

Metro Transit - Capital Improvement Program (CIP)

The CIP program consists of two areas of focus, State of Good Repair (SGR) and Transit Improvements/Modernization (TIM). The following section discusses the projects within each area.

Metro Transit - State of Good Repair

State of Good Repair (SGR) projects within the CIP focus on replacing or maintaining assets that have met or exceed their useful life. This category focuses on keeping the system in a safe and reliable condition to deliver Board approved service levels. These are generally recurring projects.

Transit Capital Improvement Program State of Good Repair (SGR)

Capital Category (\$ in millions)	FY22 Active	FY23 Preliminary	\$ Change	% Change	% of Total
1 Bus Acquisition	\$ 93.1	\$ 82.1	\$ (11.0)	(11.8)%	16.4%
2 Bus Facilities Improvements	16.8	16.6	(0.2)	(1.4)%	3.3%
3 Bus Maintenance	47.1	41.7	(5.4)	(11.4)%	8.3%
4 Bus	\$ 157.0	\$ 140.4	\$ (16.6)	(10.5)%	28.0%
5 Rail Facilities Improvements	4.8	5.8	1.0	21.7%	1.2%
6 Rail Fleet Procurement	91.9	55.8	(36.1)	(39.3)%	11.1%
7 Rail Vehicle Maintenance	90.4	112.7	22.3	24.7%	22.5%
8 Wayside Systems	14.7	42.1	27.4	186.9%	8.4%
9 Rail	\$ 201.7	\$ 216.4	\$ 14.7	7.3%	43.2%
10 Non-Revenue & Other SGR	3.4	5.6	2.2	65.9%	1.1%
11 Regional and Hubs	1.0	6.0	5.0	503.1%	1.2%
12 Systemwide Assets	\$ 4.4	\$ 11.7	\$ 7.3	165.3%	2.3%
13 Bus, Rail & Other Subtotal	\$ 363.1	\$ 368.4	\$ 5.4	1.5%	73.6%
14 Regional and Hubs	29.3	19.7	(9.6)	(32.7)%	3.9%
15 Technology	20.6	37.7	17.1	82.9%	7.5%
16 Other Asset Improvements	\$ 49.9	\$ 57.4	\$ 7.5	15.1%	11.5%
17 Metro Transit - SGR Subtotal	\$ 412.9	\$ 425.8	\$ 12.9	3.1%	85.1%
18 Metro Transit - TIM	\$ 78.2	\$ 74.8	\$ (3.4)	(4.4)%	14.9%
19 Total Metro Transit Proposed Budget	\$ 491.2	\$ 500.6	\$ 9.4	1.9%	100.0%

Bus - State of Good Repair

Bus Acquisition, Facilities Improvements, and Bus Maintenance make up \$140.4 million, 28.0% of the total CIP budget.

Bus Acquisition

Metro is continuing its pursuit of a truly sustainable bus fleet. The Board has adopted a goal of converting Metro's entire fleet of buses from Compressed Natural Gas (CNG) to Zero Emission electric vehicles by the year 2030. This is an ambitious goal considering Metro has the second largest bus fleet in the United States, and places high mileage and vehicle performance demand on its 2,300 buses. Electric and Zero Emission bus technology is still in the development stage. Metro will partner with electric bus manufacturers to test, develop, and improve electric bus technology to the point of full technological maturity. FY23 Bus acquisition and delivery represents a step towards realizing this goal. Bus acquisition consists of procurement and delivery of buses to replace buses scheduled for retirement, supporting ever-evolving service improvements, and for initiating Electric/Zero Emission Buses (ZEB) bus deployment on various bus transit corridors. Approximately \$82.1 million, 16.4% of the CIP budget is allocated for these efforts. Metro anticipates commencing delivery of approximately 60 forty-foot ZEB buses and finalizing payment for 40' and 60' buses. Metro is also investing approximately \$20M in charging infrastructure. Placement of electric charging equipment and infrastructure will occur at stations on the J Line (Silver) alignment, as well as operating divisions.

Bus Facilities Improvements

Bus Facilities Improvements make up \$16.6 million, 3.3% of the CIP budget. These projects include development of master plans for facility upgrades, site refurbishment, and site reconfigurations to upgrade and maintain facilities. Upgrades include regulatory compliance mandates, such as replacement of underground fuel storage tanks, roofs, building ventilation, upgrade of fire alarm systems, and bus division pavement replacement.

Bus Maintenance

Bus maintenance projects represent \$41.7 million, 8.3% of the CIP budget. Although this is a decrease from the FY22 budget, the budget request reflects the specific resource needs to perform scheduled maintenance. Bus maintenance projects include bus midlife refurbishment and integrated engine replacement. Midlife refurbishment ensures that our buses are operational for their designated useful life, which includes structural integrity checks and change-out of critical system components. The refurbishment program also consists of installation of live view security monitors, fare box upgrades, and upgraded ADA wheelchair securement equipment. All buses scheduled for midlife refurbishment are based on bus age, miles accumulated thus far in revenue service, and reliability measurements of the bus series.

Rail - State of Good Repair

Rail Fleet Procurement, Vehicle Maintenance, Facilities Improvements, and Wayside Systems repair and replacement total \$216.4 million, 43.2% of the CIP budget.

Rail Fleet Procurement

Light and Heavy Rail Vehicle procurement is allocated \$55.8 million, 11.1% of the CIP budget. It is dedicated to vehicle deliveries for both rail expansion and existing vehicle replacement. Light rail vehicle deliveries are in the final stage of production and delivery. Staff will focus on closing out production and assembly installations. When these activities are complete, the vehicles will be accepted, final progress payments paid, and deployed for existing service and expansion pre-revenue activities.

Heavy Rail pilot vehicles are scheduled for delivery, inspection, and testing. This is the initial major milestone in the process of replacing the original B (Red) Line cars that began service in 1992. These new vehicles will replace the existing vehicles and will have many amenities that will enhance the transit customer experience.

Rail Vehicle Maintenance

Rail Vehicle Maintenance projects are allocated \$112.7 million, 22.5% of the CIP budget. Two major vehicle component overhaul programs will continue to augment the quality of the rail fleet. Additional customer amenities will be installed. Vehicle subsystem overhaul will include refurbishment of gearboxes, Heating, Ventilation, and Air Conditioning (HVAC) systems, and other major equipment that require specialized technical skills to rebuild.

The Heavy Rail vehicle midlife modernization consists of the change out of critical system components to extend the vehicle useful life on B (Red) Line vehicles. Vehicles scheduled for midlife will be sent offsite and be brought back for testing, inspection, and final acceptance. Midlife refurbishment includes inspection and overhaul of critical assemblies that include propulsion power systems, friction brake control, Automatic Train Control (ATP), and numerous subsystems required to improve operational reliability. Refurbishment also includes the installation of a fire mist suppression system, which will provide an economical fire life safety solution on the Red and Purple Lines.

Light Rail overhauled vehicles will also be delivered for testing on the Green and Blue Lines. The vehicles were also sent offsite for a complete overhaul and new component installation. New Automatic Train Protection (ATP) equipment will enable the trains to on the Blue and Crenshaw Lines and in street mode. The critical operational systems for overhaul include friction brakes, air compressor motors, and gearboxes.

Rail Facilities Improvements

Rail Facilities projects make up \$5.8 million, 1.2% of the CIP budget. Projects are slated to maintain existing rail facilities with mandated regulatory upgrades such as station/facility fire control panel installation, platform gate replacement, various lighting

retrofits, roof replacements, ventilation, HVAC system repairs, pavement replacement, and driveway widening.

Wayside Systems

Wayside system improvements make up \$42.1 million, 8.4% of the CIP budget. Projects include the on-going replacement of the Supervisory Control and Data Acquisition (SCADA) system, as well as track system replacement, Overhead Catenary System (OCS) inspection/refurbishment, train control track circuits, train-to-wayside (TWC) communication system, tunnel corrosion mitigation, and many other maintenance projects.

Other Asset Improvements - State of Good Repair

Other Asset Improvements total \$57.4 million, 11.5% of the CIP budget. These projects are slated for regional construction improvements, replacement of maintenance vehicles/equipment, and technology upgrades. Metro will be making significant investments in track and tunnel intrusion technology, enhanced CCTV systems, and improvements to signage and wayside throughout the system. System technology purchases and upgrades for agency infrastructure and customer support systems. A significant technology project is continuing efforts with development and integration of the Enterprise Asset Management System (EAMS). The EAMS project will integrate maintenance activities and track agency-wide capital assets. Significant investments will also be made in Transit Signal Priority (TSP) and Bus Mobile Validators (BMV) for all door boarding, as a part of NextGen.

Metro Transit - Transit Improvements/Modernization

Transit Improvements/Modernization (TIM) projects within CIP focus on projects that are outside the scope of recurring maintenance or replacement of capital assets. They consist of a variety of project types. Major technological enhancements to existing assets or replacement of existing assets with much more advanced assets are a focal point of this category. It also comprises of projects that will significantly expand the scope or delivery method of services. These are generally one-time or unique projects.

Transit Capital Improvement Program
Transit Improvements/Modernization (TIM)

Project Name (\$ in millions)	FY22 Active	FY23 Preliminary	\$ Change	% Change	% of Total
1 Metro Center Street Project	46.9	15.1	(31.8)	(67.9)%	3.0%
2 Willowbrook/Rosa Parks Stn Improv	6.3	4.6	(1.7)	(27.1)%	0.9%
3 MBL Resignaling Rehabilitation	6.4	4.5	(1.9)	(29.8)%	0.9%
4 Fare Capping	3.9	2.5	(1.4)	(36.4)%	0.5%
5 Rail To Rail Seg A	10.0	21.5	11.6	116.1%	4.3%
6 Industrial Park Study	-	1.2	1.2	N/A	0.2%
7 EV Infrastructure J/Silver Line	-	11.4	11.4	N/A	2.3%
8 Patsaouras Plz Station Improvements	0.7	0.4	(0.3)	(47.7)%	0.1%
9 Customer Service Tech Upgrades	0.1	0.4	0.2	169.9%	0.1%
10 EV Charging Station At Metro Rail	0.0	0.3	0.3	714.2%	0.1%
11 Customer Resource Mgmt Upgrades	0.6	0.3	(0.3)	(54.5)%	0.0%
12 MBL Pedestrian Gates	0.0	0.1	0.1	291.0%	0.0%
13 General Safety Improvements	-	5.2	5.2	N/A	1.0%
14 Safety Management Sys Upgrades	0.2	0.0	(0.1)	(79.7)%	0.0%
15 MBL Track & System Refurbishment	2.5	0.0	(2.5)	(98.8)%	0.0%
16 Bus Mobile Validators	-	7.4	7.4	N/A	1.5%
17 Metro Emergency Operations Center	0.8	0.0	(0.8)	(99.7)%	0.0%
18 Metro Transit - TIM Subtotal	\$ 78.2	\$ 74.8	\$ (3.4)	(4.4)%	14.9%
19 Metro Transit - SGR	\$ 412.9	\$ 425.8	\$ 12.9	3.1%	85.1%
20 Total Metro Transit Proposed Budget	\$ 491.2	\$ 500.6	\$ 9.4	1.9%	100.0%

TIM budget requests include the completion of Rosa Parks/Willowbrook Station refurbishment, preliminary design and engineering of a co-located Rail Operations Center/Bus Operations Center (ROC/BOC), preliminary design of construction of an integrated Emergency Security Operations Center (Center Street) and completion of Patsaouras Plaza station improvements. This also includes investments in Fare Capping, Customer Relations Management (CRM) technology, and EV Charging infrastructure at rail stations. Rail to Rail Segment A connects the Metro Blue Line to the future Crenshaw/LAX Line via a bike path and pedestrian walkway. Professional and technical services for the Industrial Park project are also budgeted in this area. Final elements of A (Blue) Line resignaling are accounted for as well.