



## Board Report

File #: 2016-0471, File Type: Informational Report

Agenda Number: 50.

### REGULAR BOARD MEETING JUNE 23, 2016

**SUBJECT: RESPONSE TO BOARD MOTION REGARDING METRO BLUE LINE STATION & SECURITY ENHANCEMENTS**

**ACTION: RECEIVE AND FILE**

#### RECOMMENDATION

RECEIVE AND FILE update for Item 30: **Metro Blue Line (MBL) Motion by Mayor Garcetti, Supervisor Knabe, Director Dubois, and Director Dupont-Walker.**

#### ISSUE

Provide update on all MBL safety, security, and State of Good Repair (SGR) capital projects and enhancement efforts for the following: (1) grade crossing gates, (2) pedestrian safety gates, (3) fare enforcement and security, (4) station maintenance, and (5) station fare gate installation.

#### MBL Infrastructure Improvement Projects

Beginning in 2010, Metro implemented infrastructure improvements and SGR activities along the MBL system from the north terminus in Los Angeles to the south terminus in the City of Long Beach. Capital improvement projects have and will continue to address safety and security, system improvements and state-of-good repair projects along the MBL alignment. Project funding was allocated to repair aging infrastructure, improve station functionality, passenger comfort and safety and security. Major acquisition and construction projects underway or recently completed include:

#### State of Good Repair

- Replacement of 20 power substations providing electrical power to trains, stations and all rail systems (Completed 2014)
- Rail replacement and rebooting
- Replacement of life-expired track turnout switches
- Installation of new track crossovers
- Replacement of train control systems
- Replacement and upgrading of Overhead Catenary System (OCS) in Downtown Los Angeles and Long Beach
- Replacement of 69 existing Light Rail Vehicles (LRV) with new P3010 Kinki-Sharyo vehicles

- Power control system back-up battery program

#### Enhancements

- Station refurbishment (Completed in 2015)

#### Safety/Security

- Reconstruction and replacement of the Transit Mall track switch at the Long Beach to address rail-to-wheel interface safety issues
- Pedestrian and grade crossing gates safety review at 27 grade crossings between Washington and Willow Stations

Additional current and planned projects are listed on Attachment B.

Project coordination efforts continue as Metro works with neighboring cities to examine impacts of the projects on the city infrastructure, residents and the feasibility of any other improvements. Metro also reviews the merits of each project in process and additional requested projects by weighing the impacts to rail customers, costs, partner cities, traffic and the residents living around the MBL.

Beginning in the early part of 2010 and concluding in 2014, Metro replaced the critical power substations providing electricity for trains, stations and all rail systems along the alignment. The project replaced the existing Control Power Company (CPC) substations installed during the original construction of the Blue Line in the late 1980s with new Siemens substations. Replacement of the 30 year old substations addressed issues of obsolescence of parts and equipment that were no longer available, safety issues of electrical short protection, prevention of arc flashover, and an upgrade of systems to meet new electrical and fire code regulations. There were 20 existing power substations along the alignment and the storage yard in Long Beach that were successfully replaced and commissioned during the life of the project.

Station refurbishment improvements included improved LED lights for enhanced visibility and security, and installation of new canopies in the station areas. Improvements also include repair and installation of new station platform flooring, public address system, station cameras, landscaping in and around the station, and installation of drought tolerant plant materials and water conserving irrigation systems.

SGR projects were implemented for the track structure along the entire alignment to ensure continuity of operation and required replacement of life-expired track structures. Included in these projects is the replacement of the track crossover turnout switches between Washington and Willow Stations and rail rebooting to address corrosion issues. Rail rebooting involves lifting of the running rails to install a rubber 'boot' to protect from corrosion and improve grounding of the structures. The rebooting project is underway to inspect, repair or replace track structures affected by corrosion in the street running areas of Long Beach and improve insulation of rail-to-ground to eliminate future corrosion. Construction of four new track crossovers along the mid-corridor segment of the line and replacement of the train control systems will improve operational capabilities and running time during incidents, accidents, and maintenance by shortening the distance between track crossovers.

The Long Beach Transit Mall track switch was replaced between September - October 2015 to

---

address identified safety issues with the original design. Safety issues of rail-to-wheel interface were found at the Transit Mall track switch that contributed to abnormal track wear, and train wheels out of tolerance for rail-to-wheel interface when trains were routed to the south platform of the Downtown Long Beach Station.

Additional SGR projects include replacement and upgrading of the OCS in the street running segments of Downtown Los Angeles and Long Beach. Additional capital projects are also underway to improve and maintain the OCS in the segment between Washington and Willow Stations. Metro and the City of Long Beach will be implementing grade crossing improvements upgrading traffic signal operations to coordinate traffic signalization and management, particularly at the Wardlow Grade Crossing. Metro is also seeking to improve grade crossings by modifying operation in both normal and reverse direction of train travel to ensure optimal operation during reverse run operations along with improved monitoring of grade crossing issues with automated reporting to the Rail Operations Control Center. Please see Attachment B for details.

### MBL Security

- The MBL has had 11 less Part 1 crimes between January - April 2016 compared to January - April 2015, which is a 10% decrease. See Attachment C for a graph displaying this data.
- The reduction of Part 1 crimes can be attributed to the continued efforts to improve safety and security on the MBL which include the following:
- Starting in November 2015, staff directed the Los Angeles County Sheriff Department (LASD) to focus more resources on the MBL. This “surge” emphasis is ongoing and in March 2016, total crime on the MBL decreased 10% in comparison to 2015.
- Starting in November 2015, staff established new fixed post assignments at 5<sup>th</sup> Street and Anaheim. Two Security Assistants have been assigned to 1) establish a security presence during peak (daytime) travel hours, 2) conduct fare enforcement operations and 3) periodically ride the MBL as it loops through Long Beach. Late evening Sheriff’s Deputy patrols have been in place as well.
- Starting in May 2016, staff added an additional 10 Sheriff’s personnel to the MBL specifically for late night operations. This is an overtime assignment and is focused on South L.A. and Long Beach Stations and runs through June 30, 2016. Staff will review available (overtime) funding in the upcoming F17 Budget to continue these operations.
- In August 2016, staff expects to award a contract for Private Security Guard Services which will provide late evening security presence by roving throughout Long Beach Stations.
- In October 2015, staff introduced a fully outfitted Security Kiosk at the Willow St. Station off the MBL. This kiosk is staffed with Private Security officers during daytime and evening peak hours.

- Staff has met with the Long Beach Police Department (LBPD) to thank them for their continued assistance patrolling the MBL. In 2015, LBPD accounted for more than 40% of the total fare enforcement for the MBL.
- Metro staff has invited Long Beach Police Department Quality of Life Team to participate in Metro's Homeless Task Force aimed at addressing the adverse effect homelessness has on the Metro Transit System.

#### MBL Fare Enforcement

Metro Security and LASD have increased MBL law enforcement presence and fare enforcement through a combination of station and onboard inspections. These efforts are part of the points listed above.

During the period between January - April 2016, approximately 7% of total MBL ridership was inspected. LBPD accounted for more than 40% of the total enforcement. Fare assessments at five Blue Line stations (Willow St, Willowbrook/Rosa Parks, 7<sup>th</sup> St/Metro Center, Vernon & Del Amo) have indicated an average 15% fare evasion rate with Del Amo, Vernon and Willowbrook/Rosa Parks indicating the highest fare evasion, respectively. Fare enforcement efforts have resulted in approximately 150,000 inspections, yielding 1,000 transit court tickets and 200 non-transit court tickets per month.

#### 100% Fare Enforcement Data

Fare assessments are 100% fare check operations on de-boardings for a specified period of time. Metro Transit Court staff administered this on-going fare enforcement and assessment method with the close cooperation of LASD. Attachment C identifies fare assessments conducted on the MBL from June 2015 to the present. Based on the monthly targets, the average saturation rate is 7%. The goal of these efforts is to reduce fare evasion and encourage proper fare compliance.

The combined efforts of security presence and fare inspections have led to a 10% decrease in Part 1 crime in the period January-April 2016 compared to January-April 2015.

#### MBL Pedestrian Safety Gates

The Pedestrian Safety Gate project is a multiyear initiative which includes installation of pedestrian and emergency exit/swing gates at 27 at-grade rail crossing intersections to minimize the potential of train/pedestrian accidents as well as to enhance public safety awareness and improve on-time train operations. The design is customized for each location that includes installation of a California Public Utility (CPUC) standard pedestrian gate, emergency exit/swing gate, associated safety railing and fencing, and street/curb ramp improvements for ADA compliance. The entire work along the MBL alignment falls within several jurisdictions including the City and County of Los Angeles, City of Compton and City of Long Beach. Project improvements include:

- Installation of pedestrian oriented crossing arms, bells and flashing lights that are activated along with the grade crossing warning systems
- Installation of barriers to improve pedestrian safety by creating queuing zones separated from the track areas and also to reduce jaywalking
- Installation of swing gates adjacent to crossing arms to prevent pedestrians from running

- across tracks, but allow for exiting the track area without becoming trapped
- Upgraded signage for compliance

Metro awarded the construction contract to Icon West Inc. (IWI) who was evaluated to be the lowest responsible bidder and a Notice to Proceed (NTP) was issued on October 12, 2015. Metro also concluded negotiations with Union Pacific (UP) and a Memorandum of Understanding (MOU) was executed on January 19, 2016 stipulating that UP is responsible for all construction work required on their side of the crossing locations and will be compensated by Metro for their work. Construction work is currently underway in Long Beach and is progressing north towards Los Angeles. Activities are progressing well and in accordance with the project baseline schedule. Underground work and foundation work at 16 of the 27 locations has been completed, which involves construction of trenches and installation of utility conduits necessary to support the project. Pedestrian gate foundations have also been completed along with work on the sidewalks at 2 grade crossing locations in the City of Long Beach, and will be followed by similar work in the City of Compton in June 2016. Work in the City of LA will commence once LADOT completes review and approval of the final design plans for crossings within their jurisdiction. Work at the 23 UP railroad crossings will be completed by UP between April - September 2016.

#### MBL Grade Crossing Gates

Grade crossing safety enhancements and improvements continue to be reviewed by Rail Operations, Safety, Construction, and the cities along the alignment. Improvements at grade crossings are reviewed for implementation as new technology is developed to improve safety at the critical juncture of vehicle, pedestrian, bicycle and train movement. Grade crossing safety improvements for vehicular traffic are also reviewed to reduce incidents between vehicular traffic and trains. Some of the improvements and safety enhancements that have been reviewed for capital funding include:

- Quad gates adding additional crossing arms, bells and flashing lights to all four quadrants of a railroad crossing preventing motorists from driving around gates in opposing lanes
- Embedded sensors within the track area to alert train operators of vehicle or debris obstructions
- Raised curbs and median barriers to improve vehicle queuing area
- Review of vehicle and grade crossing signage for increased safety and regulatory compliance

#### MBL Station Maintenance

Rail station maintenance services all stations twice a day/seven days a week and daily activities include, but are not limited to, removing trash from trash receptacles, platforms, stairs and mezzanine levels, along with cleaning spills as they occur. Two to three times per week, each station is pressure washed. Each station is also fully inspected monthly specifically for ADA, public address system, lighting, map cases, platform condition, monitors, cameras, and any other potential safety hazards. All findings are assigned to the appropriate staff for repair or replacement.

All Metro Blue Line Station structures were prepped and painted from June 2013 - July 2014 in an effort to continuously improve the MBL appearance. Metro's graffiti and landscape contractor staff performs various maintenance activities at Metro Blue Line stations and along the right-of-way including: daily removal of graffiti, bi-weekly landscaping maintenance, and glass film and stainless steel surfaces are inspected every six weeks and replaced if etched or damaged. Quarterly herbicide

application activities and tree trimming activities also take place at the MBL. Broken glass on elevators or map cases is replaced as needed. Pest control, bird control and fencing services take place monthly, or as needed at MBL stations. All Metro elevators and escalators at the MBL are maintained by a contractor with oversight from Facilities Maintenance staff. Their maintenance programs include weekly, monthly, semi-annual and annual maintenance with immediate response to each report of an operation issue.

### MBL Station Fare Gate Installation

Preliminary analysis was conducted by staff for all MBL Stations starting in 2014. This includes Wardlow, Transit Mall, Pacific, 1<sup>st</sup>, and 5<sup>th</sup> St. Stations. This analysis found that there may not be sufficient space necessary for the installation of gates. Wardlow Station for example, may require converting the south entrance to an emergency exit and Wardlow's North entrance may require the use of adjacent park-n-ride spaces to accommodate the necessary number of fare gates. The TAP Vending Machines (TVMs) would also have to be relocated off the station platform, requiring trenching for power and communications lines. Downtown Long Beach stations: Transit Mall, Pacific, 1<sup>st</sup>, and 5<sup>th</sup> St. Stations are located in the center of the street and may require lane encroachments to widen the ramps in order to accommodate fare gates. Further, TVMs may have to be relocated off the platform and installed in areas now used by traffic lanes or on street sidewalks. This may involve widening of sidewalks to accommodate wheel chair patrons, trenching, installation of proper lighting, CCTV cameras for security, canopies, and map cases.

## BACKGROUND

Since FY2007, Metro has spent more than \$126 million addressing deferred maintenance items including reconstruction of grade crossings and replacement of all traction power substations, as well as refurbishment to key overhead power system components and some rail vehicle sub-systems. An additional \$217 million is planned for expenditure through FY2019. Elements being addressed in the deferred maintenance program include station refurbishment, maintenance shop ventilation upgrade and water mitigation, yard signal system rehabilitation, main line signal system replacement, rail replacement and study current prevention, turnout track replacement, continued P865 vehicle systems component overhauls, Siemens P2000 vehicle mid-life overhauls, upgrades and other vehicle enhancements, and communication and signal building rehabilitation.

## DETERMINATION OF SAFETY IMPACT

The primary safety consideration for installation of any fare gating system, or components, is to ensure passengers can evacuate safely from the station in a timely manner during an emergency. Requirements for this are stipulated in the National Fire Protection Association (NFPA 130) standards. These standards include maintaining the ability for customers to be evacuated from the station platform within 4 minutes, maintaining the walking time from the furthest point on the platform from an exit to a safe area within 6 minutes, and maintaining that at least 50% of the required exit capacity be provided by emergency exits and emergency swing gates. MBL station and security enhancement projects will have a positive impact on safety as these projects and initiatives will improve system reliability, reduce the level of deferred maintenance, and help address environmental and quality-of-life needs along the MBL for our customers.

---

**NEXT STEPS**

Safety and security continue to be a top Metro priority in the development of all rail projects across Los Angeles County. Metro staff will continue to conduct and advocate for a range of projects and campaigns along all our existing Metro rail lines, including the MBL to improve safety and security measures, along with SGR projects. For the gating efforts, staff will work with a consultant to perform a detailed engineering analysis that consists of equipment quantities analysis, queuing analysis and exit calculations of Wardlow, Transit Mall, Pacific, 1<sup>st</sup> and 5<sup>th</sup> street MBL stations. Additionally, future fiscal year budgets will include specific requests for operating and capital funding that will reduce the level of deferred maintenance and improve system reliability for the MBL and other rail lines.

**ATTACHMENTS**

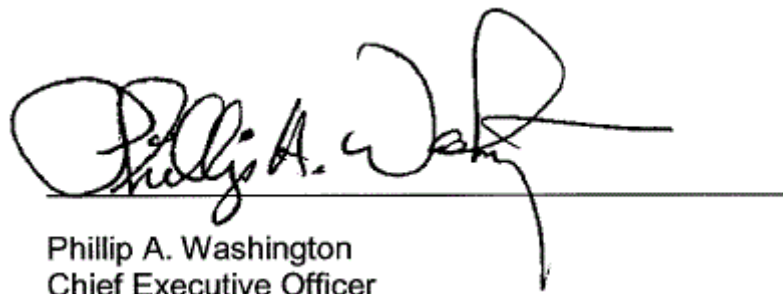
Attachment A - Item 30: Motion Regarding Blue Line Safety Station & Security Enhancements

Attachment B - List of MBL Current and Planned Projects

Attachment C - MBL Fare Enforcement & Security Data

Prepared by: Hector A. Guerrero, DEO, Rail Operations, (213) 617-6230  
Samuel Mayman, EO, Engineering Management, (213) 922-7289  
Nareh Nazary, Transportation Planner I, Executive Office  
Transit Operations, (213) 922-4163

Approved by: James T. Gallagher, COO, Executive Office, Transit  
Operations, (213) 922-4424  
Richard Clarke, Executive Director, Program Management,  
(213) 922-7557  
Nalini Ahujai, Executive Director, Finance and Budget, (213)  
922-3088  
Alex Wiggins, Executive Officer, System Security and Law Enforcement, (213)  
922-7447



Phillip A. Washington  
Chief Executive Officer

**MOTION BY:**

**MAYOR ERIC GARCETTI, SUPERVISOR DON KNABE, DIRECTOR DIANE DUBOIS, DIRECTOR JACQUELYN DUPONT-WALKER**

**MTA Board Meeting**

May 26, 2016

**Item 30: Blue Line Station & Security Enhancements**

Safety and security will continue to be a top MTA priority in the development of rail projects across Los Angeles County.

The MTA CEO has prioritized safety and security reinvestments along all our existing MTA rail lines throughout the County.

For example, MTA is working on making major investments on the Blue Line to improve safety and security measures, along with State of Good Repair capital improvements. Once complete, close to \$300 million (not including rail vehicles) will be invested in the Blue Line.

A recent study issued by the University of California Berkeley (*Grading California's Rail Station Areas*, October 2015) ranked and graded rail stations from six cities in California for accessibility, connections to housing, walkability, and safety.

The study ranked the Blue Line Wardlow Station as one of the worst stations in Los Angeles County and in the State of California.

The Wardlow Station area is generally auto-dominated and lacks the concentrations of jobs or housing. Additionally, the rail crossing is complex and the parking lots are without significant pedestrian activity.

Better station area development can improve and address the environmental and quality-of-life needs surrounding the station.

Additionally, due to the current station configuration, improvements to the rail crossing intersection are warranted.



WE, THEREFORE, MOVE that the Board direct the CEO to report back on the following:

- A. Provide an update at the June 2016 MTA Board meeting on all Blue Line Safety and Security and State of Good Repair capital projects and enhancement efforts, including, but not limited to, the following:
  1. Grade crossing gates
  2. Pedestrian safety gates
  3. Fare enforcement and security
  4. Station maintenance
  5. Station fare gate installation
- B. Initiate a feasibility study to improve safety and security for the Blue Line Wardlow Station and a pilot fare gate program at 4 (four) downtown Long Beach stations.
- C. Prioritize the Wardlow Grade Separation project to receive new funding and/or grants and assign this project to be included in MTA's State of Good Repair, Safety Improvements, and Aging Infrastructure program.
- D. Include the Wardlow Station as part of MTA's "Transit Oriented Communities" pilot projects.
- E. Identify Transit Oriented Development and other land use and development opportunities to maximize the use of Wardlow Station.
- F. Provide a response and report back on items B through E at the August 2016 MTA Board meeting.

###

### MBL Current and Planned Projects

#### Current

##### Safety & Security

ITEM	STATUS
Addition of pedestrian gates to grade crossings	Commenced October 2015. 80% complete on underground work with underground work complete at 2 crossings
Wardlow Grade Crossing improvements	City of Long Beach is currently finalizing traffic plans
Long Beach Loop Train/Street Intersection Improvements	City of Long Beach is currently finalizing traffic plans

##### State of Good Repair Efforts

ITEM	STATUS
OCS Insulator replacement campaign	Completed early 2013
Traction Power Substation Replacement	Completed early 2014
Ductbank Rehabilitation Phase 1 (repair sinkhole damage)	Completed 2014
Trackway erosion/slope stabilization	Completed 2014
Station Rehabilitation	Completed November 2015
Track Crossover turnout replacement	On-going with 37% complete
Fire System Rehabilitation	On-going
Body Shop rehabilitation	Substantially complete May 2016
Systemwide Corrosion Protection System Replacement	In construction
OCS rehabilitation (Downtown LB & LA)	In procurement with NTP anticipated mid-2017
Long Beach track rehabilitation (rail rebooting)	In procurement
Wheel Truing Machine	In procurement
Fire Control Panel Upgrade	Scope currently being prepared for replacement of obsolete fire alarm control panels, systemwide
Ductbank Rehabilitation Phase 2	Scope in development to repair collapsed ductbanks due to sink holes

##### Station Enhancements/Gating/Improving Accessibility

ITEM	STATUS
Willowbrook Station Improvements	Project is currently in design development and will involve improvements to the park-n-ride, passenger drop of areas and new Metro Transit Plaza with provisions for fare gates

**Planned****Capital Improvement & State of Good Repair Projects**

ITEM	PURPOSE
PA/TPIS Rehabilitation	Capital Project – proposal in development to improve available visual and audio communication to customers, especially during incidents affecting train service
Emergency Trip System (ETS) Replacement	SOGR - Replacement of obsolete equipment
Grade crossing signal case replacement	SOGR - Replacement of obsolete and life-expired equipment
Rail Replacement & Booting between San Pedro and Washington	Capital Project - enable track circuiting for train monitoring, to inspect, repair or replace track structures affected by corrosion and to improve corrosion protection
Switch machine replacement	SOGR – Track switch machine equipment is nearing end-of-life
OCS rehabilitation (mid corridor)	Capital Project - proposal in development for targeted replacement of contact wire and some insulators and terminations between Washington and Willow
Anaheim Crossover replacement	Capital Improvement - Existing crossover is hand-throw only and usability is very limited
9th Street Track Diamond Crossover Replacement	SOGR - Placement of existing track work nearing end-of-life
Train control Relay overhaul	SOGR - Overhaul campaign of signal relays
Station Refurbishments – phase 2	Possible Capital Project in discussion
7th & Metro Electrical and Ventilation Systems	SOGR - Replacement/overhaul of obsolete switchgear and overhaul of emergency ventilation equipment
Del Amo Settlement Mitigation	Possible Capital Project in discussion
Downtown LA Ductbank drainage	Possible Capital Project in discussion
Downtown LA parallel feeder replacement	Possible Capital Project in discussion

**MBL Fare Enforcement & Security Data**

MBL Daily Fare Enforcement for January 2016 – April 2016

		MPV CHECKS	TRIPLE DOUBLE	TRANSIT COURT TICKETS	NON-TRANSIT COURT TICKETS	TOTAL CONTACTS	TARGET ATTAINED	RIDERSHIP	SATURATION RATE
Jan	2016	145,886	0	1,044	220	147,150	69%	1,981,639	7%
Feb	2016	166,708	0	949	177	167,834	79%	1,931,369	9%
Mar	2016	149,765	0	976	174	150,915	71%	2,105,889	7%
Apr	2016	131,307	0	929	194	132,430	62%	2,030,771	7%
Average Saturation Rate									7%

MBL Fare Assessments for June 2016 – May 2016

DATE	STATION	GREEN CHECKS	RED CHECKS	YELLOW CHECKS	TOTAL CHECKS	FARE EVASION RATE	MISUSE RATE
<b>BLUE LINE</b>							
6/18/2015	WILLOW	40	3	4	47	6%	8%
9/3/2015	WILLOWBROOK	1,383	370	195	1,948	19%	10%
10/6/2015	7TH/METRO	10,281	678	339	11,298	6%	3%
2/11/2016	VERNON	536	147	68	751	20%	9%
5/12/2016	DEL AMO	529	200	98	827	24%	12%
AVERAGE		2,554	280	141	2,974	15%	8%

MBL Part 1 Crimes for January 2011 – January 2016

