



Board Report

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Agenda Number: 32.

**EXECUTIVE MANAGEMENT COMMITTEE
OCTOBER 19, 2017**

SUBJECT: ALL-DOOR BOARDING EXPANSION STUDY

ACTION: APPROVE RECOMMENDATIONS

RECOMMENDATION

CONSIDER:

- A. RECEIVING AND FILING staff update on the All-Door Boarding (ADB) Expansion Feasibility Study in response to a Motion 10 (February 2017) approved at the Regular Board Meeting;
- B. APPROVING ADB expansion on the Metro Rapid Line 720 (Wilshire) and Metro Rapid Line 754 (Vermont);
- C. AUTHORIZING the Chief Executive Officer to execute Modification No. 148 to Contract No. OP02461010 with Cubic Transportation Systems, Inc. (Cubic) for the purchase of 405 Bus Mobile Validators and 480 Installation Kits in the amount of \$961,323 and maintenance support services in the amount of \$28,736 through June 30, 2019 for a total modification value of \$990,059. This Modification would increase the total contract value from \$259,959,813 to \$260,949,872; and
- D. ESTABLISHING a life-of-project budget of \$1,128,003 for the purchase of Bus Mobile Validators, installation costs, and services under Capital Project no. 203040.

ISSUE

At the February 2017, Regular Board Meeting, the Board adopted Motion 10 (Attachment A) which directed staff to report back on the following items within 90-120 days:

- A. Prepare a plan evaluating alternatives to implement ADB on the Vermont Av Metro Rapid Line 754; and
- B. Prepare and report on a strategic plan to roll-out ADB to all lines which meet ADB criteria and include what other lines are heavily impacted.

This report responds to the Board directive outlined in the motion as adopted. Pursuant to completion of the feasibility study for ADB expansion, staff recommends that the Board approve expansion to

two Metro Rapid Lines, and approve funding for the LOP expansion of ADB.

DISCUSSION

Background

February 2017, the Board directed staff to continue ADB indefinitely on the Metro Silver Line beyond the initial 6-month pilot period. At that time, a motion was introduced and approved directing staff to return within 90-120 days with a plan to implement ADB on the Vermont Av Metro Rapid Line 754. In addition, staff was to develop a strategic plan to implement ADB to other lines which meet the ADB criterion.

All-door boarding is a strategy for improving speed and reliability of transit service through faster boarding and efficient fare collection. Payment of bus fare in the traditional way (at the front door, with cash or tokens) can be time consuming and extend dwell time. Recent ADB implementation on the Metro Silver Line has shown to reduce boarding times and improve on time performance (from 69% to 81%). The benefits of implementing ADB will be realized on the busiest lines as they typically have transit demand, dedicated bus lanes and signal prioritization. The system's most heavily utilized lines are impacted by a slow and cumbersome boarding process. On lines that experience higher average daily boardings, slower boarding can affect service reliability and performance.

Staff initiated a study to:

1. Identify the routes where ADB policy could be implemented; and
2. Identify and define the project delivery strategy for the expansion of ADB.

1. All-Door Boarding Route Identification Process and Recommendation

To identify potential routes for expansion, staff conducted a thorough review of existing service and the underlying markets served by specific routes.

In this study, Metro's entire bus network was analyzed to identify the route(s) with the highest potential for successful ADB expansion. To measure the success of potential expansion of ADB on routes in Metro's system, the following criteria were used as the basis for the study:

- Service Frequency - In order to maximize resource savings the amount of dwell time saved must equal or exceed the scheduled headway. Therefore, any future candidate for ADB should maintain a peak hour average headway of less than 10 minutes.
- Stop Activity - Maximum benefits of ADB are derived at stops with heavy passenger activity. Therefore, new ADB lines should have more than 10 boardings and alightings per trip at stops that account for at least 50% of the trip's total boardings and alightings.
- Transit Priorities - To minimize the external factors influencing dwell time, any near side stop at a signalized intersection on a candidate line should have transit priorities. In addition, utilization of an exclusive or partially exclusive Right of Way is preferable.
- Other Considerations - Other factors that would improve the candidacy of a line for ADB include high wheelchair boardings, articulated buses, and a high percentage of cash paying

customers.

As a result of the feasibility study the list of candidate routes was reduced to two initial ADB routes through the application of these criteria. Staff is recommending the Board approve expansion of the ADB program on Metro Rapid Lines 720 (Wilshire) and 754 (Vermont) as these routes best meet the criteria for ADB and maximized mobility, operational efficiency and customer convenience. The scoring results are outlined in the feasibility study (Attachment B).

2. Project Delivery Strategy for the Expansion of All-Door Boarding

The objective of ADB is to expedite boarding and reduce dwell time at bus stops, and thereby enhance convenience and reduce travel time for Metro customers. The expansion of ADB onto the Metro Rapid System involves the installation of bus mobile validator (BMV) devices at the front, middle and rear doors of the proposed lines to process TAP fare payments. Access to all doors means there may be a more even distribution of the passenger load, a reduction of boarding-related safety hazards and fewer opportunities for customer injuries.

Upon Board approval, Metro will roll out ADB to two (2) Rapid Lines utilizing BMVs. Staff anticipates starting ADB on the 754 Rapid Line in late June 2018 followed by the 720 Rapid Line at the end of 2018. To achieve the expansion schedule will require Metro to increase its BMV inventory and acquire additional installation kits. TAP will contract with Cubic to supply hardware and Metro's Bus Maintenance will prepare the vehicles.

ADB will require TAP only boardings. Transitioning customers from cash to TAP boardings will facilitate the program's objective to improve speed, reliability and fare compliance. Fareboxes will be programmed with capabilities to allow customers with cash or tokens to purchase TAP cards plus fare and add stored value to cards on board the bus at stops that are not near TAP Vending Machines (TVM) or TAP vendor outlets in addition to Metro's other efforts to expand the TAP vendor network.

Accompanying the rollout of ADB expansion will be a countywide public information campaign to communicate the changes in boarding and TAP only fare payment. Advertisements on shelters, vehicles, social media, billboards and traditional media will be used to convey the new boarding process and benefits of ADB. Blue Shirt Staff will assist with customer education and training component on an ongoing basis to guarantee customer satisfaction.

The following enhancements to the ADB program include:

- BMV Procurement and Installation
- Farebox Software Modifications
- Operator and Maintenance Employee Training
- Customer Education and Training

- Bus Service Adjustments

Staff anticipates the ADB expansion Lines will result in resource savings that can result in true dollar cost savings. The more significant benefit of ADB is the delivery of better service, which heavily influences the decision to use transit. Reduced variability in dwell time helps to improve the line's overall reliability and headway regularity. Based on previous customer feedback, the overwhelming majority were in favor of the program.

Also, Operator and Supervisor feedback indicates that they believe the ADB project is good for the system as it would help reduce:

- Dwell time at high usage stops
- Disputes regarding fares
- Assaults against operators

The perceived benefits of the program should be considered equally important, given its influence on service quality and ridership.

Title VI Review

The introduction of ADB on Lines 720 and 754 will require customers to use a TAP only method of fare payment. Operator supervision of fare payment is not possible for passengers that board through the rear doors. Therefore, a proof of payment method must be employed in conjunction with on vehicle fare compliance inspections. Customers will be asked to use a validated TAP card when boarding lines permitting all door boarding. Modifying fare payment to TAP only constitutes a fare change pursuant to Metro's Administrative Code Section 2-50-015.

In March 2016, a Title VI/Environmental Justice Fare Equity Analysis was received and filed by the Board of Directors. This document assessed the potential of an adverse disparate impact on minority passengers and/or a disproportionate burden on low-income customers arising from the change in acceptable fare payment methods. The findings of the Title VI analysis of TAP only fare payment are as follows:

- There would be no Disparate Impact to Minorities by changing the fare payment to TAP only; and
- There would be a Disproportionate Burden on low-income riders who currently use cash and/or tokens to pay their fare.

To mitigate the burden on cash and token customers and eliminate any barriers, staff has developed a number of options for customers to access TAP prior to and during the boarding process.

Customers may purchase and reload TAP cards via the mobile app, ticket vending machines at rail stations or utilize the "top-off" feature aboard the coach. Utilizing TAP will allow for quick boarding and accurate fare compliance checks. Since ADB allows boarding at front and rear doors, additional

equipment will be purchased to accommodate the TAP method of fare payment on the prospective lines.

Customers may purchase TAP cards and fare products at 415 retail vendor locations, 93 Metro Rail stations, 18 Orange Line Stations, 10 Silver Line Stations, online at taptogo.net, by calling 866.TAPTOGO, onboard bus and at Metro Customer Centers.

TAP is working to expand TAP vendor locations throughout Los Angeles County to support ADB. Recently, 35 County Libraries were added and up to 52 additional county libraries may be added in the future. TAP is also working with 7-Eleven on a 16 location pilot. If this proves successful, 7-Eleven may choose to expand to hundreds of their stores in Los Angeles. TAP is also proposing new technology initiatives that will increase TAP card and fare media access within communities and along ADB corridors. These initiatives include a mobile fare payment app and distributing TAP cards at gift card kiosks in major chain stores.

FINANCIAL IMPACT

Total LOP funding in the amount of \$1,128,003 will be included in Cost Center 3151- Service Planning & Scheduling in project 203040. For FY18 \$1,055,003 of the \$1,128,003 will be transferred from FY18 project cash flow reforecasts based on revised schedule and corresponding expenditure plans. After completing the capital project, staff currently estimates annual operating costs of \$253,948. This amount will fluctuate as implementation and ADB operation progresses. A schedule of capital and estimated operating costs are included in Attachment F of this report.

Because this is a multi-year project, the respective Cost Center Manager within Operations will be responsible for ensuring that the future year balance of capital funding, as well as operating funding is programmed and budgeted.

Impact to budget

The source of funds for this project will come from Federal, State and local funding sources including sales tax and fares that are eligible for Bus Operating or Capital Projects. They will maximize fund use given funding allocation provisions.

ALTERNATIVES CONSIDERED

The alternative to the proposed staff recommendation is to not expand ADB on Lines 720 and 754. Not implementing ADB on these two lines is not recommended, as customers will not benefit from shorter dwell times, and Metro will not be able to attain improved on-time performance as quickly, without additional resources.

NEXT STEPS

Upon Board approval, staff will prioritize the implementation of ADB expansion on Lines 720 and 754.

Staff will initiate the implementation plan that will include the procurement and installation of equipment, revised schedules reflecting shorter dwell times, fare enforcement deployment plan, and public outreach. Staff will provide periodic updates to the Board on future plans for expanding ADB.

ATTACHMENTS

Attachment A - February 2017 Board Motion on Item #10

Attachment B - All-Door Boarding Feasibility Study

Attachment C - Procurement Summary

Attachment D - Contract Modification/Change Order Log

Attachment E - DEOD Summary

Attachment F - LOP and Operating Budget Summary

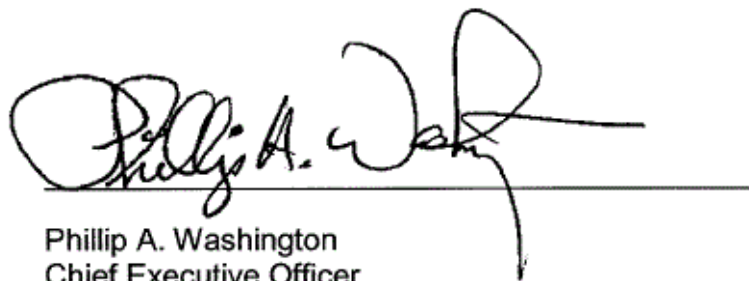
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