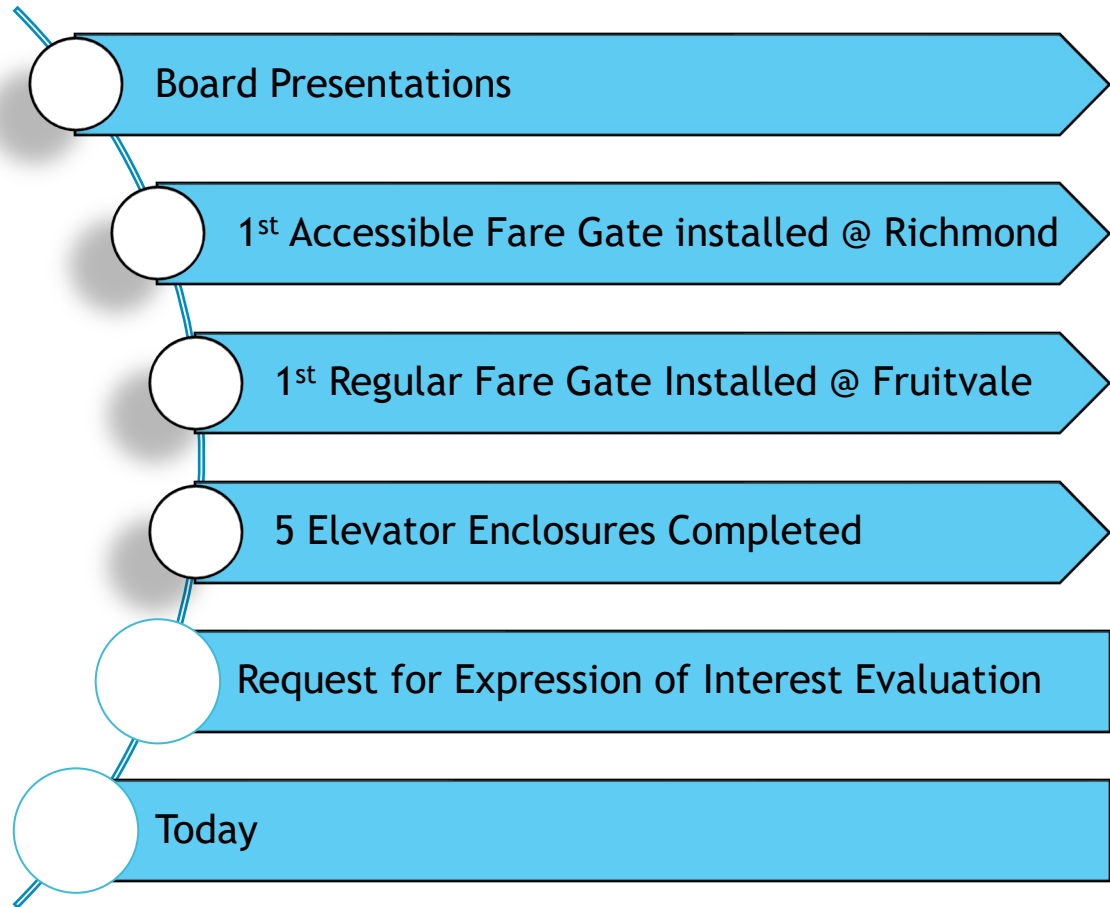


# Next Generation Fare Gates Update



# We're Back

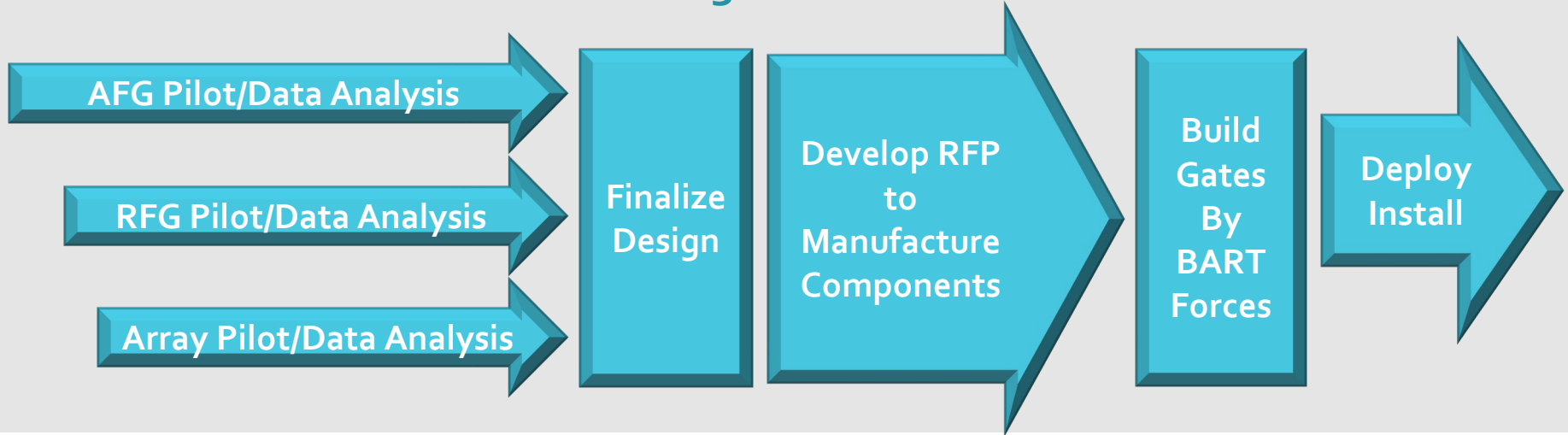


# Today

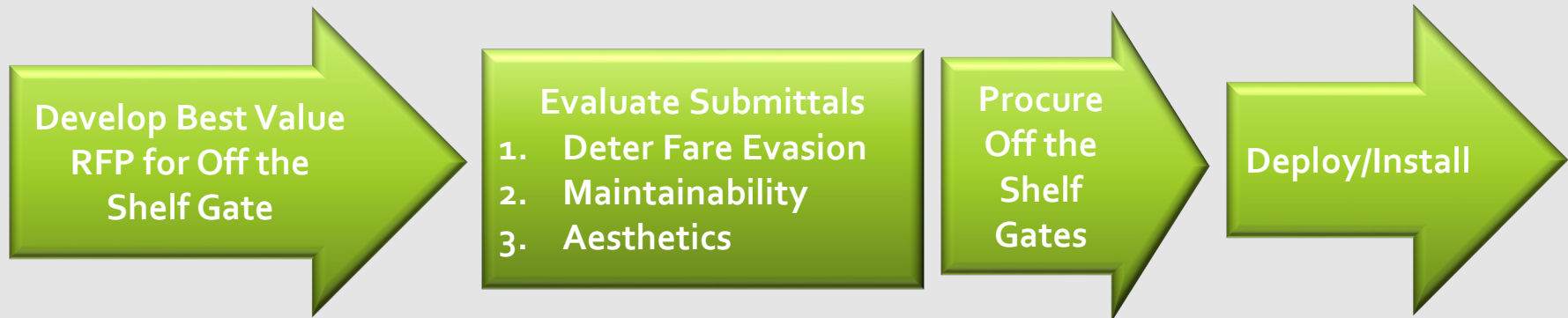


- On Schedule
- On Budget
- Secured Funding on Target
- Enhancements to original Design
- Evaluated the Request for Expression of Interest (RFEI) Responses
- Adopted the Hybrid Approach
  - BART Design +
  - RFP for Manufacturing +
  - RFP for Vendor of Off the Shelf Gates
  - *All Gates Installed by BART Forces*

## BART Designed Gate Path



## Vendor Supplied Off the Shelf Gate Path








# Hybrid Approach – Parallel Paths

# BART Designed Gate Update

# Fare Gate Project Goals

- Deter Fare Evasion
- Reduce Maintenance Costs
- Aesthetics

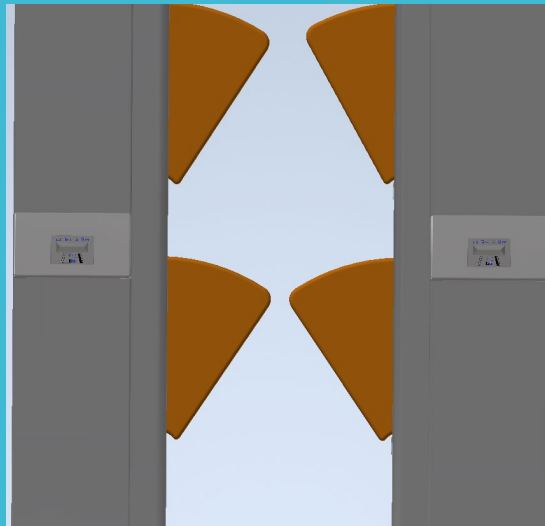
1	2	3	4	5
JUMP OVER	CRAWL UNDER	CLIMB OVER	FORCE THROUGH	TAIL GATING/ PIGGY BACKING
				

## Prior Efforts

### Existing Gates - Air Cinch Modification

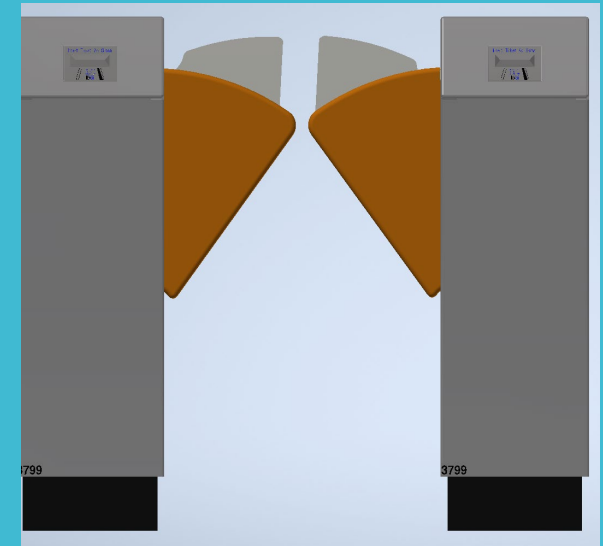
- Once Gate Closes - 80 lbs. of Pressure Applied to the Leaf
- 29 Stations Converted

#### Double Decker

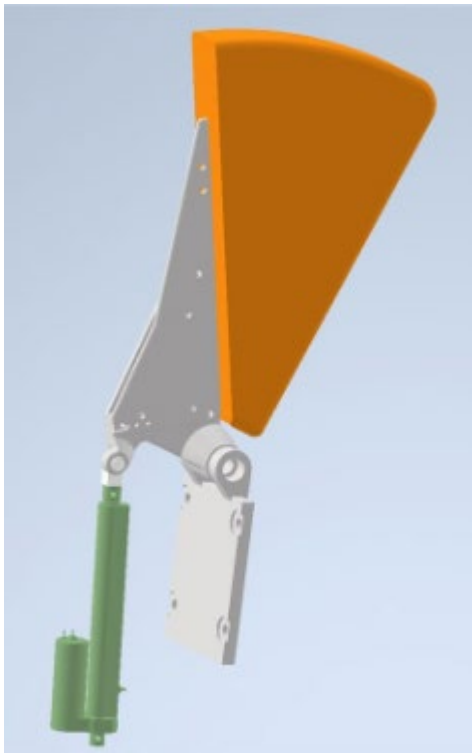


*Regular Fare Gates Richmond*

#### Pop-Up Barrier



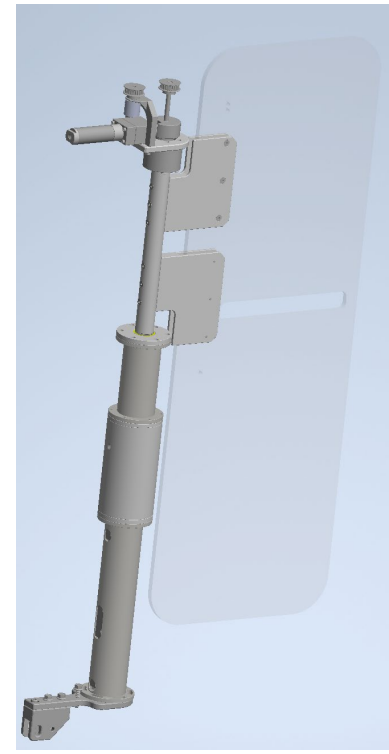
*Removed from the Field*



*Electric Actuator Assembly*



*New Gate - Richmond*



*Pneumatic Swing Gate Assembly*

# Swing Barrier Accessible Gate v 1.0



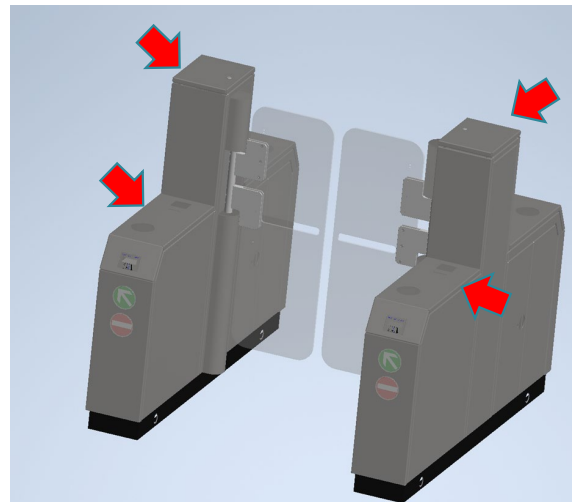
# Swing Barrier V 1.0

## Benefits:

- Favorable Customer Response
- Reduced Maintenance

## Challenges Post Implementation:

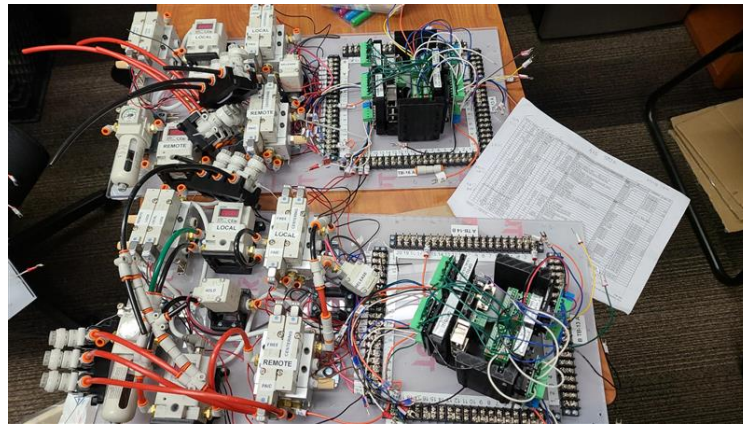
- Leaf Alignment
- Wear of Bolt Lock
- Flat Surfaces Still easy to use for Climbing



# Swing Barrier Enhancements Post Field Test

# Electrical Innovations

## Off-The-Shelf Fare Gate Controller Board - Pneumatic Control Assembly



*Prototype -  
Fare Gate Controller*



*New Fare Gate Controller*

### Benefits:

- Reduced Implementation Costs
- Reduced Maintenance Costs
- Easy to Troubleshoot for Maintenance

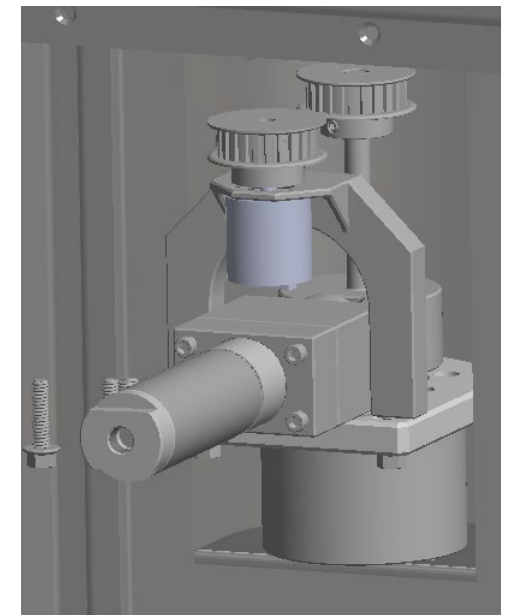
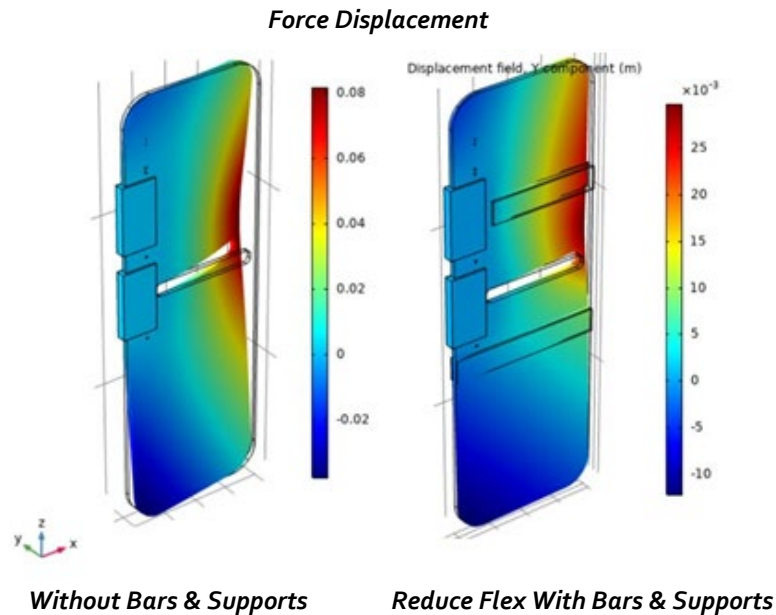
# Mechanical Innovation

## Design Improvements:

- Improved Bolt Mechanism
- Steel Alloy Bolt
- Leaf Hardening – Aluminum Bars & Supports
- Reduce Crawl Space under Leaves to 8"

## Benefits:

- Reduced Wear on Parts
- Reduced Maintenance Tickets



**Bolt**

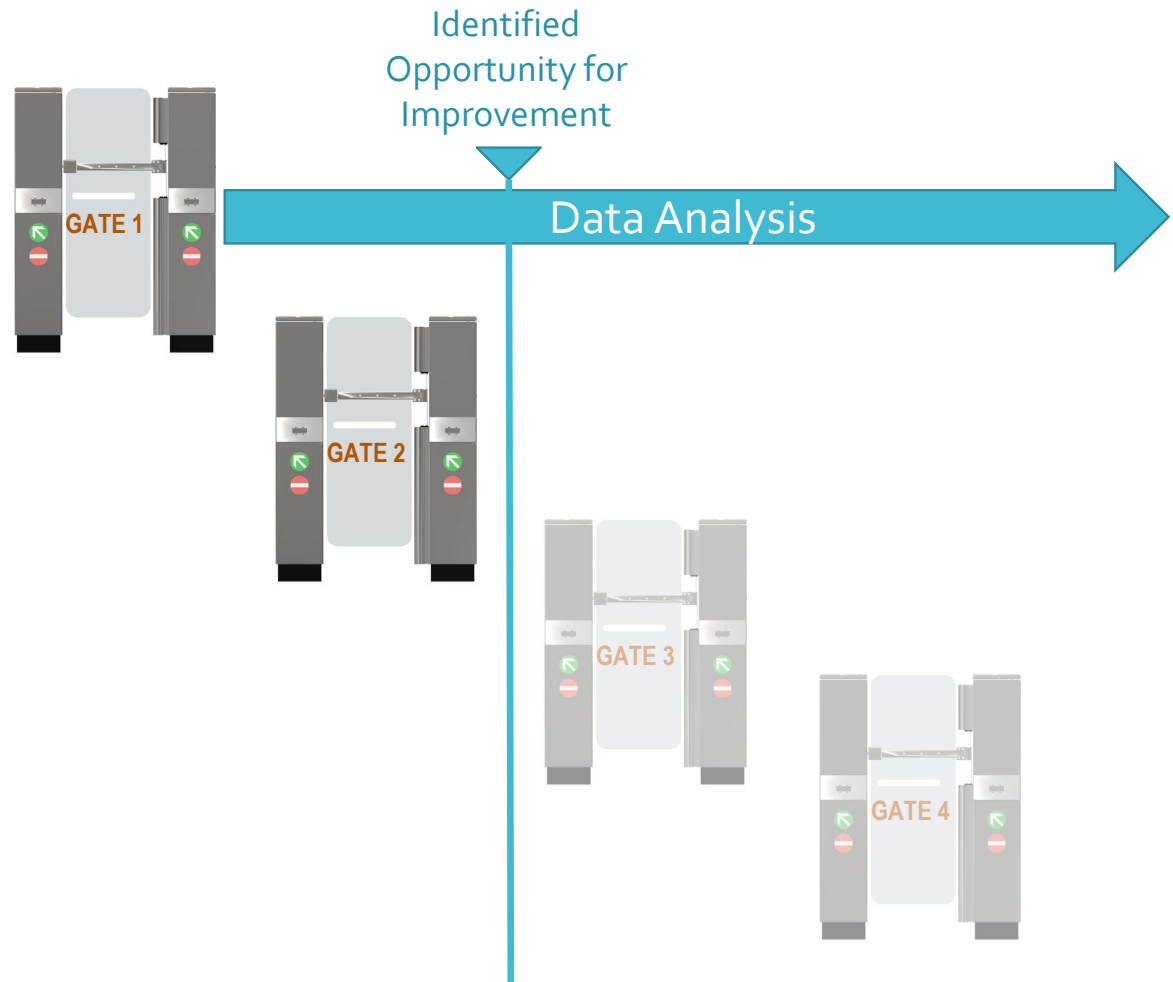
# Software Improvements Smart Gate

## Benefits:

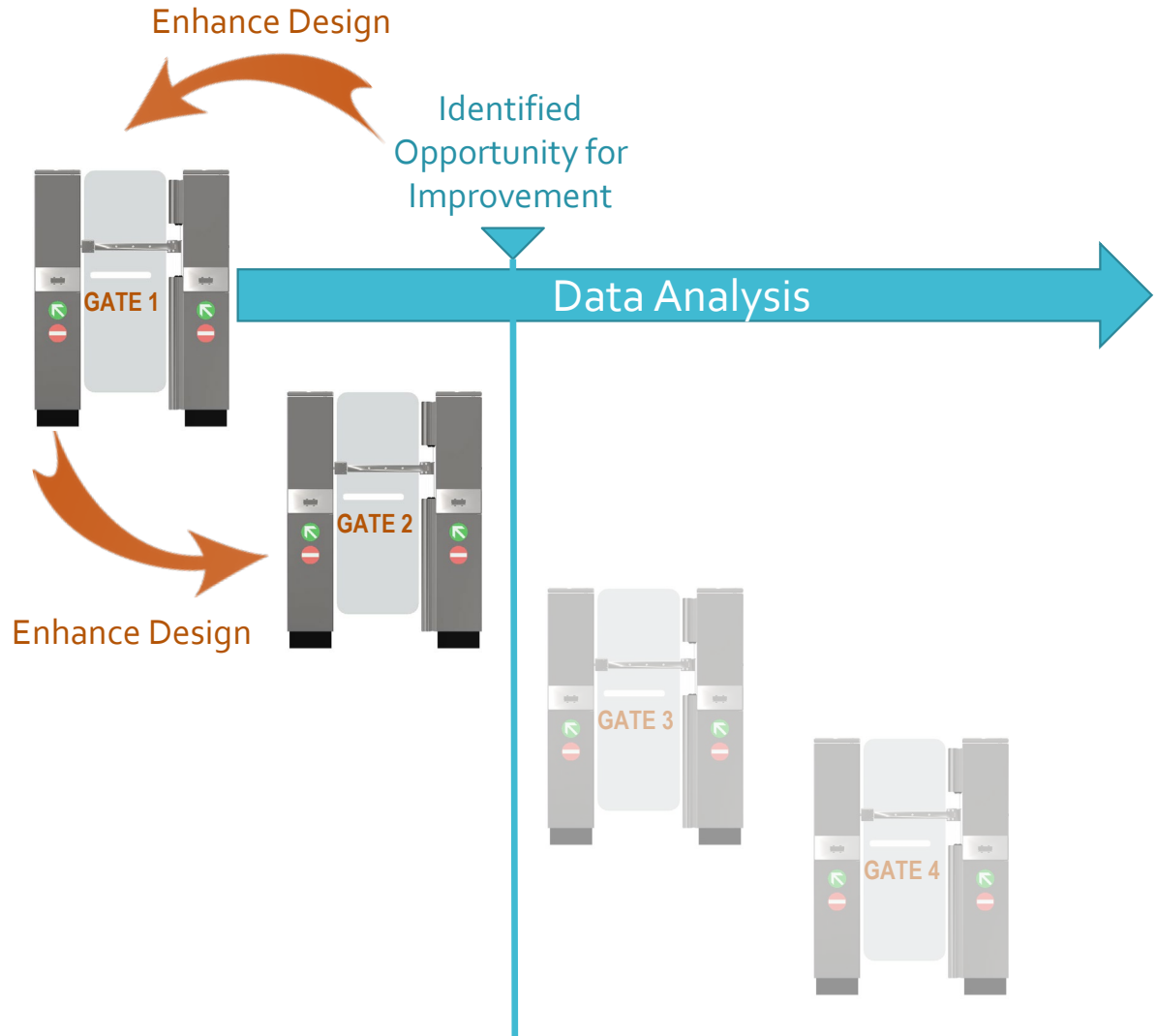
- Leaves Respond to Customer Interaction
- Softer Landing when Opening
- Reduced Wear on Parts
- Automated Barrier Speed Adjustments to reduce Maintenance tuning requirements



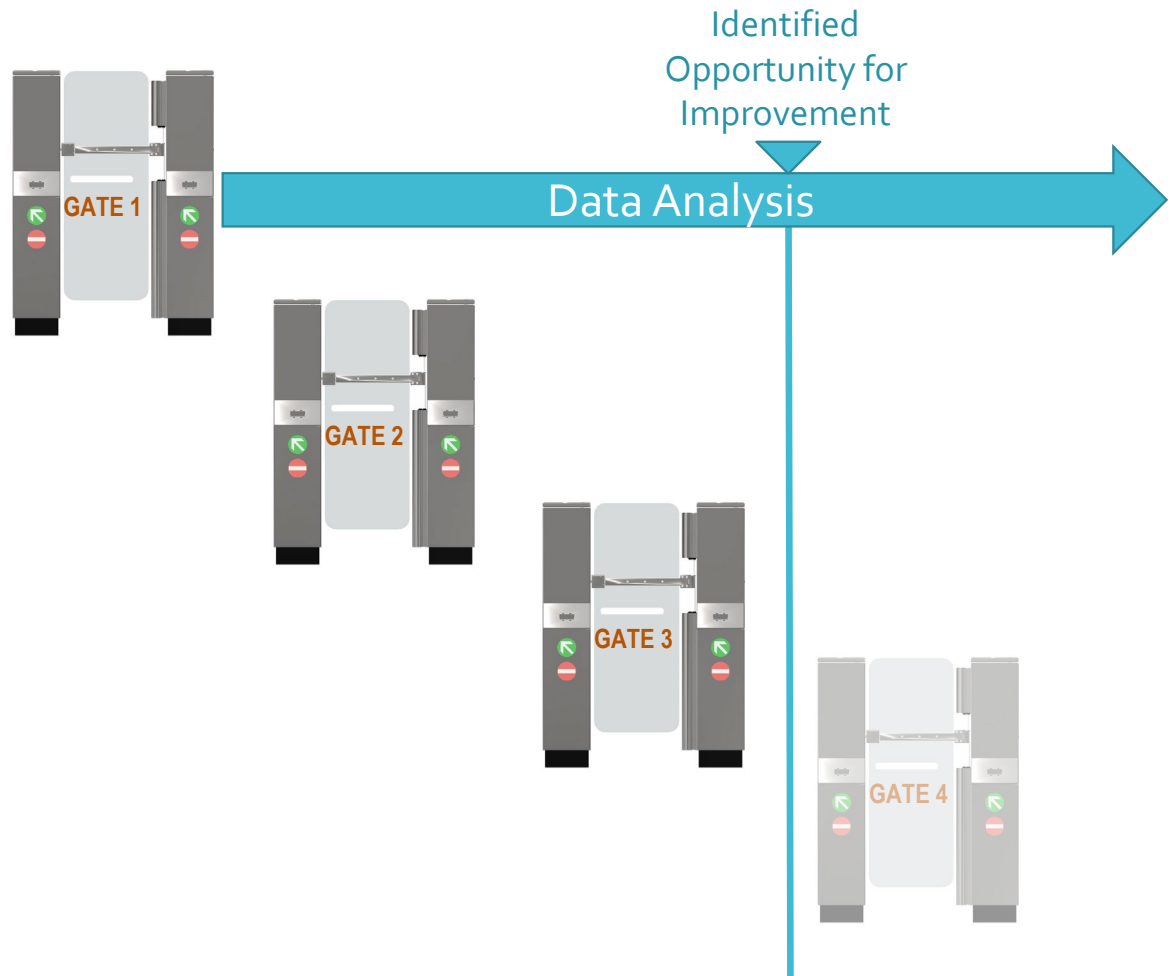
# Design Iterations and Enhancements



# Design Iterations and Enhancements

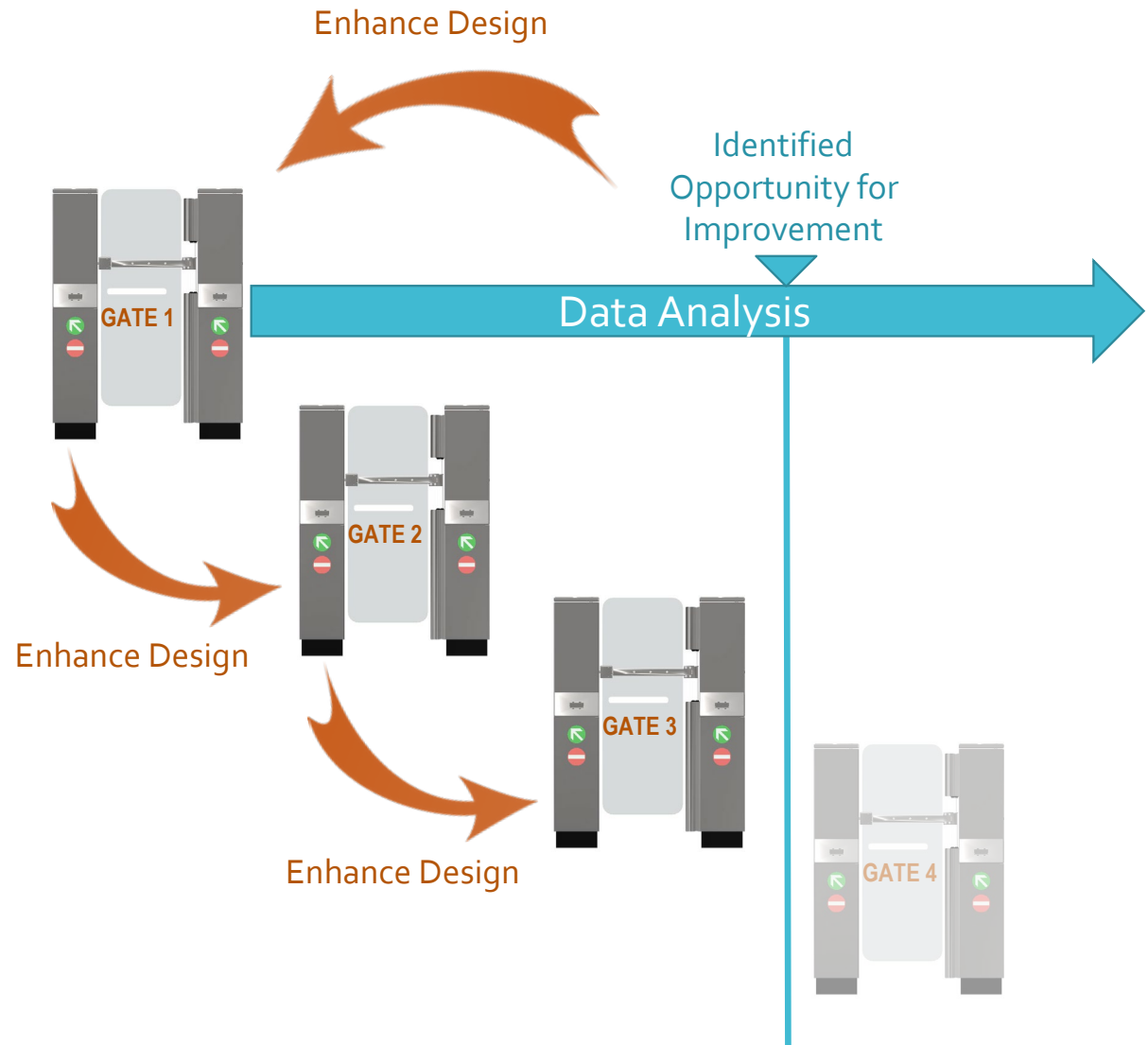


# Design Iterations and Enhancements





# Design Iterations and Enhancements



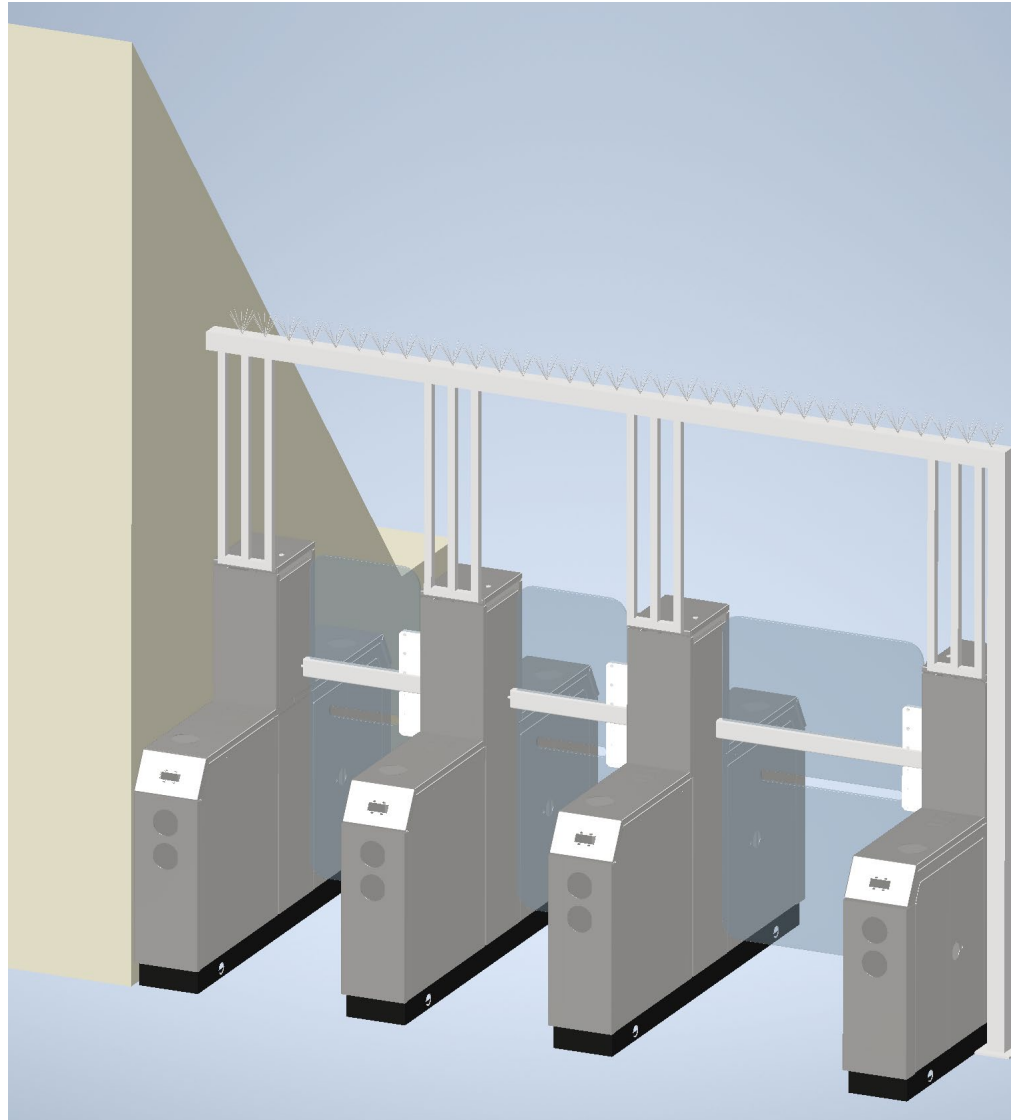


# Upcoming Swing Barrier Enhancements

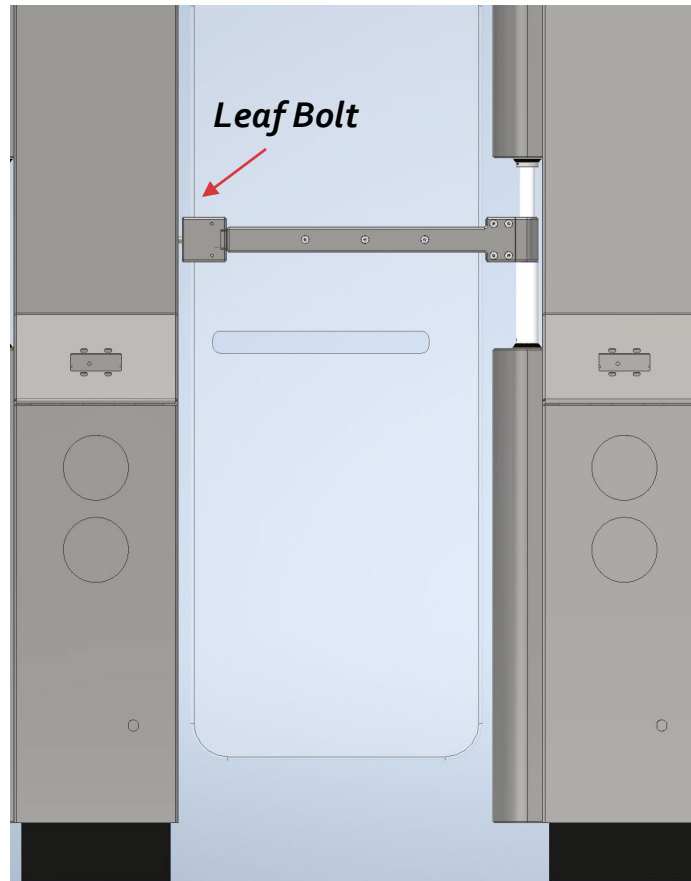
# Rockridge Single Leaf Array

Aug '21

- Swing Barrier Design v 2.0
- No Magnetic Stripe Ticket
- Overhead Barrier



# Single Barrier - Leaf Locking



## **Benefits:**

- Will Prevent all Leaf Force Through
- Decreased Maintenance Costs

# Funding



# Target Funding Plan

Next Generation Fare Gates Systemwide = \$90M

County/Segment	Total # of Fare Gates	% of Total	Total Cost (\$M)	Estimated County Contribution (\$M)	Estimated BART Contribution (\$M)
Alameda (ex. 580 Corr.)	243	34%	\$ 30.6	\$ 15.3	\$ 15.3
580 Corridor	34	5%	4.3	4.3	-
Contra Costa	117	16%	14.7	7.4	7.4
San Francisco (incl. SFO)	199	28%	25.0	12.5	12.5
San Mateo (excl. SFO)	82	11%	10.3	10.3	-
Santa Clara	40	6%	5.0	5.0	-
<b>Total</b>	<b>715</b>		<b>\$ 90.0</b>	<b>\$ 54.8</b>	<b>\$ 35.2</b>

# Secured Funding – \$40.66 million

## BART

Source	Amount (\$M)	Notes
FTA Section 5307/5337 (New funding)	7.00	MTC - administered TCP Program
FTA Section 5307/5337 (Prior Year)	11.00	Part of overall M&E Project Reprioritization Process
Measure RR	10.00	Access Program Funds
Capital Allocations/Other Grants	7.18	Future Year Funds
<b>Total</b>	<b>35.18</b>	

## County

Source	Amount (\$M)	Notes
Subregional Transportation Mitigation Program (STMP)	0.45	WCCTAC Administered Program
Santa Clara VTA	5.03	O&M Agreement
<b>Total</b>	<b>5.48</b>	

- Ahead of schedule – previously forecast to secure \$19M in FY21
- M&E reprioritizing, shifting funds from deferred capital projects
- Awarded \$750K WCCTAC STMP grant (including \$450K for NGFG)
- VTA's contribution covered under SVRT O&M Agreement



# Pending Funding – \$41.2M

## Pending - Notice of Award/Approval Pending

Source	Amount (\$M)	Notes
Affordable Housing and Sustainable Communities	6.20	Sub-applicant of 6 affordable housing projects
FY22 Appropriations Bill	5.00	Member Request Senator Feinstein
FY22 State Budget Bill	30.00	Budget Request State Senator Skinner
<b>Total</b>	<b>41.20</b>	

- Submitted NGFG for additional funding opportunities, including:
  - Requested >\$6M in AHSC funding across six applications (pending - award notification expected in October 2021)
  - Submitted \$5M request to Senator Feinstein to be included as a Member Project (earmark) in FY22 Appropriations bill (pending)
  - Submitted \$30M request to State Senator Skinner to be included as a budget request in FY22 State Budget bill (pending)
- Will continue to pursue funding opportunities as they arise

# Planned & Identified Sources – \$52.48M

## BART District Counties

Source	Notes
<b>Alameda County</b>	
Measure BB	Subject to ACTC Approval
RM2	Forecast savings from WSX; subject to MTC Approval
Measure B	Forecast savings from WSX; subject to ACTC Approval
<b>Total - Alameda County</b>	<b>\$19.57 million</b>
<b>Contra Costa County</b>	
State Transportation Improvement Program	Subject to support by RTPCs, CCTA, MTC; and CTC Approval
Measure J	Station Modernization; subject to CCTA Approval
Future Sales Tax Measure	Reauthorization of Measure J, timing TBD
<b>Total - Contra Costa County</b>	<b>\$6.91 million</b>
<b>San Francisco County</b>	
Proposition K	Subject to voter approval of Prop K Reauthorization and SFCTA Approval
<b>Total - San Francisco County</b>	<b>\$12.52 million</b>
<b>Total - Three BART District Counties</b>	<b>\$39.01</b>

## Non-BART District Counties

Source	Amount (\$M)	Notes
San Mateo County - Measure W	10.32	First Call for Project in FY22; extremely competitive Program
SFO Airport Funds	3.15	Potential to leverage SFO Funds
<b>Total Non-BART District Counties</b>	<b>\$13.47 million</b>	

- In active discussions with three BART county CTAs regarding balance of funding for county share

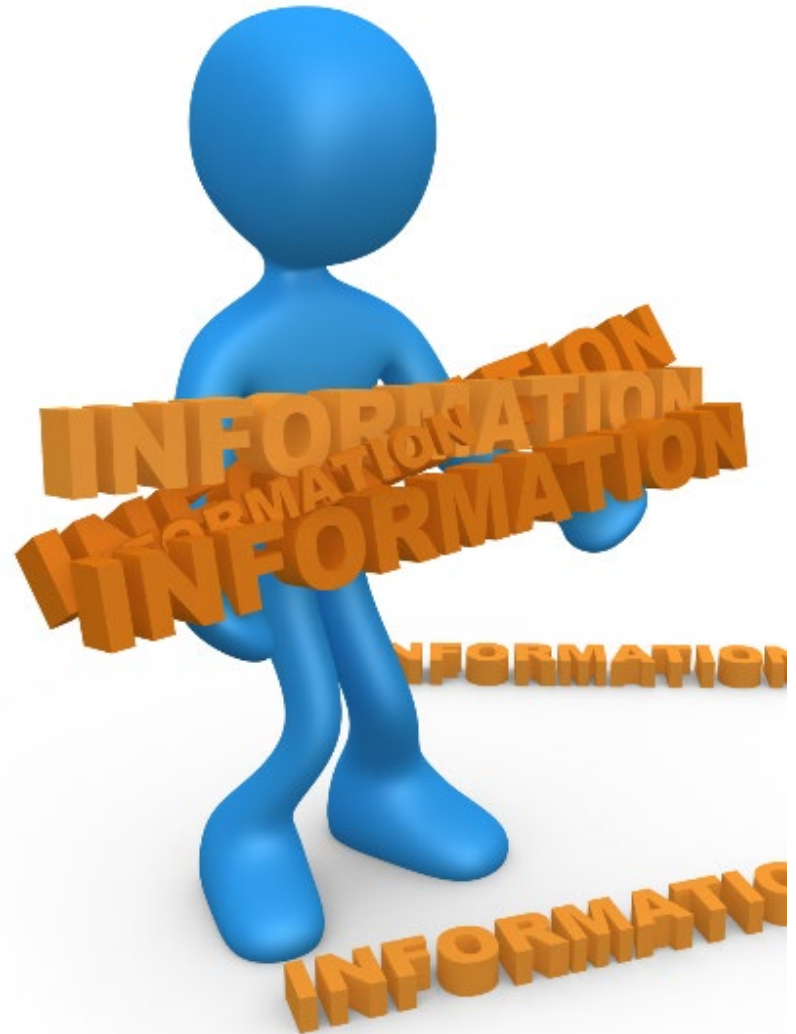


# **Request for Expression of Interest (RFEI) Updates**

# Next Gen Fare Gates RFEI

Obtain Feedback and Input on  
Industry Fare Gate Solutions

- Designs
- Fare Evasion Solutions
- Fare Gate Dimensions
- Implementation Approaches



# RFEI Responses Received

**GUNNEBO®**

**CONDUENT**



**SCHEIDT&BACHMANN**



# Results

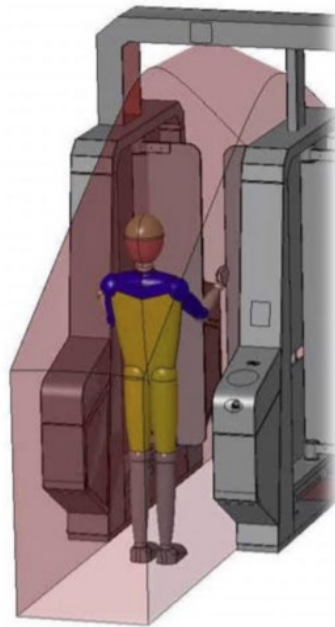
- No Off the Shelf Pneumatic Options
- Varying Lead Times
- Fit Options Included:
  - Three Options had Slimmer Consoles
  - Overhead Gantry for Cabling
  - Customized Baseplates Over Existing Footprint
  - 2 Options had Wider Than Bart's Standard
- Maintenance / Fare Deterrence Data Pending



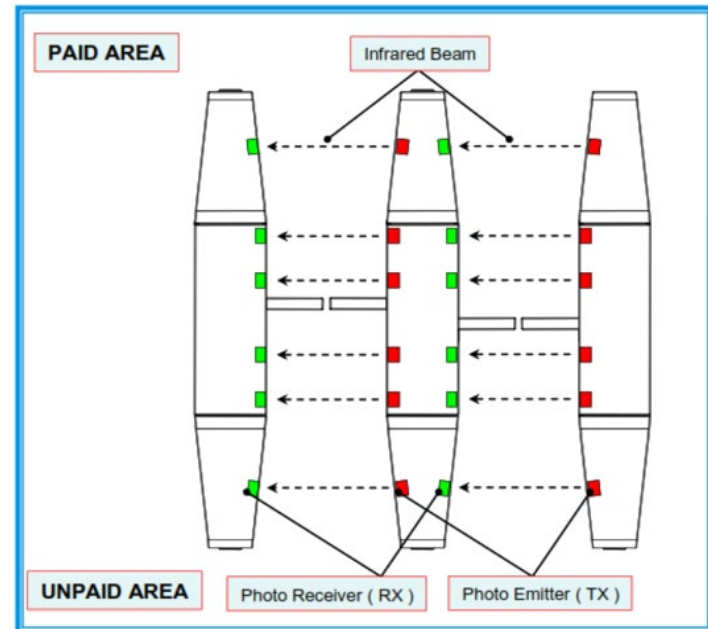
# Innovation in Fare Evasion Prevention



- 3-D overhead sensors detection
- Hidden photocells tracking passenger movement
- Real-time reporting and trend analysis
- Communication with control center and ability to trigger alarms



Conduent



Solari

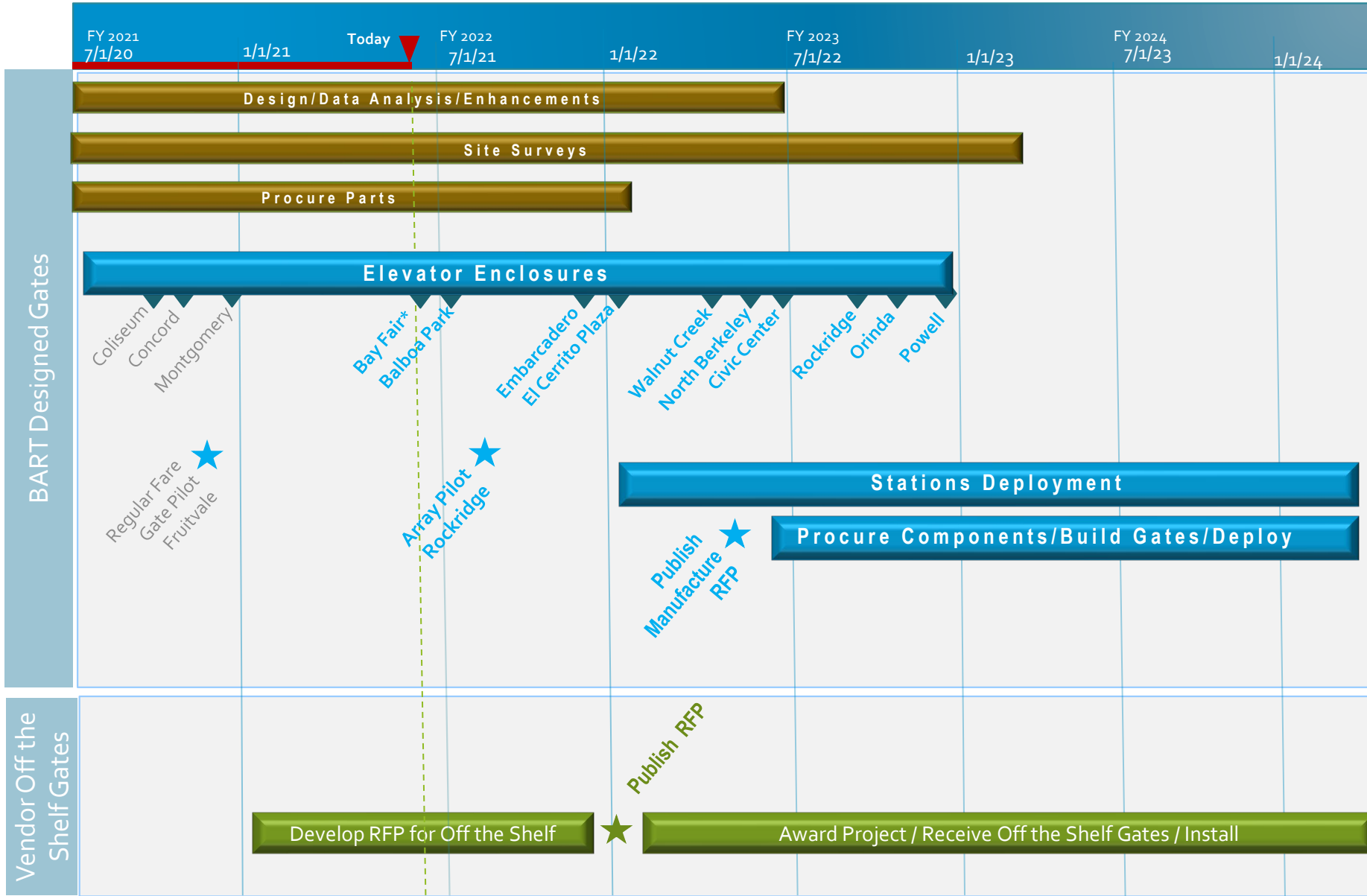
# Next Steps

- Gather Maintenance Data on Gate Performance
- Proceed with Best Value RFP
  - BART's Facilities Standards (BFS)
  - BART's Technical Requirements
- Continue Hybrid Deployment with BART Designed Fare Gates





# Project 2 Year Look Ahead



# Station Deployment Strategy

## 2 Year Plan

- ✓ Smaller Arrays
- ✓ Distributed Across the District
- ✓ Diverse Fare Evasion Challenges
- ✓ Potential Initial Stations \*:

- 16<sup>th</sup> St
- Balboa
- Fruitvale
- Hayward
- North Berkeley
- Pittsburg Center
- Pleasant Hill
- South Hayward
- West Oakland

\* Pending Site Surveys



**Thank you!**