



Board Report

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Agenda Number: 43.

SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE SEPTEMBER 17, 2015

SUBJECT: FARE GATE PROJECT

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE report on **feasibility study for the implementation of fare gates throughout the Blue Line, Expo Line Phase 1, and Gold Line.**

ISSUE

In response to the Motion by Directors Yaroslavsky, O'Connor, and Narajian to Item 41, "Gate Latching Feasibility Studies (Attachment A)," Metro staff is reporting back on the feasibility of implementing fare gates at existing stations on the Blue Line, Expo Line Phase 1, and Gold Line.

DISCUSSION

Blue Line

Six (6) high volume stations underwent a preliminary and a detailed engineering analysis (Equipment Quantities Analysis and Queuing Analysis):

1. Pico
2. Grand
3. Florence
4. 103rd Street/Watts Towers
5. Willowbrook/Rosa Parks
6. Willow

The analysis was conducted to determine the minimum quantity of fare gate equipment required to satisfy Metro Rail Design Criteria (MRDC) including queuing standards. Based on the analysis, staff recommends implementing fare gates at the Willowbrook/ Rosa Parks station. This station has notable activity, ridership, TAPs, and TVM sales. The station's layout and infrastructure suggests there is space to accommodate the required amount of fare gate equipment.

Metro is advancing the Willowbrook/Rosa Parks Station Improvement Project. Project improvements include but are not limited to platform extension, additional entrances, pedestrian crossing, and

improvements to vertical circulation. Staff believes integrating fare gate requirements into the project scope is the optimal approach for implementing fare gates at this station.

Currently, the Green Line entrance at the Willowbrook/Rosa Parks Station is gated, while the two existing Blue Line entrances are not. The new entrances proposed by the Willowbrook/Rosa Parks Station Improvement Project must be gated per the updated MRDC. As such, the two existing ungated entrances should be gated in order to ensure that the gating at the station is effective.

To accomplish the integration of both projects, staff will ensure fare gates are included in preliminary and final design. The ridership distribution assumption from the Willowbrook/Rosa Parks Station Improvement Project will require a subsequent detailed engineering analysis, including an equipment quantities analysis and queuing analysis. The detailed engineering analysis will be performed for the final station layout and platform arrangements including additional entrances, modified quantity of planned fare gates and revised passenger access. Fare gates will be implemented during the execution phase of the project.

Conversely, the detailed engineering analysis revealed that five stations: Pico, Grand, Florence, 103rd Street/ Watts Towers, and Willow, would require more fare gate equipment than can be spatially accommodated due to current station layouts and infrastructure limitations (Attachment B). At these five stations there is insufficient platform width to install the required amount of fare gate equipment. Metro would need to acquire property and extend platforms, which would increase costs considerably. After careful consideration, staff does not recommend implementing fare gates at these five stations, because of the infrastructure limitations.

Expo Line Phase 1

Six (6) high volume, at-grade stations along Expo Line Phase 1 underwent a preliminary engineering analysis by Metro and the City of Los Angeles Bureau of Engineering (LABOE) staff:

1. Pico
2. Jefferson/USC
3. Expo Park/USC
4. Expo/Vermont
5. Expo/Western
6. Expo/Crenshaw

Based on current station layouts and infrastructure limitations, staff determined a number of station entrances would need to be widened to accommodate a minimum fare gate array. By widening station entrances, stations would encroach into traffic lanes or reduce vehicle staging areas at traffic intersections.

Staff worked with LABOE to determine the feasibility of encroachment at these stations. LABOE considered existing street design standards, including sidewalk width and obstructions. In reviewing the concept designs for the stations, LABOE concluded that station designs did not comply with City standards (Attachment C).

In collaboration with LABOE, staff does not recommend implementing fare gates at Expo Line Phase 1 at-grade stations.

Gold Line

Six (6) high volume stations underwent a preliminary and a detailed engineering analysis (Equipment Quantities Analysis and Queuing Analysis):

1. Del Mar
2. Highland Park
3. Chinatown
4. Indiana
5. Atlantic
6. Memorial Park

The analysis was conducted to determine the minimum quantity of fare gate equipment required and to satisfy MRDC Section 6, including minimum queuing distance requirements in front of consoles. Four of the stations: Del Mar, Chinatown, Indiana, and Atlantic, have an adequate amount of space to accommodate the required amount of fare gate equipment (Attachment D). The Highland Park station has insufficient platform width, and would not be feasible. The Memorial Park station also had infrastructure limitations deeming it infeasible.

Metro has prepared a Rough Order of Magnitude (ROM) estimate of \$9,321,000 to implement fare gates at the four feasible stations, which includes construction cost and fare gate equipment and installation. The ROM estimate for recurring maintenance is \$158,000 annually (Attachment E). Staff believes that the cost of implementation and maintenance will exceed the additional revenue collected by gating the stations over the 15 year useful design life of the equipment. After careful consideration, staff does not recommend implementing fare gates at any of the six stations at this time because the options analyzed do not make the business case for implementation.

DETERMINATION OF SAFETY IMPACT

The primary safety consideration is whether sufficient exiting capacity is provided for passengers to evacuate safely from the station in a timely manner during an emergency. This is a Fire Life Safety matter and a pre-requisite for fare gate implementation. Established safety standards apply and compliance with said standards must be demonstrated.

For the Willowbrook/Rosa Parks station, the results of the detailed engineering analysis will be performed for the final station layout and platform arrangements to ensure compliance with safety standards.

NEXT STEPS

1. Integrate fare gate requirements into the Willowbrook/Rosa Parks Improvement Project.
2. Work with a vendor to perform a subsequent detailed engineering analysis for the Willowbrook/Rosa Parks station.
3. Provide regular progress updates.
4. Staff will continue to assess opportunities to improve efficiencies and decrease revenue loss on the Metro system.

ATTACHMENTS

Attachment A - Motion by Directors O'Connor, Yaroslavsky and Najarian to Item 41, "Gate Latching Feasibility Studies"

Attachment B - Blue Line - Detailed Engineering Analysis

Attachment C - Expo Line - Metro LABOE Memorandum

Attachment D - Gold Line - Detailed Engineering Analysis

Attachment E - Gold Line - Rough Order of Magnitude

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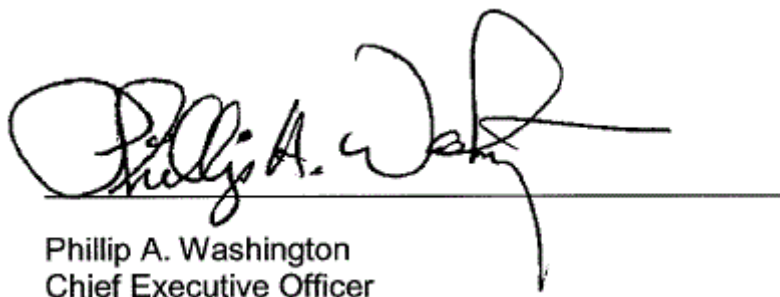
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