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OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE JULY 15, 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 operating alongside vehicular traffic 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 secure the contract for this work in June 2021, with results available by December 2021. Subsequently, Metro will work with LADOT to identify potential solutions to improve train reliability and reduce the need for schedule padding when Regional Connector opens.

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

Earlier in 2020, Metro partnered with LADOT to improve signal priority at Exposition and Normandie in an effort to reduce signal delay for the E Line (Expo). This treatment brought significant reductions in signal delay. Following up on this success, LADOT has implemented this treatment at additional intersections along both Flower Street and Exposition Boulevard. Additionally, LADOT has made signal progression adjustments along portions of Exposition Boulevard to better account for train dwell time at stations. Metro and LADOT are working on similar signal progression improvements along Washington Boulevard for the A Line (Blue). Metro and LADOT will be evaluating the travel time effect of these changes.

Concurrent with these efforts, Metro and LADOT are preparing to pilot a new transit signal priority phasing improvement at Exposition/Normandie. This treatment aims to serve the train signal phases sooner than is possible with the current signal priority system. With the current traffic control system employed by LADOT, new train detection loops would need to be installed farther away from the intersection. Design work is happening currently, with the goal of implementation in Fall 2021.

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 continues to 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 is exploring 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. Further evaluation is needed to determine whether this is a feasible recommendation. To that end, Metro is conducting a simulation along A Line (Blue), E Line (Expo), and L Line (Gold) to determine where opportunities exist to

increase top speed beyond 55 MPH, which could provide travel time savings of 10 seconds per mile. This exercise will help quantify what travel time savings could be expected given certain improvements to the system.

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 impact 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.

DETERMINATION OF SAFETY IMPACT

There are no recommendations in this report requiring a determination of safety impact.

FINANCIAL IMPACT

There are no recommendations in this report with an impact to budget at this time.

Impact to Budget

Equity Platform

As identified in the completed Rapid Equity Assessment, the intent of this work is to provide travel time and reliability improvement to Metro riders, systemwide of which 79% of rail riders are BIPOC, 54% reside in low-income households, 67% of riders do NOT have a car available to make the trip. Further, the study area nearly exclusively focuses on Metro's Equity Focus Communities and staff will conduct a more focused equity analysis of impacts to marginalized groups as a result of this project. Improving transit service by reallocating priority for single occupant motorists and renewing focus on transit riders increases access to opportunity for groups who may not have those opportunities today.

The project has not begun community engagement. The project is still collecting data to understand where delays are occurring and to what extent they would impact Regional Connector Operations. Once this data is collected, the project will begin community engagement and staff will commit to centering marginalized community feedback to ensure equitable outcomes.

Safety of Metro riders, employees and the general public is the highest consideration of the project as it develops ways to reduce train delay and improve reliability ahead of the Regional Connector opening. For segments within street running territory, any recommendations the project makes will be consistent with federal, state, and local guidelines and best practices. Further, any recommendations for cab signal territory will be developed under the oversight of Metro Corporate Safety and the California Public Utilities Commission.

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.

ALTERNATIVES CONSIDERED

Staff could elect to maintain future Regional Connector operations as-is without improvements to transit signal priority or other elements to improve speed and reliability. However, this is not recommended as the July 2017 report (2017-0407) estimates an additional 17% travel time delay to customers if Regional Connector is opened without improvements to the LADOT street running territory currently under study.

NEXT STEPS

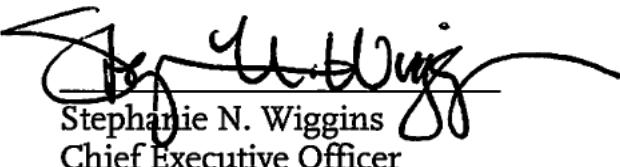
In coordination with LADOT, Metro is already underway in evaluation of all directives above and committed to providing more detailed results and recommendations in the future. Staff would like to provide a subsequent update of these findings 6 months from this report, in January 2022.

ATTACHMENTS

Attachment A - Motion 24.1

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Motion 24.1: Regional Connector Operations Update



Metro®

Operations , Safety and Customer Experience Committee
July 15, 2021

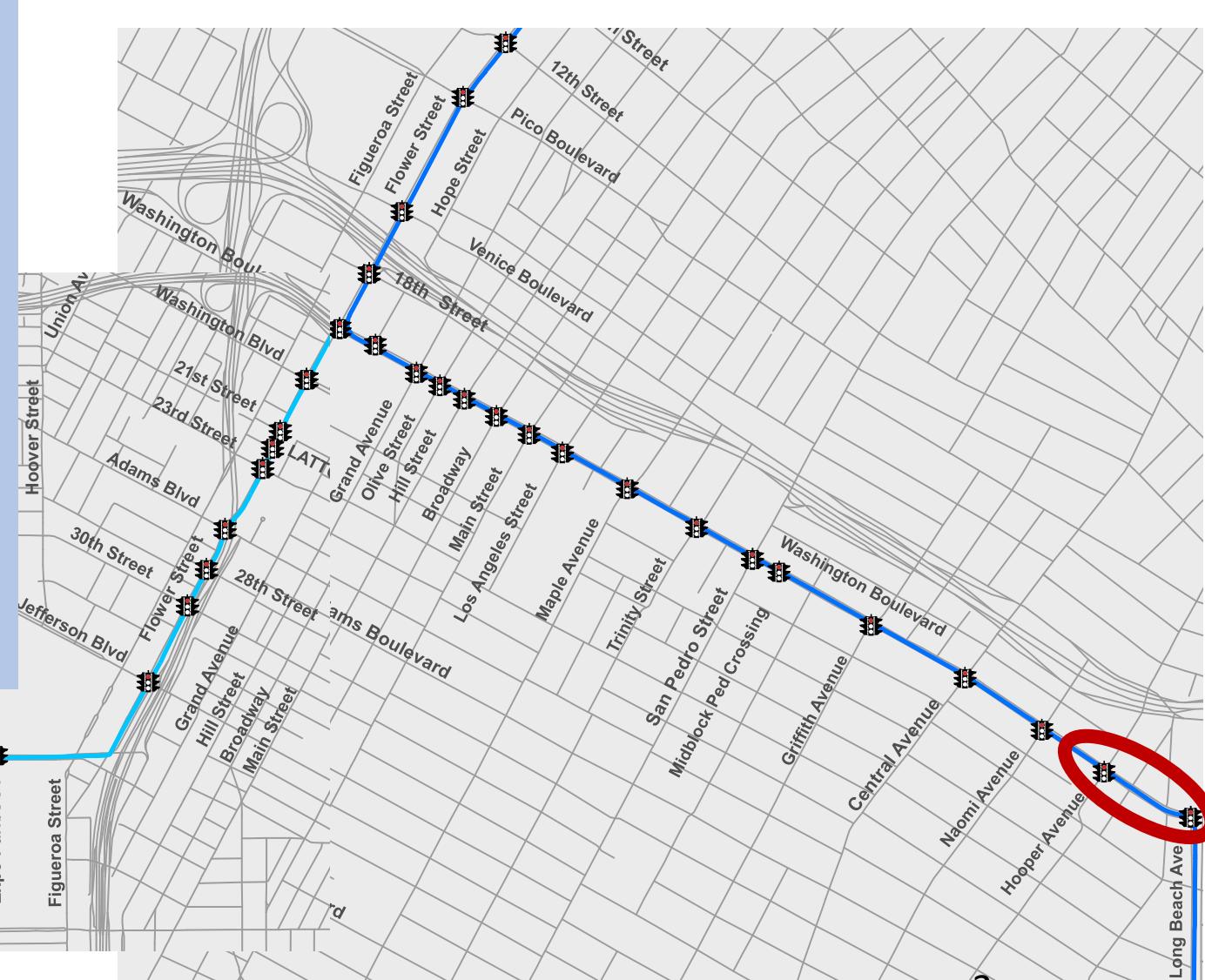
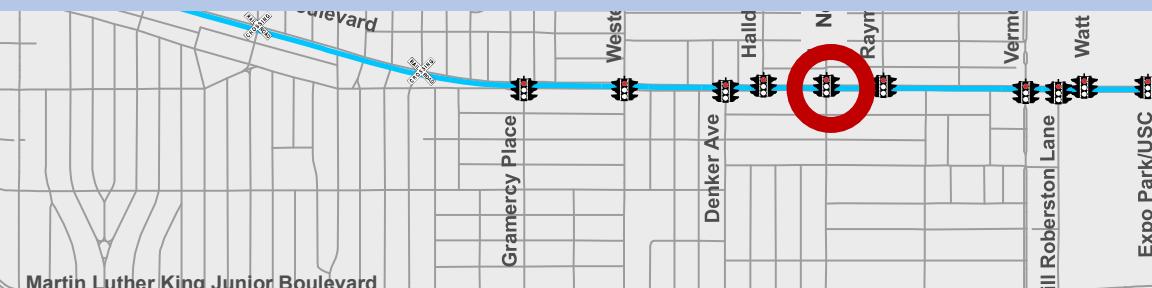
Background

Pursuant to Motion 24.1 (Oct 2020)

- 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.

Project Area Map

- 39 traffic signals from southern approach
- Previous report estimates up to **4 ½ minute roundtrip travel time delay** (7th St/Metro Ctr-Washington Station) without making any improvements in this segment
- Pilot treatment at Exposition/Normandie
- Timing adjustments on Washington Bl approaching Long Beach Av



Current Status & Next Steps

RECENT IMPROVEMENTS

- ✓ Initial pilot treatment for E Line (Expo) at Exposition/Normandie
- ✓ Signal timing adjustments for A Line (Blue) along Washington Bl

WORK UNDERWAY

- Equipping nine (9) light rail trains with GPS units for granular data collection on delays
- Enhanced pilot treatment for E Line (Expo) at Exposition/Normandie by Dec 2021
- Ongoing evaluation of Washington/Flower Junction modifications
- Modeling potential benefits to increase top speed in outlying areas
- Developing package of proposed improvements and estimated cost
- Staff to provide subsequent update to Board in 6 months (Jan 2022)