



Board Report

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Agenda Number: 25.

**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
FEBRUARY 15, 2018**

**SUBJECT: ORAL REPORT ON SYSTEM SAFETY, SECURITY
AND OPERATIONS**

RECOMMENDATION

RECEIVE oral report Update on Metro Blue Line Improvements and Green Line Tie-In Project update.

DISCUSSION

The presentation will include information regarding Metro Blue Line Improvements including a comprehensive capital program update in support of improving the MBL and overview of equipment and vehicle status. The presentation will also include Green Line shutdown work to support the Crenshaw lax tie in activities which is currently ongoing and will continue until April 2018.

Metro Green Line Tie-In Project Update & Blue Line Improvements

System Safety, Security & Operations Committee

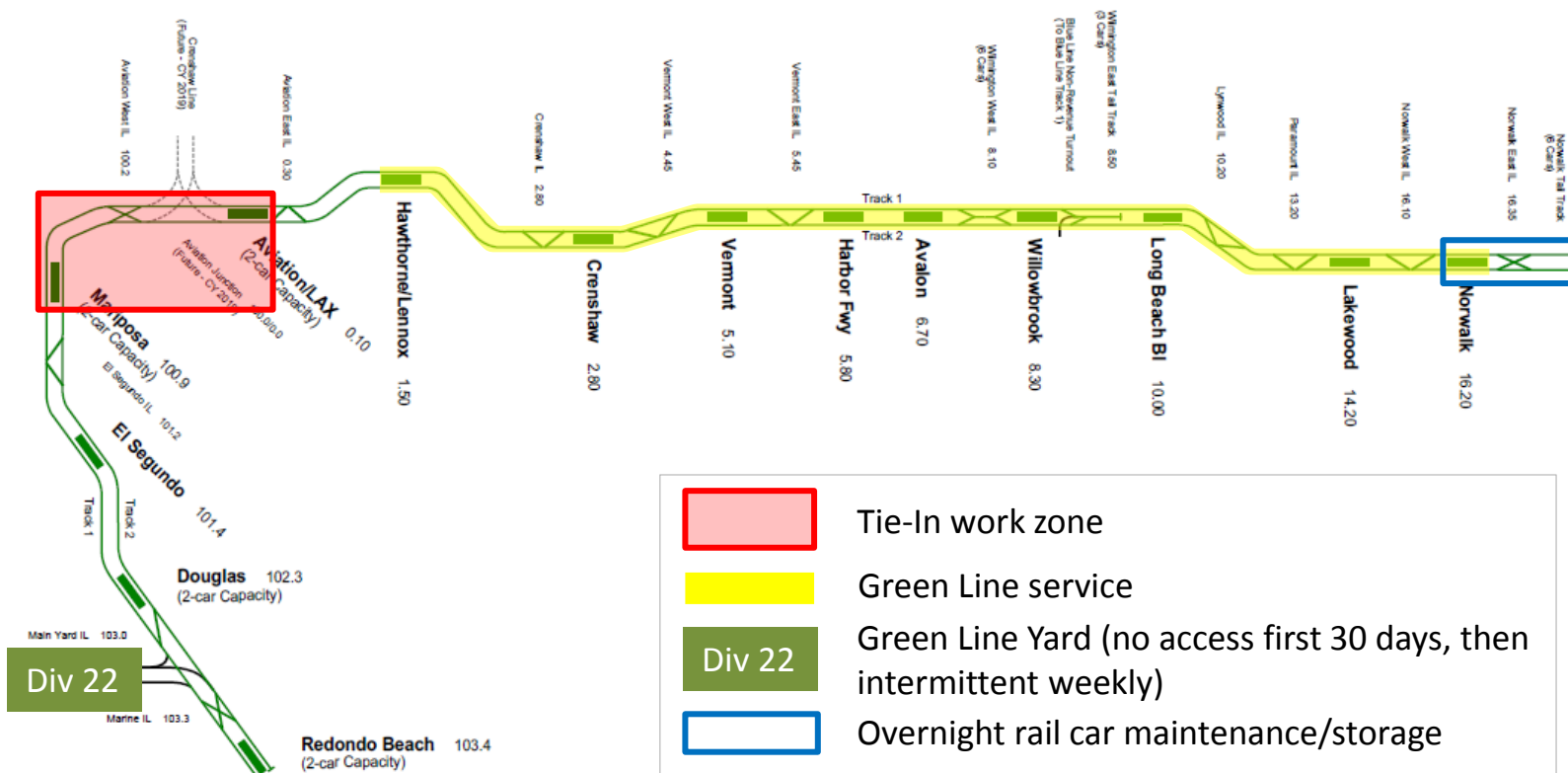
February 2018



Metro

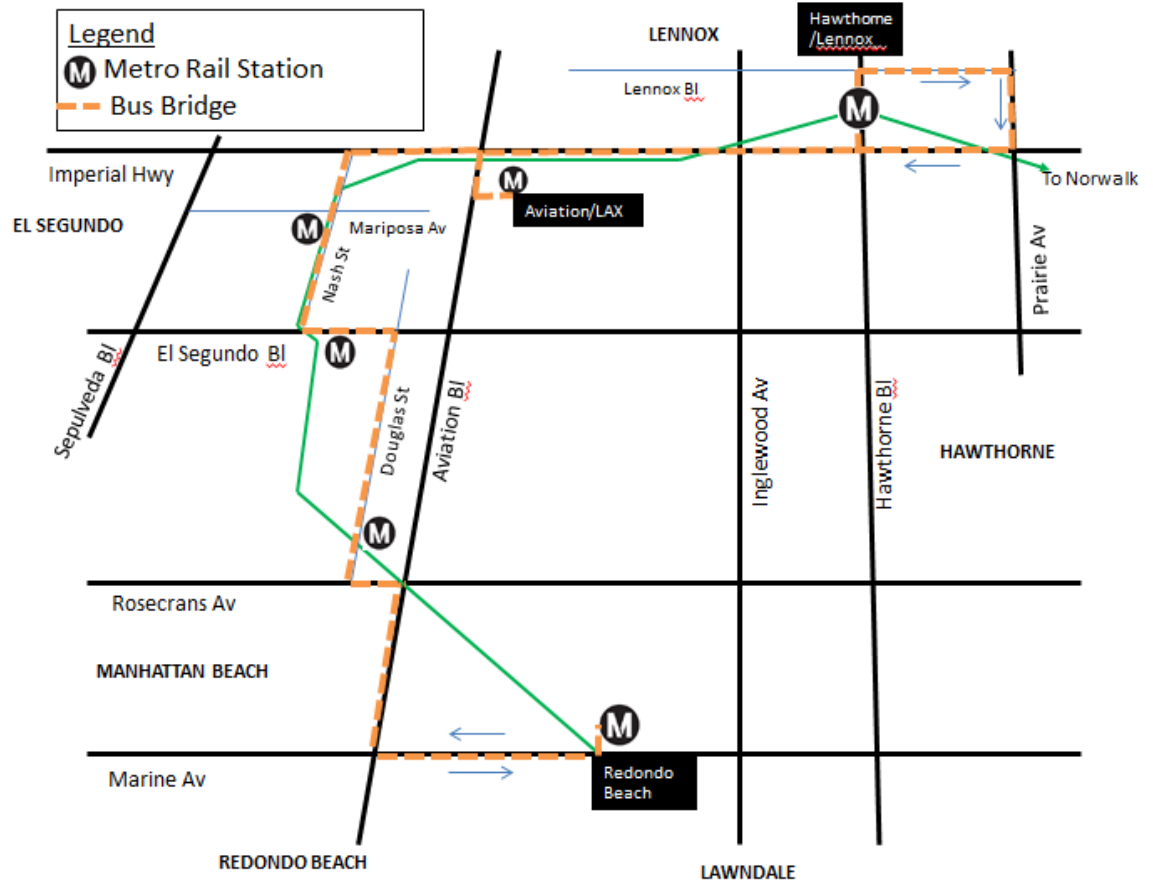
Green Line Tie-In Project Update – Rail Service

- Green Line service between Norwalk and Hawthorne Stations only
- Peak – every 6 min, 2-car trains
- Base – every 15 min, 2-car trains
- Sat/Sun – every 15 min, 2-car trains



Green Line Tie-In Project Update – Free Shuttle Service

- Free shuttle between Hawthorne Station and Redondo Beach Station
- Peak – every 6 min, with 2 buses meeting each train in the AM
- Base – every 15 min, 1 bus
- Sat/Sun - every 15 min, 1 bus



Green Line Tie-In Project Update

Project

- On Friday, January 26, 2018, Metro began work to connect the Crenshaw/LAX Transit Project with the Green Line, resulting in a 71-day closure of the Green Line at 5 stations:
 - Aviation/LAX
 - Mariposa
 - El Segundo
 - Douglas
 - Redondo Beach



Outreach Activities

- Community and stakeholder outreach began in December 2017 and is ongoing
- Take-ones were distributed to the surrounding neighborhoods, press conference and media announcements informed customers in advance of the closure
- Signage was installed in mid January and station and operator announcements continue to be used to communicate closure and shuttle information to patrons



Green Line Tie-In Project Update



Service

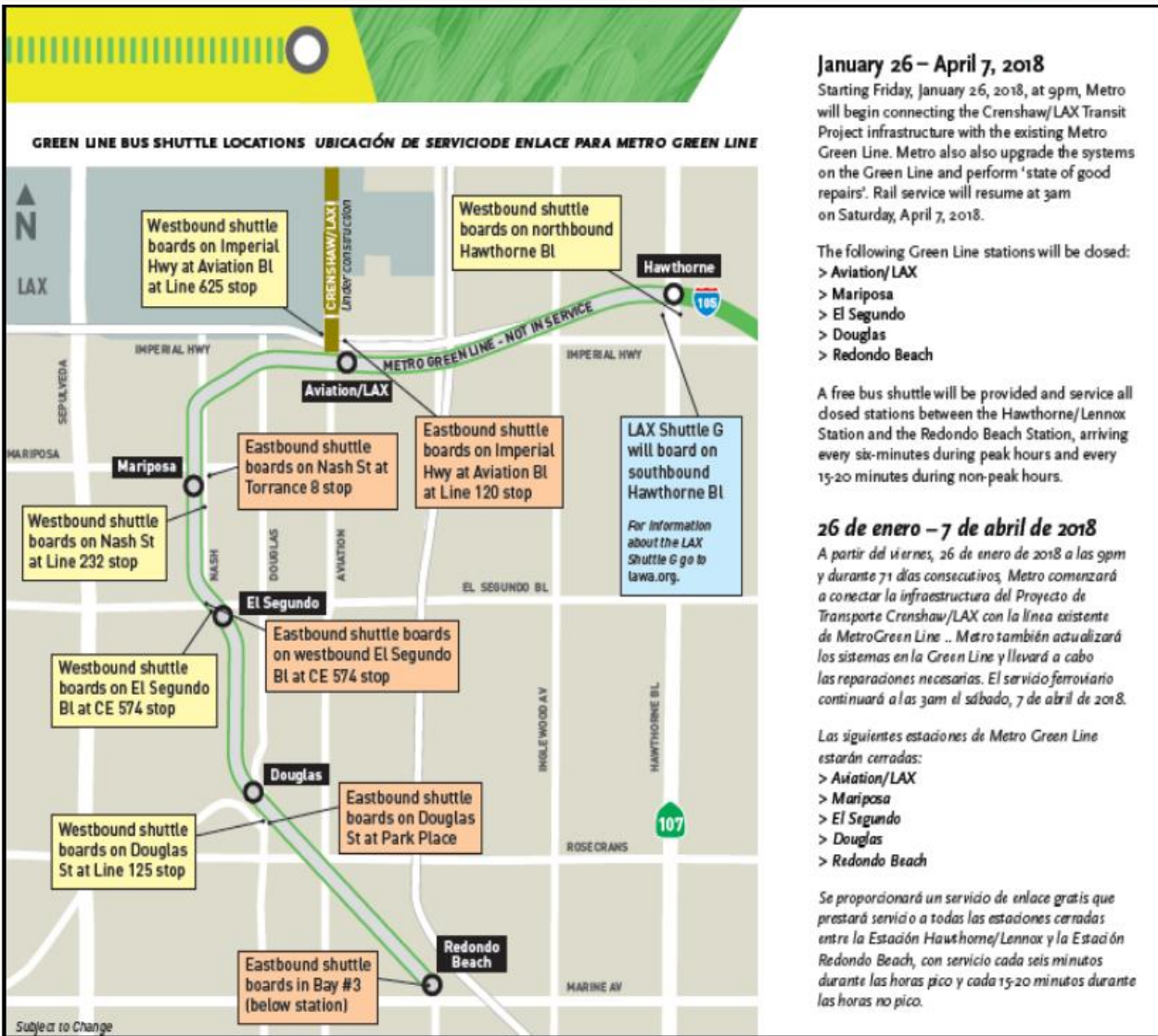
- **Trains between Norwalk and Hawthorne/Lennox running regular service**
- **Free bus shuttle service has replaced rail service affected stations**
 - **Bus shuttle headsign and bus stop information is clear, visible & augmented by announcements**
 - **Staff onsite to support customers**
- **LAX G-Shuttle, Santa Monica BBB Route 3/R3, and Metro Line 625 temporarily relocated from Aviation/LAX Station to Hawthorne/Lennox Station**
- **Supervisors are stationed at Redondo Beach, El Segundo, Hawthorne, and Norwalk Stations to actively manage and coordinate train and bus service. Security on site to maintain safety at all stations.**
- **Initial crowding mitigated by staging bus platoons where needed and deploying articulated buses during the peak periods.**



The Green Line Shuttle is carrying approximately 85% of normal ridership at the 5 closed stations.

Metro

Green Line Tie-In Project Update – Map



January 26 – April 7, 2018

Starting Friday, January 26, 2018, at 9pm, Metro will begin connecting the Crenshaw/LAX Transit Project infrastructure with the existing Metro Green Line. Metro also also upgrade the systems on the Green Line and perform 'state of good repairs'. Rail service will resume at 3am on Saturday, April 7, 2018.

- The following Green Line stations will be closed:
- > Aviation/LAX
 - > Mariposa
 - > El Segundo
 - > Douglas
 - > Redondo Beach

A free bus shuttle will be provided and service all closed stations between the Hawthorne/Lennox Station and the Redondo Beach Station, arriving every six-minutes during peak hours and every 15-20 minutes during non-peak hours.

26 de enero – 7 de abril de 2018

A partir del viernes, 26 de enero de 2018 a las 9pm y durante 71 días consecutivos, Metro comenzará a conectar la infraestructura del Proyecto de Transporte Crenshaw/LAX con la línea existente de Metro Green Line. Metro también actualizará los sistemas en la Green Line y llevará a cabo las reparaciones necesarias. El servicio ferroviario continuará a las 3am el sábado, 7 de abril de 2018.

- Las siguientes estaciones de Metro Green Line estarán cerradas:
- > Aviation/LAX
 - > Mariposa
 - > El Segundo
 - > Douglas
 - > Redondo Beach

Se proporcionará un servicio de enlace gratis que prestará servicio a todas las estaciones cerradas entre la Estación Hawthorne/Lennox y la Estación Redondo Beach, con servicio cada seis minutos durante las horas pico y cada 15-20 minutos durante las horas no pico.

RIDER ALERT
Please allow extra time.

Inicio: 26/01/2018 9pm - Sábado: 07/04/2018 3am
Fin: 26/01/2018 9pm - Sábado: 07/04/2018 3am

Five Green Line stations will be closed to prepare connections to the Crenshaw/LAX Transit Project. Free bus shuttles will be provided.

ALERTA PARA PASAJEROS
Por favor, permita tiempo extra.

Se cerrarán cinco estaciones de Metro Green Line para preparar las conexiones al Proyecto de Transporte Crenshaw/LAX. Se proporcionará un servicio de enlace gratis.

Positive Feedback

Transit Pass LA
@transitpassla Following

Kudos to @metrolosangeles for the spread of awareness about the Green Line's closure for @crenshawrail - even the station listings on the Siemens cars are updated.

1:12 PM - 7 Feb 2018

MBL Travel Time Improvements - External

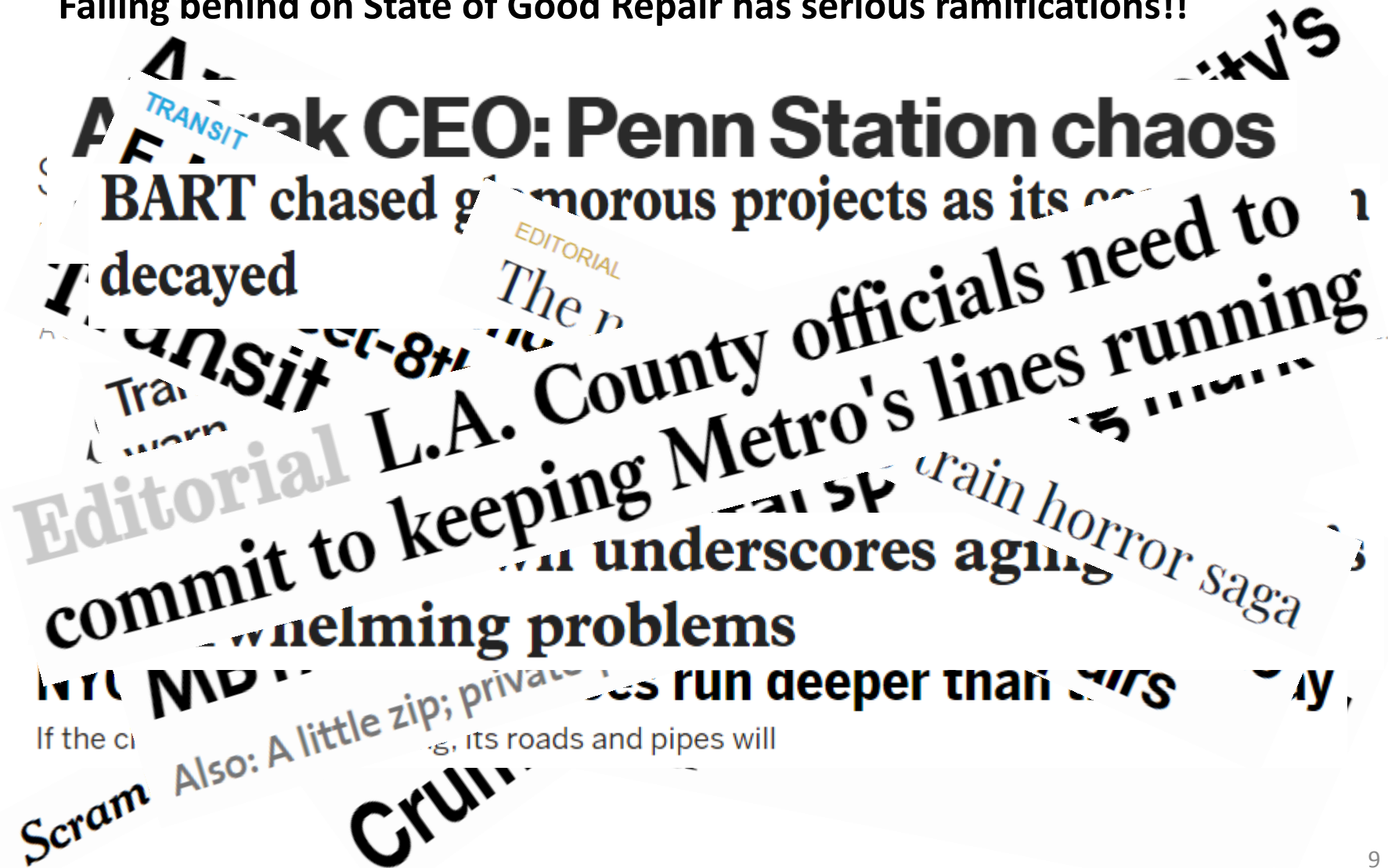
- **Metro & LADOT coordination to identify traffic signal and intersection treatments aimed at increasing speed and reducing delay through downtown LA**
 - **Engaged a traffic engineering consultant to model scenarios for traffic signal timing and cross traffic restrictions that would improve rail running times with minimal impact to traffic, bike and pedestrian movements**
 - **Results are currently being evaluated**
- **City of Long Beach currently constructing Metro funded traffic signal system enhancements along Long Beach Blvd which is expected to reduce Blue Line running times through downtown Long Beach**
- **Metro & multiagency law enforcement partners to increase security presence, prevent crimes and improve response times resulting in fewer rail incidents and therefore train delays**

MBL Travel Time Improvements - Internal

- **Adjusted operations at 7th/Metro terminal reducing train congestion entering terminal, resulting in up to a 2.5 minute travel time improvement and regular headways**
- **Split platform operation for Expo and Blue Line at 7th/Metro Center reduces customer confusion and increases boarding/alighting efficiency on both Expo and Blue Lines**
- **Installed a gate arm at Flower near 18th Street to prevent vehicles from illegally turning left in front of trains when accessing the I-10 onramp**
- **Plans to standardize the curve at Washington/Flower Wye to reduce delays resulting from track maintenance. Potential to flatten the curve to increase speed through the Wye.**
- **New Blue: Plans to bundle improvement and State of Good Repair projects to allow for increased efficiency and expedited completion of work needed to improve infrastructure reliability along the Blue Line**

STATE OF GOOD REPAIR MAINTENANCE

Falling behind on State of Good Repair has serious ramifications!!



NEW BLUE PROJECT PURPOSE AND NEED



Ensures the transit system is safe and in good working condition



Improve overall system reliability and connectivity



Generate local economic benefits and create approximately 3,227 jobs



Metro has committed \$1.2 billion to upgrade the Blue Line which includes system upgrades, station improvements, safety enhancements, and new rail cars



More convenient and safer station access from the Willowbrook neighboring communities



SCOPE OF PROJECT

New Blue **State of Good Repair** & **Capital Improvement** Projects

- New Interlocking Installation
- Overhead Catenary System (OCS) Refurbishment
- Signal System Upgrades
- Corrosion Protection
- Turnout replacements at the Yard
- Access/Interlocking and Imperial Pocket/Interlocking
- Right Of Way & Running Rail Refurbishment
- Embedded street rail replacement in downtown Long Beach
- ETEL/PTEL Replacements
- Rail Fasteners and Fall Protections at Rosecrans Underpass, LA River Bridge, Slauson and Firestone Aerial Sections
- Fiber Upgrades
- Fire Alarm Panel Replacements
- Traction Power System Upgrades
- Duct bank Replacement along LA River
- Demolition/reconstruction of Willowbrook/Rosa Parks Station
- 7th Metro Crossovers
- Washington/Flower Junction Upgrade

Total New Blue Investment during Closure: \$300 million

BENEFITS



Blue Line

- The 28 year old Blue Line and associated systems will be brought into a State of Good Repair
- Due to interlocking additions, reliability will be improved during single track operations for planned work or unplanned incidents
- Improved blue line connections to the surrounding area with new access at 117th street

Willowbrook/Rosa Parks Station

- New Public Plaza, including Metro Customer Service Center, Bike Hub, and Transit Court, to provide Union Station type services at Willowbrook station
- Higher visibility, new all-LED lighting and new security system to enhance safety at the Willowbrook station
- Enhanced bus services with all new bus bays and amenities at Willowbrook station



SCHEDULING OPTIONS (Original Plan)

Project Duration 24 – 36 Months

- 6 month of continuous single tracking for Willowbrook/Rosa Parks improvement
- 52 weekend full closures
- 70 day line segment shutdown between Willow and Downtown Long Beach Stations

Risks

- Increased project cost & extended duration of service impacts
- Wayside Worker Protection risks on active ROW
- Additional operator training and familiarization for multiple project phasing
- Project activities & completion will overlap with Crenshaw Line opening & Regional Connector start-up
- Scheduling project activities around system maintenance could impact completion timeline

SCHEDULING OPTIONS (Recommended Plan)

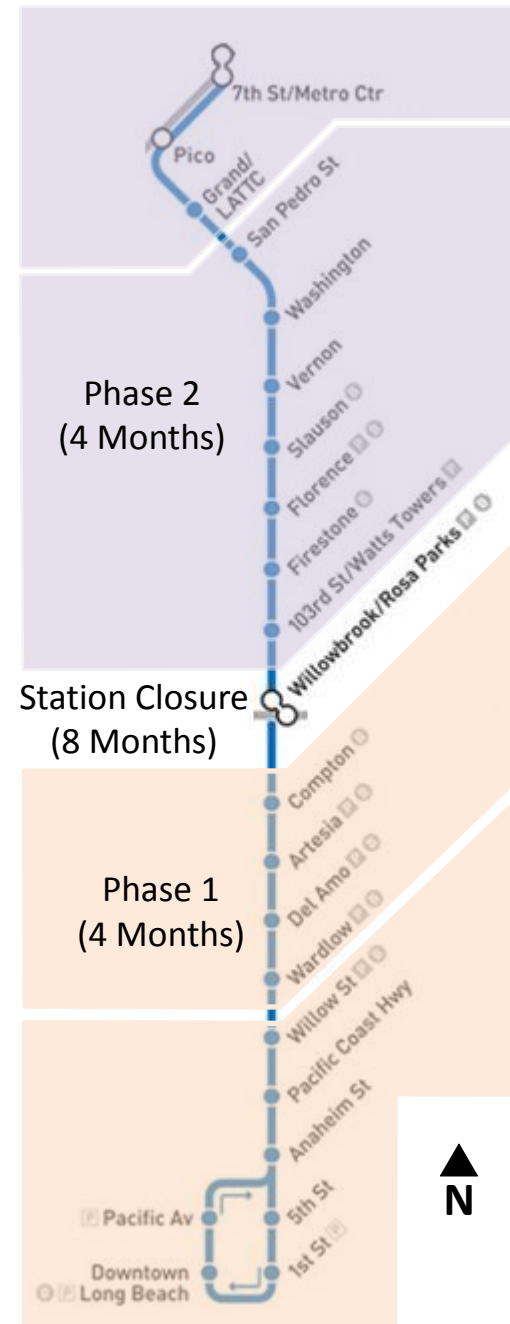
Project Duration 8 Months

- **Phase 1 – 4 month line segment shutdown** between Downtown Long Beach and Compton Stations
- **Phase 2 – 4 month line segment shutdown** between 103rd St and 7th St Metro Ctr Stations
- **8 month full closure of Willowbrook/Rosa Parks Blue Line Station**

Benefits

- Reduce Total Construction Duration
- Reduce Project Costs (\$12 million savings)
- Minimize Duration of Service Impacts
- Minimize Customer Confusion from Service Impacts
- Safer Work Environment

Recommended Plan



BLUE LINE TRAVEL PATTERNS



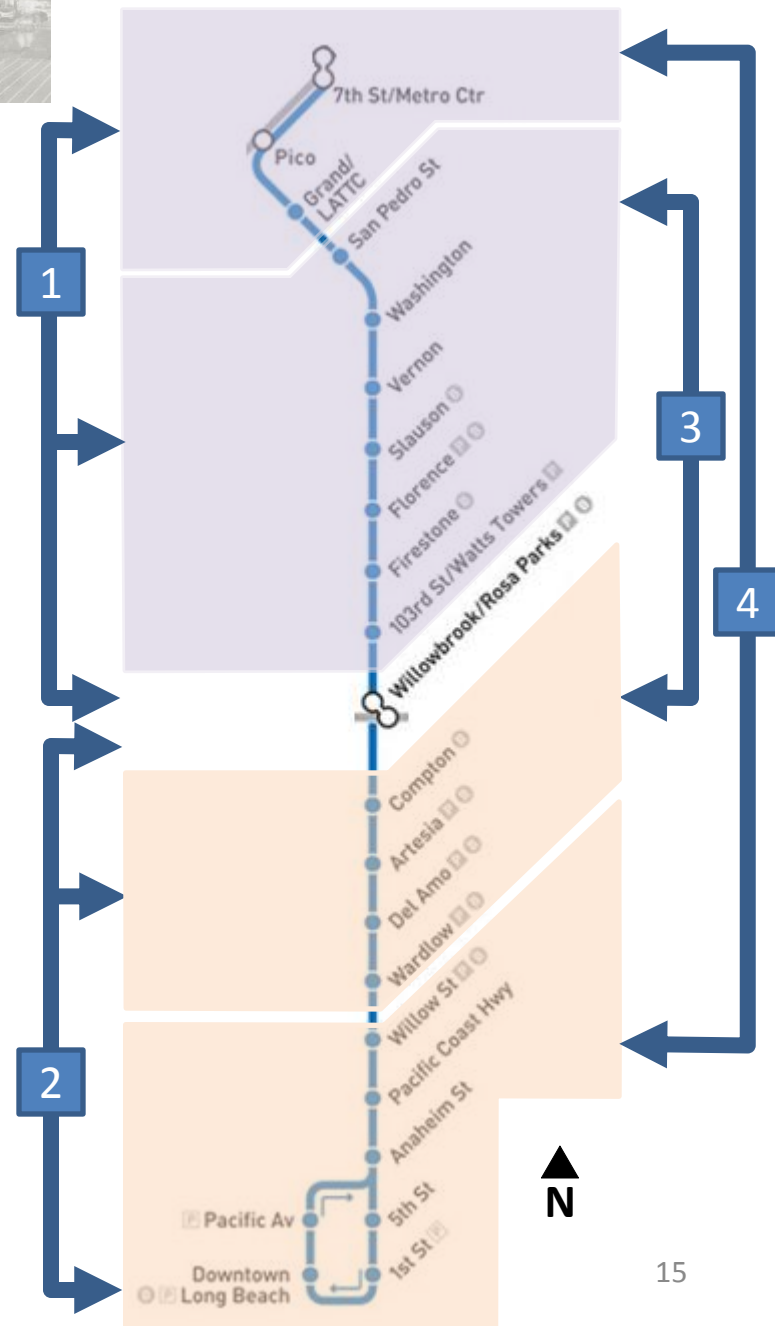
Travel Demand by Segment

- 1** 47% - North (34,177 avg. daily boardings)
- 2** 11% - South (8,118 avg. daily boardings)
- 3** 27% - Mid Corridor (19,501 avg. daily boardings)
- 4** 15% - End to End (11,026 avg. daily boardings)

Top Blue Line Stations

Station	Avg Daily Boardings	% of Total Boardings
7 th St/ Metro	14,017	18%
Willowbrook	10,198	13%
Florence	4,009	5%
Pico	3,920	5%
Willow	3,887	5%

* The remaining stations average approximately 3,000 boardings per weekday



BUS & RAIL SERVICE FOR PHASE 1 (South Closure)

Limited Rail Service

12 minute rail service between 7th St/Metro and 103rd St Station

Replacement Bus Service

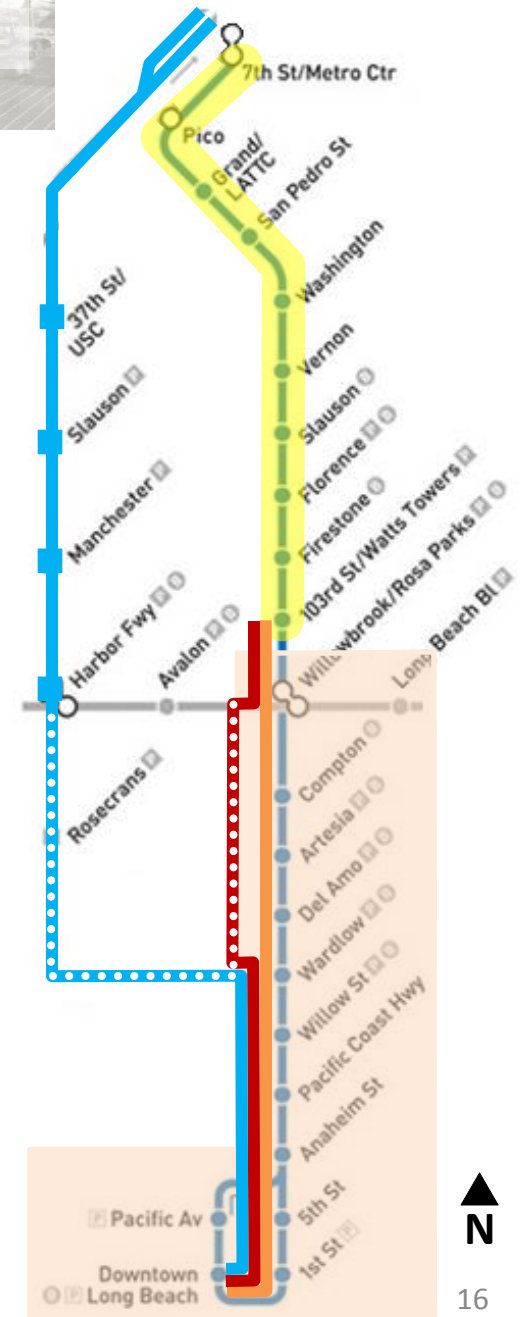
6 minute service between Downtown Long Beach and 103rd St Stations

12 minute rapid service between Long Beach and 103rd St Station (peak only)

12 minute express service between Long Beach and 7th St/Metro Station (peak only)

Bus v. Rail Travel Time Comparison

	Regular Blue Line Service	New Blue Service Plan	Difference
North	30	30	-
South	30	60	+30
Mid Corridor	40	50	+10
End to End	60	60	-



BUS & RAIL SERVICE FOR PHASE 2 (North Closure)

Limited Rail Service

12 minute rail service between 7th St/Metro and 103rd St Station

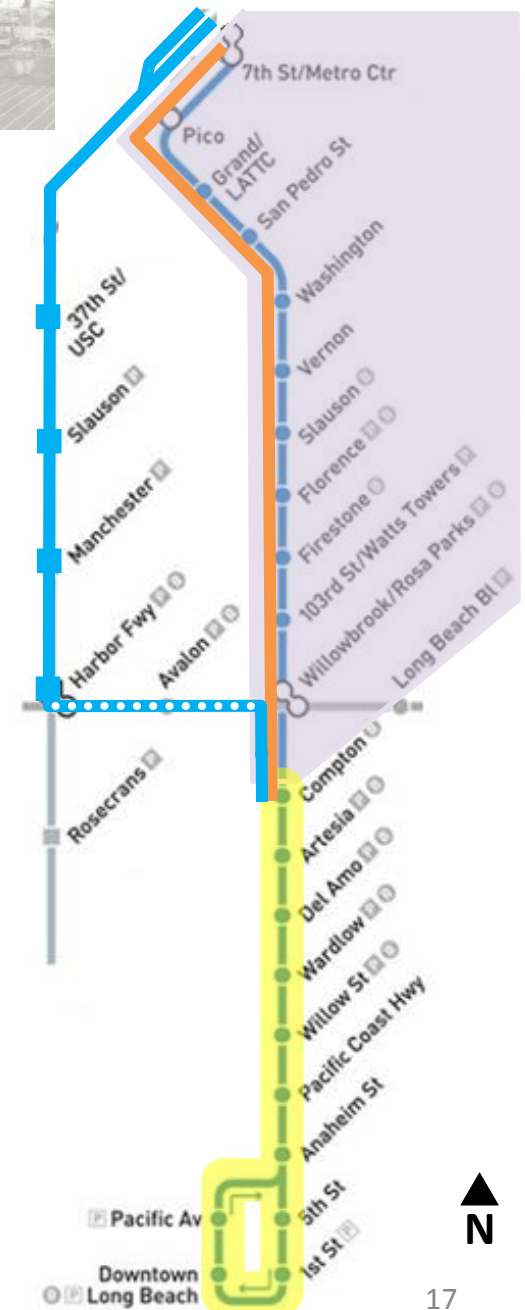
Replacement Bus Service

6 minute service between Compton and 7th St/ Metro Stations

12 minute express service between Compton and 7th St/ Metro Stations (peak only)

Bus v. Rail Travel Time Comparison

	Regular Blue Line Service	New Blue Service Plan	Difference
North	30	60	+30
South	30	30	-
Mid Corridor	40	50	+10
End to End	60	65	+5





SECURITY SUPPORT

SECURITY

- Presence is needed to protect Metro's staff and assets

STAFF

- Some servicing of the rail cars that is normally done at Division 11 may be performed at remote locations.
- Bus Bridge locations will require transit security

ASSETS

- LRV overnight storage locations require security to monitor the rail cars to avoid graffiti and vandalism
- Closed stations will need to be secured and patrolled



COMMUNICATIONS PLAN

- **Dedicated Construction Relation Teams**
 - Distribute take-ones on all Metro rail lines and within the surrounding areas
 - Post articles on agency blogs and alerts on social media channels
 - Advertise on radio, online, print, and social media
- **Direct community engagement**
 - Provide on the ground customer service for at least the first two weeks
 - Notify third party applications
 - Install bus stop and wayfinding signage
 - Notify Community Leadership Council
 - Notify Partner with community associations
- **Focused community outreach to stakeholders:**
 - Notify Metro Service Councils
 - Notify Gateway Cities Council of Governments
 - Notify Local, State, and Federal Elected officials
- **Community engagement programs**
 - Metro Transit Safety Program will distribute information in the surrounding neighborhoods via school presentations and community events
 - Metro Art will notify tour participants



NEXT STEPS

- **March 2018** - Set LOP for MBL Track and System Refurbishment Capital Project
- **April 2018** – Metro Program Management and Maintenance of Way Engineering will award the contract for the MBL Track and System Refurbishment project
- **September 2018** - Begin site construction on Willowbrook/Rosa Parks Station Improvement project
- **January 2019** - Begin Construction on Blue Line Re-signaling, Track & System Refurbishment & Division 11 enhancements
- **October 2019** - Complete New Blue Project and resume full operations