



**Finance and Capital Committee**

**Information Item III-B**

**March 23, 2023**

**Metrorail Ridership and Faregates**

Washington Metropolitan Area Transit Authority  
**Board Action/Information Summary**

<input type="radio"/> Action <input checked="" type="radio"/> Information	MEAD Number: 203441	Resolution: <input type="radio"/> Yes <input checked="" type="radio"/> No
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**TITLE:**

Metrorail Ridership and Faregates

**PRESENTATION SUMMARY:**

This briefing provides an update on Metrorail ridership, fare evasion and mitigation efforts of the faregate retrofit program.

**PURPOSE:**

Provide the Board an informational update on Metrorail ridership and Metrorail fare evasion mitigation efforts.

**DESCRIPTION:**

For conflict-of-interest purposes, please note the following vendors associated with the Faregate Modernization program: **STraffic America, Inc., Nexien, Inc., ESP, Inc., Cubic Transportation Systems, Inc., Genfare, Inc., and Hatch - LTK, Inc.**

**Key Highlights:**

- From January 1, 2023 to March 8, 2023, Metrorail customers took an average of 317,000 trips on weekdays, 196,000 trips on Saturdays, 144,000 trips on Sundays, and 167,000 trips on holidays. Thirteen percent of total trips during this period were non-tap entries.
- In December 2022, Metro finished installing modernized faregates, which enables a data-driven picture of Metrorail ridership, including non-tap entries.
- Metro is continuing to advance multiple efforts to reduce non-payment, including communication, education, issuing citations, and testing retrofits on faregates. In FY2024 these efforts will expand to include launching a low-income fare product and fare simplification.
- New retrofits now underway at Fort Totten station will install single swing doors on faregates at the station will be complete and open to the public in late March 2023.

## **Background and History:**

Starting in January 2023, Metro is now able to measure the full Metrorail ridership from both tap and non-tap entries. From January 1, 2023 to March 16, 2023, Metrorail customers took an average of 321,000 trips on weekdays, 199,000 trips on Saturdays, 146,000 trips on Sundays, and 167,000 trips on holidays. 13 percent of total trips during this period were non-tap entries, an average of 40,000 non-tap entries per weekday.

This level of reporting is made possible by the work completed in December 2022 to install new faregates at rail stations systemwide. The new gates include larger and brighter displays, bi-directional access, and improved safety features. Other improvements over the previous faregates included the addition of new sensors for measurement of fare compliance, increased reliability through modular design, and local and remote control. The payment target detects the type of fare instrument used and lights up the display light on the top of the faregate with the appropriate color coding.

The new faregates now allow Metro to measure non-tap entries and exits and the method of entry, such as vaulting or stepping over the barriers, pushing the barriers open or tailgating.

Metro is advancing multiple efforts to reduce non-tap entries and exits including:

- Communications for customer awareness and partnering with schools
- Enforcement through citation issuance that began November 2022
- Data and research increasing understanding of where and when non-tap events occur
- Fare policy initiatives included in FY2024 budget proposal with low-income fare product
- Development and testing of new barrier door retrofits to deter non-tap events

## **Discussion:**

Fare evasion creates a sense of disorder and elevates concerns with safety and security in the system among customers and employees. As part of its mitigation efforts, Metro is testing retrofits for faregates to deter fare evasion and make it more difficult to enter the system without tapping. For testing purposes, Fort Totten Station was selected as the location to develop, field, and evaluate various faregate retrofits. The station provides a single mezzanine with high ridership and capacity to expand the number of aisles, while also being geographically distinct from adjacent stations, serving Metrorail and Metrobus customers, and proximity to a Transit Police sub-station.

In November 2022, arches were installed on top of the faregate cabinets to

reduce the ability to use the top of the faregate cabinet to vault over the faregates. Observations show that this has been an ineffective deterrent and will not be further deployed.

In late January 2023, a retrofit test on two faregates, one ADA and one regular aisle, was opened to the public. These new faregates are outfitted with 48" tall, saloon-style doors. Observations demonstrated an immediate change in customer behavior and non-tap entries were reduced at these gates. Jumping and stepovers continued at the not yet retrofitted gates.

Based on the initial success of the saloon style doors, Metro is advancing an updated barrier design at Fort Totten Station. This design uses a single door for regular aisles and a double door for the ADA aisle. This phase will retrofit all aisles at the station and will be open to the public in late March 2023. Staff is continuing to engage Metro's Accessibility Advisory Committee. With the most recent briefing on March 13, 2023, and Metro will monitor customer feedback. An additional nine stations will be retrofitted across the region to complete the first phase of deployment. Following, remaining stations will receive the retrofitted barrier design over an approximately fifteen-month implementation schedule.

Future ridership updates for Metrorail, Metrobus, and MetroAccess, are anticipated to include increased ridership information transparency and improved measurement and analytics for planning and decision making.

**FUNDING IMPACT:**

No impact on funding as this is an informational item.

**TIMELINE:**

# Metrorail Ridership and Faregates

Finance and Capital Committee  
March 23, 2023



## Purpose

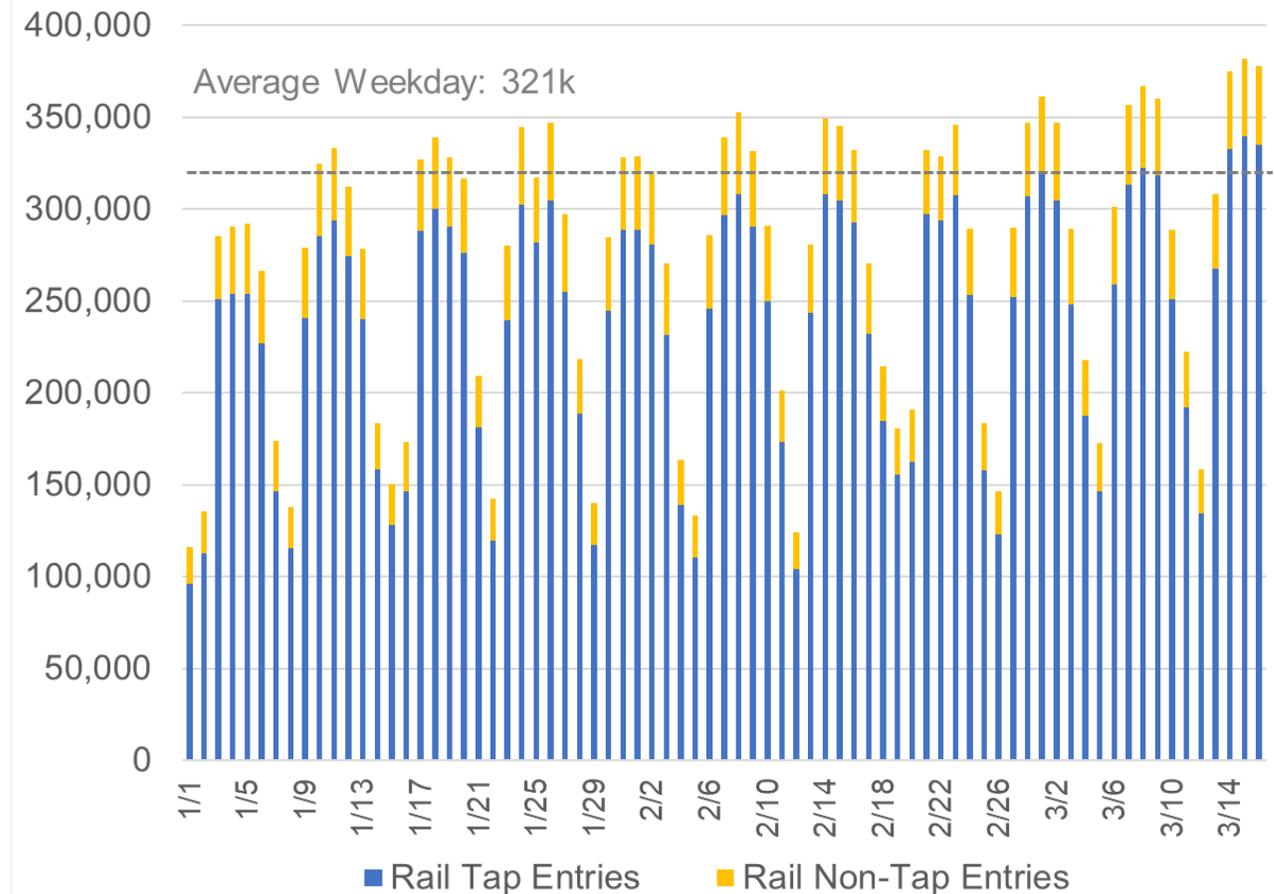
Provide updates on:

- Measurement of Metrorail ridership
- Improved information for planning and transparency
- Faregate modernization and retrofit tests

## Improved Metrorail Ridership Reporting

- Starting January 2023 now measuring full ridership from tap and non-tap entries
- Total Metrorail Ridership 20.4 million from January 1 – March 16, 2023:
  - Average weekday: 321,000 trips
  - Non-tap entries: 13 percent
- Wednesday, March 15 highest ridership day since pre-pandemic: 382,000 trips
- Metro to increase transparency and report all trips; similar to automated passenger counting method now used for Metrobus
- Also advancing analytical approach to estimate non-tap entries by school-age children in Kids Ride Free programs

Metrorail Tap and Non-Tap Preliminary Ridership  
January 1 – March 16, 2023



## Modernized Metrorail Faregates

- Replacement necessary for state of good repair; legacy gates were obsolete and unreliable
- First new gates installed May 2021; systemwide installation completed December 2022
- Pros:
  - Improved customer experience:
    - Larger and brighter displays, bi-directional access, improved safety features
  - Operational improvements:
    - Increased reliability, remote monitoring and control
    - New sensors detect non-payment entries and exits
- Cons:
  - Easy to jump or step over barrier
    - ~13% of entries year-to-date in 2023 did not tap



Legacy Gates



Modernized Gates - Gallery Place

## Fare Payment – Context

- Customers and employees concerned with safety and security as well as sense of disorder associated with faregate jumping
- Non-payment of fare reduces revenue and ultimately impacts service
- There are multiple reasons why customers do not tap; Metro advancing mitigations

### Communications

Customer awareness  
Partnering with schools

### Enforcement

Began issuing citations systemwide in November 2022

### Data and Research

Increased understanding of when and where evasion occurs

### Fare Policy

FY2024 proposed budget includes low-income fare program and fare simplification

### Technology and Infrastructure

Testing retrofits for faregates to deter fare evasion

## Faregate Retrofit Testing – Fort Totten Station

### Anti-Vaulting Arches

- Concept to reduce vaulting over barrier
- Field observations – ineffective deterrent

### Retrofit Barrier Test - Two Swing Doors

- Installed new ADA aisle and regular aisle; existing faregate barriers remain unchanged
- Laminated safety glass doors; height 48 inches
- Reduced fare evasion at these gates;
  - Jumping and step overs continue at adjacent, not yet retrofitted gates
- Considerations – Test 1 design requires more space between cabinets, additional infrastructure work, may reduce number of aisles



Anti-Vaulting Arches – Testing Began November 2022



Retrofit Test 1: Two Swing Doors Testing Began late January

# Retrofit Next Steps at Fort Totten – Single Door Standard Gate

- Approach leverages existing cabinets for retrofit with new motors/doors
- Single swing door for standard aisles
- Reinforced rigidity and strength of hinge
- Minimizes spacing issue and reduces equipment and infrastructure needs
- Scheduled for installation at all faregates at Fort Totten by end of March
- Additional consultation with Accessibility Advisory Committee
- Monitor impacts and customer feedback

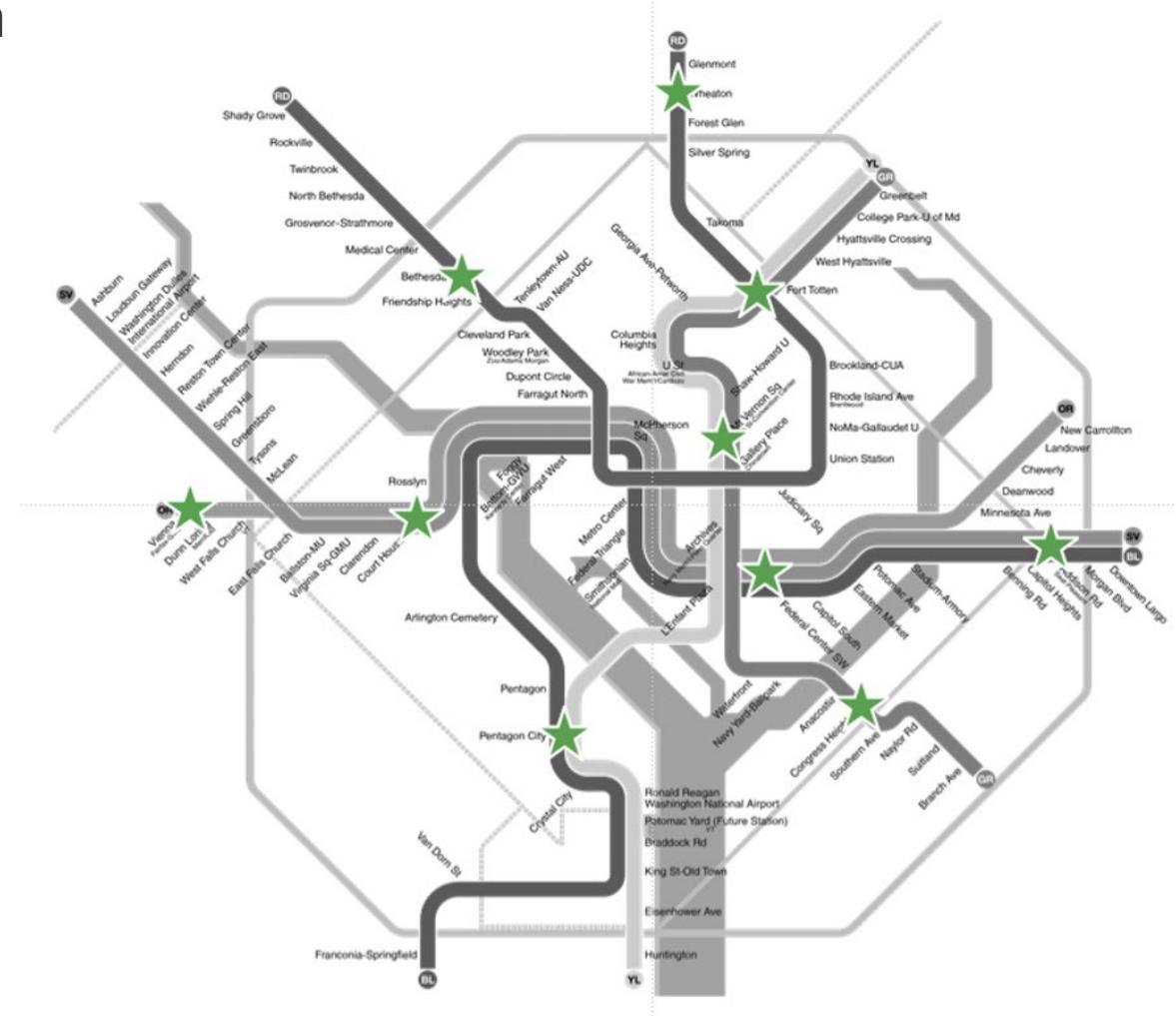


Retrofit Test 2: Single Door – Installations Underway

## Path Forward

- First Phase Retrofit - complete Fort Totten and nine more stations
  - Single mezzanine; fewer gates
  - Minimal infrastructure needs
- Second Phase Retrofit
  - All remaining stations
- Estimated total cost approximately \$35 - \$40 million
- Approximate schedule ~15 months

First Phase Retrofit Stations



## Future Updates

- For Metrorail, Metrobus, and MetroAccess, increased ridership information transparency and improved measurement and analytics for planning and decision making

