

**Board Report**

File #: 2020-0887, **File Type:** Informational Report**Agenda Number:** 26.

**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
FEBRUARY 18, 2021****SUBJECT: MOTION 24.1: REGIONAL CONNECTOR OPERATIONS UPDATE****ACTION: RECEIVE AND FILE****RECOMMENDATION**

RECEIVE AND FILE the status report in response to Motion 24.1 entitled Regional Connector Operations (October 2020). This update provides details regarding the work by Metro and its efforts to coordinate with Los Angeles Department of Transportation (LADOT) to develop a work program to improve travel time and reliability in preparation for the opening of Metro's Regional Connector project.

ISSUE

In October 2020, the Board approved Motion 24.1 entitled Regional Connector Operations as part of the anticipated opening of the Regional Connector in 2022. This motion requests the following:

- A. Evaluate all three lines A (Blue), E (Expo), and L (Gold) - for locations that most frequently cause delays and/or require schedule padding because of reliability issues; and identify mechanisms to mitigate the identified challenges, including estimates;
- B. Expand the work of the E Line (Expo) collaboration with LADOT to include the A Line (Blue) street-running segments in the City of Los Angeles to achieve at least an average of 90% intersection rate;
- C. Further evaluate and provide preliminary cost estimates for the three alternatives, as discussed in the July 2017 receive and file report, to address delays at the Washington/Flower Wye;
- D. Identify additional measures that can be undertaken to further reduce the travel time on the A Line (Blue) between Downtown Long Beach Station and 7th Street/Metro Center, in order to achieve the 10-minute reduction commitment;
- E. Identify up to \$30 million in funds eligible for the proposed improvements identified in the above four items, including outreach and engineering for project development; and
- F. Report back on all of the above-identified items by January 2021.

This report provides a status update on the response to Motion 24.1.

BACKGROUND

In February 2017, the Board adopted Motion 37, which directed Metro's CEO to provide an update in July 2017 regarding the evaluation of short-term and long-term Metro Blue Line (MBL) improvement.

Recommendations from the Motion 37 response (2017-0407) were implemented thereafter, including:

- Staffing of rail operations and security staff at 7th Street/Metro Center during peak periods to ensure on-time terminal departures for both A/E Lines (Blue/Expo)
- Installation of left-turn safety gate at Flower/18th Streets to I-10 East On-Ramp to improve safety and reduce train delays attributed to former positive (safety) stop
- Qualify train operators to work both lines in the event of service changes so that trains could be quickly re-routed onto other lines as necessary to avoid train congestion at 7th Street/Metro Center
- Deployed additional security to monitor and reduce customer experience issues and reduce attributable delays such as illegal vending, soliciting and holding of train doors
- New, Kinkisharyo P3010 railcars delivered to both lines to improve service reliability

In 2018, Metro staff engaged in a collaboration with Los Angeles Department of Transportation (LADOT) staff to improve travel speeds and consistency along the E Line. Among several promising ideas, this collaboration has yielded concepts to improve reliability on the Washington Blvd segment of the A Line (Blue).

In October 2020, the Board approved Item 24 (2020-0613), entitled Regional Connector Service Plan, which recommended Alternative A (Long Beach-APU/Citrus College and Santa Monica-Atlantic) as the opening day service plan for Regional Connector. However, the street running delays currently incurred on the A Line (Blue) and E Line (Expo) as it approaches the Washington/Flower junction spread to the L Line (Gold). During peak periods, train travel times are projected to worsen up to 17% without making any improvements. To ensure trains are properly spaced and sequenced going through the Regional Connector, faster trains must be slowed down to meet the travel time of slower trains, or slower trains must be sped up to meet the travel times of faster trains. The former can be accomplished by adding in-line schedule recovery at stations near the junction. This would require faster trains to wait between one and two minutes at stations approaching the junction. The latter would require improvements to LADOT traffic signal systems to provide more transit signal priority for the A Line (Blue) and E Line (Expo) in the LA street running segments of the lines.

As a result, the Board subsequently adopted Motion 24.1 which seeks to address these challenges before the opening of Regional Connector.

DISCUSSION

A. Evaluate A (Blue), E (Expo), and L (Gold) Lines for locations that most frequently cause delays and/or require schedule padding because of reliability issues; and identify mechanisms to mitigate the identified challenges, including estimates

Previous studies have attributed most delays to the street running segments of A Line (Blue) and E Line (Expo) within City of Los Angeles territory. In 2018, travel time data revealed trains on Flower Street operating between 10 to 13 MPH and Washington Boulevard between 22 to 26 MPH, well below the designed street running speed of 33 MPH.

Metro is working to collect more granular data to identify which segments and intersections within City of Los Angeles cause the greatest delay to trains. This will include equipping selected trains with GPS units to determine red light delays, station dwell times and trip times. Metro expects to complete this speed and delay analysis report by Summer 2021. Subsequently, Metro will work with LADOT to identify potential solutions to improve train reliability and reduce the need for schedule padding in Fall 2021.

While traffic volumes are considered in tradeoffs with transit signal priority, another challenge to providing consistency in service relates to the wide street geometry of Exposition Boulevard, Washington Boulevard and Flower Street, which requires substantial minimum pedestrian clearance time at intersecting crosswalks. For example, the street width crossing E Line (Expo) at Vermont Ave in Los Angeles is about 43 feet greater than at Lincoln Boulevard in Santa Monica, which translates to at least 12 additional seconds of time assigned that cannot be allocated to train movement.

B. Expand the work of the E Line (Expo) collaboration with LADOT to include the A Line (Blue) street-running segments in the City of Los Angeles to achieve at least an average of 90% intersection rate

Building on the success of the E Line (Expo) collaboration, which brought a significant improvement to successfully crossing Exposition/Normandie without stopping, Metro is expanding its partnership with LADOT to identify more transit priority signaling techniques that are compatible with LADOT's current traffic signal system to improve train travel time and reliability on both E Line (Expo) and A Line (Blue) street running segments.

Metro and LADOT plan to jointly plan and analyze these improvements in Spring 2021, with the goal of implementing pilot transit signal phasing improvements along both E Line (Expo) and A Line (Blue) in Fall 2021. If successfully evaluated, this implementation would serve as a model to expand to more LADOT intersections where Metro trains operate.

C. Further evaluate and provide preliminary cost estimates for the three alternatives, as discussed in the July 2017 receive and file report, to address delays at the Washington/Flower Wye

Metro staff will conduct a more detailed evaluation of the three alternatives discussed in the July 2017 report (2017-0407). The three alternatives for further evaluation are as follows:

- WP1 Aerial NB Expo and Pico Station - \$330M estimated cost
- WP2 Underground Expo and stacked platform Pico Station - \$680M estimated cost
- WP3 Double level fully grade separated junction and stacked platform Pico Station - \$840M estimated cost

As these estimated costs are substantially high without any dedicated funding, Metro will also explore lower-cost and less disruptive alternatives with LADOT such as restricting certain traffic approaches that conflict with the Washington/Flower Wye, where alternate routes are available with sufficient capacity.

D. Identify additional measures that can be undertaken to further reduce the travel time on the A Line (Blue) between Downtown Long Beach Station and 7th Street/Metro Center, in order to achieve the 10-minute reduction commitment

Outside of the street-running segments that must yield to traffic signals, Metro will explore opportunities to safely increase speeds along cab signal territory. Currently, the top speed of A Line (Blue), E Line (Expo) and L Line (Gold) is 55 MPH. However, Metro's light rail vehicles are capable of a top speed of 70 MPH. As a comparison, the C Line (Green) operates with a top speed of 65 MPH. Increasing a top speed from 55 MPH to 65 MPH can save 10 seconds per mile and 14 seconds per mile at 70 MPH. Cumulatively, this can lead to substantial travel time savings where Metro operates nearly 100 miles of track. However, this work could require re-engineering of track circuits, onboard equipment and consume more traction power. Further evaluation is needed to determine whether this is a feasible recommendation.

E. Identify up to \$30 million in funds eligible for the proposed improvements identified in the above four items, including outreach and engineering for project development

It is important to first determine the scope of improvements and associated cost estimates, which will then be used to help identify funding necessary to complete these improvements. As COVID-19 continues to dampen ridership, particularly during peak commute periods, recommended improvements from pre-pandemic may be adjusted to reflect post-COVID travel patterns. This could be a shift of transit trips from peak period to off peak periods, similar to what has been observed in general traffic patterns, which would help spread transit trips over the entire day rather than focused on peak periods. Metro will work to identify funding after determining the appropriate scope of improvements.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Recommendations support strategic plans:

Goal #1: Provide high quality mobility options that enable people to spend less time traveling. Improving the speed and reliability of the bus network will reduce transit travel times, as well as improve competitiveness with other transportation options.

Goal #2: Deliver outstanding trip experiences for all users of the transportation system. These initiatives help to move more people within the same street capacity, where currently transit users suffer service delays and reliability issues because of single occupant drivers.

Goal #3: Enhance communities and lives through mobility and access to opportunity. With faster transit service and improved reliability, residents have increased access to education and employment, with greater confidence that they will reach their destination on time.

Goal #4: Transform Los Angeles County through regional collaboration and national leadership. Because Metro does not have jurisdiction over local streets and arterials, collaboration with other partner agencies such as LADOT, City and County of Los Angeles are necessary to ensure these speed and reliability improvements are successfully implemented.

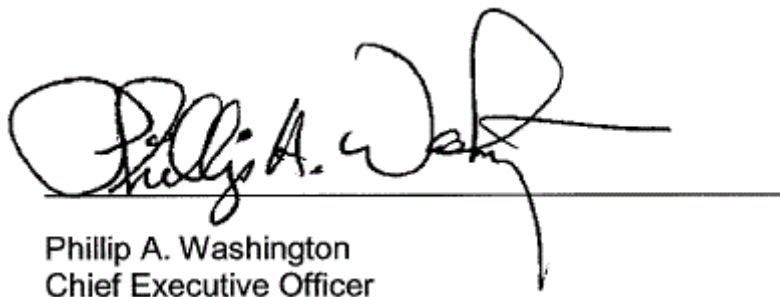
NEXT STEPS

In coordination with LADOT, Metro is already underway in evaluation of all directives above and committed to providing more detailed results and recommendations in the future. Staff would like to provide a subsequent update of these findings 6 months from this report, in July 2021.

ATTACHMENTS

Attachment A - Motion 24.1

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Phillip A. Washington
Chief Executive Officer



Board Report

File #: 2020-0707, **File Type:** Motion / Motion Response

Agenda Number: 24.1.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE OCTOBER 15, 2020

Motion by:

DIRECTORS GARCIA, GARCETTI, SOLIS, HAHN, RIDLEY-THOMAS, AND BONIN

Related to Item 24: Regional Connector Service Plan

Regional Connector Operations

The Regional Connector, which is scheduled to open in 2022, will provide single-seat rides through downtown Los Angeles between different regions throughout the county. The connectivity it promises will be transformative for tens of thousands of Metro light rail riders who today have to transfer 1-2 times each way to complete a single trip, adding significant time and variability to their travel.

The Metro A Line (Blue), E Line (Expo), and L Line (Gold) currently serve tens of thousands of riders daily, in the midst of a pandemic that has significantly reduced overall ridership.

In response to Board Motion 37 (February 2017) Metro committed to a 10-minute end-to-end travel time reduction along the A Line, between Downtown Long Beach and 7th Street/Metro Center. Some of that commitment has been achieved through a Long Beach signal prioritization project, that has shaved 3-5 minutes off the travel time in each direction.

Further in response to Board Motion 37 (July 2017), Metro staff recognized the Washington/Flower Wye junction as a source of significant delays for both the A and E Lines. Staff identified three alternatives for further evaluation and the project was included in the 28 by '28 initiative, although no funding sources were identified to proceed with any of them.

In 2018, Metro staff engaged in a collaboration with Los Angeles Department of Transportation (LADOT) staff in order to improve travel speeds and consistency along the E Line. Among several promising ideas, this collaboration has yielded concepts to improve reliability on the Washington Blvd segment of the A Line.

As part of the Regional Connector Operating Plan, Metro staff estimate the need for additional one-way travel delays of up to (a) one minute along the inbound L Line, (b) three minutes along the inbound E Line, and (c) five minutes along the inbound A Line. The inclusion of these delays is

estimated to cost nearly \$30 million in additional annual operating costs for the lines when the Regional Connector is fully operational.

SUBJECT: REGIONAL CONNECTOR OPERATIONS

RECOMMENDATION

APPROVE Motion by Directors Garcia, Garcetti, Solis, Hahn, Ridley-Thomas, and Bonin that the Chief Executive Officer direct Metro staff to do the following:

- A. EVALUATE all three lines A, E, and L - for locations that most frequently cause delays and/or require schedule padding because of reliability issues; and IDENTIFY mechanisms to mitigate the identified challenges, including estimates;
- B. EXPAND the work of the E Line collaboration with LADOT to include the A Line street-running segments in the City of Los Angeles to achieve at least an average of 90% intersection clearance rate;
- C. FURTHER EVALUATE and provide preliminary cost estimates for the three alternatives, as discussed in the July 2017 receive and file report, to address delays at the Washington/Flower Wye;
- D. IDENTIFY additional measures that can be undertaken to further reduce the travel time on the A Line between Downtown Long Beach Station and 7th Street/Metro Center, in order to achieve the 10-minute reduction commitment;
- E. IDENTIFY up to \$30 million in funds eligible for the proposed improvements identified in the above four items, including outreach and engineering for project development;
- F. Report back on all of the above-identified items by January 2021.