Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

**File #:** 2018-0817, **File Type:** Project **Agenda Number:** 13.

**PLANNING AND PROGRAMMING COMMITTEE**
**MARCH 20, 2019**

**SUBJECT: VERMONT TRANSIT CORRIDOR - RAIL CONVERSION/FEASIBILITY STUDY**

**ACTION: APPROVE RECOMMENDATIONS**

## RECOMMENDATION

CONSIDER:

A. RECEIVING AND FILING the findings and recommendations from the Vermont Transit Corridor Rail Conversion/Feasibility Study; and

B. APPROVING advancement of the two BRT concepts previously identified through the 2017 Vermont Bus Rapid Transit (BRT) Technical Study into environmental review.

## ISSUE

The Vermont Transit Corridor is a Measure M project with an expected opening date of Fiscal Year (FY) 2028. This project is also included in the Twenty-Eight by '28 Initiative adopted by the Board in January 2018. In order to meet the Measure M and Twenty-Eight by '28 schedule, a project for the corridor needs to be identified and environmentally cleared through an environmental review study. At the March 23, 2017 Board meeting, the Board approved a motion (Attachment A) directing staff to take a number of actions, including proceeding with the Vermont Bus Rapid Transit (BRT) project as a near-term transit improvement, while also initiating a study looking at future potential rail. This report addresses that motion. The study concluded that the BRT concepts recommended to advance into environmental review are not in conflict with future conversion to rail.

## BACKGROUND

The existing Metro bus service along the Vermont Transit Corridor extends approximately 12.4 miles from Hollywood Boulevard south to 120th Street. The Vermont Transit Corridor is the second busiest bus corridor in Los Angeles County with approximately 45,000 daily boardings and connections to four Metro rail lines. The corridor serves numerous key activity centers including Koreatown, Kaiser Permanente Los Angeles Medical Center, University of Southern California, and Exposition Park. Attachment B shows a map of the corridor and study area, which includes one-half mile to either side of Vermont Avenue.

In February 2017, Metro completed the Vermont Bus Rapid Transit (BRT) Technical Study. The study evaluated the feasibility of implementing BRT, including bus lanes and other key BRT features. The study identified two promising BRT concepts, which would provide improved passenger travel times, faster bus speeds, and increased ridership. The two concepts are an end-to-end side-running BRT and a combination side- and center-running BRT.

At the March 23, 2017 Board meeting, staff presented the findings and recommendations from the Vermont BRT Technical Study (Legistar File No. 2016-0835). At that meeting, the Board approved a motion directing staff to proceed with the Vermont BRT project as a near-term transit improvement, while also initiating a study looking at rail, specifically focusing on connecting the Metro Wilshire/Vermont Red Line Station to the Exposition/Vermont Expo Line Station as a first phase. Based on ridership demand, future potential conversion to rail on the Vermont Corridor after FY 2067 is projected in Measure M.

In July 2017, staff provided the Board with an approach for augmenting the BRT Technical Study with an additional scope of work to conduct a rail conversion/feasibility study. The purpose of the rail conversion/feasibility study has been to re-evaluate the initial BRT concepts to ensure that their design would not preclude a future conversion to rail and to evaluate and compare multiple rail modes and/or alternatives, including an extension of the Metro Red Line along Vermont Avenue.

## DISCUSSION

In December 2017, staff initiated work on the Vermont Transit Corridor - Rail Conversion/Feasibility Study (Attachment C-Executive Summary). In addition to re-evaluating the design of the initial BRT concepts to ensure they would not preclude a future conversion to rail, six preliminary rail concepts were identified. The initial rail concepts included evaluating and comparing multiple rail modes (Heavy Rail Transit (HRT), Light Rail Transit (LRT), and Streetcar/Tram), alignments, and configurations, including:

1) LRT High Floor, Center-Running
2) LRT Low-Floor, Side-Running
3) Streetcar/Tram, At-Grade Side-Running
4) HRT with Direct Connection to Purple Line
5) HRT with Direct Connection to Red Line
6) HRT Stand-Alone Alignment (beginning/ending at Vermont/Wilshire)

Screening criteria were then applied to these six (6) initial rail concepts to identify the three (3) most technically feasible concepts for further detailed analysis. The screening criteria included: customer experience; system connectivity; system operability and reliability; passenger capacity/person-throughput; capital costs; operating and maintenance costs; construction impacts; and transit service disruption. The three rail concepts determined to be the most technically feasible are: 1) LRT, Center -Running; 2) HRT with Direct Connection to Red Line; and, 3) HRT with Stand-Alone Alignment.

While the HRT connection to the Metro Red Line would provide a one-seat ride from 120$^{th}$ Street to North Hollywood, it would have significant construction and service impacts to the existing rail service for up to two years. The LRT and the HRT stand-alone options, which would not significantly impact

service during construction, would require passengers to transfer at the Wilshire/Vermont Station to either the Metro Red or Purple Line.

The table below shows a comparison of the capital and operating and maintenance cost estimates, as well as the projected corridor ridership, for each of the BRT and rail concepts.

| | **BRT Side-Running** | **BRT Combo Side-/Center-Running** | **LRT Center-Running** | **HRT Connecting to Red Line** | **HRT w/ Stand-Alone Alignment** |
|---|---|---|---|---|---|
| Capital Costs (2018) | $236 - $310 M | $241 - $310 M | $4.4 - $5.2 B | $7.1 - $8.4 B | $5.9 - $6.9 B |
| Annual O & M Costs | 13.4 M | 13.4 M | $28.8 to 53 M | $53.8 to 80.5 M | $35.1 to 70.0 M |
| Daily Corridor Ridership (2042) | 82,000 | 82,000 | 91,000 | 116,000-144,000 | 103,000-131,000 |
| At-Grade | 12.4 miles | 12.4 miles | 4.6 miles | N/A | N/A |
| Grade Separated | N/A | N/A | 5.2 miles | 10.3 miles | 9.8 miles |

Currently, a total of $522 million, including $25 million in Measure M, $5 million in Cap and Trade funds, and $492 million in other local funds, are allocated for this BRT project.

Summary of Rail Concepts Feasibility

In developing the rail concepts, not only were the various technologies considered but also the vertical and horizontal configuration of each. The vertical profile of rail on the corridor included at-grade, at-grade with grade separations (below or above) at specific intersections, a fully elevated system, or a fully below-grade system. The biggest challenges associated with the at-grade options were the obvious ROW constraints on the corridor. The existing ROW is 50- to 55-feet wide (curb to curb) in the northern two-thirds of the corridor, while south of Gage Avenue, the ROW widens significantly to 180 to 200 feet. In considering Metro's LRT Grade Crossing & Safety Policy, it was determined that the LRT option would need to operate below grade north of Gage Avenue. South of Gage Avenue, where the ROW widens significantly, the LRT could operate at grade. The two remaining HRT options would be fully underground.

The study also looked at the feasibility of connecting the Metro Red Line at the Wilshire/Vermont Station to the Metro Expo Line at the Exposition/Vermont Station as a first segment. As part of the phasing analysis, potential Maintenance and Storage Facility (MSF) locations were also considered. However, given the challenges in locating, environmentally clearing and acquiring land for a suitable MSF in the northern segment of the corridor, which is predominately commercial and/or residential, a first segment, or minimum operable segment (MOS), along Vermont Avenue between the Red/Purple and Expo Lines was determined infeasible.

Staff also confirmed that none of the existing MSFs will be able to accommodate new rail vehicles as part of the Vermont Transit Corridor project in terms of storage and everyday maintenance. While Metro Division 20 is currently being expanded to accommodate the future Metro Purple Line extension, it will not be large enough to serve the Vermont Line even under the MOS scenario.

Therefore, the first segment would need to extend further south to Slauson Avenue or the I-105 Freeway to access potential MSF sites.

Implications for Future BRT Conversion to Rail

Since the LRT option would substantially be underground and the two HRT options fully underground, it was determined that the implementation of BRT along the Vermont Corridor would not preclude a future conversion to rail. The end-to-end side-running BRT would operate in a travel lane adjacent to a parking lane. The end-to-end combination side- and center-running BRT would do primarily the same with an exception south of Gage Avenue. South of Gage Avenue, the BRT would operate within the two center lanes. Should light rail be constructed in the future, the two center BRT lanes could be converted to rail.

Recommendation

Overall, the Rail Conversion/Feasibility Study found that: BRT continues to be feasible in the Vermont Corridor; BRT does not preclude conversion to rail transit in the future; BRT has the capacity to serve ridership demand until 2042 and beyond; several rail alternatives were determined feasible for future implementation; cost of rail alternatives far exceeds Measure M funding; and some useful rail features can be installed and used as part of BRT. Additionally, there are some unique urban design opportunities south of Gage Avenue, such as the reprogramming of the underutilized median to one side of the street in order to make the open space more useful and accessible to the community. The study also identified opportunities to integrate on-street amenities to improve first-last mile connectivity and help foster the creation of transit oriented communities.

Given the importance of the Vermont Transit Corridor and the need to improve the overall quality of transit service, staff recommends advancing the two BRT concepts into environmental review. With some minor engineering refinements, the refined BRT concepts will not preclude a future potential conversion to rail. These BRT improvements can be delivered more immediately and at a fraction of the cost of rail, while further building corridor ridership. This is necessary in order to address the March 23, 2017 Board motion, meet the Measure M opening date, and address the Twenty-Eight by ’28 Initiative.

Stakeholder Outreach

In both spring and fall 2018, staff completed two sets of key targeted stakeholder meetings along the corridor. Invitees included businesses, religious institutions, schools, hospitals, major cultural centers, community/neighborhood groups, neighborhood councils, and Chambers of Commerce. Staff also provided individual project briefings to all affected City of Los Angeles Council Districts as well as at other community group meetings. The purpose of the outreach was to discuss and solicit further feedback on the two BRT concepts and any potential future rail concepts. There was overall broad support for BRT on Vermont, with a small group still in favor of rail being delivered much earlier.

Public and stakeholder engagement will continue and be broadened throughout the environmental process to solicit valuable feedback that will further inform and define the BRT concept for the corridor. A series of meetings, including public scoping and public hearings as well as individual briefings with key stakeholders and elected officials, will be conducted as part of the process.

Consistency with Metro's Equity Platform Framework
The Vermont Transit Corridor project will provide new benefits of enhanced mobility and improved regional access for transit-dependent, minority and/or low-income populations within the study area. Should the Board approve advancing the project into the environmental review phase, the project will be approached and designed for consistency with Metro's recently adopted Equity Platform Framework.

## DETERMINATION OF SAFETY IMPACT

Approval of this item will not impact the safety of Metro's customers or employees.

## FINANCIAL IMPACT

Funding of $400,000 is included in the FY20 budget request in Cost Center 4240, Project 471402 (Vermont Transit Corridor) to initiate the environmental review, pending budget adoption. Since this is a multiyear contract, the Cost Center Manager and Chief Planning Officer will be responsible for budgeting in future years for the balance of the remaining project budget.

Impact to Budget
The funding source for the Vermont Transit Corridor project is Measure M 35% Transit Construction. As these funds are earmarked for the Vermont Transit Corridor project, they are not eligible for Metro bus and rail capital and operating expenditures.

## IMPLEMENTATION OF STRATEGIC PLAN GOALS

The purpose of the Vermont Transit Corridor project is to identify and implement strategies for improving bus service along Vermont Avenue. These strategies, including dedicated bus lanes, improved passenger amenities at stations, and enhanced lighting, will enhance the customer experience by reducing passenger travel times, improving service reliability, and enhancing passenger comfort and security. The Vermont Transit Corridor project supports the following Strategic Goals:

- #1: Provide high-quality mobility options that enable people to spend less time traveling.
- #2: Deliver outstanding trip experiences for all users of the transportation system.
- #3: Enhance communities and lives through mobility and access to opportunity.

## ALTERNATIVES CONSIDERED

The Board may decide not to approve advancing the Vermont Transit Corridor project to the environmental review phase. This is not recommended as this corridor is included and funded in Measure M and highlighted in the Twenty-Eight by '28 Initiative. Delaying the environmental analysis would jeopardize the ability to meet the Measure M ground breaking and opening dates.

## NEXT STEPS

Should the Board choose to approve the recommendation, staff will proceed immediately to procure consultant services for environmental review of the corridor in accordance with the California Environmental Quality Act (CEQA). Staff will keep the Board apprised of the study and return to the Board at key project milestones.

## ATTACHMENTS

Attachment A - March 23, 2017 Board Motion
Attachment B - Map of Vermont Corridor
Attachment C - Executive Summary - Vermont Transit Corridor Rail Conversion/Feasibility Study

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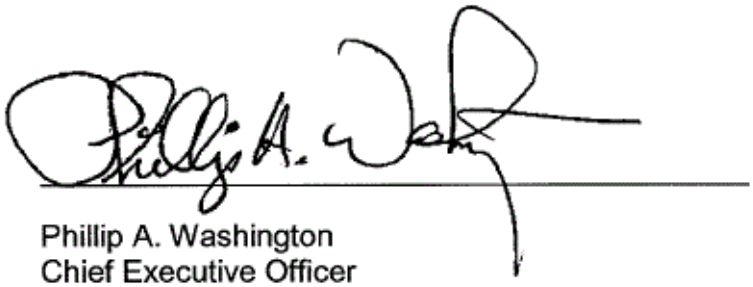

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