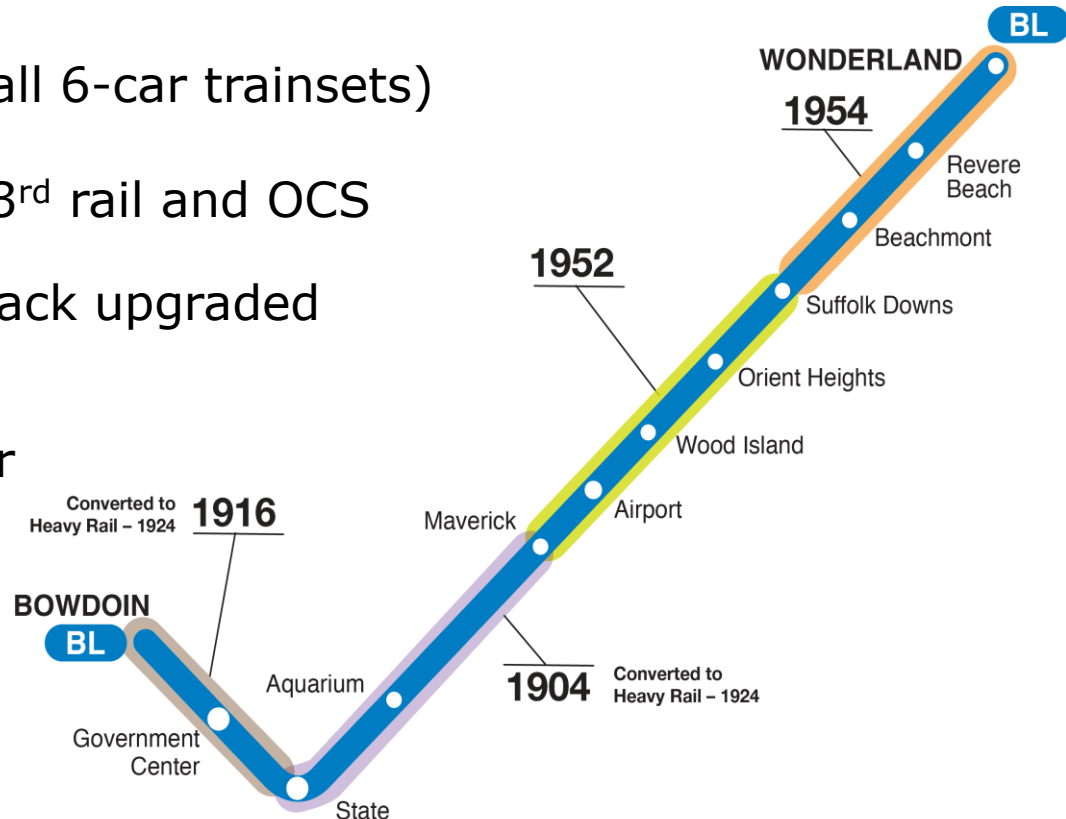


Blue Line Modernization



Modernization Program: 1993-2016

- Cost: \$434m
- Facility: Expanded & upgraded car house at Orient Heights
- Fleet: 94 vehicles (all 6-car trainsets)
- Power: Upgrades to 3rd rail and OCS
- Track: 2.5 mile of track upgraded
- Stations: 11 platforms lengthened or upgraded



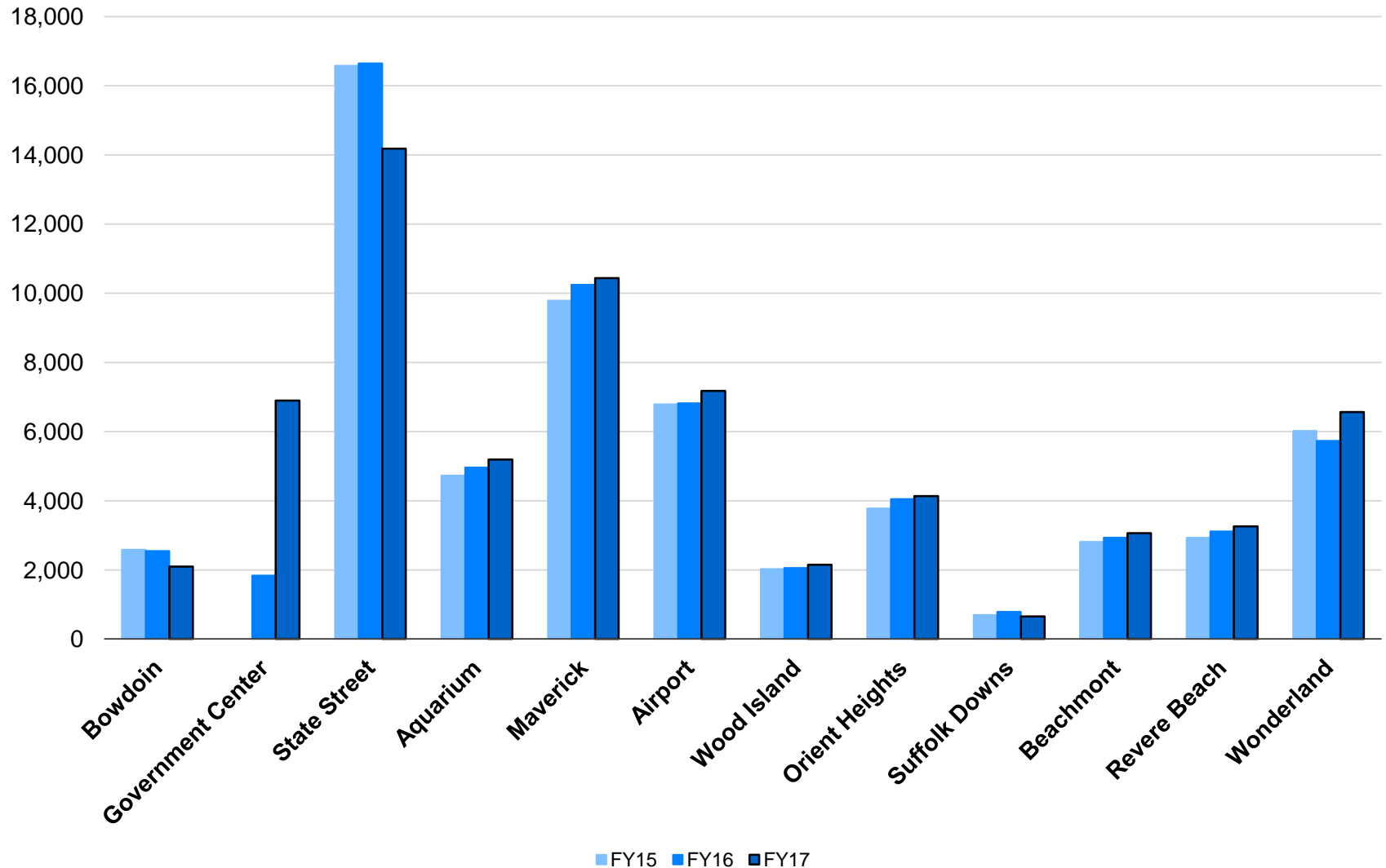
24% capacity increase!

A photograph of a train at a station platform, overlaid with a blue tint and the text "Current Blue Line". The train is a multi-car electric multiple unit (EMU) with a blue and white livery. The number "793" is visible on the front of the train. The train is stopped at a platform with a yellow tactile strip along the edge. The platform has a glass and metal structure. In the background, there is a building with a gabled roof and a sign that reads "BLUE LINE - BOWDOON".

Current Blue Line

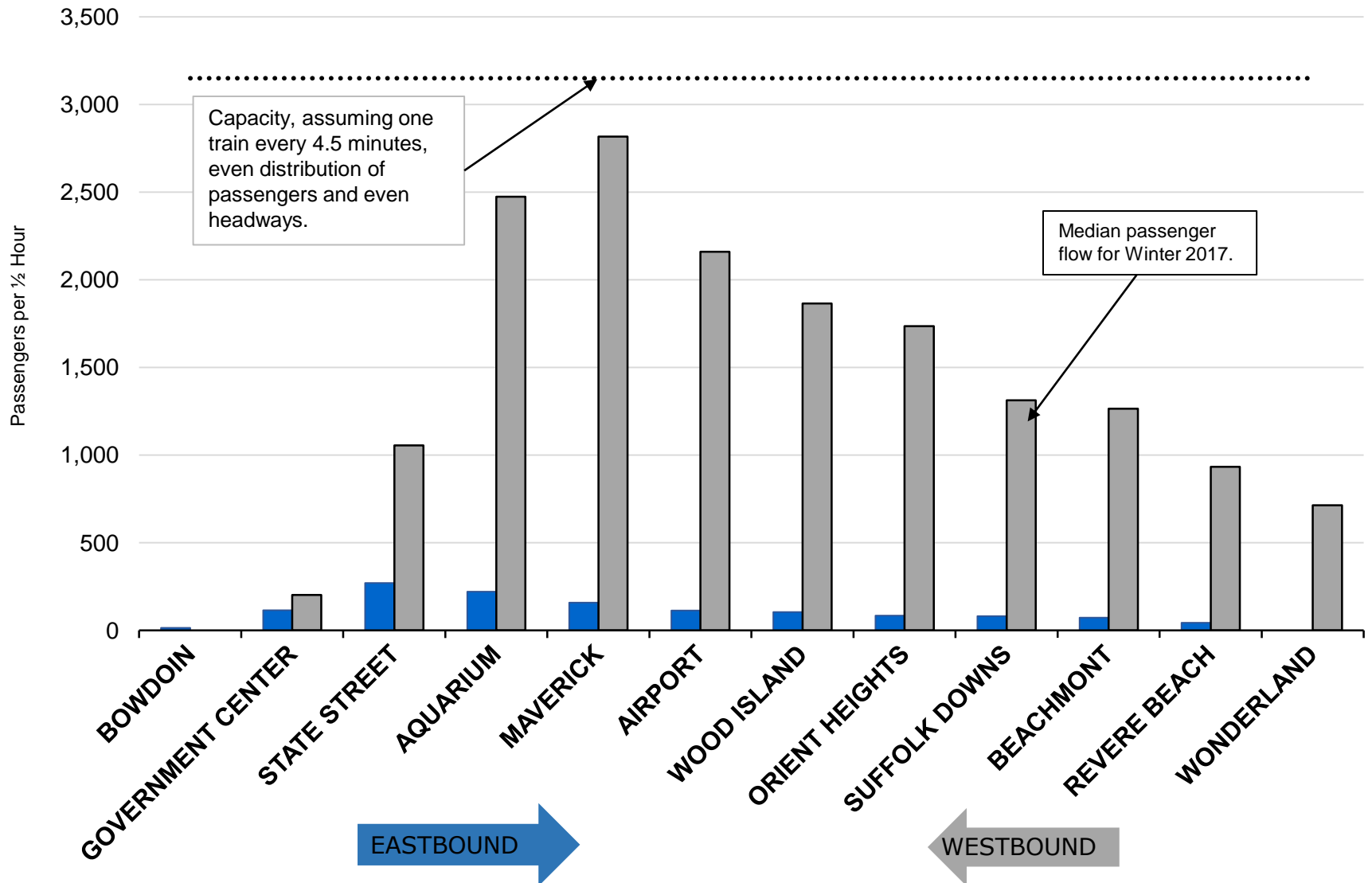


Ridership – Faregate Validations, Avg. Weekday FY15-17



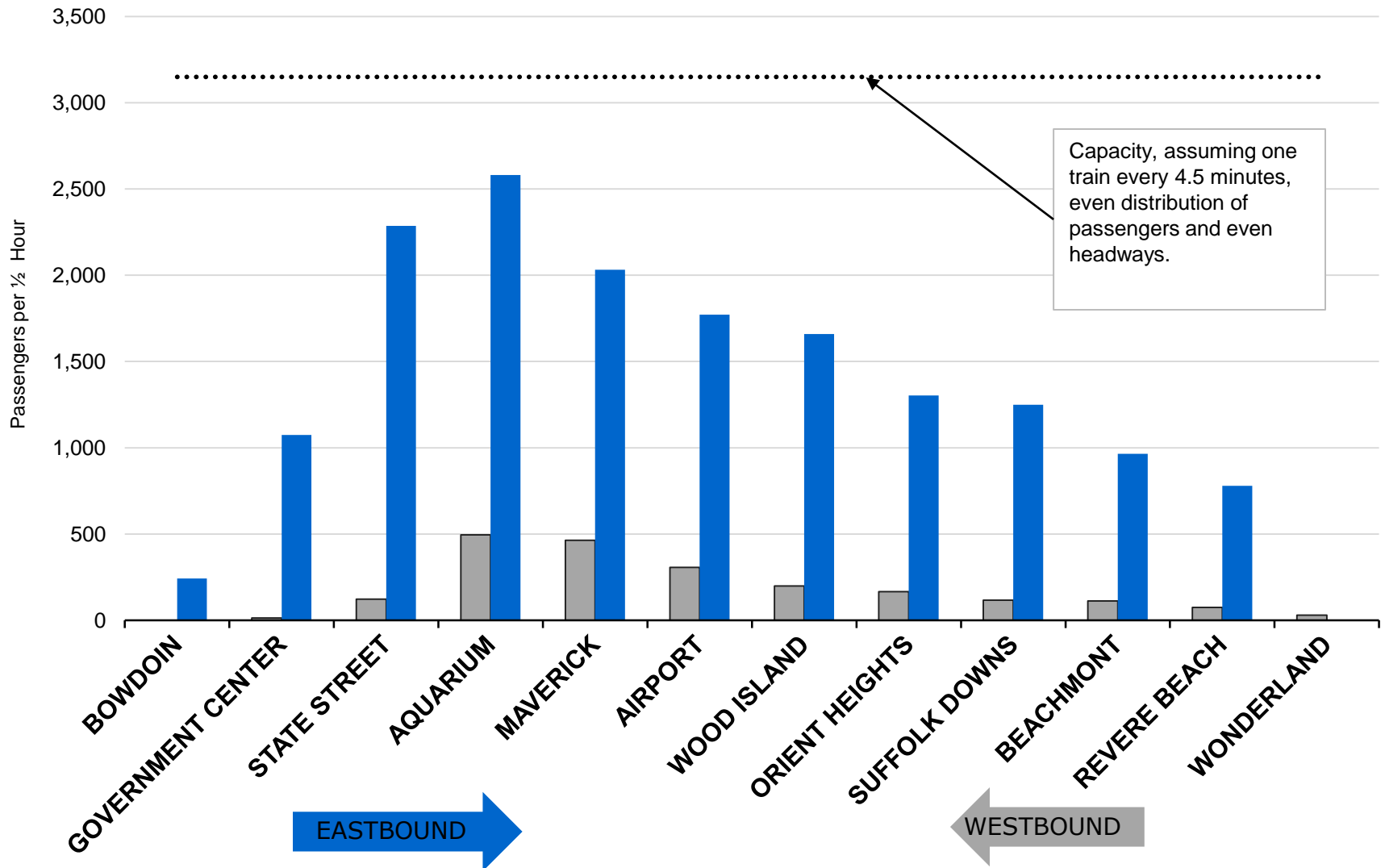


Spare Capacity – Weekdays, 8 - 8:30AM, Winter 2017



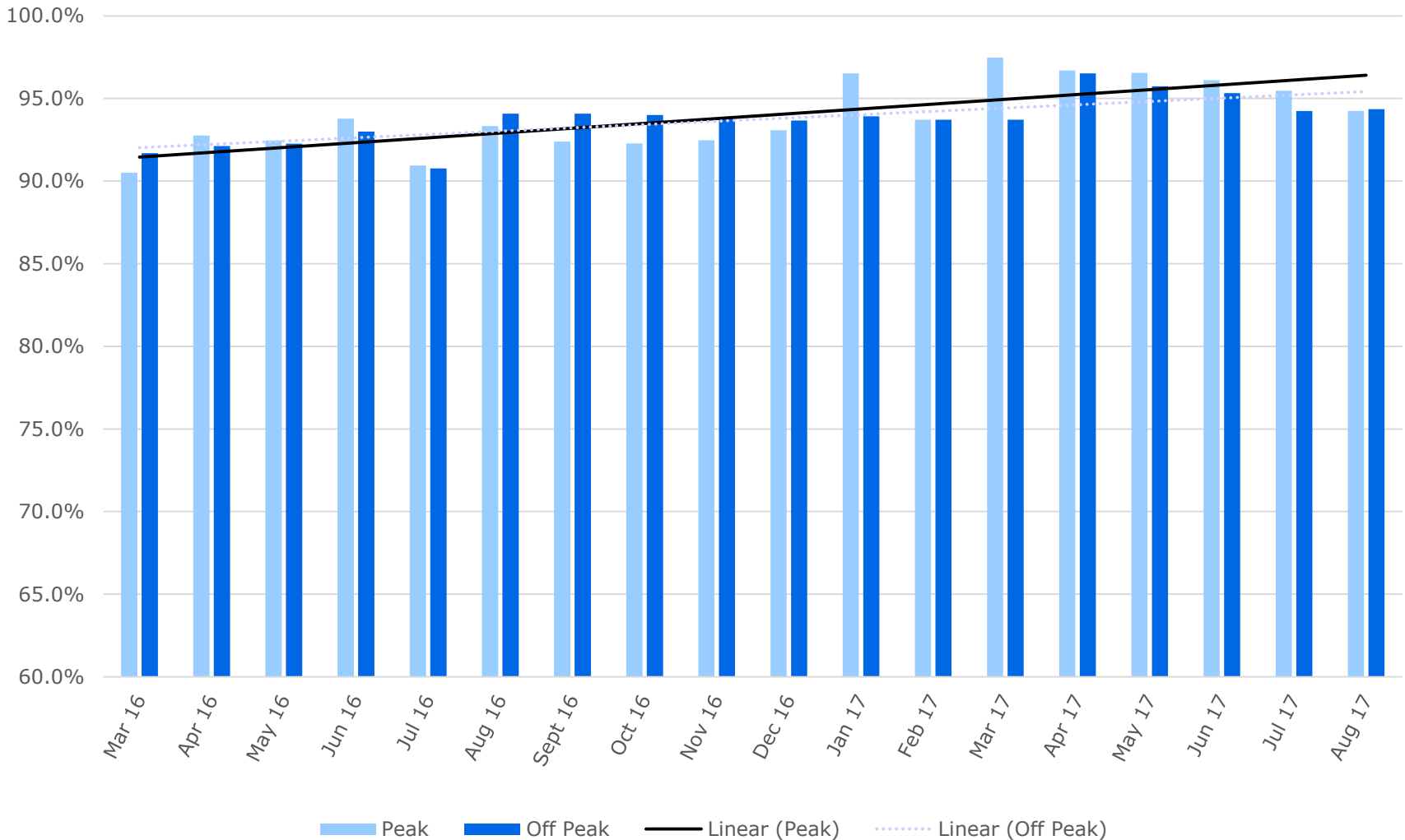


Spare Capacity – Weekdays, 5 – 5:30PM, Winter 2017





On Time Performance, March 2016 – Aug. 2017*



*Passenger weighted

A photograph of a train station platform with a blue and white train stopped at the tracks. The train has the number 0793 on its front. The platform has a yellow tactile strip along the edge. The text 'Ongoing/Upcoming SGR Initiatives' is overlaid in white on the image. The background shows a multi-story building with many windows.

Ongoing/Upcoming SGR Initiatives



Ongoing/Upcoming SGR Initiatives

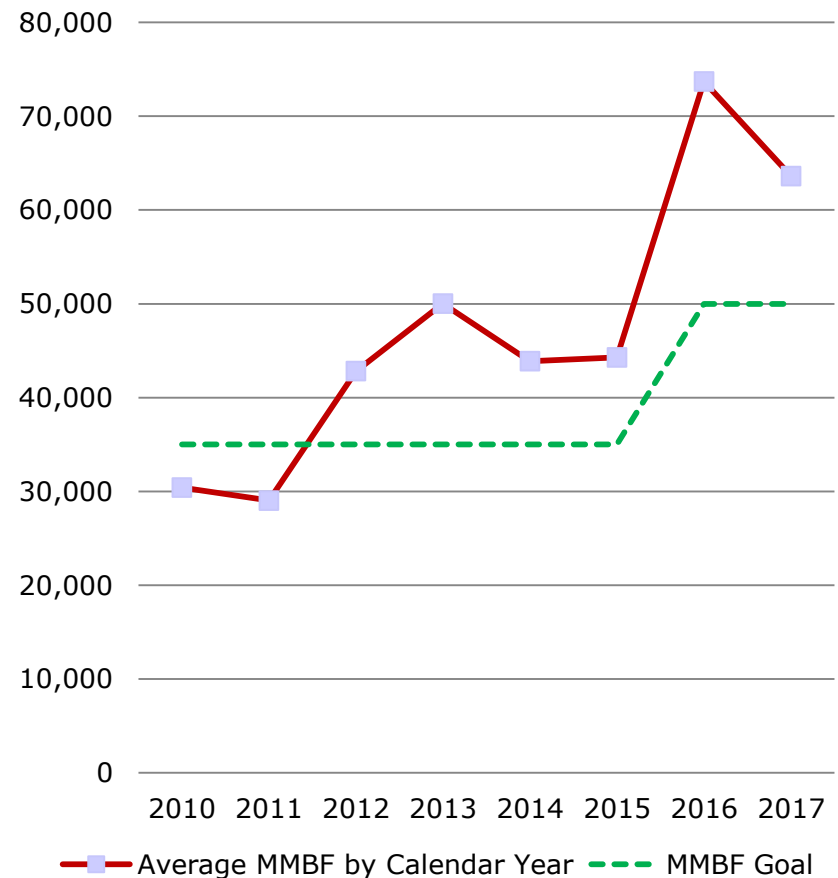
Reliability Centered Maintenance:

- Program to proactively maintain Blue Line car components.
- Blue Line among the lowest failure rate among MBTA fleets.

Track Replacement Program:

- Maverick to Aquarium – 4000 feet last replaced in 1992.
- \$2.4 million initiative expected in 2018-2019.

Avg. MMBF by Calendar Year

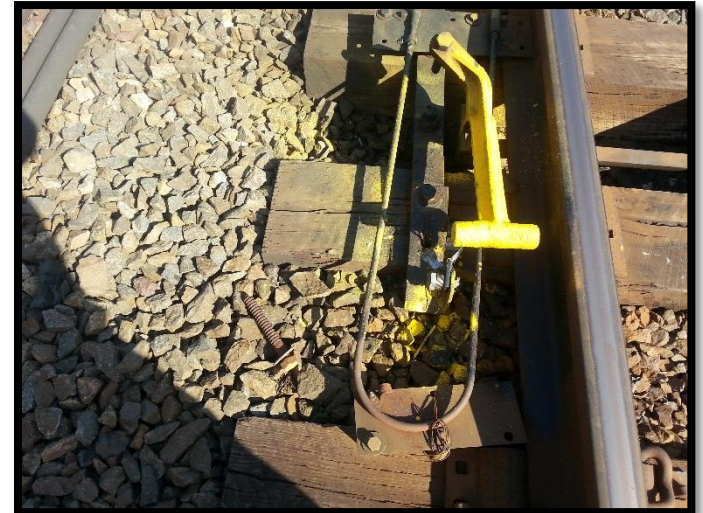




Blue Line Signals

Trip Stops:

- Mechanical levers that govern train movement in conjunction with signal systems
- If a train violates a signal, it will make contact with the trip stop lever, causing the train to stop
- Trip stops require a significant investment of labor to keep their many moving parts in good order.
- \$2M, 3-year study to investigate a replacement for trip stops. NTP expected in early 2018.



A photograph of a train station platform with a blue and white train stopped at the tracks. The train has the number 0793 on its front. The platform has a yellow tactile strip along the edge. The text "Climate Resiliency" is overlaid in white on the image. The background shows a multi-story building with many windows. The sky is overcast and grey. The overall tone of the image is blue and grey.

Climate Resiliency



Weather and Climate Resiliency Assessment

A Sandy-type storm could cause salt water corrosion to infrastructure.

Sea level rise and/or storm surge poses threats to:

- Aquarium Station flooding via station entrance or vent shafts
- Maverick portal flooding
- Maintenance Facility flooding (sole repair and storage facility)

Plans under development for drill-down vulnerability assessments to identify resiliency options.

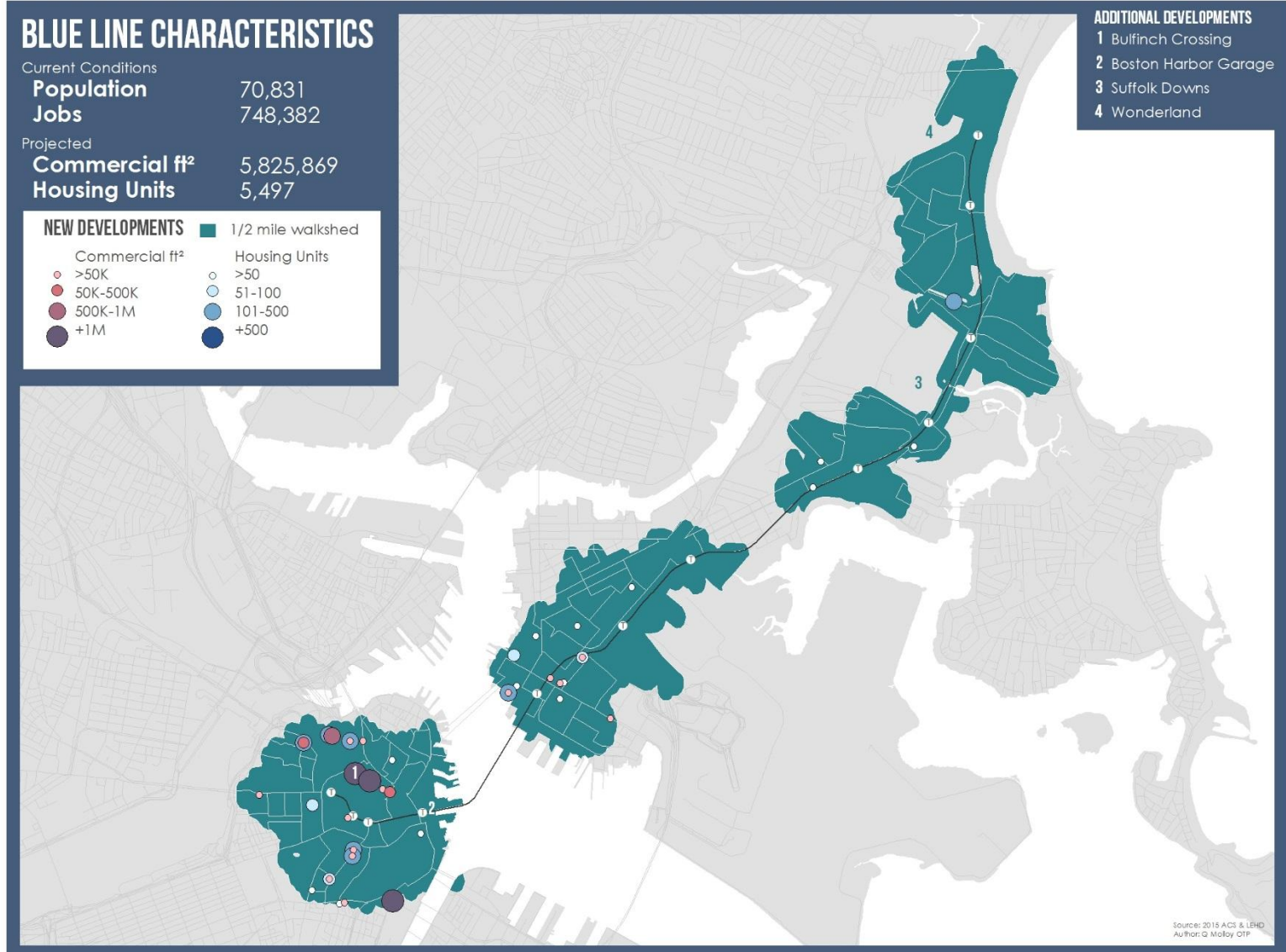


A photograph of a train station platform with a blue and white train stopped at the tracks. The scene is dimly lit, possibly during dawn or dusk. The train has the number '079' on its front. The platform has a yellow tactile strip along the edge. A sign above the platform reads 'BLUE LINE - BOWDOON'. The text 'Planning Ahead' is overlaid in white on the image.

Planning Ahead



Proposed Future Development





Considerations for the Future Blue Line

Considerations:

1. Potential Ridership Growth due to Development
2. Service Constraints at Peak due to Infrastructure
3. Climate Resiliency

Further Analysis and Consideration:

1. Signal Systems
2. Station Rebuild
3. Additional Train Sets
4. Resiliency and vulnerability assessments of the stations and infrastructure



Image by [_@Milesonthemta](#)