



# Next Generation BART Fare Gate

BART Accessibility Task Force (BATF)

May 25, 2023





# Overview

- Vendor Highlights
- Fare Gate Features
- West Oakland Pilot
- Deployment Schedule





# Qualification Highlights

- Proposed solution met each BART requirement specifically, without exception
- Fare Gates in service for more than 3.94 billion rides annually (pre-COVID)
- 26 years of experience with sensor technology
- Fully open architecture and modular design
- Extensive integration experience with TR4 and legacy systems
- STraffic has deployed more than 16,000 fare gates



Beijing Mass Transit Railway  
Operation Corporation Limited  
北京市地铁运营有限公司



# Community Engagement Commitment

- 2,000 Hours of Internship Opportunities in Partnership with Bay Area Community Based Organizations



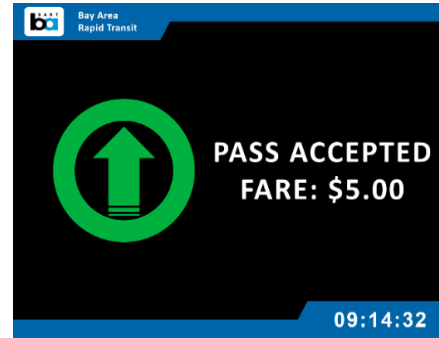
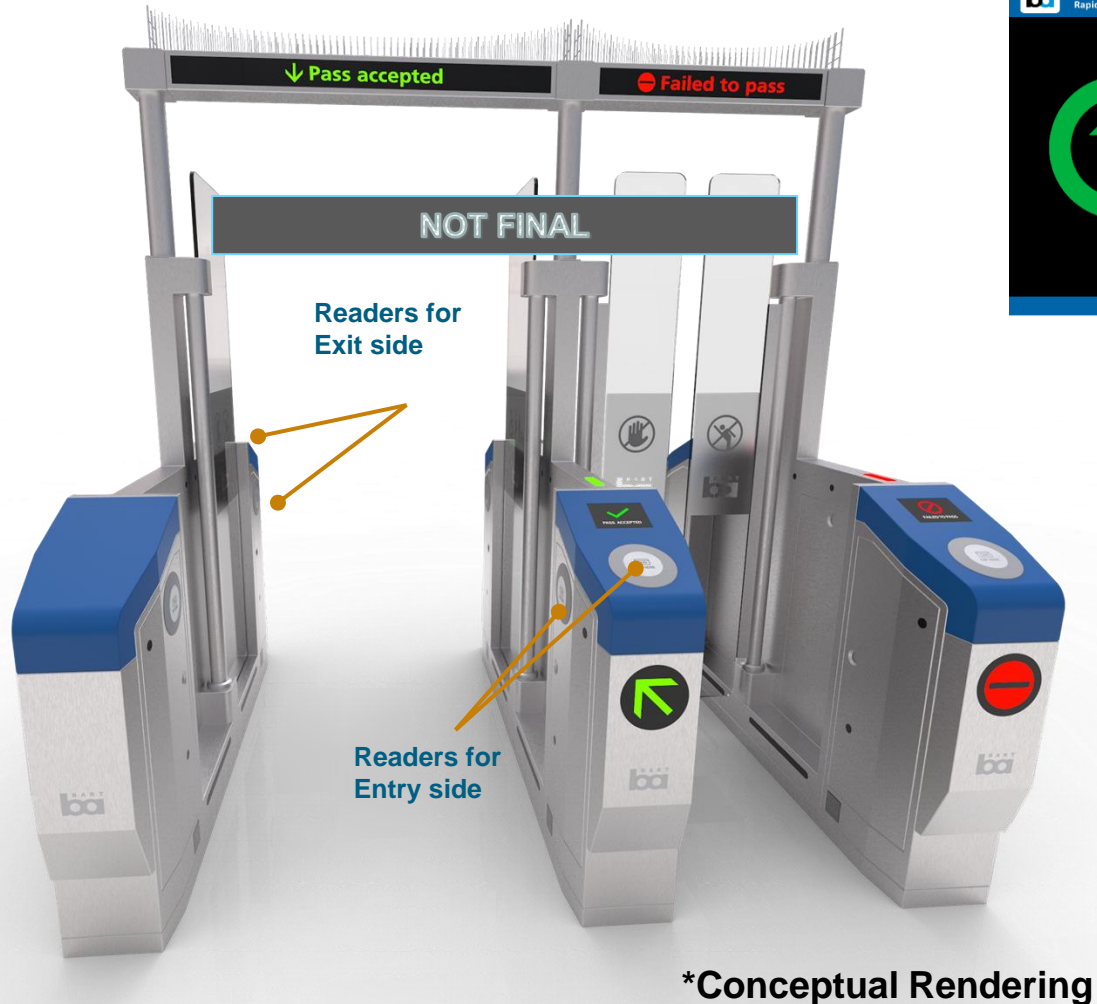
# Improved Customer Experience: Accessibility

- STraffic has worked extensively with the ADA community and incorporated learnings into fare gate designs.
  - Equipped with top and side-mounted readers
  - Sensor technology for safe access of persons and service animals
  - Aisle lighting, messaging, and color-coding options





# Improved Customer Experience: Customer Interface



# Approach to Fare Evasion Management

## DETER

### Physical Features

### Fare Gate Performance



\*Conceptual Rendering

## DETECT

### Sensors

✓ Infrared



✓ 3D Sensor



### Audit Registers

✓ Gate Performance

Monitoring

## RESPOND

Fare Gate  
Activation

Alarms

Fare Gate  
Performance

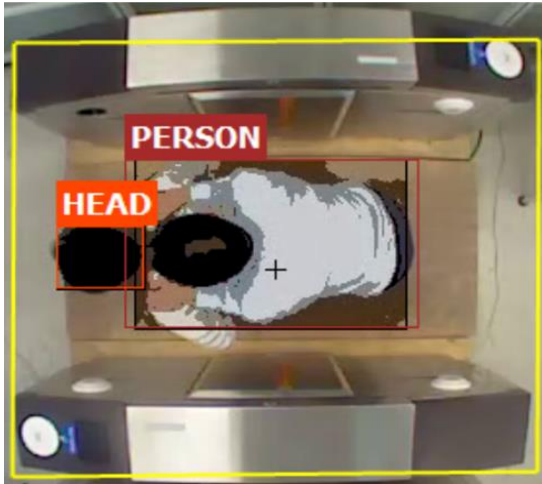
Reporting



Data Supports Monitoring, Analytics and  
Ongoing Response

# Detect - Advanced Sensor Technology

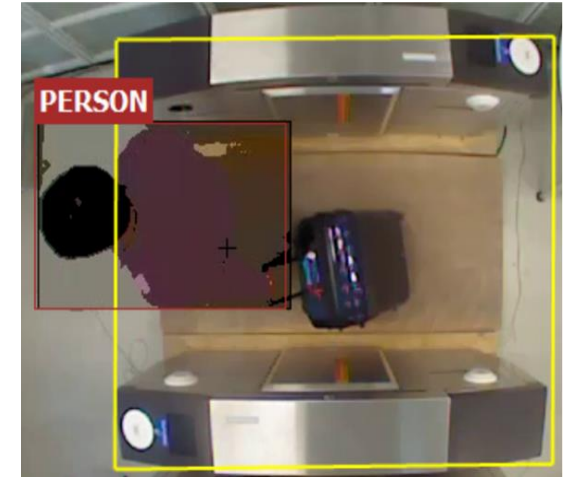
- ✓ Infrared
- ✓ 3D Sensor
- ✓ Camera



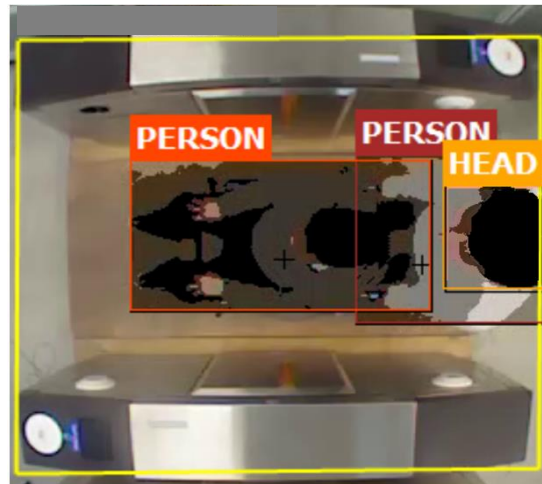
Piggybacking



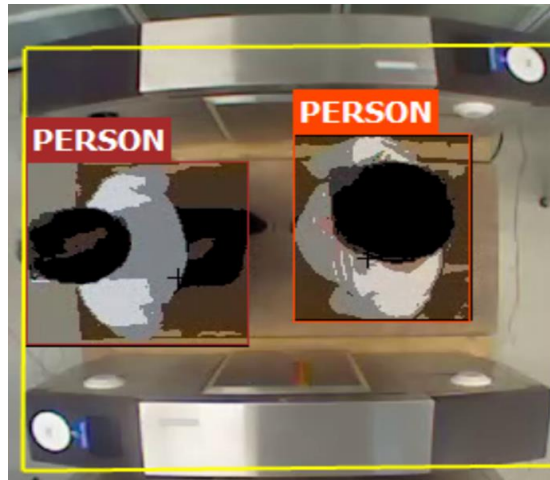
Bicycle



Luggage



Wheelchair (2 persons)



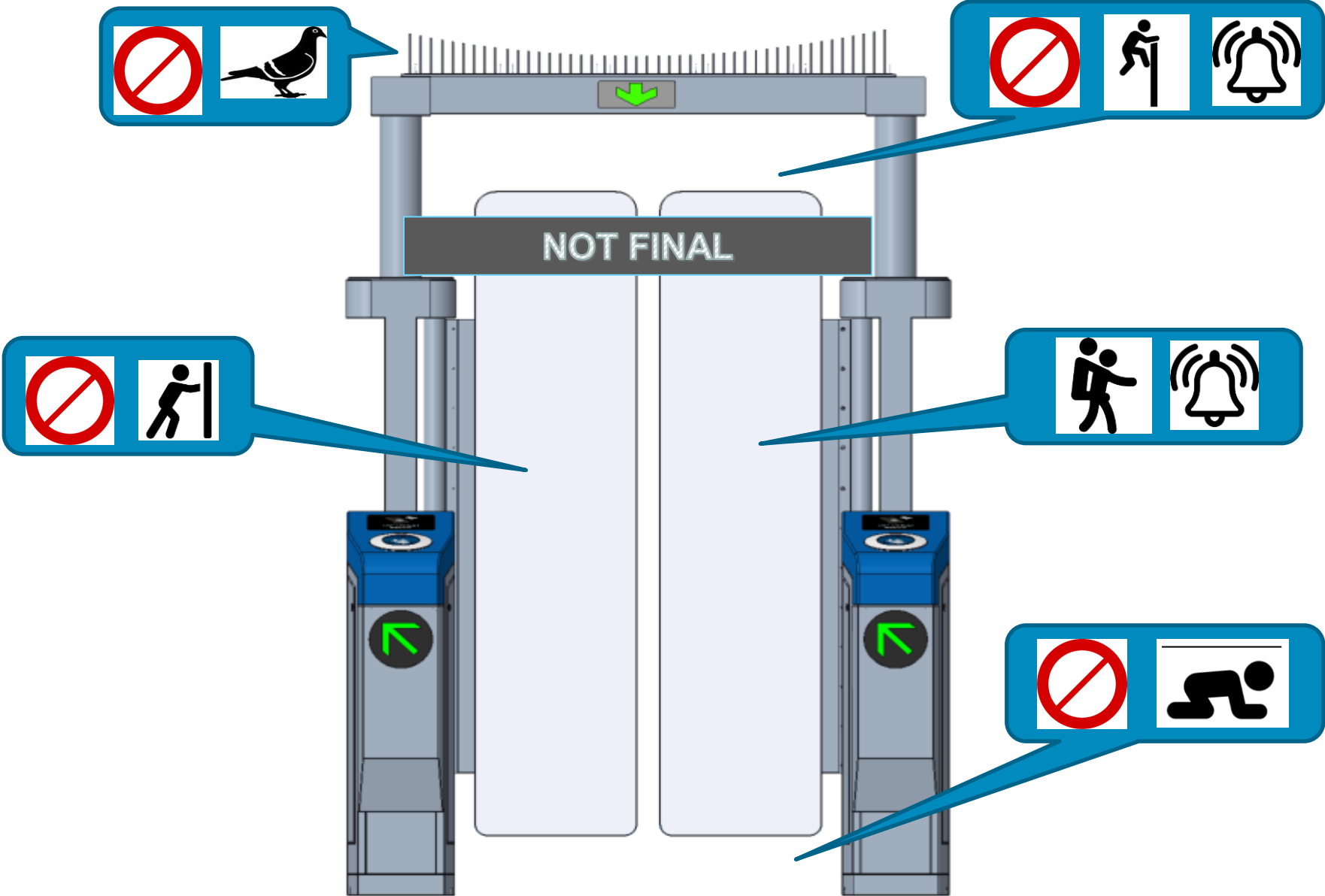
Tailgating



No facial recognition



# Deter



# Respond - Monitoring/Metrics

- Graphical User Interface for point-and-click, real-time control over fare gate.

The screenshot displays the BART Single-Aisle fare gate monitoring interface. The interface includes a top navigation bar with 'Maintenance', 'Settings', and 'Off-line User' options. The main content area is divided into several sections:

- Operation and Direction Modes:** A section on the left showing various modes like 'In service', 'Out of service', 'Maintenance', 'Emergency', 'Passable', 'Non-Passable', and 'ADA mode'. It also includes a 'Reboot' button.
- Fare Gate Module Status:** A central section showing two fare gate modules, 'PRIMARY' and 'SECONDARY'. Each module has a status indicator (red for 'Out of Service', orange for 'Door Open') and a 'Reboot' button.
- Real Time Fare Gate Operating Status:** A section at the bottom left showing the 'FREE SIDE' and 'Entry' status.
- Real Time Fare Evasion Event Log:** A section on the right showing a list of events with columns for Time, Code, Event Name, and Argument. The events include 'Trying to open barriers detected on Exit', 'Barrier not closed', 'ADA barrier 2', 'ADA barrier 1', 'Tailgating detected on Exit', 'Trying to open barriers detected on Entry', and 'Illegal entry detected'.
- Service Availability for this Fare Gate:** A section at the bottom right showing the 'Availability' as 92.28 %.

Callouts from the image:

- Operation and Direction Modes:** Points to the left sidebar menu.
- Fare Gate Module Status:** Points to the PRIMARY and SECONDARY fare gate status indicators.
- Real Time Fare Gate Operating Status:** Points to the FREE SIDE and Entry status indicators.
- Real Time Fare Evasion Event Log:** Points to the Event List table.
- Service Availability for this Fare Gate:** Points to the Availability percentage.

Time	Code	Event Name	Argument
03-30-2023, 17:11:22	025	Trying to open barriers detected on Exit	No argument
03-30-2023, 17:10:59	012	Barrier not closed	Clear
03-30-2023, 17:10:57	104	ADA barrier 2	Barrier operation fail
03-30-2023, 17:10:57	012	Barrier not closed	Detected
03-30-2023, 17:10:57	103	ADA barrier 1	Barrier operation fail
03-30-2023, 17:10:49	023	Tailgating detected on Exit	No argument
03-30-2023, 17:10:25	014	Trying to open barriers detected on Entry	No argument
03-30-2023, 16:59:17	005	Illegal entry detected	No argument

Availability
92.28 %

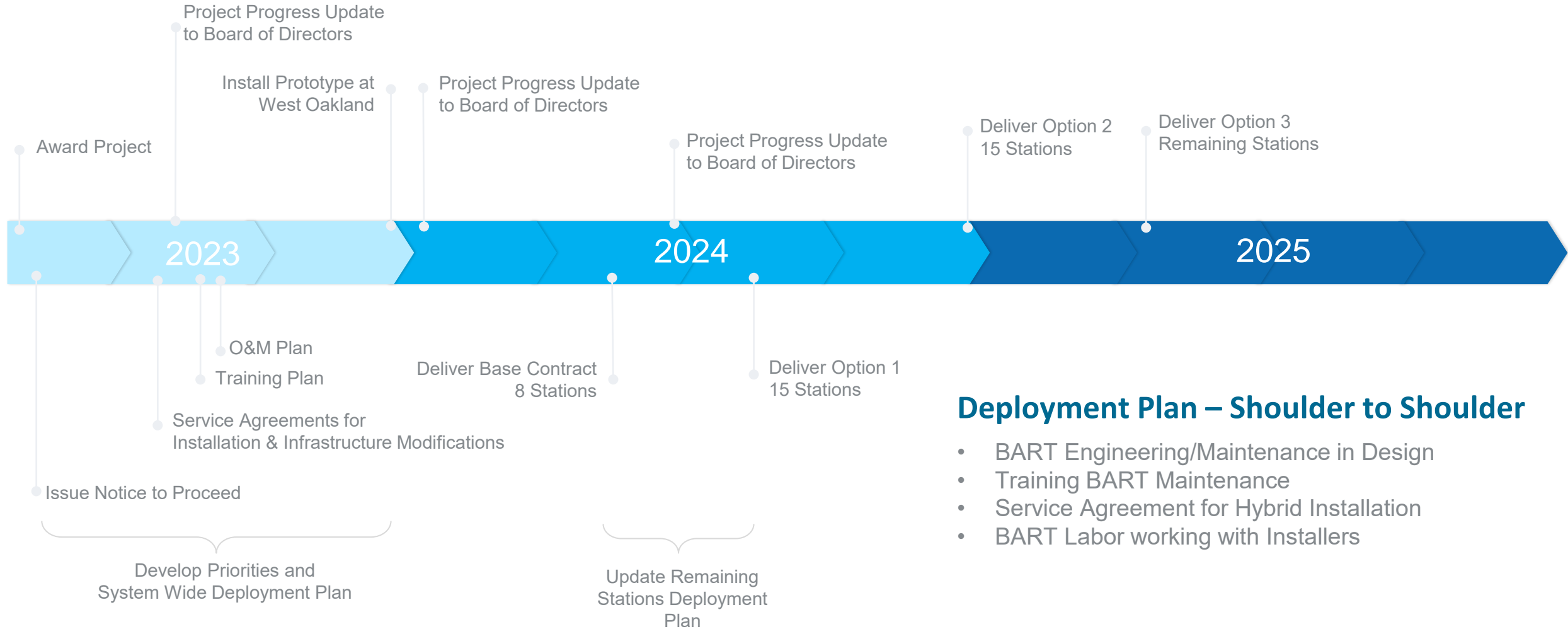
# Pilot West Oakland

- Single Array
- Geographically Close to Maintenance and Engineering Staff
- Investment in West Oakland





# Next Generation Initial Deployment Schedule



## Deployment Plan – Shoulder to Shoulder

- BART Engineering/Maintenance in Design
- Training BART Maintenance
- Service Agreement for Hybrid Installation
- BART Labor working with Installers

Questions?