

Next Generation Fare Gates Update



Update of Efforts (since June 11, 2020)

- ✓ Board Presentation – June 11
- ✓ Develop/Publish RFEI
- ✓ Field Test Richmond ADA Fare Gate (AFG)
- ✓ Order material
- ✓ Design Regular Fare Gate (RFG)
- ✓ Revised Funding/Cash Flow to Fiscal Year (FY)

Field Test of Richmond ADA Fare Gate (AFG)

Design Iterations, Modifications, Challenges

- Installed May 30, 2020
- Software changes for Door Alignment
- Design Change for Bolt Wear
- Lengthen Panel to reduce crawling under

Effectiveness

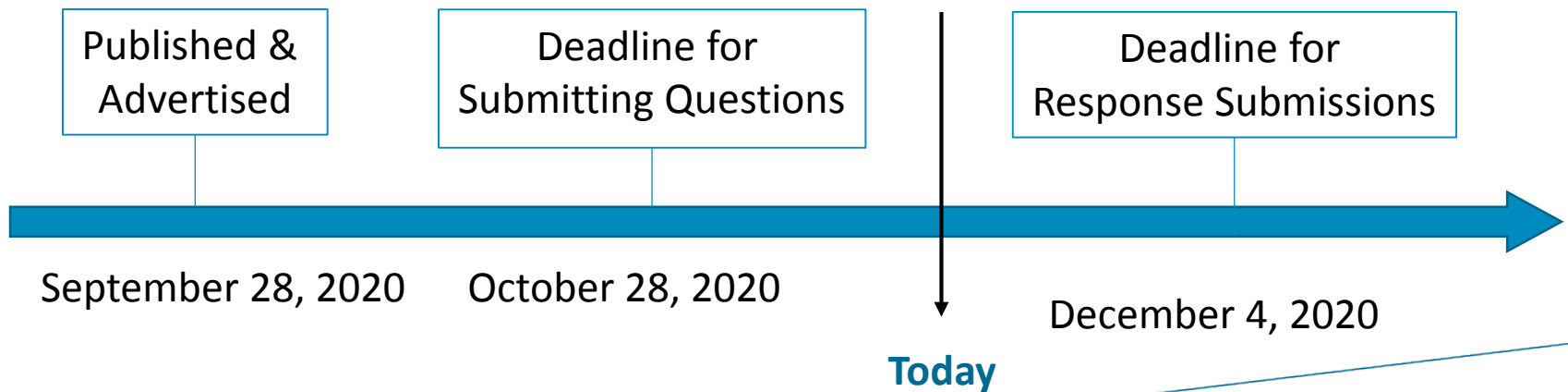
Forced Opening Incidents	Weekly Average	
	Before Retrofit	After Retrofit
(AFG) Prototype	478	6
Non-AFGs	30	127
<i>Richmond Station Totals</i>	<i>508</i>	<i>133</i>

Weekly averages as of October 16, 2020



Request For Expression of Interest (RFEI) Timeline

- ✓ Diverse 16-member Steering Committee
- ✓ Ensures the business and technical needs for District Departments are identified and met within the RFEI.
- ✓ The RFEI Package:
 - Preliminary requirements
 - Developed questions to engage the industry:
 - innovative solutions on design features, functionality, and implementation
 - 10 Publications & 12 Leading Fare Gate Suppliers



RFEI Response

Industry Publications

Mass Transit
Metro Magazine
Wired
Mass Transit Network
Progressive Railroading
Railway Age
Intelligent Transport
ITS International
Global Mass Transit
International Light Rail Magazine

Non Vendor Requests Received

EASIER (dba for Automatic Systems, SA)
Optex America
Solari Corp
Acumen
Virginkar & Associates
Rebel Group

Suppliers/Vendors Outreach

Targeted Vendors:

Conduent
Cubic
Gunnebo
Mikroelektronika
Scheidt & Bachmann
STraffic
Thales

Other interested Vendors:

Indra
Nippon Signal
Omron
Shanghai Huaming Intelligent Terminal
Equipment CO.,LTD
ST Electronics (Singapore Technologies
Electronics Limited)

RFEI Questions Received

- Total of 118 questions received from 3 interested parties.
- All the questions and answers were posted on the website



“How is off-the-shelf being defined in this RFEI?”

“Do you strictly prefer pneumatic solution or are you open to discuss another solution(s)?”

“Is prior securing of full funding for all phases of the faregate project a prerequisite for issuance of an RFP?”

“Does BART have a Maintenance Management System in place?”

“Would BART consider a project proposal with a sequence and timeline that would accelerate implementation...?”

“Can BART please provide a detailed engineering drawing or template for the location of conduit and other physical infrastructure”

High Priority Gates - Coliseum Station

Coliseum Station Totals *	Before Installation	Post Installation	The new AFG
Entries	1049	1175	57
Exits	1058	1105	47

* Average daily count, week of 9/28/20

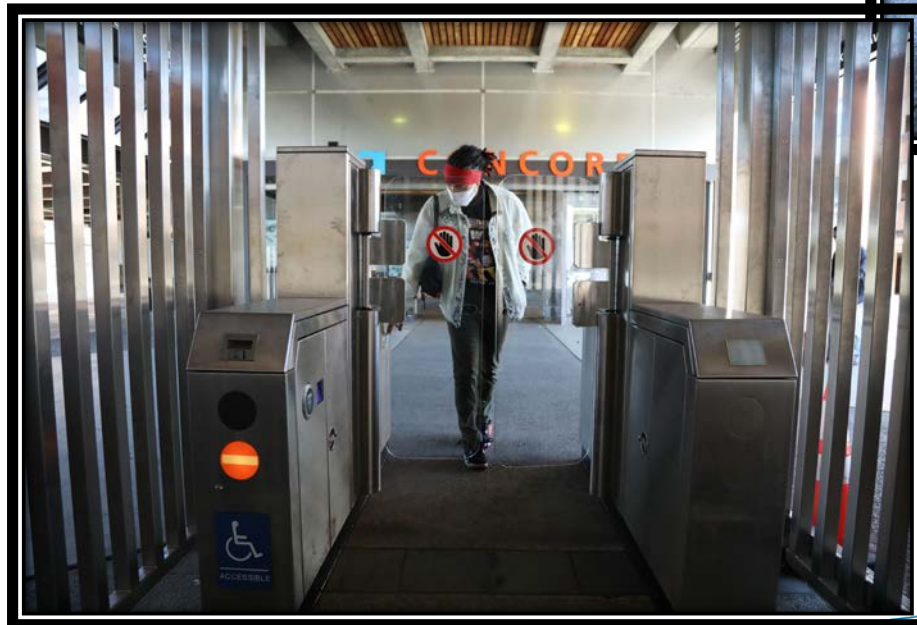


*Installed by Internal BART
Forces September 25*

High Priority Gates - Concord Station

Concord Station Totals *	Before Installation	Post Installation	The new AFG
Entries	888	915	27
Exits	857	879	22

*Average daily count, week of 11/2/20



*Installed by Internal BART
Forces October 30*

Elevator Enclosures - Highest Priority Stations

Completed Stations

- Coliseum
- Concord
- 12th Street
- South Hayward
- Berkeley
- Montgomery- – Dec 2020*

In progress/Scheduled Station

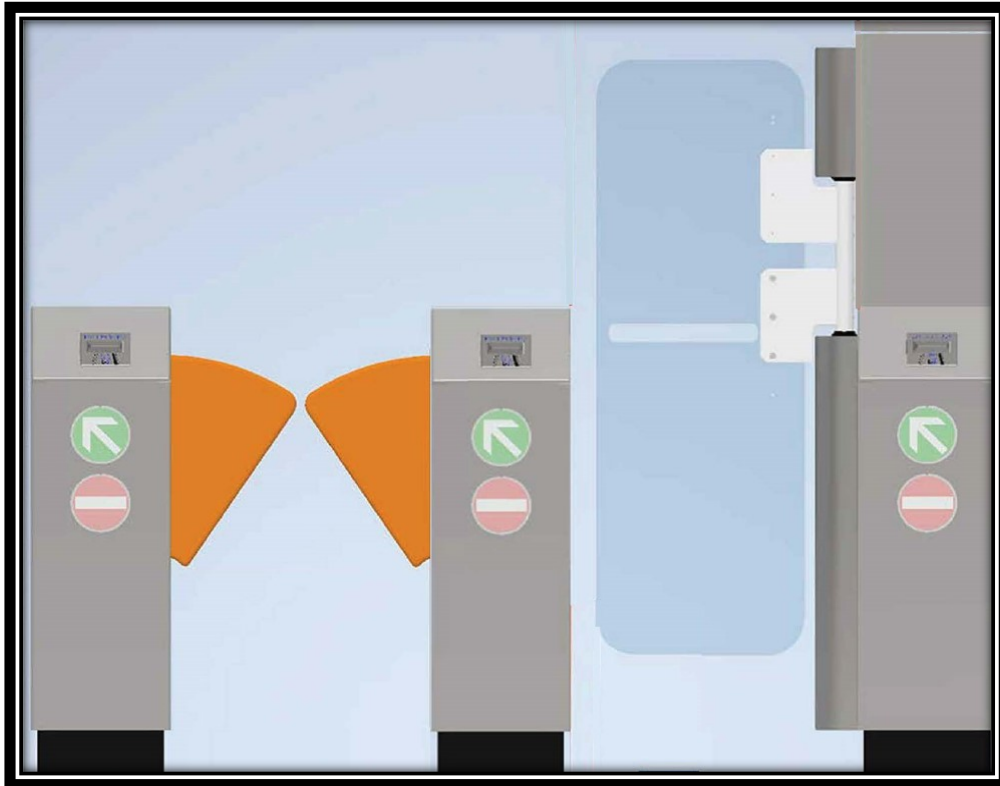
- Bay Fair
- Balboa Park

Remaining Stations

- El Cerrito Del Norte
- Embarcadero
- Powell
- 19th Street
- Walnut Creek
- North Berkeley
- El Cerrito Plaza
- Rockridge
- Orinda
- Civic Center

* Fare Gate has been installed, needs conversion to new style.

Progress on a Regular Fare Gate (RFG) Prototype



Conceptual Prototype
Coming November 2020

Why Fruitvale Station for the prototype:

- It has a single fare gate array in view of the station agent
- No structural/electrical modifications needed
- It is in close proximity for response from both engineering and maintenance



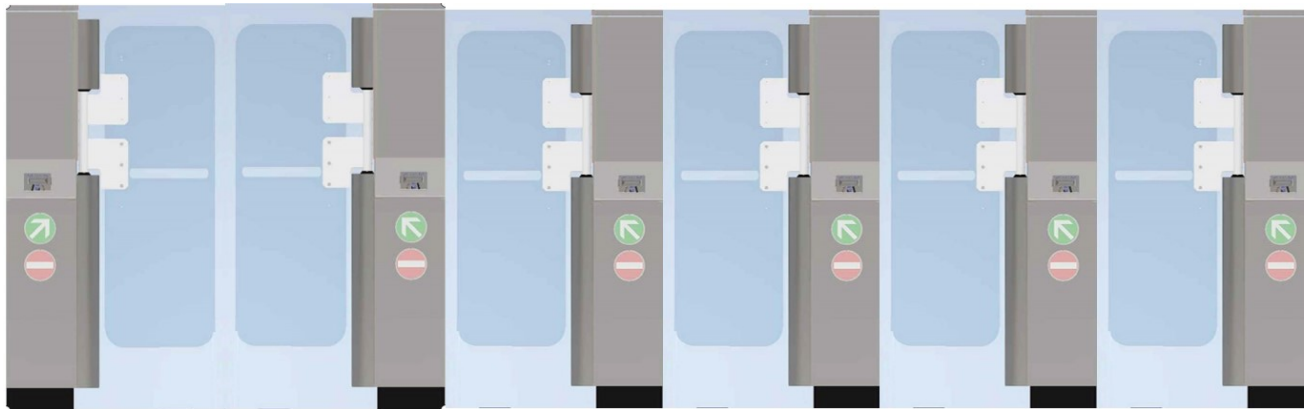
Next phase: Design and Installation of an Array

Activities:

- Finalize requirement, design, prototype, coding, and testing
- Obtain array design approval from stakeholders
- Procurement, production, and delivery
- Field installation

Challenges:

- Material procurement and lead times.
- Necessary infrastructure improvements



TriReader 4 and Clipper 2 Updates

- TR4 - Cubic's next generation card validator
 - Required to implement open payments
 - PCI and EMV compliant
- Acquisition, integration and installation of the TR4 on BART equipment funded by Clipper
- Will be integrated into new faregates
- Legacy gate installation requires specific physical mounting for EMV compliance and open payment acceptance



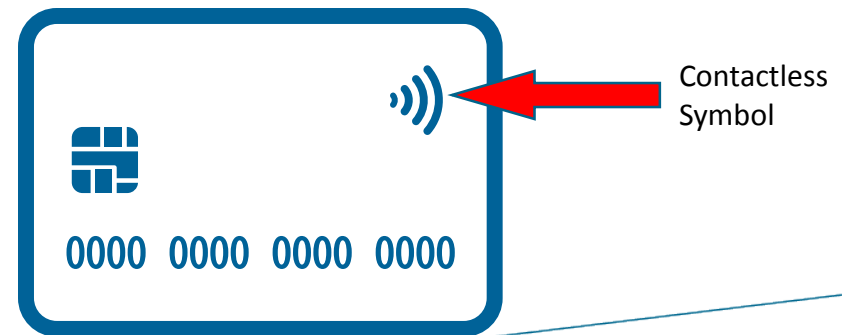
Mockup of physical mounting

Open Payment Update

- Open payments – use of contactless credit/debit cards for fare payment at a transit point-of-entry/exit (gates)
- MTC to exercise open payment option
- Clipper® positioned to begin processing open payments as early as 2022
- Contactless cards use near-field communication (NFC) to transmit payments at faregates
- Contactless cards have a unique symbol on the front or back

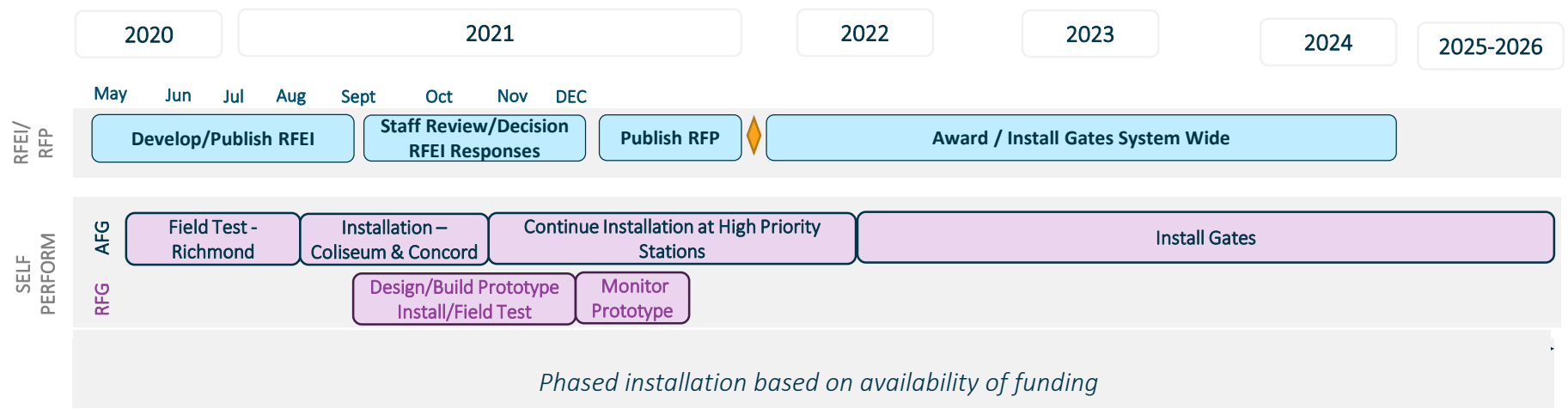


Actual Gate in Sydney, Australia
(Image Courtesy of Mastercard)



Project and Funding Needs Timeline (LATEST)

PROJECT TIMELINE

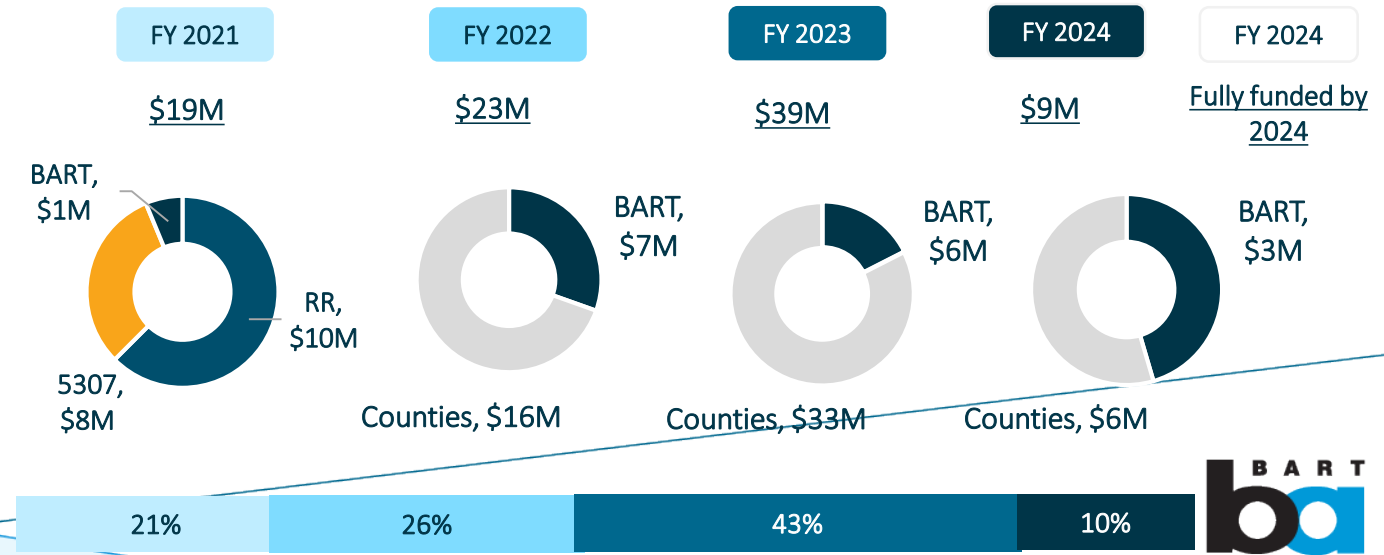


FUNDING TIMELINE



total amount of funding in \$

% and \$ breakdown by funding source



% of \$90m, by year



Funding

Funding Framework

- Total Project Cost: \$90M
- Funding strategy
 - BART District Counties: ~50%/50% share County/BART
 - Non-BART District Counties: 100% county share
- Work with County Transportation Agencies (CTAs) and SFO Airport to identify funds
- Advance manufacturing and installation of fare gates in phases tied to county funding availability/timing

Funding Progress

- Identified \$35M BART sources, including planned future funds & grant opps
- Actively engaged BART District County Transportation Agencies (CTA) to fund county share in advance of and following June 11 Board meeting
- Following CTAs' grants and sales tax funding processes – many delayed due to potential COVID-19 impacts to sales tax revenue receipts/forecasts
- ACTC – submitting documentation in early December in support of Measure BB programming request
- SFCTA
 - October, submitted project info in preparation for planned Prop K reauthorization – currently targeting November 2021 ballot
 - August, submitted application for Prop AA funding for the Next Generation accessible fare gates in SF & DC Stations – not successful
- CCTA
 - Planning STIP reprogramming request in Fall 2021
 - Will work to include in Measure J reauthorization

Target Funding Plan

Next Generation Fare Gates Systemwide = \$90M

County/Segment	Total # of Fare Gates	% of Total	Total Cost (\$M)	Estimated County/SFO Contribution (\$M)	Estimated BART Contribution (\$M)
Alameda (ex. 580 Corr.)	243	34%	30.59	15.29	15.29
580 Corridor	34	5%	4.28	4.28	0.00
Contra Costa	117	16%	14.73	7.36	7.36
San Francisco	199	28%	25.05	12.52	12.52
San Mateo (ex. SFO)	57	8%	7.17	7.17	0.00
SFO	25	3%	3.15	3.15	0.00
Santa Clara	40	6%	5.03	5.03	0.00
Total	715		90.00	54.82	35.18

Fund Sources – BART \$35.18 million

Source	Amount (\$M)	Notes
FTA Section 5307	7.00	MTC-administered TCP Program
Measure RR	10.00	Access Program Funds
Capital Allocations/Other Grants	7.18	Future Year Funds
M&E Project Deferrals	11.00	Part of overall M&E Project Reprioritization Process
Total	35.18	

- Continuing systematic review of capital projects and project closeouts to identify funding opportunities
- May be some future opportunities with parking revenue program in later years
- Pursuing additional grant opportunities
- Advocate for federal Infrastructure Investment Stimulus

Potential Sources – BART District Counties

Source	Notes
Alameda County	
Measure BB	Subject to ACTC Approval
RM2	Savings from WSX; subject to MTC Approval
Measure B	Savings from WSX; subject to ACTC Approval
Total - Alameda County	\$ 19.57 million
Contra Costa County	
State Transportation Improvement Program	Subject to support by RTPCs, CCTA, MTC, and CTC
Measure J	Station Modernization; subject to CCTA Approval
Future Sales Tax Measure	Reauthorization of Measure J, timing TBD
Total - Contra Costa County	\$ 7.36 million
San Francisco County	
Proposition K	Subject to voter approval of Prop K Reauthorization and SFCTA Approval of reprogramming of existing Prop K funds
Total - San Francisco County	\$ 12.52 million
Total - Three BART District Counties	\$ 39.46 million

Potential Sources – Non-BART District Counties

Source	Amount (\$M)	Notes
San Mateo County - Measure W	7.17	First Call for Projects in FY21; extremely competitive program
SFO Airport Funds	3.15	Potential to leverage SFO Funds
Santa Clara VTA	5.03	O&M Agreement
Total Non-BART District Counties	15.36	

Next Steps

- Responses to RFEI December 4
- Evaluate RFEI Responses
- Monitor Fruitvale prototype in the field
- Install AFGs at high priority stations
- Continue with array design
- Submit reprogramming request to CTAs for county funding contributions
- Pursue Grant Opportunities

Thank you

