

Metropolitan Transportation Commission Programming and Allocations Committee

February 12, 2020

Agenda Item 4a

Update on BART System Initiatives

Subject: The BART General Manager will provide an update on BART systemwide initiatives, including quality of life improvements and the Core Capacity Program.

Background: The attached presentation from BART staff further details various systemwide initiatives related to customer experience and major capital projects.

As a reminder, the Commission is a major funding partner in two major BART capital projects currently underway. The Fleet of the Future railcar procurement program will replace BART's aging railcar fleet with a goal of expanding the fleet to 1,200 railcars. A portion of this fleet expansion is included in BART's Core Capacity Project, which is a package of strategic investments that will increase capacity in the transbay corridor between San Francisco and Oakland by approximately 45%.

Fleet of the Future

The Commission committed to provide nearly \$2 billion to the BART Fleet of the Future railcar procurement program to replace and expand their fleet of vehicles. The replacement vehicles are currently being delivered, and the expansion cars will follow thereafter.

When the Commission adopted the FY2016-17 through FY2019-20 Transit Capital Priorities Program in 2017, financing against future Federal Transit Administration (FTA) revenues was included as part of the four-year funding plan for the program in order to fund all the high scoring needs and prior Commission commitments that were coming due, including BART's railcar replacement program. In 2018, FTA granted a Letter of No Prejudice allowing MTC to pursue this strategy, with proceeds of financing being used to meet anticipated project expenses for the BART railcar project.

Since that time, FTA revenues have been modestly higher than anticipated, allowing project expenses to-date to be met with pay-as-you-go fund sources. However, delivery of railcars is now accelerating and staff anticipates that proceeds will be needed to meet project cashflow needs later in 2020.

Staff plans to return to the Commission in the coming months to request approval of documents related to financing.

Core Capacity Project

The Core Capacity Project will allow BART to operate up to 30 ten-car trains per hour in each direction through the existing tube, maximizing throughput in the most heavily used part of its system.

The project includes four elements:

- **306 additional railcars** will provide the additional trains needed for the increased service, including all ten-car trains.
- **New communications-based train control system** will allow closer headways.
- **New railcar storage yard** at the Hayward Maintenance Complex (Phase 2) where the additional railcars can be stored and maintained.
- **Additional traction power substations** will provide the necessary power to run more frequent service.

The Core Capacity Project is currently in the Engineering phase of the FTA Capital Investment Grants (CIG) Program. The total project cost is approximately \$3.5 billion, with an expected FTA CIG award of \$1.17 billion. \$300 million of this has already been allocated. BART is anticipating a signed full funding grant agreement in the coming months.

Issues: None

Recommendation: Information Item.

Attachments: BART presentation.



Therese W. McMillan



BART Quality of Life Improvement & Initiative Update

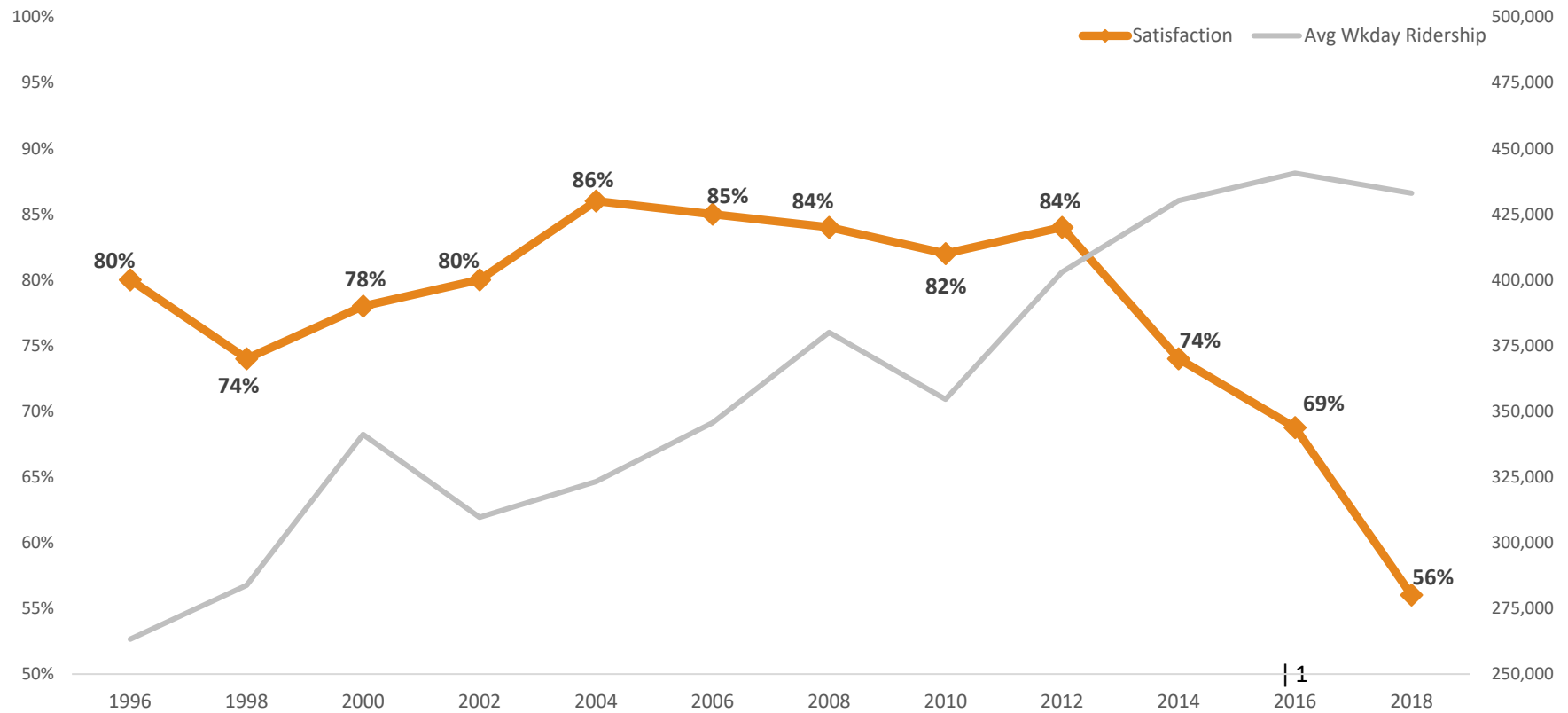
BART Core Capacity Program Update

BART General Manager Bob Powers
February 12, 2020

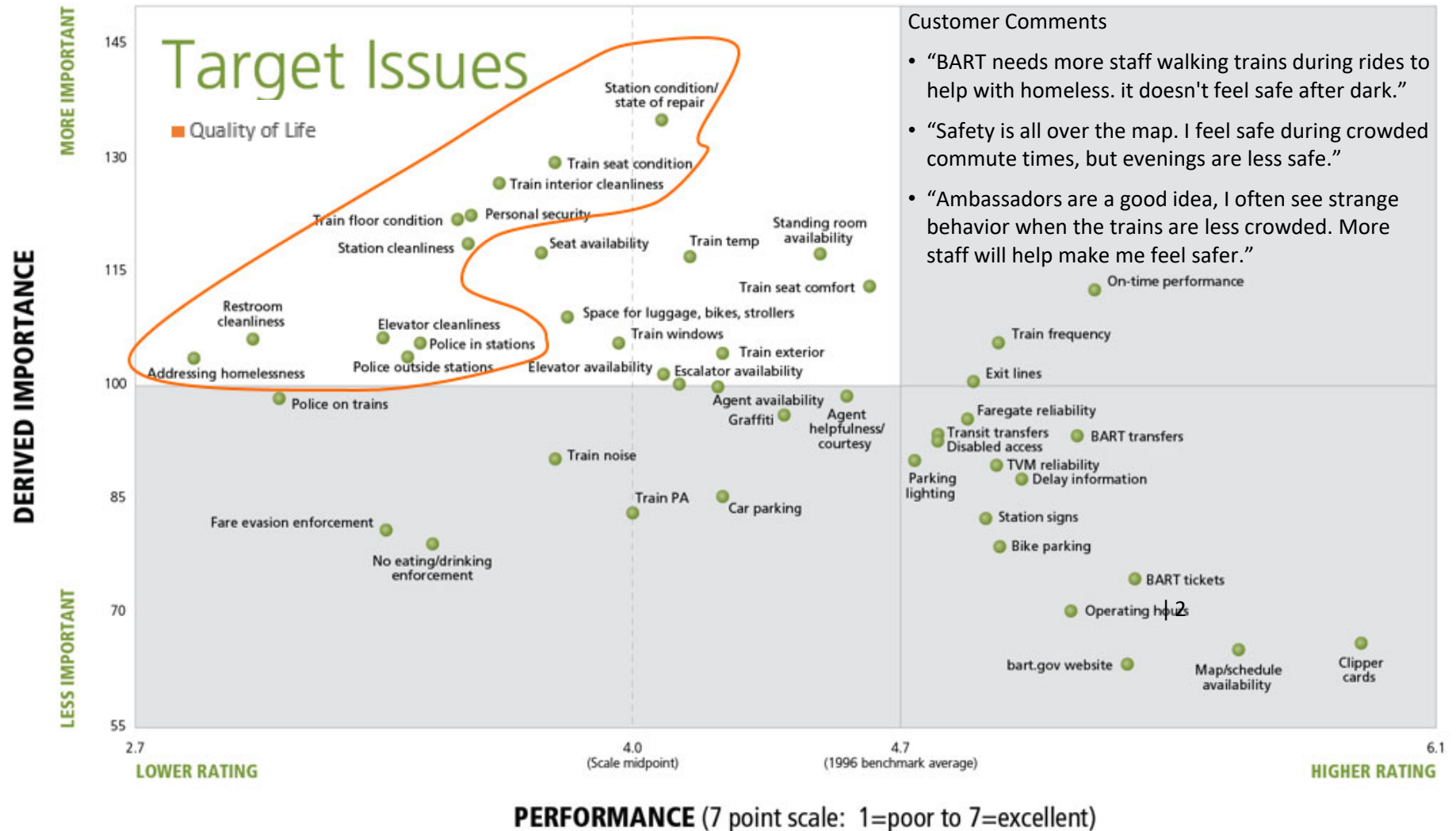


Quality of Life

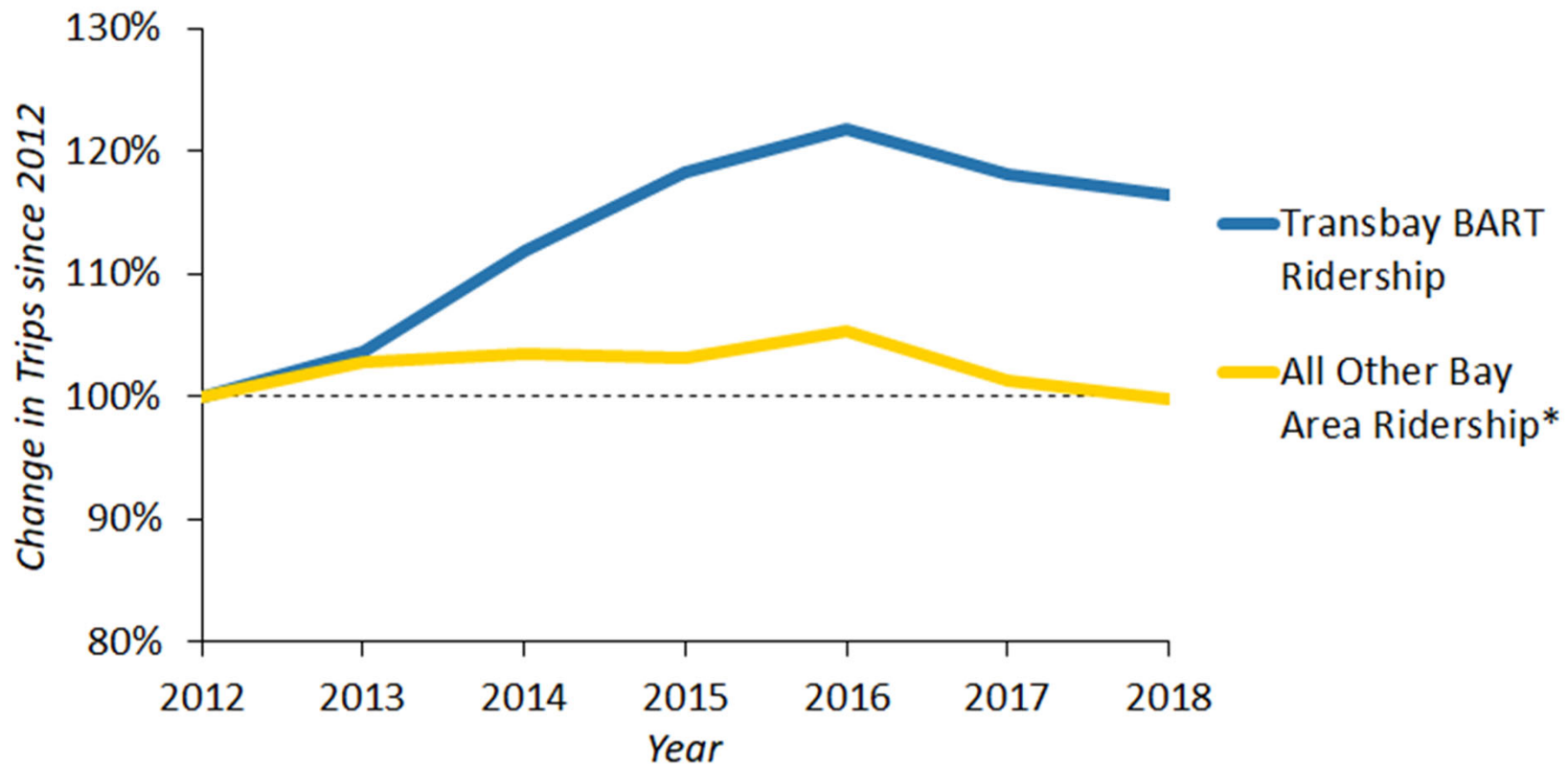
Customer Satisfaction & Ridership



Quality of Life 2018 Quadrant Chart



Bay Area Transit Ridership



* unlinked total MTC trips minus linked transbay BART trips

Data source: BART origin-destination matrices and National Transit Database

MTC UCLA Study, 2019

BART Quality of Life Investments



From FY14-20, BART has added ~\$60M on ongoing & new programs:

- **Safety & Security (Presence in System)** - Police Officers, Community Service Officers (CSOs) & Fare Inspectors; additional & improved cameras.
- **Fare Evasion** - Raising railings, enclosing elevators within paid areas, securing swing gates, modifying fare gates, conceptual design for next generation fare gates & policy changes such as efforts to increase Clipper utilization.
- **Homelessness** - Regional partnerships including Homeless Outreach Teams, Pit Stop restrooms, elevator attendants, downtown San Francisco station trespass barriers, escalator canopies & fencing/enclosing BART right-of-way.
- **Cleanliness** - Restructuring of the System Service Department to achieve greater efficiencies, additional resources for station brightening, station refresh, station entrances & train cleaning.



Increasing Visibility & Train Presence



- Train Teams
 - Deployed January 13, 2020
 - 12 sworn officers
 - Teams of 2
- Function
 - High Visibility
 - Evenings & Weekends
 - Respond to on-train service calls



Tim Grayson ✓
@AsmGrayson

Met two very kind @SFBART officers on my ride yesterday as they were saying hello to everyone on our train. Thank you for working to keep BART friendly and safe



Ambassador Pilot Program



- 10 Ambassadors in teams of 2
- Reports to BART PD
- Launched February 10, 2020 for 6 months

When:

- Coverage 7 days/week, 2:00 pm – 12:00 am
- Schedule
 - Saturday – Tuesday OR Wednesday - Saturday
 - 4 days/week, 10 hours/day
 - Double coverage on Saturday

Where:

- Core of the system to maximize impact
- Alternative routes for commute period.



Proof of Payment Inspections



- BART Board adopted Proof of Payment Ordinance, effective January 1, 2018
- 20 Fare Inspector Positions (fully staffed)
- Systematic approach
- All passengers asked for proof of payment
- All violators issued citation
- Fare Inspectors add to uniformed presence in the system

Embarcadero Station

- First 13 trains traveling to East Bay between 5:20 - 6:40 am
- Process takes 3 – 5 mins per train
- All passengers asked for proof of payment
- At this busy station, anyone in violation is required to off board the train & escorted out of the station.



Police Recruitment & Hiring



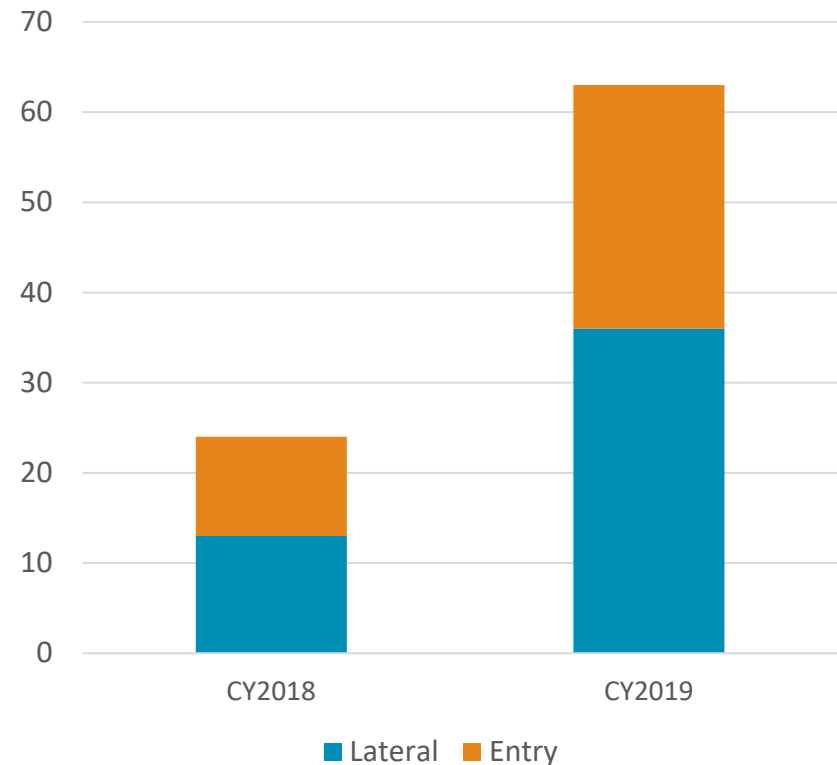
Hires in 2019

- Highlights:
- Officers: 63
- CSOs: 12
- Fare Inspector: 15
- Dispatcher: 5

- Officer Attrition: 36
- (including 6 promotions)

- Net Officers 2019: +27
- Net Officers 2018: +2

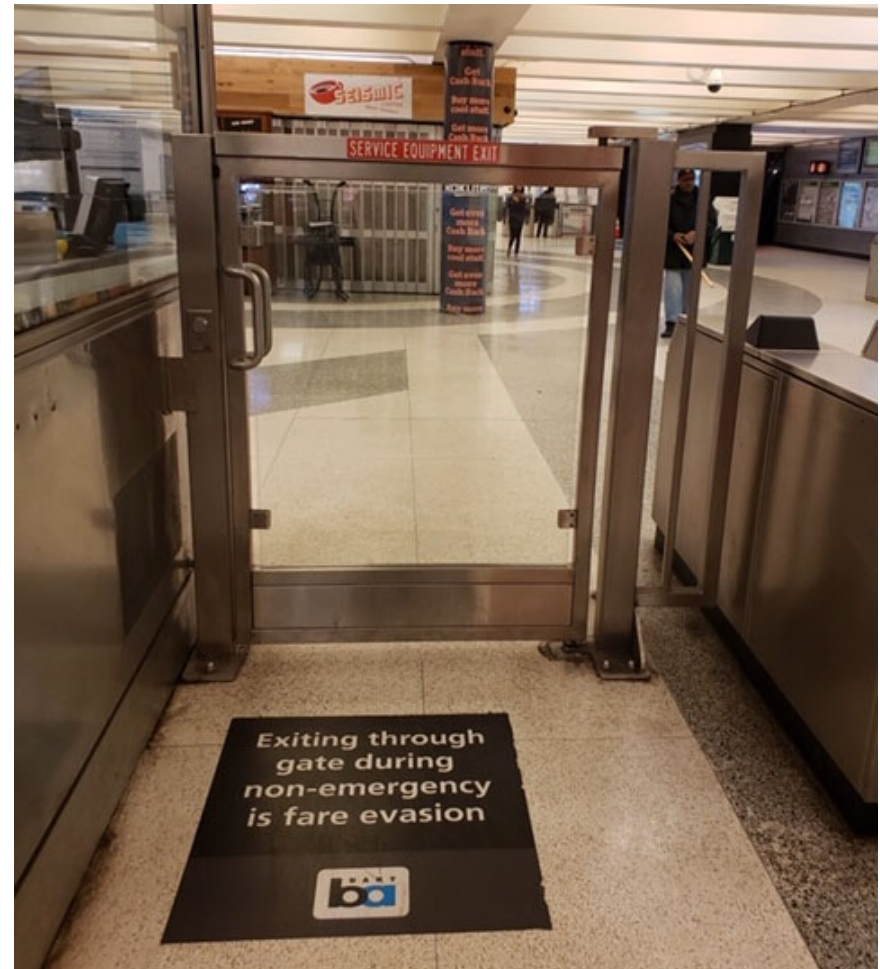
Police Officer Hiring



Station Hardening

Elements of a Completely Hardened Station include:

- Fare Gates (Modified or Replaced)
- Secured Swing Gates/ Doors
- Elevators in the Paid Area
- Digital Camera Network
- Raised Railing – 5 ft. (6ft.?)
- Clipper Load in Paid Area
- Fire Alarm System Update/ Integrated to Fare Gates



Station Hardening Plan



Stations (Some elements addressed)

Bay Point
Fremont
South Hayward
Embarcadero
Civic Center
16th Street
24th Street
Berkeley
Fruitvale
Coliseum
Daly City
Balboa Park
Glen Park
Montgomery
Lake Merritt
MacArthur
Richmond

Stations (in progress)

El Cerrito Plaza
El Cerrito Del Norte
12th Street
West Oakland
Powell
SFO
Concord
San Leandro
Bay Fair
Hayward

Stations Scheduled FY21/FY22

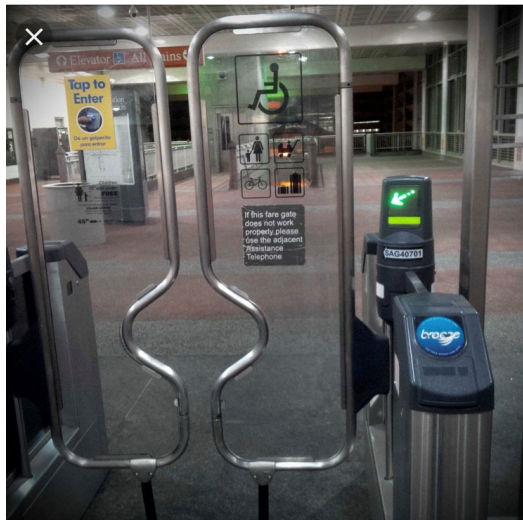
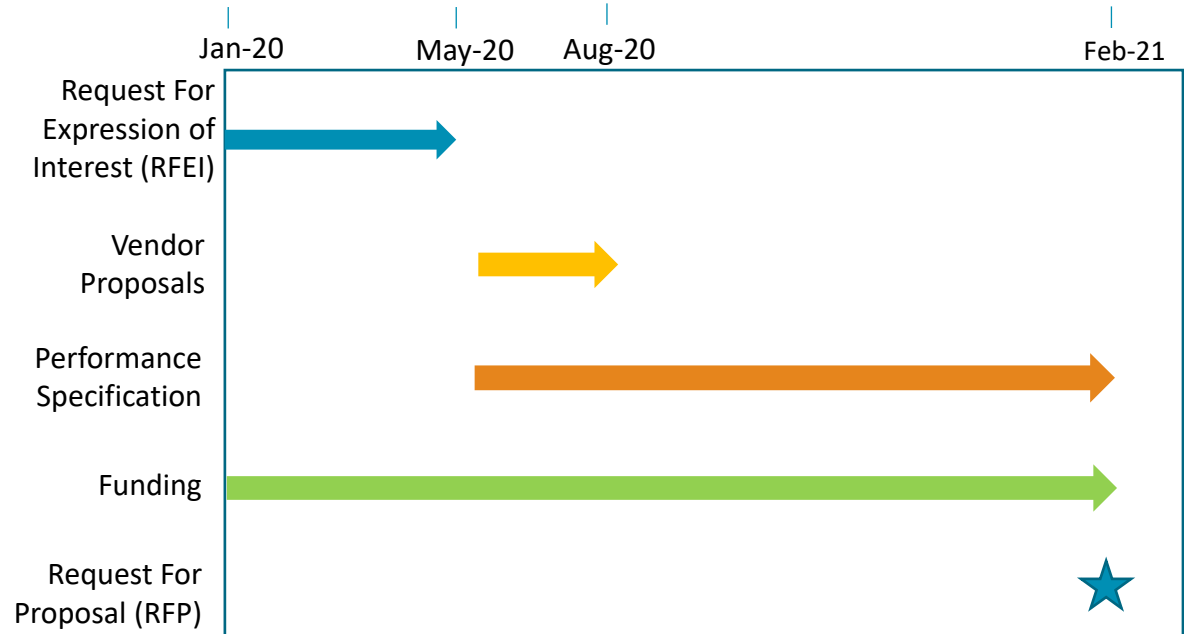
Ashby – FY21
North Berkeley – FY21
19th Street – FY21
Colma – FY21
South SF – FY21
San Bruno – FY21
Millbrae – FY21
North Concord – FY21
Pleasant Hill – FY21
Rockridge – FY21
Walnut Creek – FY22
Lafayette – FY22
Orinda – FY22
Union City – FY22

Next Generation Fare Gate – Swing Style Barriers



Fare Gates	
Alameda County	284 (42%)
Contra Costa County	117 (17%)
San Francisco County	199 (29%)
San Mateo County	82 (12%)
Total	682 (100%)

Project Timeline



Example of swing style gate

Rapid Response Car Cleaning

- Faster response to reported issues
- Intercepts biohazards and other messes
- Positioned center of system at Lake Merritt and 12th St. Stations
- 5:30 AM to 9:00 PM, Monday - Friday
- Dispatched by through Operations Control Center

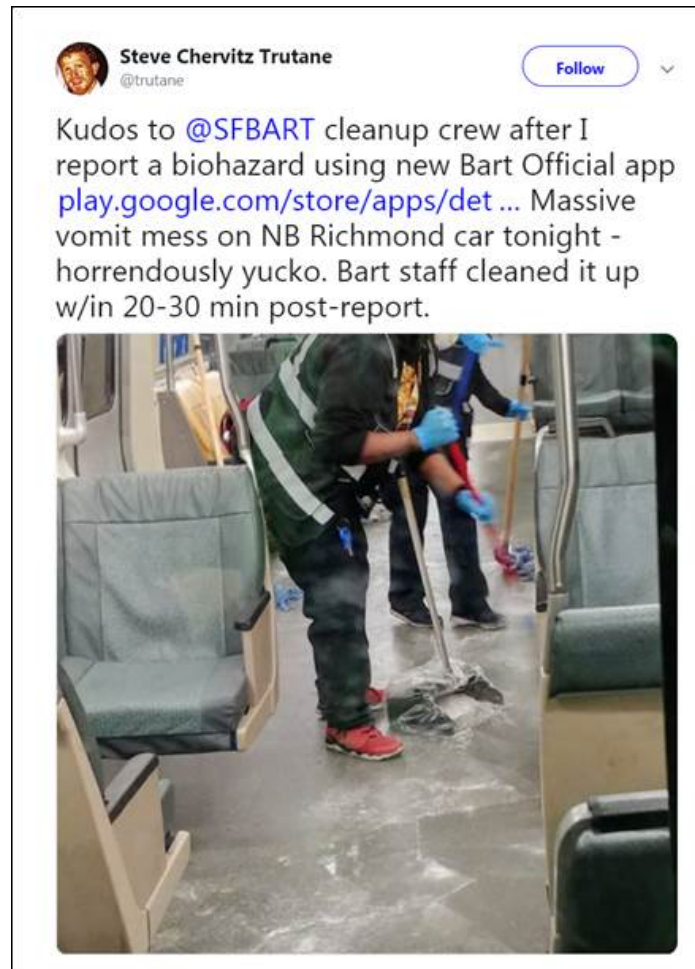


Quality of Life - Cleanliness

Biohazard



- Patrons can report a biohazard thru BART App
- Immediate response and every biohazard considered priority
- Puncture resistant gloves and training available to all cleaning & maintenance employees
- Needle counts declined in stations



Elevator Attendant & Pit Stop Programs



Elevator Attendant Program

- Launched Spring 2018, serve monthly average 50K customers per station
- Partner with SFMTA & Urban Alchemy
- Street & platform elevators at 4 Downtown SF stations
- Daily, station opening through closing
- Zero incidents of human waste, needles, vandalism & assaults



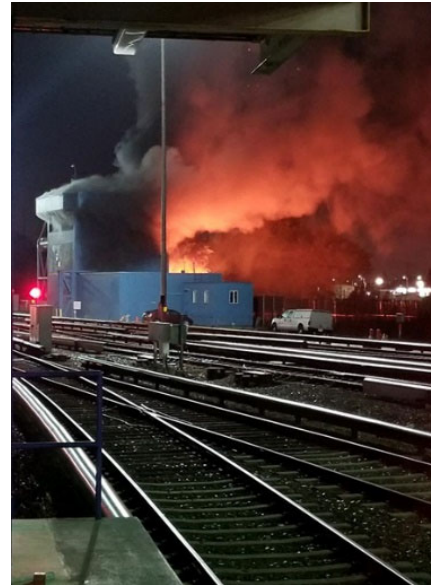
Pit Stop Program

- Ongoing funding partnership with SF Public Works at 16th St., Powell St. + 24th St. Stations
- Reduce public urination and defecation on BART property
- Attended restroom access for BART customers, cleaned between uses
- Near term solution, followed by restroom upgrades at Powell St. and 19th St. in 2021



Homelessness Challenges

- Homelessness is a national crisis. Many transit operators are struggling with this issue.
- Estimated 2019 Homeless Population in Bay Area = 28,200. 67% unsheltered. Sharp increases in:
 - Alameda County ~ 8,022 (43%)
 - San Francisco ~ 8,011 (17%)
 - Contra Costa County ~ 2,295 (43%)
 - San Mateo County ~ 1,512 (21%)
 - Santa Clara County ~ 9,706 (31%)
- 72 encampment fires in 2019. Affects passenger & employee safety. 50% of fires disrupted service.



Funding to Address Homelessness



State Actions to Address Homelessness

- Governor’s E.O. on Homelessness
- Provides state-owned land and assets to augment local shelter capacity
- Creates a multi-agency strike team to assist local governments, including transit agencies, in moving individuals into shelters and connecting them to services



Governor’s Proposed 2020-21 Budget

- Includes \$750 million one-time General Funds to establish the California Access to Housing and Services Fund
- Fund will create structure for developing affordable housing units, supplementing and augmenting rental subsidies, and stabilizing board and care homes.
- BART is not eligible for state homelessness funding; Governor directing counties to work with transit agencies.

Counties	Funding	Key Sources
Alameda County	\$306M	Whole Person Care, Mental Health Services Act, AB109, State & County General Fund
Contra Costa County	\$348M	Community Development Block Grant; Emergency Solutions Grant, Home Investment Partnerships, Federal, State, and General Fund.
San Francisco County	\$513M	Community Development Block Grant, Emergency Solutions Grant, Home Investment Partnership,; General Fund, Sales Taxes.
San Mateo County	\$332M	Community Development Block Grant, Emergency Solutions Grant, Home Investment Partnerships, Federal, State, and General Fund.
Total	\$1.50B	

FY20 BART Investments to Address Homelessness



Initiatives	Budget	BART Share	Partner Share	Comments
San Francisco Pit Stops Attended Restrooms	\$250K	\$125K	\$125K	Cost sharing with SF Public Works at 3 stations.
San Francisco Elevator Attendants	\$2.8M	\$750K	\$2.05M	Cost sharing with SFMTA, plus \$1.3M MTC Lifeline Grant via SFCTA.
San Francisco Homeless Outreach Team (HOT)	\$500K	\$250K	\$250K	Cost sharing with SFMTA.
Contra Costa HOT	\$244K	\$182K	\$62K	Cost sharing with Contra Costa County.
Alameda HOT	\$250K	\$250K	\$0	Alameda County is contributing in-kind admin support.
SFO HOT	\$350K	\$87.5K	\$262.5K	Cost sharing with Airport at SFO BART Station only.
San Mateo HOT	\$150K	\$150K	\$0	San Mateo County is contributing in-kind admin support.
Total	\$4.54M	\$1.79M	\$2.75M	

* Oakland Mayor Libby Schaaf & San Jose Mayor Sam Licardo have pioneered the use of cabin communities and tiny homes.

Core Capacity Program Big 4 Capital Projects



Address overcrowded trains and expand capacity on the system

- Transbay peak hour person-capacity will be increased by 45%

45% MORE CAPACITY

Fleet of the
Future
\$1.105B
306 more vehicles



Hayward
Maintenance
Complex
\$345M



Communication
Based Train Control
\$1.673B



Traction Power
Substations
\$137M

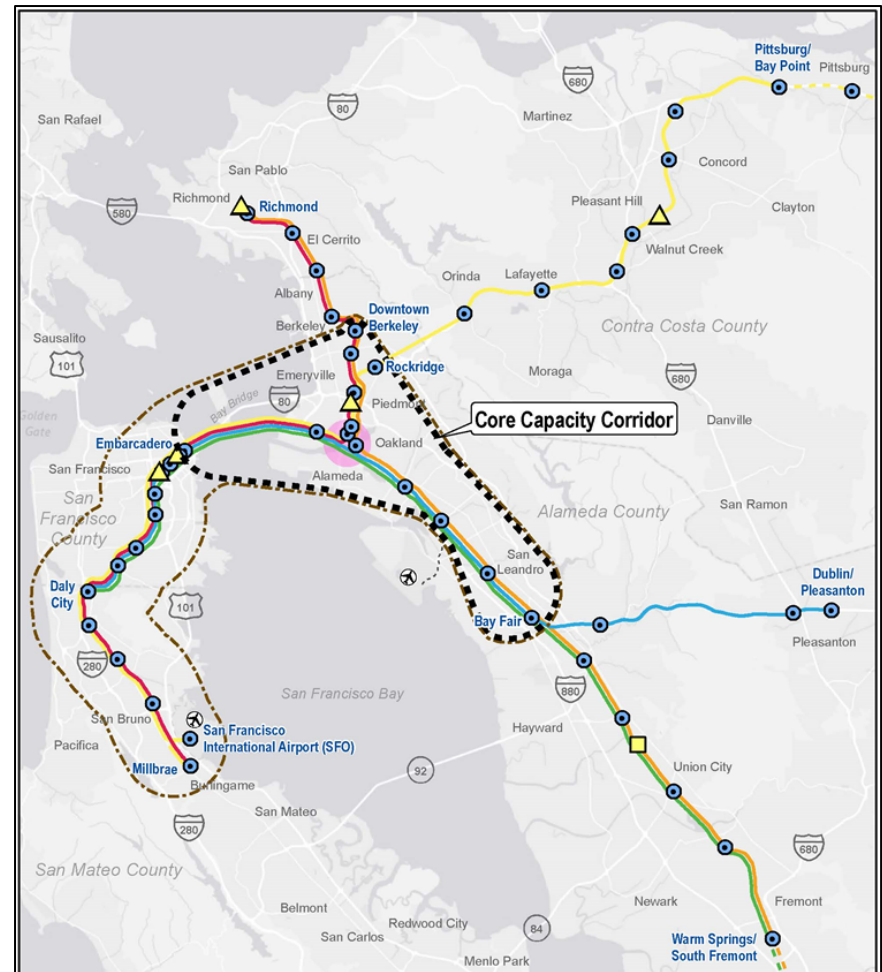


Core Capacity Program Scope



- 306 Fleet of the Future railcars
- New CBTC train control system-wide
- New railcar storage complex at Hayward Yard
- 6 new traction power substations

Note: Corridor limit shown is for FTA CIG Program eligibility purposes only.



- FTA approved the program's advancement into the Engineering phase on June 20, 2019:
 - Establishing CIG share of \$1.169B with accelerated payout
 - Allocating \$300M of FY18 CIG funds to TCCCP
- FTA approved BART's request for a Letter-of-No-Prejudice (LONP) on 7/15/19
- FTA's Annual Report to **Congress rated the project "High" – the best rating possible** – only major project in the country with a HIGH rating
- BART Board approved intent to award CBTC contract to Hitachi Rail, contingent upon FFGA
- BART working closely with FTA to supply all necessary materials

Core Capacity

Fleet of the Future Project Update

Growing and Modernizing the Fleet

- Accepted 134 new cars
- Retired 12 legacy cars
- Fleet size totaled 768 cars by December 31

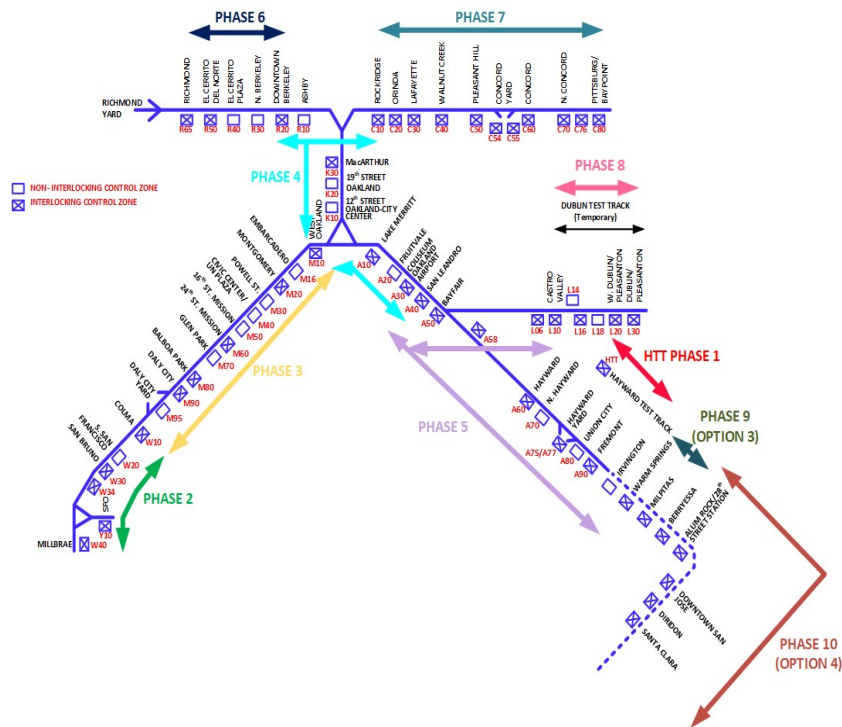
Service Enhancements

- 8 Fleet of the Future trains in regular service:
 - 2 trains each on Yellow, Green and Blue lines
 - 1 trains each on Orange and Red lines
- Lengthened legacy car trains on Orange, Red and Blue lines
 - Orange: 2 trains from 6 to 8 cars
 - Red: 1 train from 9 to 10 cars
 - Blue: 2 trains from 9 to 10 cars



Core Capacity

Communications Based Train Control System (CBTC)



Radio Communications Equipment

CBTC Hitachi Rail STS USA

- Increase train Capacity from 23 Trains per hour (TPH) to 30+ TPH
- Phased Deployment - 10 Phases, 125 miles of track
- VTA Options
- Prove on Test Track prior to Installation on Revenue Track

Hayward Maintenance Complex & Traction Power Substation



Hayward Maintenance Complex

- **Scope:** Increased Storage Capacity for 250 Revenue Vehicles, Includes:
 - New Vehicle Car Wash Facility
 - Car Cleaning Platforms
 - 2 At Grade Crossings
- **Benefits:** Increases storage capacity for new fleet and growing system
- The Project will be broken into 3 contracting opportunities
- **Schedule:**
 - Long lead Trackwork Procurement Award/NTP – Spring 2020 - \$16M
 - Civil Grading Award/NTP - Fall 2020 - \$65M
 - Storage Yard Build out Award/NTP- Fall 2021 - \$110M
 - Overall Project Completion – Winter 2024

Traction Power Substations (TPSS)

- **Scope:** New TPSS at 6 sites in SF, Oakland, Richmond, Concord & Hayward + 3 gap breakers in Hayward
- **Benefits:** Power BART system (trains, stations, infrastructure)
- **Schedule:**
 - SF sites - NTP Summer 2020 - \$88M
 - East Bay sites - NTP Spring 2022 - \$196M

Program Elements Cost



Program Elements	Cost YOES Millions
Total Program *	3,536.4
306 Train Control Enabled Rail Cars	1,105.5
Train Control Modernization	1,673.4
Hayward Maintenance Complex Phase 2	344.6
Traction Power Substations	136.8
Program Management/Contingency	276.1

* Almost 80% of program cost is for capacity rail cars and train control modernization

Funding Sources	\$Millions
Secured Funding	2,949.8
FTA CIG*	1,169.0
Other Federal	103.9
Regional	679.0
TIRCP	318.6
BART	679.3
Funding Gap	586.6

*Full Funding Grant Agreement anticipated early 2020