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Agenda - Final

Thursday, November 17, 2022

12:30 PM

To give written or live public comment, please see the top of page 4

**Operations, Safety, and Customer Experience
Committee**

Holly J. Mitchell, Chair

Tim Sandoval, Vice Chair

Mike Bonin

Paul Krekorian

Sheila Kuehl

Gloria Roberts (Interim), non-voting member

Stephanie Wiggins, Chief Executive Officer

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(ALSO APPLIES TO BOARD COMMITTEES)

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Notwithstanding the foregoing, and in accordance with the Brown Act, this agenda does not provide an opportunity for members of the public to address the Board on any Consent Calendar agenda item that has already been considered by a Committee, composed exclusively of members of the Board, at a public meeting wherein all interested members of the public were afforded the opportunity to address the Committee on the item, before or during the Committee's consideration of the item, and which has not been substantially changed since the Committee heard the item.

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- b. A breach of the peace, boisterous conduct or violent disturbance, tending to interrupt the due and orderly course of said meeting.
- c. Disobedience of any lawful order of the Chair, which shall include an order to be seated or to refrain from addressing the Board; and
- d. Any other unlawful interference with the due and orderly course of said meeting.

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The Committee Meeting begins at 12:30 PM Pacific Time on November 17, 2022; you may join the call 5 minutes prior to the start of the meeting.

Dial-in: 888-251-2949 and enter
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Public comment will be taken as the Board takes up each item. To give public comment on an item, enter #2 (pound-two) when prompted. Please note that the live video feed lags about 30 seconds behind the actual meeting. There is no lag on the public comment dial-in line.

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La Reunion de la Junta comienza a las 12:30 PM, hora del Pacifico, el 17 de Noviembre de 2022. Puedes unirte a la llamada 5 minutos antes del comienso de la junta.

Marque: 888-251-2949 y ingrese el codigo
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Please include the Item # in your comment and your position of "FOR," "AGAINST," "GENERAL COMMENT," or "ITEM NEEDS MORE CONSIDERATION."
Email: BoardClerk@metro.net
Post Office Mail:
Board Administration
One Gateway Plaza
MS: 99-3-1
Los Angeles, CA 90012

CALL TO ORDER

ROLL CALL

APPROVE Consent Calendar Items: 30, 31, 32, 33, 34, 35, 36, 37, and 38.

CONSENT CALENDAR

30. SUBJECT: NEXTGEN CAPITAL IMPROVEMENT - NEXTGEN WIRELESS CLOUD-BASED TRANSIT SIGNAL PRIORITY SYSTEM (TSP)

[2022-0472](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a firm fixed price Contract No.PS87006000 to Kimley-Horn for the design, development, and implementation of a wireless cloud-based transit signal priority (TSP) system on NextGen Tier One network in the City of Los Angeles for a total contract amount of \$5,668,680, subject to resolution of properly submitted protest(s), if any.

Attachments: [Attachment A - Procurement Summary](#)
[Attachment B - DEOD Summary](#)

31. SUBJECT: PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

[2022-0524](#)

RECOMMENDATION

APPROVE the updated PTASP (version 1.2), which documents Metro's processes and activities related to Safety Management System (SMS) implementation in compliance with Federal and State regulations (Attachment A).

Attachments: [Attachment A - PTASP Version 1.2](#)

32. SUBJECT: BUS PEST CONTROL SERVICES

[2022-0649](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a five-year, firm fixed unit rate Contract No. OP75359-2000 to Rentokil North America, Inc. dba Isotech Pest Management to provide bus pest control services for an amount not-to-exceed \$4,917,442, effective December 2022, subject to the resolution of protest(s), if any.

Attachments: [Attachment A - Procurement Summary](#)
[Attachment B - DEOD Summary](#)

33. SUBJECT: A650 HEAVY RAIL VEHICLE MIDLIFE MODERNIZATION

[2022-0678](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to solicit competitive negotiations Request for Proposals (RFPs), pursuant to Public Contract Code (PCC) §20217 and Metro’s procurement policies and procedures for the midlife modernization of Metro’s A650 Heavy Rail Vehicles (HRVs).

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

Attachments: [Attachment A - Metro EFC Map - 2022](#)

34. SUBJECT: MANAGED PRINT AND DIGITAL COPY SERVICES

[2022-0719](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a five-year, firm-fixed unit rate Contract No. PS83011000 to Canon Solutions America, Inc. to provide managed print and digital copy services Metro-wide for an amount not-to-exceed \$3,620,673, effective March 1, 2023, subject to resolution of protest(s), if any.

Attachments: [Attachment A - Procurement Summary MFD](#)
[Attachment B - DEOD Summary](#)

35. SUBJECT: METRO 2022 TRANSIT SERVICE POLICY

[2022-0262](#)

RECOMMENDATION

ADOPT the 2022 Transit Service Policy (Attachment A).

Attachments: [Attachment A - December 2022 Metro Transit Service Policies and Standards](#)
[Attachment B - The Redline Version](#)

36. SUBJECT: MANUFACTURING CAREERS POLICY

[2022-0760](#)

RECOMMENDATION

ADOPT the Manufacturing Careers Policy (MCP), to administer the United States Employment Program (USEP) for federally funded Rolling Stock contracts and the Local Employment Program (LEP) for non-federally funded Rolling Stock Contracts (Attachment A).

Attachments: [Attachment A - Manufacturing Careers Policy Presentation](#)

37. SUBJECT: REFURBISH BUS AND RAIL SEAT INSERTS WITH VINYL MATERIAL

[2022-0730](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award two indefinite delivery/indefinite quantity (IDIQ) firm fixed unit rate contracts for RFP No MA91724 for the refurbishment of various seat inserts, as follows:

- A. Contract No. MA91724000 to Molina Manufacturing to provide vinyl seat refurbishment for Element A - NABI composite buses and Element C - Contracted Services buses. The contract not-to-exceed amount is \$978,873.26, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.
- B. Contract No. MA91724001 to Louis Sardo Upholstery, Inc. to provide vinyl seat refurbishment for Element B - P3010 light rail vehicles. The contract not-to-exceed amount is \$1,868,836.50, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)

38. SUBJECT: EXPRESSLANES FASTRAK 6C ELECTRONIC TOLL COLLECTION TRANSPONDERS

[2022-0665](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a three-year, Firm Fixed Price Contract No. DR84996000 to Neology, Inc., the lowest cost responsive and responsible bidder, to furnish FasTrak 6C Electronic Toll Collection transponders, and supporting accessory materials and services, in the total Contract amount of \$12,380,190, inclusive of all applicable taxes and fees, subject to resolution of any properly submitted protest(s), if any.

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)
 [Attachment C - EFC ExpressLanes Map](#)

NON-CONSENT

39. SUBJECT: REMARKS BY THE CHAIR

[2022-0780](#)

RECOMMENDATION

RECEIVE presentation from ACT LA regarding Compton Station Safety Activation.

40. SUBJECT: OPERATIONS EMPLOYEES OF THE MONTH [2022-0708](#)

RECOMMENDATION

RECOGNIZE Operations Employees of the Month.

Attachments: [Presentation](#)

41. SUBJECT: NEW HR5000 HEAVY RAIL VEHICLES PROCUREMENT [2022-0677](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to solicit competitive negotiations Request for Proposals (RFPs), pursuant to Public Contract Code (PCC) §20217 and Metro's procurement policies and procedures for the acquisition of new Heavy Rail Vehicles (HRVs).

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

Attachments: [Attachment A - Metro EFC Map - 2022](#)

42. SUBJECT: ORAL REPORT ON OPERATIONS AND SERVICE RESTORATION UPDATE [2022-0709](#)

RECOMMENDATION

RECEIVE oral report on Operations ridership, hiring, and service restoration.

Attachments: [Presentation](#)

43. SUBJECT: FULL RESTORATION OF METRO BUS SERVICE (7 MILLION REVENUE SERVICE HOURS) AS PART OF DECEMBER 2022 SERVICE CHANGE [2022-0728](#)

RECOMMENDATION

RECEIVE AND FILE a status report on the full restoration of Metro bus scheduled service (7 million revenue service hours) effective December 11, 2022 as part of Metro's December 2022 service change.

Attachments: [Attachment A - Motion 10.1](#)
[Attachment B - Motion 27.1](#)
[Attachment C - Motion 43](#)
[Attachment D - Description of December 2022 Service Change](#)
[Attachment E - Map of December 2022 Service Improvements](#)
[Attachment F - Metro Transit Service Frequencies - December 2022](#)
[Presentation](#)

44. SUBJECT: NEXTGEN BUS PLAN EFFECTIVENESS ASSESSMENT [2022-0426](#)

RECOMMENDATION

RECEIVE AND FILE the NextGen Bus Plan Effectiveness Assessment.

Attachments: [Appendix A - NextGen Bus Plan Status Update Presentation](#)

45. SUBJECT: MONTHLY UPDATE ON PUBLIC SAFETY [2022-0738](#)

RECOMMENDATION

RECEIVE AND FILE Public Safety Report.

Attachments: [Attachment A - Systemwide Law Enforcement Overview September 2022](#)
[Attachment B - MTA Supporting Data September 2022](#)
[Attachment C - Transit Police Summary September 2022](#)
[Attachment D - Monthly, Bi-Annual, Annual Comparison September 2022](#)
[Attachment E - Violent, Prop, and Part 1 Crimes September 2022](#)
[Attachment F - Demographics Data September 2022](#)
[Attachment G - Bus & Rail Operator Assaults September 2022](#)
[Attachment H - Sexual Harassment Crimes September 2022](#)

46. SUBJECT: CONSOLIDATED METRO TRANSPORTATION APP MOTION [2022-0789](#)

RECOMMENDATION

APPROVE Motion by Directors Krekorian, Garcetti, Barger, Najarian, and Sandoval that direct the Chief Executive Officer or her designee to report back in 90 days on the potential consolidation of all of Metro's phone applications (including Bike Share, Metro Micro, Tap app, rail information, parking availability at Metro lots, MetroTransit, Transit Watch, etc.) into one single Metro App, including (i) what steps would be required to consolidate all current applications to one single application; (ii) an estimate of costs and savings that would result from such consolidation and any indirect financial impacts and benefits; and (iii) a proposed timeline for completion of such consolidation.

WE FURTHER MOVE to direct the CEO or her designee, in considering the potential new consolidated application, to assume it should include at least the following attributes:

1. A user-friendly interface for easy use;
2. The opportunity for revenue generation by marketing Metro's services through the consolidated application;

3. Two way communication capabilities that could allow:
 - a. Customer ratings of and comments about their ride experience;
 - b. Customer suggestions for improved services;
 - c. Targeted Metro communications to customers about special fare programs, events, service issues, etc.;
4. Integrating trip planning and payment processing, similar to a smart wallet;
5. Potential regional integration to include other transit agencies.

SUBJECT: GENERAL PUBLIC COMMENT

[2022-0778](#)

RECEIVE General Public Comment

Consideration of items not on the posted agenda, including: items to be presented and (if requested) referred to staff; items to be placed on the agenda for action at a future meeting of the Committee or Board; and/or items requiring immediate action because of an emergency situation or where the need to take immediate action came to the attention of the Committee subsequent to the posting of the agenda.

COMMENTS FROM THE PUBLIC ON ITEMS OF PUBLIC INTEREST WITHIN COMMITTEE'S SUBJECT MATTER JURISDICTION

Adjournment



Board Report

File #: 2022-0472, File Type: Contract

Agenda Number: 1.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

**SUBJECT: NEXTGEN CAPITAL IMPROVEMENT - NEXTGEN WIRELESS CLOUD-BASED
TRANSIT SIGNAL PRIORITY SYSTEM (TSP)**

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a firm fixed price Contract No.PS87006000 to Kimley-Horn for the design, development, and implementation of a wireless cloud-based transit signal priority (TSP) system on NextGen Tier One network in the City of Los Angeles for a total contract amount of \$5,668,680, subject to resolution of properly submitted protest(s), if any.

ISSUE

In October 2020, the Metro Board approved the NextGen Transit First Service Plan (the Plan), which includes phasing out the existing Metro Rapid system in favor of a new high-frequency Tier One network that is more extensive than the existing Rapid system and will use different series of Metro buses.

A loop-based transit signal priority system was installed by Los Angeles Department of Transportation on selected transit corridors within the City of Los Angeles as part of the initial Metro Rapid system. The NextGen Wireless Cloud Based TSP project is one of the key components in the Plan to improve bus speed, reliability, and will replace the loop-based technology with GPS-Wireless technology using an Internet Cloud Service TSP system.

BACKGROUND

In 2018, Metro began the process of redesigning the bus system to improve the service for current and future riders. The Plan was approved by the Metro Board in October 2020 after extensive public outreach and review. The public communicated to Metro that improving bus speed and reliability is the single most important step Metro can take to retain and grow ridership by increasing the people throughput capacity of local roadways and shifting regional travel patterns toward more sustainable modes.

The Plan proposed improvements that would speed up buses, double the number of frequent Metro bus lines and provide over 80 percent of current bus riders with frequent service throughout the day.

Implementation of the Plan includes capital investment in transportation infrastructure utilized in high-frequency bus corridors on the Tier One network. The Tier One network is made up of transportation spines where 53 percent of today's bus riders use one of the top 25 corridors that make up this core network. These NextGen capital improvements include the upgrade and expansion of wireless cloud-based TSP, purchase, and installation of bus mobile validators to enable All-Door-Boarding, design and construction of bus priority lanes, bus bulbs and layover areas.

The NextGen Wireless Cloud Based TSP project will replace the loop-based technology with GPS-Wireless technology using Internet Cloud Service TSP system to improve bus speed and reliability on the NextGen Tier One network. It will develop and implement new cloud-based TSP software to enable TSP capability for all 33 corridors in NextGen Tier 1 network plus two future Bus Rapid Transit (BRT) corridors with approximately 1,638 signalized intersections. Furthermore, this project will design, procure, and install Ethernet communication equipment at 280 traffic signals and communications hubs to provide a more resilient traffic control communications system.

The NextGen capital program aims to improve TSP on numerous Tier 1 and 2 lines throughout the County of LA. This contract will modernize the existing TSP system in the City of LA while other efforts are underway to improve TSP throughout the rest of the County.

In August 2021, Metro applied and was successfully awarded \$25 million from the State funded Local Partnership Program (LPP) to support the implementation of Metro's NextGen Speed and Reliability Improvements Program. The LPP grant plus the local match of \$25 million (the combined \$50 million) will fund four improvement projects: 1) development and implementation of an upgraded wireless cloud-based TSP in the City of Los Angeles to cover all Tier One network; 2) upgrade and expand the Countywide wireless TSP to cover all Tier One network serving Los Angeles County communities outside of the City of Los Angeles; 3) design and construction of new bus-only lanes and other transit priority improvements on up to 80 lane miles on the highest frequency corridors in the City of Los Angeles and neighboring cities; and 4) purchase, design and installation of new Bus Mobile Validators for fare payment to enable all-door-boarding on the Tier One and Two networks.

DISCUSSION

Approval of this contract award will ensure that the NextGen Bus Speed and Reliability Improvements Project remains a priority for the agency and Metro's commitment on the total project budget, match commitment and schedule as requirements of the Road Repair and Accountability Act of 2017 approved projects for the 2020 Local Partnership Program.

With the new cloud-based TSP system, the entire Metro bus fleet of more than 2,000 vehicles will have the capability of requesting and receiving signal priority at all the NextGen Tier One network. The wireless cloud-based TSP will eliminate the dilapidated maintenance needs for pavement loops, sensor cards and undercarriage transponders. As such, this project will deliver greater overall efficiency and future proofing than the existing loop-based TSP technology.

Findings

Metro staff worked closely with representatives from LADOT throughout the contract solicitation and

proposal evaluation processes. Kimley-Horn has demonstrated the technical, engineering experience, and capacity to support Metro to design, develop and implement a wireless cloud-based TSP in the City of Los Angeles.

Staff advertised and reached out to various consulting firms to provide them with information on this procurement to encourage more competition. Proposers were evaluated based upon Project Management Capacity, Technical Capacity of Proposer's Team, Technical Strength of Development and Operations of Cloud-Based TSP, Quality Control Management, and Cost. Four proposals were received in response to this solicitation and Kimley-Horn was ranked number one (1) in score based upon the evaluation criteria; further details can be found on Attachment A: Procurement Summary.

DETERMINATION OF SAFETY IMPACT

Board approval of this recommendation will improve the speed and reliability of Metro bus service on high-frequency corridors, which would potentially improve the safety of overall bus operations in the Los Angeles basin.

FINANCIAL IMPACT

The life of project budget is \$15 million for the NextGen wireless cloud-based TSP (project 203046) which was included in the Capital Improvement Plan and approved by the Board as part of the FY2023 budget adoption. Because this is a multi-year project, the Cost Center Manager within Service Planning and Scheduling will be responsible for ensuring that the future year balance of capital funding is programmed and the cashflow is included in the annual budget adoption process. The estimated operating cost for this NextGen TSP project is \$0.8 million per year to keep the TSP systems operating in an optimal manner with the TSP equipment well maintained and the cloud system updated at all times.

Impact to Budget

The funding source for this contract is Transportation Development Act (TDA) Article 4 Sales Tax Revenues, of which \$1.6 million is included in the FY2023 budget in the Service Planning and Scheduling cost center. Use of these funding sources currently maximizes funding allocations given approved funding provisions and guidelines.

EQUITY PLATFORM

The speed and reliability improvements with the upgraded TSP systems are part of the NextGen Transit First Service Plan, which directly address the critical needs for low-income residents, and others who rely on public transit by serving the community-identified destinations with reliable and fast service, in particular to riders in the Tier One network that is primarily operated in the Equity Focus Communities. Wireless cloud-based TSP improves bus speed and reliability by reducing travel time which translates into more time available for work, leisure, or other activities. According to the Benefit Cost Analysis of the NextGen Project with three capital improvements (i.e., bus priority lanes, transit signal priorities, and all door boarding), the Project can achieve 8.76 M person hours traveled savings that can be accomplished in the period of 20 years.

The Diversity and Economic Opportunity Department (DEOD) established a 14% Small Business Enterprise (SBE) and 3% Disabled Veteran Business Enterprise (DVBE) goal for this solicitation. Kimley Horn exceeded the goal by making a 14.28% SBE and 3.11% DVBE commitment.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan Goal 1: Provide high quality mobility options that enable people to spend less time traveling and Goal 2: Deliver outstanding trip experience for all users of the transportation system. This project will improve the speed and reliability of Metro Tier One bus service that runs through the heart of some of the most congested areas in the Los Angeles County with some of the most equity focused communities. This project will enhance transit customer experience in those areas by reducing travel times and improving schedule adherence.

ALTERNATIVES CONSIDERED

The Metro Board may elect not to award the contract as recommended by staff. However, this is not recommended since the California Transportation Commission has already approved funding Metro's Speed and Reliability Improvements Program with \$25 million including \$15 million for NextGen Wireless Cloud Based Transit Signal Priority Project. Delay to develop and implement the NextGen wireless cloud-based TSP may jeopardize the awarded LLP grant in its entirety. Furthermore, the existing loop-based TSP on selected Metro Rapid lines is obsolete. Without the implementation of a wireless cloud-based TSP in the City of Los Angeles, Metro will not be able to achieve the speed and reliability improvements outlined on the NextGen Transit First Service Plan, and Metro will not be able to attain improved on-time performance as quickly, without additional resources.

NEXT STEPS

Upon Board approval, staff will execute Contract No.PS87006000 with Kimley-Horn and issue a Notice-To-Proceed (NTP), and begin the design, development, and implementation of the NextGen wireless cloud-based TSP on Tier One network.

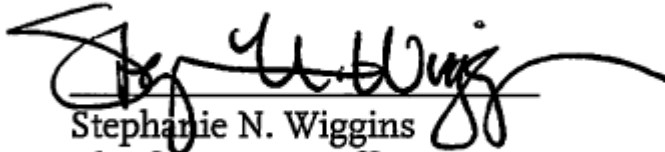
ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Prepared by: Joe Forgiarini, Sr. Executive Officer, Service Planning, (213) 418-3400
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Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

TRANSIT SIGNAL PRIORITY SYSTEM/PS87006000

1.	Contract Number: PS87006000	
2.	Recommended Vendor: Kimley-Horn and Associates, Inc.	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued : 3/22/2022	
	B. Advertised/Publicized: 3/22/2022	
	C. Pre-Proposal Conference: 4/7/2022	
	D. Proposals Due: 6/3/2022	
	E. Pre-Qualification Completed: 4/23/2022	
	F. Conflict of Interest Form Submitted to Ethics: 10/6/2022	
	G. Protest Period End Date: 11/21/2022	
5.	Solicitations Picked-up/ Downloaded: 96	Proposals Received: 4
6.	Contract Administrator: Andrew Conriquez	Telephone Number: 213-922-3528
7.	Project Manager: James Shahamiri	Telephone Number: 213-922-4823

A. Procurement Background

This Board Action is to approve the award of Contract No. PS87006000 to modify an existing Transit Signal Priority (TSP) System to a cloud-based TSP system. Board approval of contract award is subject to the resolution of any properly submitted protest(s).

On March 22, 2022, staff released Request for Proposals (RFP) No. PS87006 in accordance with Metro's Acquisition Policy and the contract type is a firm fixed price.

Three amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on April 1, 2022, provided the pre-proposal virtual meeting link;
- Amendment No. 2, issued on May 6, 2022, provided changes to the RFP and request for clarification due dates;
- Amendment No. 3, issued on May 12, 2022, provided changes to the Scope of Services and associated attachments.

A virtual pre-proposal conference was held on April 7, 2022. There were 37 attendees from numerous firms. There were 67 questions asked and responses were released prior to the proposal due date.

A total of 96 firms downloaded the RFP and were included in the plan holders list. A total of four proposals were received on June 3, 2022.

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from Metro Service Planning and Scheduling, Highways Programs, and one external member from Los Angeles Department of Transportation was convened and conducted a comprehensive technical evaluation of the proposals received.

The proposals were evaluated based on the following evaluation criteria and weights:

- Project Management Capability 20 percent
- Technical Capability of Proposer's Team 20 percent
- Technical Strength of Development and Operations of Cloud-Based Transit Signal Priority Systems 30 percent
- Quality Control Management and Project Execution Plans 10 percent
- Cost/Price 20 percent

Several factors were considered when developing these weights, giving the greatest importance to the Technical Strength of Development and Operations of Cloud-Based Transit Signal Priority Systems.

Of the four proposals received, two were determined to be within the competitive range and are listed below in alphabetical order:

1. Iteris, Inc.
2. Kimley-Horn and Associates, Inc.

Two firms were determined to be outside the competitive range and were not included for further consideration.

During the week of July 11, 2022, the evaluation committee met and interviewed the two firms. Each firm's presentation addressed the requirements of the RFP, their experience with all aspects of the required tasks, coordination between different stakeholders, and stressed each firm's commitment to the success of the project. Also highlighted were staffing plans, work plans, and perceived project issues. Each team was asked questions relative to each firm's proposed alternatives, prior projects, risk factors, project schedule, and system integrations.

Qualifications Summary of Recommended Firm:

Kimley-Horn and Associates, Inc.

Kimley-Horn and Associates, Inc., has been involved with Intelligent Transportation Systems, Systems Engineering, Transit Signal Priority, Emergency Vehicle Priority (EVP), and transportation management software applications including other cloud-based traffic management solutions. Kimley-Horn and Associates, Inc. has numerous staff who are primarily located in Los Angeles and can provide ITS

solutions support quickly. Kimley-Horn has over 30 years of experience in the industry.

In their oral presentation, Kimley-Horn and Associates, Inc. described their experience with developing Intelligent Transportation Systems (ITS) Software and Systems Engineering for more than 100 public agencies who use their Traction, KITS and software for their traffic management. Kimley-Horn has experience in software and traffic management services projects throughout the country, such as the Miami-Dade County, City of Austin, City of San Antonio, and Maricopa Association of Governments (MAG).

Final scoring determined that Kimley-Horn is the highest qualified proposer. Below is a summary of the scores in order of rank:

	Firm	Weighted Average Score	Factor Weight	Average Score	Rank
1	Kimley-Horn and Associates, Inc.				
2	Project Management Capability	87.50	20.00%	17.50	
3	Technical Capability of Proposer's Team	83.00	20.00%	16.60	
4	Technical Strength of Dev. and Ops. of Cloud-Based Transit Signal Priority Systems	83.93	30.00%	25.18	
5	Quality Control Management and Project Execution Plans	80.80	10.00%	8.08	
6	Cost/Price	87.15	20.00%	17.43	
7	Total		100.00%	84.79	1
8	Iteris, Inc.				
9	Project Management Capability	84.00	20.00%	16.80	
10	Technical Capability of Proposer's Team	84.00	20.00%	16.80	
11	Technical Strength of Dev. and Ops. of Cloud-Based Transit Signal Priority Systems	89.60	30.00%	26.88	
12	Quality Control Management and Project Execution Plans	83.60	10.00%	8.36	
13	Cost/Price	59.15	20.00%	11.83	
14	Total		100.00%	80.67	2

C. Cost Analysis

The recommended price has been determined to be fair and reasonable based upon an independent cost estimate (ICE), cost analysis, technical analysis, fact finding and negotiation. Staff successfully negotiated a cost savings of \$50,128 for the agency.

Proposer Name	Proposal Amount	Metro ICE	Negotiated Amount
Kimley-Horn and Associates, Inc.	\$5,718,808	\$11,307,174	\$5,668,680
Iteris, Inc.	\$8,428,269		

The variance between the ICE and the final negotiated amount is due to staff's inclusion of the purchase and development of an entirely new software for the project. During clarifications, it was determined that the proposed contractor already has an existing software, and no new software is needed to be purchased and developed for the purpose of this project. Since a software system is already developed, the work and cost to develop and implement is not required.

D. Background on Recommended Contractor

The recommended firm, Kimley-Horn and Associates, Inc., headquartered in Raleigh, North Carolina, is a professional engineering, planning and environmental consulting firm providing comprehensive range of services with more than 5,600 employees and 11 offices located in California, including one in Los Angeles. They have demonstrated experience with deployment of software solutions for traffic management with more than 100 public agencies in North America.

The proposed project manager has over 26 years of experience in large-scale multimodal transportation projects, and advanced technology systems such as TSP, Integrated Corridor Management (ICM), traffic control, communications, and 511 systems. With the project manager's experience across the country and California, the project manager demonstrated an understanding of transportation projects, and development of statewide, regional and local strategic transportation initiatives.

Key personnel average over 24 years of experience. Project experience include TSP and EVP systems for the City of Austin, TX, County of Miami-Dade, and City of San Antonio, TX, and Maricopa Association of Governments.

DEOD SUMMARY

TRANSIT SIGNAL PRIORITY SYSTEM/PS87006000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 14% Small Business Enterprise (SBE) and 3% Disabled Veteran Business Enterprise (DVBE) goal for this solicitation. Kimley Horn exceeded the goal by making a 14.28% SBE and 3.11% DVBE commitment.

Small Business Goal	14% SBE 3% DVBE	Small Business Commitment	14.28% SBE 3.11% DVBE
----------------------------	----------------------------	----------------------------------	----------------------------------

	SBE Subcontractors	% Committed
1.	Mindhop, Inc.	8.88%
2.	AET & Associates	5.40%
Total SBE Commitment		14.28%

	DVBE Subcontractors	% Committed
1.	Servitek Electric, Inc.	3.11%
Total DVBE Commitment		3.11%

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

C. Prevailing Wage Applicability

Prevailing Wage requirements are applicable to this project. DEOD will monitor contractors' compliance with the State of California Department of Industrial Relations (DIR), California Labor Code, and, if federally funded, the U S Department of Labor (DOL) Davis Bacon and Related Acts (DBRA).

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.



Board Report

File #: 2022-0524, File Type: Plan

Agenda Number: 31.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

APPROVE the updated PTASP (version 1.2), which documents Metro's processes and activities related to Safety Management System (SMS) implementation in compliance with Federal and State regulations (Attachment A).

ISSUE

Metro's PTASP was developed in accordance with Federal and State mandates that require Metro to establish and implement such a plan. In November 2021, the Bipartisan Infrastructure Law was enacted, requiring revisions to the PTASP. The regulations require the PTASP to be approved by the Board of Directors.

BACKGROUND

The Federal Transit Administration (FTA) published the PTASP Regulation, 49 C.F.R. Part 673, on July 19, 2018. The regulation implements a risk-based SMS approach and requires Metro to have a PTASP, approved by the Board, in place no later than July 20, 2020.

Metro complied with this regulation by completing the development of its PTASP in April 2020. The Board approved the initial version of the plan at its April 2020 Board meeting. The minutes of the April 2020 Board meeting, approving the PTASP, (Agenda Item No. 25) are included as Appendix M in the PTASP. The PTASP, which applies to both the bus and rail mode, is a document describing the various safety programs and processes the agency has in place to manage hazards and safety risks. The PTASP was developed to be a top-down, data driven plan that incorporates the following four critical elements of an SMS-based approach - Safety Management Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. For each of the four key components, the plan describes or references Metro's processes and procedures in place at the agency that complies with the particular requirements. The plan also includes the authorities, accountabilities, and responsibilities of all staff who play a key role in managing safety, as well as performance measures and targets to support the data-driven approach.

The new requirements of the Bipartisan Infrastructure Law have been incorporated into the updated version of Metro's PTASP for Board approval. The PTASP is one element of FTA's comprehensive Public Transportation Safety Program. Our State Safety Oversight Agency, the California Public Utilities Commission (CPUC), adopted the requirements of FTA's regulation in its General Order 164-E and is charged under regulations with the review and approval of agency PTASPs.

DISCUSSION

This version of the plan incorporates new requirements in the Bipartisan Infrastructure Law, such as developing strategies to minimize exposure to Infectious Diseases, establishing a Joint Labor-Management Safety Committee (JLMSC), establishing measures to reduce transit worker assaults, bus accidents, visibility impairments, and developing de-escalation training programs.

The JLMSC, which was established in July 2022, is comprised of an equal number of representatives from management and a representative from each of the five labor unions at Metro - SMART, ATU, TCU, AFSCME, and Teamsters. The Committee, which is alternately chaired by a management or labor representative of the Committee for a one-year term, meets at least quarterly to review risk-based mitigations or strategies to reduce the likelihood and severity of consequences of accidents, to identify mitigations or strategies that may be ineffective, inappropriate, or were not implemented as intended; and to identify safety deficiencies for purposes of continuous improvement.

Once the revised plan, which has been approved by the JLMSC as required by the new legislation, is in effect, staff will audit the plan to verify the processes and programs are being followed and based on trends, implement strategies for continuous safety improvement. In addition to internal audits, the PTASP will also be audited by the FTA and the CPUC at least triennially.

DETERMINATION OF SAFETY IMPACT

Approval of this recommendation will positively impact the safety of Metro's patrons and employees.

FINANCIAL IMPACT

Since all the programs and processes described in the PTASP are currently in place, there is no financial impact as a result of approving this plan.

EQUITY PLATFORM

The adoption of this plan will disproportionately serve Metro's transit riders, who are overwhelmingly very low-income, people of color, and without access to a car. Further, the plan applies to the safety of transit operators, who are majority people of color and, by definition, frontline essential workers. Additionally, approval of the plan would complement other Metro efforts to improve safety for operators and riders, thus positively impacting all who use or work on our transit system.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan goal # 1 "Provide high-quality mobility options that

enable people to spend less time traveling,” and goal # 5 “Provide responsive, accountable, and trustworthy governance within the Metro organization.” Programs and processes described in the PTASP support the specific actions and initiatives described to advance goal 1 and goal 5 in the strategic plan.

ALTERNATIVES CONSIDERED

The Board may elect not to approve the PTASP. However, this action is not recommended because such action will subject Metro to regulatory enforcement action by the FTA, which could include withholding federal funds for non-compliance with the FTA’s Public Transportation Safety Program.

NEXT STEPS

Upon Board approval, staff will certify to the FTA on an annual basis that Metro has established and implemented its PTASP as required by their regulations.

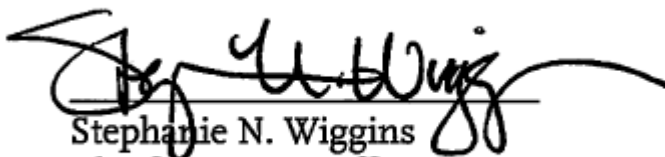
ATTACHMENTS

Attachment A - PTASP, Updated Version 1.2

Prepared by: Vijay Khawani, Executive Officer, Risk, Safety, and Asset Management, (213) 922-4035

Kenneth Hernandez, Deputy Chief Risk, Safety and Asset Management Officer, (213) 922-2990

Reviewed by: Gina L. Osborn, Chief Safety Officer, (213) 922-3055


Stephanie N. Wiggins
Chief Executive Officer



Los Angeles County
Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012

Version 1.2: Effective January 2023

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN



PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

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Subpart A – General

Revision Table

<i>Version History</i>	<i>Issue Date</i>	<i>Revisions</i>	<i>Author(s)</i>
1.0	July 1, 2020	Original Issue	Robert “BJ” Takushi, Vijay Khawani, Ed Boghossian, Raymond Lopez, Steve Flores Abraham Miranda
1.1	July 1, 2021	Revision 1: See Appendix N for Summary of Changes	Robert “BJ” Takushi, Vijay Khawani Abraham Miranda
1.2	January 2023	Revision 2: See Appendix N for Summary of Changes	Vijay Khawani Eddie Boghossian Raymond Lopez Steve Flores

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

METRO PTASP POLICY STATEMENT

The Los Angeles County Metropolitan Transportation Authority (Metro) has adopted as its guiding principle that Safety is a primary value for our customers, employees, and business partners. This means that Safety takes a pre-eminent role in decision making before all other considerations. All levels of management and all employees are accountable for the delivery of this highest level of safety performance, starting with the Chief Executive Officer (CEO). This Public Transportation Agency Safety Plan (PTASP) is the means of integrating safety into all Metro rail and bus system operations. With the methodologies contained in the PTASP, we can achieve an optimal level of safety in our operations and services.

The PTASP integrates the four components of Safety Management Systems (Safety Management Policy, Safety Risk Management, Safety Assurance, and Safety Promotion) to lay the foundation of Metro's Safety Culture.

Each department has responsibilities under the PTASP and shall support its implementation. Employees are encouraged to read the PTASP available on MyMetro under Risk, Safety & Asset Management department's webpage. Departments shall also provide the on-going support necessary for achievement of the following PTASP Safety Objectives:

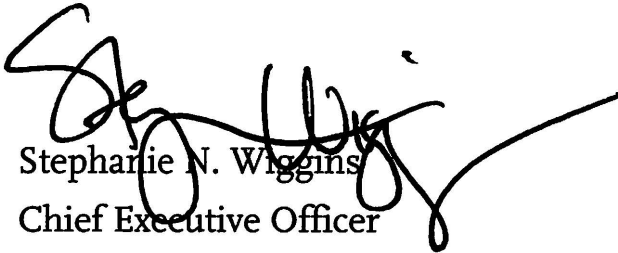
- Establish safety policies, procedures, and requirements that integrate safety into Metro's decision-making and operations.
- Implement Safety Management System (SMS) Principles and utilize the American Public Transportation Association's (APTA) Standards, Recommended Practices, and Guidelines as resources in developing Metro's policies/procedures.
- Assign responsibilities related to safety policies, procedures, and requirements.
- Verify adherence to safety policies, procedures, and requirements.
- Investigate accidents, incidents, fires, and occupational injuries.
- Identify, analyze, evaluate and resolve/mitigate hazards and near misses.
- Evaluate and verify the operational readiness of new systems.
- Minimize system modifications related to safety during the operational stage by reviewing safety requirements at system design and procurement stages.
- Conduct safety performance monitoring to determine trends and implement corrective actions.
- Evaluate the safety implications of proposed system modifications prior to implementation.

A key to the success of the PTASP is for employees to be aware that they are accountable for meeting the safety requirements of their positions. In other words, everyone is responsible for safety. Beyond this, its success depends on all employees actively identifying potential hazards and taking into consideration the safety of others as well as their own. All employees have an obligation to report hazards, and near-miss occurrences to their department management.

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

The Corporate Safety Department, led by the Chief Safety Officer (CSO), is responsible for developing, administering and overseeing a comprehensive PTASP with specific objectives, programs and activities to prevent, control and resolve unsafe conditions/hazards that may occur during the life cycle of the bus and rail systems. The Corporate Safety Department will be involved in projects beginning from the conceptual stage, and through the design, procurement, construction, and operational stages. Metro's safety objectives and safety performance targets/measures included in this PTASP are consistent with the National Public Transportation Safety Plan and fulfill the requirements of 49 Code of Federal Regulations (CFR) Part 673, which is the authority that establishes this PTASP.

We must appreciate the fact that our decisions and actions often affect the safety of our employees, our customers, the public, and business partners. By following the processes described in the PTASP, we will have continued opportunities to improve overall performance and safety. Metro's Board of Directors and Executive Leadership are committed to full implementation of this PTASP through their leadership and assuring the allocation of necessary resources.


Stephanie N. Wiggins
Chief Executive Officer

10/19/22
Date

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

Board Approval of PTASP

The LA Metro Board has approved this PTASP. Board approval documentation can be found in Appendix P.

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

Acronyms/Abbreviations

ADA	Americans with Disabilities Act
AIP	Accident Investigation Procedures
APTA	American Public Transportation Association
ATO	Automatic Train Operation
ATP	Automatic Train Protection
ATS	Automatic Train Supervision
BOC	Bus Operations Control
CAP	Corrective Action Plan
CCTV	Closed-Circuit Television
CEO	Chief Executive Officer
CFR	Code of Federal Regulations
CMF	Central Maintenance Facility
CPO	Chief People Office
CPUC	California Public Utilities Commission (State Safety Oversight Agency)
CSO	Chief Safety Officer
FBI	Federal Bureau of Investigation
FE	Functional Exercise
FLSC	Fire/Life Safety Committee
FOF	Field Observation and Feedback
FSE	Full Scale Exercise
FTA	Federal Transit Administration
GO	General Order
ISR	Internal Safety Review
JLMSC	Joint Labor/Management Safety Committee
LACTC	Los Angeles County Transportation Commission
LADOT	Los Angeles Department of Transportation
LCP	Local Control Panel
LSC	Local Safety Committee
MPO	Metropolitan Planning Organization
MPH	Miles Per Hour

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Metro	Los Angeles County Metropolitan Transportation Authority
NTD	National Transit Database
OCI	Operations Central Instruction
OSHA	Occupational Safety and Health Administration
PLE	Purple Line Extension
PPE	Personal Protective Equipment
PTASP	Public Transportation Agency Safety Plan
PM	Preventative Maintenance
ROC	Rail Operations Control
RSAM	Risk, Safety & Asset Management
RTA	Regional Transit Authority
RTI	Rail Transportation Instruction
RTOS	Rail Transportation Operations Supervisor
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCRT	Safety Certification Review Team
SCRTD	Southern California Rapid Transit District
SMRC	System Modification Review Committee
SMS	Safety Management System
SOP	Standard Operating Procedure
SSOA	State Safety Oversight Agency
SWAT	Special Weapons and Tactics
TAM	Transit Asset Management
TEPW	Training and Exercise Planning Workshop
TOS	Transportation Operations Supervisor
TSA	Transportation Security Administration
TTX	Tabletop Exercise
U.S.C.	United States Code
VTT	Verification of Transit Training

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

Definitions

Definitions have been adapted from 49 CFR 673 and the CPUC's Program Standard. If there is a conflict of definition between the CPUC Program Standard and the FTA definitions, the Program Standard will take precedence provided it is equally, or more restrictive in its language. The source of the definition is also identified.

Accident means an Event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision involving a rail transit vehicle; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at anytime, whatever the cause. (Program Standard definition)

Accountable Executive means a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. 5329(d), and the agency's Transit Asset Management Plan in accordance with 49 U.S.C. 5326. In this case Metro's Chief Executive Officer will be considered the Accountable Executive. (673 definition)

Board of Directors means the entity with sufficient authority to review and approve a recipient or subrecipient's Public Transportation Agency Safety Plan. (673 definition only)

Chief Safety Officer means an adequately trained individual who has responsibility for safety and reports directly to a transit agency's chief executive officer, general manager, president, or equivalent officer. A Chief Safety Officer may not serve in other operational or maintenance capacities, unless the Chief Safety Officer is employed by a transit agency that is a small public transportation provider as defined in this part, or a public transportation provider that does not operate a rail fixed guideway public transportation system. (673 definition only)

Contractor means an entity that performs tasks on behalf of FTA, Commission, or RTA through contract or other agreement. (Program Standard, CPUC only)

Corrective Action Plan (CAP) means a plan developed by a RTA that describes the actions the RTA will take to minimize, mitigate, control, correct, or eliminate risks and hazards, and the schedule for implementing those actions. (Program Standard, CPUC only)

Event means any Accident, Incident, or Occurrence. (673 definition)

FTA means the Federal Transit Administration, an operating administration within the United States Department of Transportation. (673 definition)

Hazard means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock or infrastructure of a RTAs; or damage to the environment. (Program Standard definition)

Incident means an Event that involves any of the following: a personal injury that is not a serious

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injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency. (673 definition)

Individual means a passenger, employee, contractor, pedestrian, trespasser, or any person on RTA-controlled property. (Program Standard, CPUC only)

Inspectors means the Commission's Rail Transit Operations Safety Section personnel that conduct onsite visits to inspect RTA infrastructure, vehicles, operations, maintenance practices, and other activities to identify noncompliance, safety concerns, and unsafe conditions. (Program Standard, CPUC only)

Investigation means the process used to determine the causal and contributing factors of an accident, incident, or hazard, for the purpose of preventing recurrence and mitigating risk. (Program Standard definition)

National Public Transportation Safety Plan means the plan to improve the safety of all public transportation systems that receive Federal financial assistance under 49 U.S.C. Chapter 53. (673 definition only)

Occurrence means an Event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency. (673 definition)

Operator of a public transportation system means a provider of public transportation as defined under 49 U.S.C. 5302(14). (673 definition only)

Passenger means a person who is on board, boarding, or alighting from a rail transit vehicle for the purpose of travel. (Program Standard, CPUC only)

Performance measure means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets. (673 definition only)

Performance target means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration. (673 definition only)

Person means any individual. (Program Standard, CPUC only)

Public Transportation Agency Safety Plan (PTASP) means the documented comprehensive agency safety plan for a transit agency that is required by 49 U.S.C. 5329 and 49 CFR 673. (673 definition)

Rail fixed guideway public transportation system means any fixed guideway system that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction. Rail fixed guideway public transportation systems include but are not limited to rapid rail, heavy rail, light rail, monorail, trolley, inclined plane, funicular, and automated

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guideway. Rail transit agency means any entity that provides services on a rail fixed guideway public transportation system. (673 definition only)

Rail Fixed Guideway System (RFGS) means any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, cable car, automatic people mover, or automated guideway transit system used for public transit and not regulated by the Federal Railroad Administration or not specifically exempted by statute from Commission oversight. Part 674, includes “Public Transportation” as part of its definition, and is Rail Fixed Guideway Public Transportation System for a fixed guideway system and to be more inclusive of other systems currently under the Commission’s jurisdiction. (Program Standard, CPUC only)

Rail Transit Agency (RTA) means the entity that plans, designs, constructs, and/or operates a RFGS and is within the jurisdiction of the Commission. (Program Standard, CPUC only)

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard. (673 definition only)

Risk mitigation means a method or methods to eliminate or reduce the effects of hazards. (673 definition only)

Safety means freedom from harm resulting from unintentional acts or circumstances. (Program Standard, CPUC only)

Safety Assurance means processes within a transit agency’s Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information. (673 definition only)

Safety Certification is the series of acts or processes that collectively verify the safety readiness of a Project for public use. (Program Standard, CPUC only)

Safety Certification Plan means a Project-specific document developed by a RTA, which ensures that elements critical to safety are planned, designed, constructed, analyzed, tested, inspected, and implemented, and that employees are trained and rules and procedures followed, in compliance with the RFGS and the regulatory safety requirements. (Program Standard, CPUC only)

Safety Design Criteria means the organized listing of safety codes, regulations, rules, design procedures, existing industry standards, recommended practices, analyses, handbooks and manuals prepared to provide guidance to Project designers in development of technical specifications that meet minimum safety parameters. (Program Standard, CPUC only)

Safety Management Policy means a transit agency’s documented commitment to safety, which defines the transit agency’s safety objectives and the accountabilities and responsibilities of its employees in regard to safety. (673 definition only)

Safety Management System (SMS) means the formal, top-down, organization-wide

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approach to managing *safety* risk and assuring the effectiveness of a transit agency's *safety* risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards. (673 definition)

Safety Management System (SMS) Executive means a Chief Safety Officer or an equivalent. (673 definition only)

Safety performance target means a Performance Target related to *safety* management activities. (673 definition only)

Safety Promotion means a combination of training and communication of *safety* information to support SMS as applied to the transit agency's public transportation system. (673 definition only)

Safety risk assessment means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks. (673 definition only)

Safety Risk Management means a process within a Metro's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk. (673 definition only)

Serious injury means any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or noses); (3) Causes severe hemorrhages, nerve, muscle, or tendon damage; (4) Involves any internal organ; or (5) Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface. (Program Standard definition)

State means a State of the United States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, Guam, American Samoa, and the Virgin Islands. (673 definition only)

State of good repair means the condition in which a capital asset is able to operate at a full level of performance. (673 definition only)

State Safety Oversight Agency (SSOA) means an agency established by a state that meets the requirements and performs the functions specified by 49 U.S.C. 5329(e) and the regulations set forth in 49 CFR Part 674. In California, the California Public Utilities Commission (CPUC) is the SSOA, and the CPUC's RTSB implements the CPUC's SSOA program. (Program Standard definition)

Transit agency means an operator of a public transportation system. (673 definition only)

Transit Asset Management Plan (TAM) means the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation, as required by 49 U.S.C. 5326 and 49 CFR part 625. (673 definition only)

Version 1.2 effective January 2023

PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

1.0 INTRODUCTION

This document is the Los Angeles County Metropolitan Transportation Authority's (Metro) Public Transportation Agency Safety Plan (PTASP) for the Bus and Rail systems. This PTASP embodies the elements in 49 CFR Part 673 established July 19, 2018 which focuses on establishing a Safety Management System (SMS). The section numbers referenced throughout this document refer to the requirements of 49 CFR Part 673. The FTA defines SMS as:

"the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards."

Metro's PTASP establishes accountability and responsibility at the top levels of the organization, evidenced by the Metro Board's Approval and CEO's commitment to allocate necessary resources to sustain and improve Metro's safety culture. This plan explains each organizational unit's function within the larger Metro System and how accountability for safety is integrated throughout the organization. This PTASP also describes the four components integral to the successful implementation of SMS within the Metro System (outlined below): Safety Management Policy, Safety Risk Management, Safety Assurance, and Safety Promotion.

Metro's Safety Management Policy is divided into four sub-components:

1. Safety Management Policy Statement
2. Safety Accountabilities and Responsibilities
3. Integration with Emergency Management
4. SMS Documentation and Records

Metro's Safety Risk Management component includes:

1. Safety Hazard Identification
2. Safety Risk Assessment
3. Safety Risk Mitigation

Metro's Safety Assurance component includes:

1. Safety Performance Monitoring and Measurement
2. Management of Change
3. Continuous Improvement

Metro's Safety Promotion component includes:

1. Safety Training Program
2. Safety Communication

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1.1 METRO BACKGROUND

Assembly Bill 1784 required the Los Angeles County Transportation Commission (LACTC) and the Southern California Rapid Transit District (SCRTD) to submit a plan to the legislature by January 1992, which reorganized the agencies to provide “a unified comprehensive institutional structure which requires maximum accountability to the people.”

Assembly Bill 152, signed by Governor Pete Wilson on May 19, 1992 merged the LACTC and SCRTD into the Los Angeles County Metropolitan Transportation Authority (Metro), effective April 1, 1993. All responsibilities and obligations previously assumed by SCRTD and LACTC have been assumed by Metro, which is a public corporation of the State of California. Metro is generally responsible for the planning, design, construction, operation, and maintenance of rail and bus transit in the County of Los Angeles, however, the State Legislature has designated other agencies who are responsible for the design and construction of certain projects, such as the Gold Line Extension Project.

The 13-member Board of Directors that governs Metro is comprised of:

- The five Los Angeles County Supervisors
- The Mayor of Los Angeles
- Three Los Angeles mayor-appointed members
- Four City Council members representing the other 87 cities in Los Angeles County

The Governor of California appoints one non-voting member.

Metro has authority to furnish public transportation services in Los Angeles County and in parts of adjacent counties. Metro is also authorized to administer Proposition A funds for the operation of municipal transit agencies in this area.

1.2 SCOPE AND PURPOSE

The PTASP defines Metro’s technical and managerial safety activities. The PTASP applies to all organizational units affecting, or affected by, the Metro bus and rail systems from planning through the operations and maintenance phases. Management’s compliance with identified responsibilities in the PTASP ensures that the goals and objectives are achieved.

The PTASP will be used to identify programs and processes to minimize injuries and accidents. It also demonstrates Metro’s commitment to safety. In addition, this PTASP complies with the requirements of 49 Code of Federal Regulations Part 673, issued by the FTA.

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1.3 ORGANIZATIONAL CHART

Metro Leadership and Executive Management is displayed in Appendix A. Metro Operations organizational chart can be seen in Appendix B.

1.4 SYSTEM DESCRIPTION

Metro's operational system is summarized within Appendix C.

1.5 SAFETY AND SECURITY GOALS

- Provide a level of safety and security in transit services that meets if not exceeds industry standards and practices
- Identify, eliminate, minimize, and/or control safety hazards and their associated risks
- Improve safety by implementing practical and reasonable strategies to reduce the number and rates of accidents, injuries and assaults on transit workers based on data submitted to the NTD
- Comply with the applicable requirements of regulatory agencies
- Maximize the safety of future operations by affecting the design and procurement processes
- Continuously improve the safety culture by striving to incorporate innovative technologies
- Mitigate employee assaults and crime related incidents

Subpart B - Safety Plan

Subpart B of this PTASP incorporates Metro's conformance with 49 CFR 673 including establishing safety performance targets, review and update of this document, emergency management protocols, and coordination with planning stakeholders.

§673.11(a)(3) SAFETY PERFORMANCE MEASURES AND PERFORMANCE TARGETS

Metro's safety performance measures are based on the measures established under the National Public Transportation Safety Plan. A detailed list of these safety performance measures and performance targets are found in Appendix D.

§673.11(a)(4) CONFORMANCE WITH FTA GUIDELINES

This PTASP addresses all requirements and standards as set forth in FTA's Public Transportation Safety Program and the National Public Transportation Safety Plan. The PTASP will be revised when FTA establishes standards through the public notice and comment process.

§673.11(a)(5) REVIEW AND UPDATE OF PTASP

This PTASP is meant to be a living document that has the flexibility to address additional safety and security issues as needed. The PTASP will be reviewed at least annually, by the RSAM department, to make necessary updates, corrections, and modifications in accordance with the CPUC established rules. RSAM will seek feedback from affected departments and the JLMSC to determine if any changes are needed. Any significant changes (such as Hazard Management Program, Accident Investigation Procedures, regulations that affect the content of this plan), excluding nominal administrative changes, to the body of the plan will be made and presented to the JLMSC and the Metro CEO for adoption by the Board of Directors. RSAM will update the Revision table annually with a new Revision number for the PTASP regardless if any changes need to be made.

After the PTASP review, the RSAM department will provide the revision to the CPUC. Metro will request CPUC's review and approval in accordance with CPUC established rules if any significant changes are made to the PTASP.

The RSAM department is responsible for preparing, maintaining, and updating the PTASP.

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§673.11(a)(6) EMERGENCY MANAGEMENT PROGRAM

Operational Emergencies:

Metro has developed emergency procedures to respond to all-hazard emergencies on the system. These procedures include roles and responsibilities for departmental staff who respond to these emergencies. For emergencies with cascading implications or significant impacts, Metro's Emergency Operations Center (EOC) procedures will be triggered to ensure internal/external coordination and collaboration for response and recovery activities.

RAIL MODE

Currently, all emergency response procedures for rail operations are found in Metro Rail Book of Operating Rules and SOPs. Examples of these emergencies are Train vs. Person, Collision, Earthquake, Flood, etc. For an extensive list, refer to Metro Rail SOPs. Additionally, in accordance with the CPUC General Order 172 series requirements, Metro has developed Metro Rail SOP #65, which are procedures for contacting employees in the event of a personal or family emergency. For large scaled incidents to the rail system, Metro's EOC Manual would determine activation levels to support emergency response.

BUS MODE

Currently, all emergency response procedures for bus operations are found in BOC Standard Operating Procedures. Examples of these emergencies are Requests for Police or Emergency Medical Assistance, and Earthquake. For an extensive list, refer to Metro BOC SOPs. Additionally, Metro BOC is responsible for contacting Bus employees in the event of a personal or family emergency. For larger scaled or incidents impacting systemwide bus service, Metro's EOC Manual would determine activation levels to support emergency response.

Emergency Preparedness:

RAIL MODE

Rail Operations in coordination with Metro's Emergency Management Department conducts emergency response training, familiarization, and exercises at least once each year on every rail line comprised of either an operation based Full Scale Exercise (FSE), Functional Exercise (FE), or multiple scenario rapid response exercises to prepare for emergencies. Determinations are driven based on recent real world rail incidents, change of policy/procedures/equipment, or transit industry security/safety concerns.

Emergency Management's annual Training & Exercise Planning Workshop (TEPW) with Rail Operations and Corporate Safety Department determines exercise scenarios, locations, and schedules for each Rail line. Incident scenarios may be selected based on recent/past real-world rail incidents worldwide, changes in changes in policy, procedures and/or technology systems, adoption of new best practices in training, and lastly transit industry security/safety concerns identified by management.

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policy, procedures and/or technology systems, adoption of new best practices in training, lastly transit industry security/safety concerns identified by management. Additionally, within the Multi-Year Training and Exercise Program (MYTEP) a training and exercise calendar is developed for when training and/or exercises will be conducted throughout a calendar year.

Based on the type of exercise, FSE or FE, a discussion-based Tabletop Exercise (TTX) may be conducted where participants can discuss in detail their response procedures that will be used in the FSE or FE. Additionally, all lesson learned are documented as strengths and improvements in after-action reports and a corrective action matrix is developed. These exercises enhance inter-agency communication and coordination with State, Federal, regional, and local first responder agencies, (such as CPUC, FBI, TSA, Fire and Law Enforcement personnel within the 88 Cities, regional hospitals and other external transit/non transit partners), and enable Metro staff to train for potential emergency scenarios.

Prior to each exercise, an Initial Planning Meeting (IPM) is scheduled with the appropriate agencies to plan and discuss the exercise scope, objectives, and specific response activities to test capabilities. Additional meetings may be scheduled depending on the complexity of the exercise. Following the exercise, a post-exercise debriefing is convened with representatives from all participating agencies to review the performance of the exercise, and to identify "lessons learned."

When "lessons learned" affect current procedures or processes, the affected disciplines determine what changes are needed and implement them. If such changes are made, all stakeholders receive a copy of the revised procedure or are notified of procedure changes.

Metro Rail Training Instruction staff collaborates with Emergency Management staff and provides familiarization training to outside agencies on an as-needed basis when requested. Training includes familiarization of the rail cars, station, equipment, tunnel orientations, and tours of the ROC. Periodic reminders of the availability of this emergency preparedness training are presented to fire and law enforcement with jurisdiction emergency response responsibility to the Rail system.

Metro's Emergency Management Department is responsible for coordinating all system-wide emergency response planning efforts. Prior to opening new segments of the rail system, training sessions, familiarization, exercises are conducted for all emergency response agencies which have jurisdiction along the route.

BUS MODE

Bus Operations in coordination with Metro's Emergency Management Department conducts emergency response training, familiarization, and exercises throughout the year. Emergency Management's annual Training & Exercise Planning Workshop (TEPW) with Bus Operations selects 4-6 Divisions to conduct an exercise along with recommended scenarios. Divisions and scenarios may be selected based on recent/past real-world incidents worldwide, changes in policy, procedures and/or technology systems, adoption of new best practices in training, and lastly transit industry security/safety concerns identified by management.

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Additionally, within the MYTEP a training and exercise calendar is developed for when training and/or exercises will be conducted throughout a calendar year.

These exercises enhance inter-agency communication and coordination with State, Federal, regional, and local agencies, (such as FBI, TSA, Fire and Law Enforcement personnel within the 88 Cities, and regional hospitals), and enable Metro staff to train for potential emergency scenarios.

Prior to each exercise, an IPM is scheduled with the appropriate agencies to plan and discuss the exercise scope, objectives, and specific response activities. Additional meetings may be scheduled depending on the complexity of the exercise. Following the exercise, a post-exercise debriefing is convened with representatives from all participating agencies to review the performance of the exercise, and to identify lessons learned.

When lessons learned affect current procedures or process, the affected disciplines determine what changes are needed and implement them. If such changes are made, all stakeholders receive a copy of the revised procedure or are notified of procedure changes.

Metro Office of Central Instruction (OCI) staff collaborates with Emergency Management staff and provides familiarization training to outside first responder agencies on an as-needed basis when requested. Training includes familiarization of the bus, access points, shutoffs, cameras and other equipment.

Disaster Recovery:

Metro's Emergency Preparedness Department manages disaster recovery efforts and uses the Disaster Recovery Plan as a guideline in the event of catastrophic scenarios outlined in the plan. Metro's Emergency Management Department oversees major or catastrophic disaster response and recovery efforts.

§673.13 CERTIFICATION OF COMPLIANCE

Metro will certify this PTASP initially and annually thereafter through the FTA's Certification and Assurances process via Metro's Grants Management and Oversight department.

§673.15 COORDINATION WITH PLANNING STAKEHOLDERS

During the development of the original PTASP, Metro coordinated with the CPUC and the local Metropolitan Planning Organization (MPO), which is the Southern California Association of Governments (SCAG). Metro provided a copy of the PTASP to SCAG for their review and comments, including sharing Metro's proposed performance targets to aid in their planning process.

Subpart C- Safety Management System (SMS)

As outlined in the introduction section of this PTASP, the SMS components lay the foundation of Metro's Safety Culture. The processes identified in the four SMS components below lead Metro to a safer more reliable system allowing for teamwork, vigilance, and accountability to permeate all facets of the organization.

§673.23 SAFETY MANAGEMENT POLICY

Metro's Safety Management Policy is the organization's commitment to safety, which defines our objectives, accountabilities and responsibilities of our employees regarding safety.

§673.23(a) WRITTEN STATEMENT OF POLICY

With respect to the organizational accountabilities and responsibilities, please refer to Metro's Safety Management Policy Statement at the beginning of this document.

§673.23(b) PROCESS FOR REPORTING UNSAFE CONDITIONS/NEAR - MISS INCIDENTS

Metro has established a process for employees to report hazards, unsafe conditions and near-miss occurrences to management as described in §673.25 *Safety Risk Management* of this document.

Metro's hazard reporting process (SAFE-7) affords employees protection from reprisal* by providing an opportunity to submit hazards/near-miss occurrences transparently or anonymously. Furthermore, as mentioned in Metro's Safety management policy, "All employees have an obligation to report hazards, and near-miss occurrences to their department management".

*Near-Miss occurrences that are captured through Metro's reporting systems, such as SCADA, SMART DRIVE, and Supervisor Observation are not subject to protection from reprisal, if they are deemed to be egregious or violate a major rule as defined by the collective bargaining agreement.

§673.23(c) SAFETY MANAGEMENT POLICY COMMUNICATION

Metro's Safety Policy will be distributed to Metro personnel using various methods, such as, email and/or sign-for documentation. This policy will be posted at all divisions, and will be incorporated into the New Hire Orientation process during the On-Boarding Presentation.

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§673.23(d) AUTHORITIES, ACCOUNTABILITIES, AND RESPONSIBILITIES

The central approach used in achieving PTASP goals and objectives involves having all Metro personnel being responsible for safety and taking into consideration the safety implications of their decisions. It uses a proactive approach that stresses looking at systems, and proposed modifications to these systems from a safety perspective before losses occur. The PTASP also requires that employees look at how their actions may affect the safety of other interrelated systems.

All Metro personnel have general safety-related tasks under the PTASP. These include the following:

The Chief Executive Officer, who is the Accountable Executive, has the following Authorities, Accountabilities, and Responsibilities under this plan:

- Control and Direction over human and capital resources needed to develop and maintain both the PTASP, in accordance with 49 USC 5329 (d), and the TAM Plan in accordance with 49 U.S.C. 5326
- Designate a CSO in accordance with 49 CFR 673.23(d)(2)
- Ensure that Metro's SMS is effectively implemented throughout Metro's public transportation system
- Ensuring action is taken to address substandard performance in Metro's SMS
- Metro's Safety Performance
- Ultimate responsibility for carrying out Metro's PTASP
- Carry out Metro's TAM Plan
- Establishment and implementation of the PTASP

The CSO reports directly to the CEO. The CSO has the following Authorities, Accountabilities and Responsibilities under this plan:

- Day-to-day Implementation and Operation of Metro's SMS
- Ensure action is taken to address substandard performance in Metro's SMS
- Advise Accountable Executive on SMS progress/status
- Ensure Metro policies are consistent with PTASP Goals and Objectives

The CSO does not have any responsibilities for Operations and Maintenance functions at Metro.

Metro Leadership and Executive Management* has the following Authorities, Accountabilities and Responsibilities under this plan:

- Implementation and Operation of the Metro's SMS as it applies to their respective business unit
- Allocate resources within respective business units to accomplish Goals and Objectives of PTASP

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- Accountable for business unit oversight, day-to-day operations and maintaining compliance with the PTASP
- Modify policies consistent with implementation of the PTASP and other Statutory regulations

*These are staff who have a direct reporting relationship to the Chief Executive Officer (Accountable Executive).

Key Staff** has the following Authorities, Accountabilities and Responsibilities:

- Accountable for maintaining the infrastructure or program within their area of responsibility
- Accountable for compliance with the Programs and Processes identified within the PTASP
- Support development, implementation and operation of SMS within Metro's PTASP
- Maintain Documents that support the implementation of the PTASP
- Review and investigate SAFE 7 reports and implement corrective actions, as appropriate, in a timely manner
- Investigate employee injuries and document findings of investigations in Metro's reporting system
- Verify PTASP compliance and report deviations to the Corporate Safety Department

**Key Staff are people who directly oversee a division, facility, craft, and all staff in the organizational structure up to but not including Executive Management.

Additional departmental roles and responsibilities are outlined in Appendix E.

§673.25 SAFETY RISK MANAGEMENT

Safety Risk Management is a cornerstone to SMS. During this process Metro identifies, evaluates, and devises means to eliminate, mitigate the risk of, or accept hazards. Not all hazards can be eliminated given the resources at hand. Metro's goal with Safety Risk Management is to mitigate the risk of hazards to a level as low as reasonably practicable - to a level where the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained. The processes outlined in this section describe Metro's approach for identifying hazards, reporting them, investigating them, evaluating them, and finally mitigating the risk from them.

§673.25(a) SAFETY RISK MANAGEMENT PROCESS

This process involves identifying, reporting, investigating, evaluating, and mitigating risk of work place hazards and near-miss incidents through various means. Once identified and reported, the hazard's risk is evaluated, corrected or mitigated by implementing design changes, installing safety devices, installing warning devices/signage, or changing work practices/work procedures to provide a level of safety that is practical with the available resources of the agency.

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§673.25 (b) SAFETY HAZARD/NEAR-MISS INCIDENT IDENTIFICATION, REPORTING, AND INVESTIGATION

Hazards may be identified by the following sources or methods:

1. As a result of occupational injury or illness investigations
2. As a result of accident investigations
3. By observing the working environment and any changes in the workplace. (e.g. FOF)
4. As a result of routine and non-routine Inspections
5. From Hazard/Near-Miss Incident Reporting by Employees
6. As a result of Lessons Learned
7. From Internal and External Audits
8. Provided by the CPUC/FTA in their inspection reports (§673.25(b)(2))

Metro has adopted an electronic Hazard/Near-Miss Incident Reporting System called SAFE-7 that is available to all Metro employees. Any employee can use the SAFE-7 system to report a Hazard/Near-Miss Incident and can submit reports transparently or anonymously if they choose to do so. However, all hazards/near-miss incidents identified by employees must be reported through the SAFE-7 system. Hazards and findings identified by CPUC and other external agencies are tracked separately. This consistent process is necessary to properly record, track, and trend hazards and it also allows management to provide a response back to the employee who submitted the Hazard/Near-Miss Incident.

After a hazard(s) is entered into the SAFE-7 system, the responsible department head shall:

1. Conduct an investigation of the SAFE-7 Report.
2. Document the results of the investigation in the SAFE-7 system within 30-days of notification. The documentation must include all supporting information as necessary (i.e. Photos, Measurements, etc.) to explain how the investigation was performed.
3. Provide a response back to the employee who submitted the SAFE-7 report, or post it on the safety bulletin board if the report was submitted anonymously.
4. Approve the mitigation, monitor the mitigation to completion, close the incident in the SAFE-7 system, and post the summary of reported hazards/near misses (SAFE-15 logs).

The employee is responsible for checking the status of their reported hazard via their incident number which is provided to them once the hazard is reported, or if they submitted an anonymous report, by checking their respective Safety Bulletin Board, which is at every division, facility or location. If within 30 days the results of the investigation are not in the SAFE-7 system or have not been posted on their Safety Bulletin board, the employee may submit their SAFE-7 report to Corporate Safety, Mail Stop 99-11-3 for follow up.

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The Corporate Safety Department will report to the CPUC any specific hazards as identified in CPUC regulations.

§673.25(c) SAFETY RISK ASSESSMENT

The Corporate Safety Department will be responsible for assessing each safety hazard and assigning a priority level as listed below. See Table 1 for Priority Matrix.

- Priority #1 Hazard will occur frequently or often and could result in fatality
- Priority #2 Hazard will occur infrequently and could result in a fatality; or frequently or often and could result in a serious disabling injury
- Priority #3 Hazard will occur infrequently with a serious disabling injury; or any probability with a minor injury or no injury

- Frequently = once per week for 4-5 consecutive weeks at a specific location on a specific line
- Often = once per month for 3-4 consecutive months at a specific location on a specific line
- Infrequently = once every 6 months

Priority #1	Priority #2	Priority #3
Frequently with Fatality	Infrequently with Fatality	Infrequently with Serious Disabling Injury
Often with Fatality	Frequently or often with Serious Disabling Injury	Any probability with minor or no Injury

Table 1: Priority Matrix

The Corporate Safety Department may determine that even though a particular hazard does not meet one of the above priority ratings, it may warrant an assessment and mitigation.

Regardless of how the hazard was originally identified, the Local Safety Committees (LSC) maintain a log (SAFE-15) to track all hazard reports and to record the completion of corrective actions. All hazards will be reported and discussed at the monthly LSC meetings. The CPUC is invited to all LSC meetings. Priority 1 hazards will be reported to the CPUC within 2 hours of being assessed as such. The Corporate Safety Department will be responsible for notifying the CPUC of Priority 1 hazards.

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§673.25(d) SAFETY RISK MITIGATION

The department/division management to whom the SAFE-7 is reported will attempt to correct all hazards identified. For those hazards that cannot be rectified in a reasonable and timely manner, (depending on the nature of the hazard, and whether the resolution is within Metro's control), management will establish a target completion date. The department/division management will analyze the hazards, including near-miss incidents, and develop recommendations for elimination or risk mitigation of the hazard. Interim measures to mitigate the risk of the hazard should be implemented until the final corrective action is completed. Recommendations may include modification of equipment or facilities design, changes to maintenance schedules or practices, revision of operating rules/procedures, employee training, relocation of bus stop locations, modifications to rail stations, installation of traffic control devices or traffic signs, and markings, etc. Although other Metro departments or external agencies may have the responsibility to implement corrective actions, the department head who received the SAFE-7 report is ultimately responsible for follow up activities and making sure the corrective action is completed. If another department is responsible for the implementation of the mitigation, department management shall include the name of the person and entity responsible (i.e. Metro Department, City, LADOT, etc.) for taking corrective action with a target date of implementation.

Once the hazard has been corrected or risk has been mitigated, division management is responsible for documenting the resolution within SAFE-7. If the risk from the unsafe condition is not or cannot be mitigated, a reason should be provided within the SAFE-7 system. If a proposed solution requires funding that cannot be implemented by division management, it shall be elevated to the Joint Labor Management Safety Committee (JLMSC). Corporate Safety staff monitors the closure of hazards/near-miss incidents reported in the SAFE-7 system.

Imminent Safety Hazards

- For serious hazards that are immediately dangerous to life and health, employees shall take immediate action to mitigate the risk of the hazard. Documentation of the hazard within SAFE-7 can follow after such immediate action is taken.
- If the hazard cannot be immediately abated, all personnel are to be removed from the affected area until their health and safety can be assured. Corporate Safety and department/division management will be notified.

Proactive Risk Mitigation through Procurement

Metro's Procurement process ensures that materials and services obtained by Metro do not degrade the safety of the transit system. This involves including safety requirements in contracts and obtaining Safety Data Sheets (SDS). The SDS Program has established specific procedures for the acquisition and dissemination of information regarding hazardous materials. Approved SDS information can be accessed via Metro desktop computers at all Metro Divisions via the SDS database.

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Materials are evaluated by the Corporate Safety Department for safety implications prior to purchase and/or use. When new materials/chemicals are delivered, the inventory control department verifies via Metro's enterprise asset management software system, that the item delivered has been previously approved. The Operations and Maintenance Departments must meet applicable state, federal, and local regulations for the proper labeling, storage, handling, and disposal of hazardous materials including documentation and record keeping requirements.

The procurement of parts must follow established procedures. Parts may not be substituted without prior authorization of a manager within the department and only if the substitution will not adversely affect the safety of any system.

Functions of the Procurement/Vendor Contract Management Department include:

- Ensure procurement process complies with established procedures for evaluating materials and products for use by Metro
- Ensure that products purchased meet SDS requirements, copies of SDS are delivered with all materials and that materials undergo an evaluation before purchase by the Industrial Hygiene and Environmental Safety Section is performed
- Develop, maintain, and utilize a list of hazardous materials and equipment; Procurement enforces restrictions and other procurement procedures
- Adhere to safety procedures as defined by Corporate Safety related to hazardous substance acquisition, handling, labeling, storage, disposal, and record keeping. Ensure that SDS requirements are met and copies maintained for all materials and that the materials undergo an evaluation by the Industrial Hygiene and Environmental Safety Section prior to use
- Ensure that contractors meet requirements related to the safety of Metro employees, property and the public

Proactive Risk Management through Asset Management Condition Assessment

Metro's Enterprise Transit Asset Management Department conducts condition assessments of some of Metro's assets consistent with TAM Rule 49 CFR Part 625. The results of the condition assessments performed for TAM purposes are shared with various Metro stakeholder departments such as Operations and Corporate Safety. Metro's TAM plan includes a process for reviewing funding needs in the Long Range Plan and capital project proposals against the prioritized asset inventory which serves as a decision support tool. Department heads will be responsible for prioritizing and addressing the safety issues as identified in the condition assessment reports. The implementation of remediation measures will be tracked and reviewed in the Maintenance and Engineering Senior Staff meetings. Based on the condition assessment reports that are provided to internal stakeholders, Operations uses these reports to inform and make prioritization decisions of assets that need to be replaced.

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Infectious Diseases Exposure Control Plan

Metro Corporate Safety, in collaboration with the Chief People Office (CPO), Emergency Preparedness and other departments, has developed the Metro Public Health/Pandemic Plan for Infectious/Communicable Diseases to prepare the agency for dealing with the effects of a health pandemic, communicable and other reportable diseases. The plan is consistent with the requirements and guidance of the Centers for Disease Control and Prevention, Los Angeles County Department of Public Health, and California Occupational Safety and Health Administration (OSHA).

Each department has the responsibility to follow, as outlined, this Public Health Plan. The Plan is consistent with Metro's policy to provide a safe and healthy working environment for employees and a safe transit system for the public.

For additional information, employees can retrieve Metro's Public Health/Pandemic Plan for Infectious/Communicable Diseases on RSAM's Website via the Intranet.

§673.27 SAFETY ASSURANCE

Metro ensures that Safety Assurance is maintained through efforts in three core areas:

1. Safety Performance Monitoring and Measurement
2. Management of Change
3. Continuous Improvement

This section outlines the means and methods that Metro uses to ensure Safety Assurance in each core area.

§673.27 (b) SAFETY PERFORMANCE MONITORING AND MEASUREMENT

Metro has several programs to monitor its bus and rail systems for safety and regulatory compliance. These programs include the following:

RAIL MODE

FIELD OBSERVATION AND FEEDBACK (FOF)

The FOF is a behavior-based safety process that creates a safety partnership between management and employees/contractors that focuses on evaluating employees performing tasks and their actions. Moreover, the FOF process is the means for management to monitor and document the safety performance of personnel working in their work environment.

An FOF session must include a "safety contact(s)." A safety contact is an observation of a safe or unsafe act or behavior of an employee followed by dialogue addressing the situation. Observations focus on constructively and positively reinforcing safe acts, gaining employee commitment to stop unsafe acts and encouraging two-way communication about safety-related concerns. Life threatening and unsafe behaviors observed are addressed and acted on immediately.

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With respect to Wayside Maintenance Employees, Supervisors are responsible for verifying compliance with established rules and procedures.

EFFICIENCY TESTING/ PERFORMANCE EVALUATIONS

The head of the Rail Transportation Instruction department is responsible for developing the Rule Book, managing changes to the Rule Book and overseeing efficiency testing to determine the knowledge and application of operating rules and procedures. Rules and procedures that affect safety are contained in the Metro Rail Book of Operating Rules and Procedures. Compliance with these rules and procedures is routinely checked as part of line rides and performance evaluations.

Each month, the Rail Transportation Instruction (RTI) staff issues 2 rules compliance tests, based on the rulebook, that must be completed by Division Management. The tests evaluate operators' knowledge and conformance with the selected rules. A minimum of 20 operators per line, per month are randomly selected by Supervisors on the AM and PM shift (10 per shift) to evaluate compliance with the rules.

VIDEO BASED ENFORCEMENT AND MONITORING PROGRAM

Metro has installed a video-based monitoring system in the operating cabs of each rail car. Metro uses this video-based system to supplement the random monitoring and enforcement of its operating rules, including rules and policies governing the use of electronic devices. Operations staff utilizes the video-based system to download and observe 10% of the operators on each line per quarter to determine compliance with the CPUC General Order 172 series, and includes, as part of the 10%, incidents involving the following:

- a derailment
- a collision
- a complaint or observation of an alleged violation of the GO 172 series

Records of the observations from this video-based program are maintained for a period of three (3) years. Video recordings only for instances of any violation of rules/policies and the above described three instances are maintained. These videos are made available to the CPUC staff upon request but are maintained until the last appeal of any litigation or disciplinary action is complete.

FACILITY INSPECTIONS

A safety inspection program is essential in order to reduce unsafe conditions that may expose staff, and visitors to incidents that could result in injury, illness and exposure or property/capital asset damage. It is the responsibility of each organizational level, down to the lowest applicable cost center, to ensure that appropriate, systematic safety inspections are conducted periodically.

Periodic safety inspections will be conducted at each operating facility by department management/division trained personnel to identify (which may include survey/polling) and document unsafe conditions, work rules or work practices inconsistent with Federal, State and Local government agencies.

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Rail Communications and Facilities Maintenance performs inspections of the public rail facilities, such as rail stations, in accordance with their respective departments' maintenance plan.

In addition to public facility inspections, Division/Location Facility Inspections are conducted at each rail division on a monthly basis for both Transportation and Maintenance Departments utilizing the facility inspection checklist for their respective department type.

Each department's Facilities Inspection responsibilities include:

- Utilize checklists to periodically inspect work areas for unsafe and unhealthy conditions and report and correct conditions as appropriate
- Maintain inspection documentation records
- Track and take appropriate corrective action(s)
- Report unsafe conditions and failures, both physical and operational, to appropriate organizational units so the condition can be corrected and/or operational changes can be made
- Submit hazards and proposed system modifications resulting from inspections to the appropriate committees

INTERNAL SAFETY REVIEW

The PTASP Internal Safety Review (ISR) provides a comprehensive method of measuring effectiveness of the PTASP in achieving its objectives.

Under requirements of the CPUC GO 164 series, this review ensures that the state required elements of the PTASP are reviewed in an on-going manner and completed over a three-year cycle. The ISR is conducted on an annual basis and a schedule of the reviews is submitted to the CPUC staff prior to the start of such reviews, allowing for CPUC staff participation. A list of items to be reviewed is developed at least a month in advance. This review includes checklists that address both quantitative and qualitative aspects of performance.

Each department is responsible for PTASP compliance and for reporting deviations to the Safety department, which has overall verification responsibility. The ISR process will provide a means of documenting whether organizational units are fulfilling their PTASP responsibilities.

The Corporate Safety Department is responsible for establishing a review team and for conducting the ISR. Reviewers who conduct the reviews are independent from the first line of supervision responsible for the activity being reviewed.

Review Reporting

The Corporate Safety Department submits the ISR Report directly to the Chief Executive Officer (CEO) for review. This report includes an evaluation of the adequacy and effectiveness of the PTASP with findings, conclusions, and any necessary recommendations/corrective actions. After the CEO reviews the report, it is submitted to the CPUC

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for approval and then to the responsible departments for implementation, if applicable, of the corrective action plans described in the report.

Follow-Up/Action Plans

Departments and other organizational units are responsible for implementing their respective approved recommendations and action plans. Any department or other organizational unit that foresees or encounters a problem in completing implementation within the established time frame shall inform the Corporate Safety Department head.

LINE RIDES

Line rides provide an opportunity for one-on-one interaction between the Operator and Instruction staff. Line rides allow for firsthand observation of an Operator's habits and result in immediate verbal and written feedback. The purpose is to uncover and point out unsafe practices, as well as to give positive reinforcement for safe operating practices. Line rides can occur as a reactive measure (post-accident rides or rides initiated in response to customer complaints or documented violations of safety rules), or proactively, such as when the Operator is learning a new rail line or receiving other types of instruction.

BUS MODE

FIELD OBSERVATION AND FEEDBACK (FOF)

The FOF is a behavior-based safety process that creates a safety partnership between management and employees/contractors that focuses on evaluating employees performing tasks and their actions. Moreover, the FOF process is the means for management to monitor and document the safety performance of personnel working in their work environment.

An FOF session must include a "safety contact(s)." A safety contact is an observation of a safe or unsafe act or behavior of an employee followed by dialogue addressing the situation. Observations focus on constructively and positively reinforcing safe acts, gaining employee commitment to stop unsafe acts and encouraging two-way communication about safety-related concerns. Life threatening and unsafe behaviors observed are addressed and acted on immediately.

FACILITY INSPECTIONS

A safety inspection program is essential in order to reduce unsafe conditions that may expose staff, and visitors to incidents that could result in injury, illness and exposure or property /capital asset damage. It is the responsibility of each organizational level, down to the lowest applicable cost center, to ensure that appropriate, systematic safety inspections are conducted periodically.

Periodic Safety Inspections will be conducted at each operating facility by department management/division trained personnel to identify and document unsafe conditions, work rules or work practices inconsistent with Federal, State and Local government agencies.

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Facility Inspections are conducted at each bus division on a monthly basis for both Transportation and Maintenance Departments.

SMARTDRIVE VIDEO MONITORING

The SmartDrive is g-force based video monitoring utility. When an event on a bus reaches a threshold, the SmartDrive system records video footage. There are four types of events that are triggered and recorded by the SmartRecorder for use in the Measured Safety Program: Erratic, Shock, Speeding, and Manual. Erratic Events are characterized as Moving Events.

They are triggered by sustained forces from multiple directions (front/back, left/right, and up/down) over relatively long periods of time (typically between 0.25 and 1.5 seconds) as measured by an accelerometer in the SmartRecorder. Erratic Events capture risky driving maneuvers such as hard braking, acceleration, turning, swerving, speed bumps, dips in the road, etc. Shock Events are also characterized as Moving Events. They are triggered by sudden changes in force in any direction as measured by an accelerometer in the SmartRecorder. Shock Events have a higher likelihood of recording Collisions, but they can also be triggered by other actions that involve sudden changes in forces such as when a vehicle hits a pothole or a bump at high speed.

Speeding Events are characterized as Moving Events. They are triggered when the vehicle speed exceeds a specified threshold. For example, if the threshold is set for 70 mph then the SmartRecorder will record a Speeding Event when the vehicle speed exceeds 70 mph. To balance the number of Speeding Events that may be recorded at any given time, the SmartRecorder will only record one Speeding Event within a 30-minute timeframe.

Unlike the other three event types, Manual Events are not Moving Events. They are triggered when the driver or other occupant of the vehicle presses the manual trigger button on the SmartRecorder or on the keypad. Manual Events enable Operators to record Videos which contain actions of interest that are not necessarily related to risky driving.

Operations Staff reviews SmartDrive events daily to ensure timely coaching, retraining or discipline for unsafe acts. Coachable events are placed in the Coaching Queue. Additionally, Supervisors review manually-triggered events when Operators submit written notification. Coachable events belonging to the Maintenance Department are brought to the attention of the Maintenance Manager for coaching, retraining, and/or discipline.

LINE RIDES

Line rides provide an opportunity for one-on-one interaction between the Operator and Instruction staff. Line rides allow for firsthand observation of an Operator's driving habits and result in immediate verbal and written feedback. The aim is to uncover and point out unsafe practices, as well as to give positive reinforcement of safe driving practices. Line rides can occur as a reactive measure (post-accident rides or rides initiated in response to customer complaints or documented

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violations of safety rules), or proactively, such as when the Operator is learning a new bus line or receiving other types of instruction.

§673.27(b)(2) SAFETY RISK MITIGATION MONITORING PROCESS

Metro monitors its operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended. Metro also reviews pre-mitigation and post-mitigation trend data captured in various Metro electronic systems to determine the effectiveness of the safety interventions.

As part of Metro's risk reduction program, it has implemented several initiatives, some of which are listed below, to improve safety by reducing the number of accidents, injuries, assaults and visibility impairments on buses.

For example, Metro has been tracking the effectiveness of the following projects:

- Ped-gate/swing-gate project (monitored through Blue Line Quarterly Report)
- Left turn gate project (monitored through Blue Line Quarterly Report)
- In-pavement street lights on Gold Line East Side Extension
- Bar signals interfaced with interlocking signals on the Gold Line
- Photo Enforcement for rail and bus on the Orange Line
- Bus turn alert system
- SmartDrive for bus and rail
- 2-section barriers to deter assaults on bus operators (Metro's entire bus fleet is equipped with barriers)
- Video cameras and closed-circuit video monitors on all busses that show passengers boarding and in the seating areas of the bus to deter bus operator assaults

Metro will continuously canvas and evaluate technologies regarding reducing visibility impairments for buses. New technological advances that have proven to be effective will be incorporated in future procurement specifications for the bus fleet.

To address visibility impairments on Metro's current buses, Metro has developed training and SOPs that address how best to avoid accidents, especially when making right- and left-hand turns.

Metro has also incorporated de-escalation training as part of its efforts to mitigate transit worker assaults. Furthermore, Metro's System Security and Law Enforcement Department conduct routine patrols and inspections to deter transit worker assaults.

Metro will also evaluate advancements in technology to address other system operational improvements and enhancements such as communication systems, CCTV systems, train control systems, etc.

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§673.27(b)(3) ACCIDENT NOTIFICATION, INVESTIGATION, AND REPORTING

Metro conducts investigations of accidents to identify causal factors through Accident Investigation Procedures (AIP). The AIP are outlined in Appendix F for the rail mode, and Appendix G for the bus mode. If there is a difference of opinion as to rail accident investigation findings, this will be resolved through CPUC established procedures as outlined in the “Rail Transit Safety Branch Program Standard - Procedures Manual State Safety and Security Oversight of Rail Fixed Guideway Systems.”

RAIL MODE

The Corporate Safety Department submits a Monthly Service Record, Accident, Hazard, and Corrective Action Summary Report (Form V) to the CPUC, within 30 calendar days after the last day of the month in which the accident occurred. Moreover, it also submits accident data to the Federal Transit Administration (FTA) via the National Transit Database (NTD).

BUS MODE

The Corporate Safety Department submits monthly accident data to the FTA via the National Transit Database (NTD).

§673.27(b)(4) INTERNAL SAFETY REPORTING PROGRAM MONITORING

Metro monitors information reported through Safety Data Acquisition and Analysis, its internal safety reporting program, SAFE-7, the drug and alcohol abuse program, as well as through various committees described below.

A. Safety Data Acquisition and Analysis

This function involves collecting and analyzing incident data in order to identify trends, mitigate any associated hazards and prevent recurrence of incidents on the bus and rail system. For example, the Corporate Safety Department compiles the Summary of Metro Blue (A) Line Train/Vehicle and Train/Pedestrian Accidents - this quarterly report summarizes the contributing factors, direction of travel of the train, and the location where accidents have occurred on the A Line. The Corporate Safety Department also reviews the bus and rail accident statistics and determines the types of mitigating measures, if any, to be implemented. Often, incidents are the result of unsafe behaviors of third parties, which are beyond the control of Metro, and for which mitigations are not feasible. Based on the collection of data and analysis of the data, the Corporate Safety Department has, over a number of years, implemented several enhancements on its bus and rail system. Some of these enhancements include four quadrant gates, active train warning signs for motorists and pedestrians, photo enforcement system, in-pavement warning lights, left turn gates in street running, pedestrian gates/swing gates, bus operator barriers, bus monitors on buses, pilot programs of bus audible and visual alerts to mitigate bus/auto and bus/pedestrian collisions, on-board video based

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enforcement system (SmartDrive), and in-cab camera system. Safety data is exchanged with other transit systems and is provided to external agencies as required. Because of the significantly lower number of accidents on the Metro L Line, Metro E Line, Metro C Line and Metro B Line, with the latter two lines experiencing mostly suicide type accidents, no meaningful trend can be established; hence, similar quarterly reports as the one for the Metro A Line, are not helpful and, therefore, not developed. However, the Corporate Safety Department maintains a data base of accidents that occur on these lines and based on trends, implements enhancements as warranted.

Other data, such as assaults on transit workers, is also collected and analyzed to better determine law enforcement strategies to mitigate such incidents.

B. SAFE-7 Reporting

As outlined in our Hazard/Near-Miss incident Reporting Process, SAFE-7 is Metro's repository for reporting operational safety issues. Refer to the Hazard/Near-Miss incident Reporting Process in §673.25(b) for more detailed information on how this element is achieved.

C. Drug and Alcohol Abuse Program

The CPO administers Metro's policy titled Drug and Alcohol Free Work Environment. CPO ensures that the policy is compliant with applicable regulations, is updated periodically, and is disseminated to all employees. CPO also monitors training of newly hired safety-sensitive employees as well as trainings for supervisors and/or other company officers authorized to make reasonable suspicion determinations. CPO ensures that informational materials on the dangers of substance abuse and the Employee Assistance Program, designed to provide counseling, guidance, and information to help with many topics such as substance abuse, parenting, childcare, elder care, relationships, work-life balance, grief, crime victim or witness to crime, death and or other trauma, well-being, etc. is readily available to all Metro employees.

In addition, CPO staff takes the lead in training supervisors to fulfill their responsibilities as related to the policy. The guidelines, procedures, and programs set forth in this policy comply with all applicable state and federal regulations governing workplace anti-drug use and alcohol misuse in the transportation industry. These regulations include, but are not limited to, the following:

- Department of Transportation (DOT) 49 Code of Federal Regulations Part 40, as amended (Procedures for Transportation Workplace Drug Testing Programs)
- Federal Transit Administration (FTA) 49 Code of Federal Regulations Part 655 (Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations)
- 41 U.S.C. Section 701-707 (Federal Drug-Free Workplace Act of 1988)
- California Government Code Section 8350. et seq. (Drug-Free Workplace Act of 1990)
- California Public Utilities Commission (CPUC) General Order 143 Series

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Some of the functions of the CPO include:

- Develop and administer Medical Standards for each position
- Ensure that successful candidates for positions are capable of safely performing the tasks of these positions on a repetitive basis
- Administer Metro's medical services coordination and Metro's drug and alcohol program/policy
- Oversee medical examinations and testing and the retention of related records

Each Metro Departments' role in supporting the Drug and Alcohol Program is to:

- Comply with procedures established by the CPO for testing and disciplining employees in accordance with Alcohol and Drug Free Work Environment Policy
- Deter and detect employees' use of illegal drugs and misuse of alcohol
- Discipline employees who violate the Policy, up to and including termination

D. COMMITTEES

There are various committees that coordinate Metro's SMS activities:

Bus Change and Material Review Committee (BCMRC)

The purpose of this committee is to provide consistency and uniformity to the changes made to, or material used for Metro's Bus Fleet. The committee is responsible for ensuring that changes to the buses or material are safe, economical, practical and comply with Metro's policies and procedures. The proposed modifications are submitted to the Vehicle Technology department. This department then distributes the proposed changes to the BCMRC.

Chemical Standards Committee (CSC)- This committee shares information and provides oversight for the qualification and introduction of new chemical commodities and the disqualification of existing chemicals. The committee jointly reviews all requests to set up chemical products to ensure compliance with Metro's requirements. The committee also reviews the current inventory catalog to confirm the chemical requested does not already exist in the Metro inventory under another name.

Chemical Standards Committee Functions:

- Inventory Control (Review new set-up or request/Committee Chairperson)
- Procurement (Vendor request and purchases of new products)
- Quality Assurance (New product testing/Product Complaints)
- Corporate Safety (Reviews new product SDS for Safety Compliance)
- Maintenance Bus/Rail (Users/Testing)
- General Services Bus, Rail, Gateway (Users/Testing)
- Material Planning (Set order points for Divisions)
- Environmental Compliance (Environmental Impact and Guidelines)

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Fire/Life Safety Committee (FLSC) The FLSC evaluates and resolves fire and life safety issues on Metro. It verifies that system designs, operations, and modifications meet fire and life safety requirements, such as NFPA 130 Standard for Fixed Guideway Transit and Passenger Rail Systems. In this capacity, the FLSC coordinates with other Metro departments and with other fire departments and other emergency response agencies for familiarization with Metro emergency procedures.

The FLSC evaluates issues against FLSC design criteria, verifies compliance with the criteria, and evaluates variances or deviations from the criteria via a Request for Special Consideration form. The FLSC also facilitates the issuance of the certificate of occupancy for new facilities.

Staff from the Corporate Safety Department chairs the FLSC which is comprised of representatives from the Los Angeles City Fire Department, Operations departments, and the CPUC. Some of the typical functions of the FLSC include:

- Develop Fire/Life Safety Criteria for Metro and monitor compliance with fire/life safety requirements
- Serve as liaison between Metro and fire departments and other emergency response agencies
- Verify that fire departments and other emergency response agencies are familiar with Metro emergency procedures and have access to facility site maps
- Ensure that materials, equipment, and systems are appropriate for use and are maintained in a manner consistent with fire/life safety requirements
- Review municipal and county fire regulations/codes, building codes, building plans, vehicle specifications, fire protection systems, emergency procedures, emergency ventilation systems and procedures, and evacuation plans in order to ensure compliance with fire/life safety requirements
- Provide support for emergency exercises
- Review Metro and other transit agency incidents for lessons learned
- Provide support to Rail Operations as needed

Local Safety Committee (LSC) - The formation of LSCs at the Bus and Rail Operating facilities gives employees and division management a forum for exchanging information related to safety issues, programs, policies, and practices. Each Metro Division has formed a committee, with the head of Operations or Maintenance chairing the effort. The LSC responsibilities include the following:

- Meet monthly to evaluate and resolve any identified safety hazards, near misses, and track action items
- Administer safety programs for department employees, facilities, equipment, and operations
- Review investigation of injuries/incidents and near misses, and make recommendations to mitigate them

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Joint Labor/Management Safety Committee (JLMSC)

The JLMSC is comprised of an equal number of representatives from management and all five labor unions. This PTASP has been approved by this committee (see appendix O) which meets at least quarterly to review risk-based mitigations or strategies to reduce the likelihood and severity of consequences of accidents, to identify mitigations or strategies that may be ineffective, inappropriate, or were not implemented as intended; and to identify safety deficiencies for purposes of continuous improvement. The committee will also establish performance targets using a 3-year rolling average of NTD data once FTA updates their National Public Transportation Safety Plan. The Committee is alternately chaired by a management or labor representative of the committee for a one year term. The JLMSC is intended to be an ongoing Committee and is dedicated to continuous improvement of all Metro's safety programs, trainings, and other safety measures.

Further, the JLMSC will discuss, evaluate, and address all safety and security issues related to employee, patron, and contractor safety. All relevant safety/security data will be shared with all committee members so that they can engage in discussions to propose safety/security programs, policies, and protocols that are based on this data.

While either party (Management or Labor) may bring a safety/security topic to the JLMSC, the JLMSC is not authorized nor will it engage in any collective bargaining, grievance processing, or meet and confer activities.

Safety Certification Review Team (SCRT) - The SCRT is a multi-disciplinary team that is formed for each Major Rail Capital Project or Line Extension. Its purpose is to review project compliance to the Safety Certification program, in compliance with CPUC General Order 164 Series. The objective of the SCRT is to provide guidance and oversight to the safety certification program so that the project can be opened without any hazard to passengers and employees. Members are selected to serve on an as-needed basis from various operating departments, the Designer, Construction Contractor, or specialty consultants. Typical activities include review of in-progress verification checklists, field inspections, or other document reviews. A representative from the Corporate Safety Department or designee chairs this Team.

System Modification Review Committee (SMRC) - The purpose of this committee is to review and comment on any proposed changes or modifications to the Metro Rail Operating System(s)/Facilities prior to implementation, and to evaluate whether any new hazards are posed by the proposed modifications. The proposed modifications are submitted to the Program Control department. This department then distributes the proposed changes to the SMRC for review and comments via email. Meetings are held only if any comments cannot be resolved via the email process.

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§673.27(c) MANAGEMENT OF CHANGE

Metro's Program Control, Vehicle Technology, and Rail Vehicle Engineering departments facilitate changes to rail and bus operations through the System Modification and Configuration Management Process.

System Modification

Changes to Metro systems and subsystems must not be made without first determining how the change might affect the safety of the system, or of any other system. The proposed modification must be evaluated for its potential to create additional hazards or to reduce the effectiveness of existing hazard controls. Metro has implemented a procedure, Operations Configuration Change Control, found in the CF15 procedure that establishes a process to ensure notification and review of proposed changes.

Individual departments must submit proposed system changes involving facilities, equipment/software or other physical modifications to Program Control, Vehicle Technology, or Rail Vehicle Engineering in accordance with procedures established in CF15.

Each Metro Departments' role in this function is to:

- Incorporate safety into proposed modifications of Metro transit systems
- Meet the safety requirements established for all purchases of equipment and supplies including its proposed storage, transfer, use, record keeping, and disposal
- Submit proposed system modifications to the respective party for document control
- Carry out assigned system modification tasks
- Evaluate proposed system and subsystem modifications from a safety perspective

Configuration Management

Configuration Management is a process which attempts to ensure that all changes to facilities, equipment, systems, design elements, etc., are updated to reflect the most current configuration, accurately and completely.

Program Control, Vehicle Technology, and Rail Vehicle Engineering is responsible for distributing proposed physical modifications to the appropriate Operations, Maintenance, Engineering, Safety department, and other necessary units for review and comments and for processing the approval of these configuration modifications. The appropriate Engineering department head is responsible for updating the as-built configuration drawings and notifying the Program Control Department when they are completed.

Functions of the Program Control, Vehicle Technology, and Rail Vehicle Engineering departments include:

- Maintain a computer database log of proposed changes.
- Submit the change proposal to the Operations, Maintenance, and Corporate

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Safety Department and others for review and comments. The Corporate Safety Department will review the proposed change to determine any negative safety impacts in accordance with the Safety Risk Management Process, described in §673.25(a).

- Coordinate resolution of all comments on the proposed changes
- Process change control documents
- Maintain Change Request/Order files; action items; general drawing and change status reports
- Provide updated drawings to affected Operations (field) Technical Libraries
- Respond to requests for latest drawing configuration, changes pending on drawings, and the status of each change in the system

Safety Certification Process

The Safety Certification process verifies that safety-related requirements are incorporated into rail transit projects. The goal is to verify that safety standards are met or exceeded in the design, construction and start-up of these projects. This process also verifies that safety concerns and hazards are adequately addressed.

Projects may include new rail systems or extensions, the acquisition and integration of new vehicles and safety critical technologies into existing service or major safety critical redesign projects, excluding functionally and technologically similar replacements.

Metro certifies its rail transit projects to the CPUC. The CPUC requirements for safety certification are identified in General Order 164 Series, which Metro adheres to.

The Safety Certification Review Team (SCRT) is responsible for overseeing the activities of the Safety Certification Plan. The goals of the Safety Certification Program are to:

- Verify that acceptable safety levels are met or exceeded in all Metro rail transit projects
- Document the verification of safety standards
- Provide a consistent manner to certify projects

Bus Acceptance Process

Metro's Bus Warranty Department manages the acceptance of all new buses. Through their acceptance program, buses are inspected and accepted into the Metro Bus Fleet based on established industry safety standards. The goal is to verify that safety standards are met or exceeded in the design before being introduced into revenue service.

Rule/SOP Modification

Rail Mode:

The Rail Transportation Instruction (RTI) department is responsible for developing

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operating rules and Standard Operating Procedures (SOPs), and for managing the process of modifying rules and SOPs. Rules and procedures are reviewed periodically and when new rail lines or extensions are opened or when accidents or incidents indicate a possible rule modification or clarification is necessary.

Any rail employee may submit a request to his or her supervisor for a new or revised rule/procedure at any time. The supervisor or manager, in turn will forward the request to the RTI department. The RTI department will evaluate the proposal and distribute all the Rules/Standard Operating Procedures that need to be revised to the affected departments including the Corporate Safety Department for review and comments, before implementing the revisions.

URGENT REQUESTS FOR A NEW OR REVISED RULE/PROCEDURE - These may be sent by any employee to Rail Transportation Instruction, for immediate action. These may be sent verbally, with written documentation to follow. The above process may be bypassed to accommodate the urgency, to provide a temporary new or revised Rule/Procedure if approved by the department head of Rail Transportation. Changes to rail operating rules and procedures are submitted by the Corporate Safety Department to the CPUC in accordance with CPUC GO 143 Series.

Bus Mode:

Operations Central Instruction (OCI) department is responsible for developing operating rules and Standard Operating Procedures (SOP's), and for managing the process of modifying rules and SOP's for Bus Operations. Any bus employee may submit a request to his or her supervisor for a new or revised rule/procedure at any time. The supervisor or manager, in turn will forward the request to OCI.

OCI will evaluate the proposal and distribute all the Rules/Standard Operating Procedures that need to be revised to the affected departments including the Corporate Safety Department for review and comments, before implementing the revisions.

Rules and procedures are reviewed periodically and when accidents or incidents indicate a possible rule or procedural deficiency. In addition, any employee can propose a rule or procedure modification.

Following the modification, the unit overseeing the process is responsible for disseminating rule and procedure modifications to appropriate parties.

Urgent changes are made by department heads having control over specific rules and procedures by means of bulletins, notices, or orders. The development of site-specific rules and procedures must be controlled. In addition, site specific rules and procedures must fulfill existing safety requirements; not create new hazards or reduce the effectiveness of existing safety controls; and not increase the risk to individuals, equipment, property, or the environment.

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§673.27(d) CONTINUOUS IMPROVEMENT

Metro has established multiple processes to assess its safety performance and facilitate continuous improvement. The programs include but are not limited to:

- a. Quarterly JLMSC meetings.
- b. Outside Auditing agencies (Systemwide) - Metro is audited by multiple outside agencies, including Federal, State, and contracted agencies which serve as a mechanism to implement enhancements for continuous improvement.
- c. Internal Safety Reviews - Corporate Safety Department conducts internal reviews of elements included in this PTASP to ensure that responsible departments follow safety expectations of this PTASP. When these reviews include recommendations, a corrective action plan is initiated and seen through to completion in accordance with GO 164 series.
- d. RAP Sessions-Are meetings between Division Management, and staff to discuss concerns that employees may be experiencing in the field, and in the work process. Employees can use their experiences and suggest solutions to issues that they encounter. Employees also get updates on Division activity that they may not normally receive in the performance of their usual duties.

Metro has various levels for continuous improvement, specifically in accordance with 49 CFR 673, the Internal Safety Review and CPUC's Triennial Audit may generate recommendations that are approved and directed by the Chief Executive Officer.

In addition to the above processes, Metro personnel can make suggestions to any Department or group where they may see an area of needed safety improvement. This may be coordinated through discussion with various department heads, at LSC meetings, etc.

§673.27(d)(2)

Through the Continuous Improvement Processes described above, Metro is then able to develop and carry out a plan to address the identified safety deficiencies by:

- i. Prioritizing identified deficiencies
- ii. Creating Strategic Initiatives to overcome such deficiencies
- iii. Re-evaluating progress on our improvement measures through our SMS program.

If a safety recommendation made to improve a program, process, or safety deficiency is not implemented, the department(s) involved shall provide a written justification to the Corporate Safety Department.

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§673.29 SAFETY PROMOTION

The promotion of safety is accomplished through Metro's Safety Training program and other means of safety communication described below. Metro fosters active, open and on-going communication through various outlets explained in this section. Employees can communicate to management about issues as they arise, and in turn, management has the opportunity to provide training, messaging, and use other communication tools to promote a safety culture. Through open dialogue, hazards can be identified, and understood so employees know what risks they may encounter, and what Metro is doing to eliminate or mitigate the risk.

§673.29(a) SAFETY TRAINING PROGRAM

All Metro personnel directly connected with the operation of buses or trains will be required to undergo certification and re-certification training, as necessary.

Each Metro Departments' role in this function is to:

- Maintain each of their employees' training, certification, and recertification records.
- Train department employees in elements of the PTASP and safety programs that have relevance to their positions.
- Document the training in accordance with their department's practices. This may be through electronic database, or through hard copy files.
- Develop programs to ensure training adequately communicates the specific hazards employees may be exposed to; implement appropriate hazard control methods; provide warnings and restrictions; develop safety rules and procedures; and practice emergency procedures including those related to response, communication, and evacuation. Employees must receive required training and/or certification/re-certification as it pertains to their discipline.
- Distribute and display safety information, bulletins, notices, rule changes, posters, etc. in a manner that effectively communicates the information to employees.
- Monitor and document compliance with the training through FOFs or efficiency tests.

Employees, whose duties directly impact the safe operation of the system, will be formally trained and certified by successfully passing specialized training courses. Also, these employees must pass recertification on a regularly scheduled basis to retain their positions.

In addition to the safety programs mentioned in §673.29(b), Metro also offers a variety of security training programs including training to respond to incidents involving drug overdose and other emergency procedures such as cardiopulmonary resuscitation.

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Rail Specific Safety Training:

Safety Training is generally required for all persons working on the Metro Rail System. In certain cases, persons may conduct work on the Metro rail system without attending safety training, provided they are escorted by an individual who is currently certified in roadway worker protection training, consistent with GO 175 Series. SOP #55 Wayside Worker Protection outlines on-track protection requirements for Roadway Workers.

The purpose of safety training is:

- To identify the rail system operating practices and standards
- To ensure safe operation of the rail system
- To ensure the safety of all persons working on or about the rail systems as well as the riding public.

Rail Transportation Instruction provides the training and refresher training required to employees, contractors, subcontractors, law enforcement and fire services personnel as identified in Appendix H. They maintain these documents in accordance with their department's practices.

Upon completion of safety training, employees are issued a picture identification badge. The badge is to be worn or be in the possession of persons at all times, while accessing Metro facilities or systems. Any person not wearing or having a badge, is subject to being escorted to a safe area.

All METRO Rail Departments' role in this function is to:

- Comply with rules/procedures and operating techniques to ensure safety requirements are met.
- Evaluate proposed rule and/or procedure changes from a safety perspective.
- Ensure that rules and procedures are developed, maintained and followed.
- Document results of compliance checks.
- Notify the appropriate department head whenever deviations from established procedures occur or are needed.

Rail Vehicle Maintenance Training

Safety training records are maintained between the local Rail Vehicle Maintenance staffs work location and the Metro Training Tracking System. Topics include applicable OSHA training required based upon hazards that maintenance personnel may encounter. Examples of training include: Fall Protection Training, Bloodborne Pathogen, and Personal Protective Equipment.

Rail Vehicle Maintenance Rules and Procedures

The two primary documents containing maintenance rules and procedures are the Maintenance Safety Handbook and the Rail Fleet Services Rulebook and Standard Operating Procedures. The Rail Fleet Services Instruction and Rail Vehicle Engineering units have approval authority over maintenance procedure manuals. In addition, Quality Assurance and Vehicle Acquisition issue Informational Memos as needed to inform organizational units of various equipment related issues and changes in procedures and work practices. The Maintenance Safety Handbook

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highlights the major safety topics and top safety work practices in rail vehicle maintenance.

Safety Oversight Training

Consistent with 49 CFR 672, all Metro personnel directly responsible for safety oversight of Metro Rail Operations have completed training specified in Appendix A of 672 Public Transportation Safety Certification Training Program. Additionally, Metro's CSO will also complete this training within 3 years of onboarding with Metro.

Bus Specific Safety Training:

Bus Transportation Rules and Procedures

The *Operator's Rulebook and Standard Operating Procedures* is re-evaluated as warranted. Bulletins, Operations Notices, and memoranda are also periodically reviewed. Urgent changes to Bus Operator rules/procedures can be made by OCI. A General Notice or Operations Notice is posted on division bulletin boards whenever there is a change to the Operator's Rulebook and Standard Operating Procedures. Operators are required to check the board for notices. If a major change is made, Operators receive additional training.

Bus Maintenance Rules and Procedures

The two primary documents containing maintenance rules and procedures are the *Maintenance Guide Book* and the *Revenue Service Bus Maintenance Plan*. The Maintenance Instruction unit has approval authority over maintenance procedure manuals. In addition, Quality Assurance and Vehicle Acquisition issue Informational Memos as needed to inform organizational units of various equipment related issues and changes in procedures and work practices. The *Maintenance Safety Handbook* highlights the major safety topics and top safety work practices in bus maintenance.

There are formal training programs for operators and employees involved in maintenance activities. These include training classes, training manuals, and lesson plans. Testing is conducted as necessary to ensure training effectiveness, and all safety training is documented.

Metro utilizes safety training programs as a means of informing employees about hazards associated with their jobs and the appropriate methods for controlling these hazards. The safety training efforts of Metro fall into three main types of training: 1) Initial, 2) Periodic, and 3) Retraining. Training mechanisms include classroom, written and video communications, computer-based training, field exercises, and drills.

Bus Operator Training

OCI is responsible for training new Bus Operators in defensive driving, rules pertaining to safe vehicle operation, pre-trip and pre-pullout inspections, emergency procedures, and injury and illness prevention. This group also performs re-training

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following traffic accidents, occupational injuries, and as otherwise warranted. A list of required Bus personnel training can be found in Appendix I.

Verification of Transit Training (VTT)

Operators are required to receive 8 hours of training per year under the VTT Program. This training is conducted at the operating divisions by the Division Instruction staff and is described in the VTT manual maintained by OCI. During the license renewal year, each Operator must complete 8 hours of classroom training; in all other years the training may consist of a combination of classroom, hands-on, and behind-the-wheel training.

Operator's Training Documentation

Training records are maintained at the Bus Operator's work location and follow the Operator whenever transferred to a new division.

Bus Maintenance Training

Safety training records are maintained between the local Bus Maintenance staff's work location and Central Maintenance Facility (CMF). Topics include applicable OSHA training required based upon hazards that maintenance personnel may encounter. Examples of training may include, Fall Protection Training, Bloodborne Pathogen, and Personal Protective Equipment (PPE).

Bus System Safety Orientation

Safety orientation is required for all persons, outside of Bus Operations, such as contractors and consultants. This orientation shall be conducted by Division Maintenance staff prior to the commencement of work. The purpose of safety training is:

- To identify the bus system practices and standards
- To ensure safe operation of the bus system
- To identify hazards and the procedures necessary to ensure the safety of all persons working on or about the bus systems

§673.29(b) SAFETY COMMUNICATION

Metro believes in the importance of effective communication to build a more robust safety culture. Training is merely one example of communication. The following methods are the various ways in which Metro communicates safety and safety performance information with employees throughout Metro. In addition to regular safety messages, many of these communication methods convey information on hazards and safety risks relevant to employees' roles and responsibilities.

Safety Communication Methods:

1. New Hire Orientation On-Boarding Safety Presentation - All new Metro employees undergo new hire orientation which includes a safety training presentation.
2. Safety Training - Bus and Rail Divisions conduct safety training for their employees based on the hazards that they will encounter while performing assigned tasks.

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3. Toolbox Safety Talks - Employees are provided relevant safety topics talking about safety issues that may affect their job duties.
4. Craft Specific Training - Each department conducts training pertinent to the tasks that they will perform, such as, hi-rail operations for wayside workers, grade crossing maintenance procedures, customer service training.
5. Sign-For Documentation - When there is an update to rules or SOPs, bus and rail operators are given the information upon sign-in to review, and sign that they have received copies. In addition, when special notices, or memos are distributed, sign-for documentation aids in ensuring that all affected employees have received the communication.
6. Safety TVs - These TVs are located at all divisions. They typically have rolling messages, videos, or power point presentations that remind employees of various hazards they may encounter or special procedures they need to know in order to perform their duties.
7. Safety Banners - Each division has the ability to make safety unique to their environment. Many divisions have enlisted the use of safety banners to count the number of days without an accident, or injury that the division has accomplished. This particular safety communication can help with morale, especially when tied to a reward of some kind (i.e. BBQ for 180 days of no injuries).
8. Safety Bulletin Boards - Every bus and rail division has Safety bulletin boards. These boards will contain applicable safety regulations, safety policies, or key performance indicators information. These boards are typically in a conspicuous location where all employees frequent, such as a lunch or break room.
9. SAFE-7/SAFE-15 Process - The SAFE-7 process is outlined in 673.25 Safety Risk Management and is one of the main pillars of safety communication that employees have to identify hazards to management.
10. LSC Meetings - LSC give employees and division management a forum for exchanging information related to safety issues, programs, policies, and practices. Each Rail Division has formed a committee, with the manager of operations or maintenance chairing the effort.
11. RAP Sessions - Meetings between Division Management, and staff to discuss issues that employees are having in the field, and in the work process. Employees can use their experiences and suggest solutions to issues that they encounter. Employees also get updates on Division activity that they may not normally receive in the performance of their usual duties.

Safety Requirements:

Employees are Metro's number one asset. Making safety Metro's first concern will positively affect employees' health and well-being, our working and home lives, our efficiency and ability to get the job done and the quality of our service. The Corporate Safety Department is responsible for compliance with CPUC and OSHA requirements. OSHA requires developing and implementing health and safety programs to comply with federal, state, and local regulatory requirements (e.g., California Code of Regulations). The following are some examples of programs designed to anticipate, recognize, evaluate and control hazards in the

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workplace and the environment that affect the health and safety of employees:

- Asbestos Management
- Blood borne Pathogens
- Confined Spaces
- Hazard Communication
- Ergonomics
- Lead Management
- Hearing Conservation
- Respiratory Protection
- Personal Protective Equipment (PPE)
- High Voltage Awareness
- *Compressed Natural Gas (CNG)
- *System-wide Hazardous Materials Emergency Response

*Not covered under OSHA Title 8 Employee Safety regulations.

Hazardous Materials Program

All Metro activities must comply with applicable federal (Title 3, Section 313), state, and local environmental protection laws. Procedures have been established in order to control hazards associated with procurement, storage, transfer, use, and disposal of hazardous substances. Methods used in this process include product and substance evaluations, procurement procedures, monitoring, testing, inspections, and training. These procedures also address record keeping and reporting requirements. Hazardous Material Business plans are developed for each facility and must comply with Code of Federal Regulations Title 40, Part 372.

The Corporate Safety Department develops and implements the Occupational Environmental Health & Safety (OEHS) Plans & Programs. In particular, they assure that the program complies with federal, state, and local regulatory requirements. The Hazard Communication Program (one of the Occupational Environmental Health & Safety Plans and Programs) has been designed to help maintain a healthy work environment by increasing employee awareness of workplace chemicals and their potential health effects, safe work practices and emergency procedures. This program affects all departments that buy, store, handle and/or use hazardous substances.

The Corporate Safety Department has the following role:

- Advise all departments within Metro, on a need to know basis, of all mandated environmental and safety rules and regulations as they pertain to operations.
- Conduct Hazard Communication Program training classes. All employees who work with chemicals are required to attend this training class.

The Quality Assurance Department has the following role:

- Monitor the collection and disposal of used oils, waste antifreeze, waste fuel, and waste water clarifier sludge to affect safe handling and minimize employee exposure to potentially hazardous and toxic by-products in the waste streams.
- Hazardous waste disposal
- Universal waste disposal

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- Perform monthly environmental compliance review with the Hazardous Material coordinators of each facility.

Track Allocation/Work Permit Process

Prior to performing work on Metro's right-of-way, all contractor companies are required to attend the Track Allocation meeting, where approval for the work proposed to be conducted must be attained. Track Allocation determines if the work the contractor or employee proposes to perform necessitates any restrictions, and/or flagging, and/or reduced train speed. Regardless of whether the work is to be performed during revenue or non-revenue hours, all contractors or employees must follow the requirements of the Track Allocation Procedures administered by Rail Operations.

CPUC Safety Requirements

In addition to the above safety requirements, Metro rail employees are governed by various CPUC General Order requirements. The safety elements that are part of this PTASP are found in Appendix J.

Each Metro Departments' role in this function is to:

- Ensure that employees know and follow safety requirements
- Meet the safety requirements established in Rules and Procedures
- Distribute and display safety information, bulletins, notices, rule changes, posters, etc. in a manner that effectively communicates the information to employees
- Report any individuals who appear to be working unsafely along the right of way to the Rail Operations Control (ROC) Center

Corrective Action Plans

Metro complies with GO 164 series with regard to Corrective Action Plans (CAPs). The Corporate Safety Department is responsible for monitoring the completion of CAPs that are identified and providing appropriate updates to CPUC Staff in regards to status of and closure of each CAP.

CAPs may be developed as a result of:

1. Accident investigations as outlined in Appendix F
2. Recommendations contained in CPUC triennial review reports
3. Recommendations identified in Metro's own Internal Safety Review
4. CPUC inspection findings identified through CPUC inspection reports
5. Hazards identified by Metro through the Risk Management Process, when appropriate

In the event an emergency corrective action is required to ensure immediate safety, Metro may initiate the corrective action prior to receiving CAP approval from CPUC staff.

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Rail Contractors

To help support the execution of this PTASP and the principles of SMS, contractors who work in Metro Rail Facilities and/or Operational Right-of-Way are provided a copy of the Safety Management Policy Statement for distribution to their employees.

Rail Contractors must notify their Metro-Employee escort of any hazards they identify prior to or during their work assignment. If the contractor(s) are not being escorted, they must inform a Metro Supervisor or Metro contractor liaison who will follow the Safety Risk Management Process outlined in §673.25. This process is communicated through training discussed in §673.29(a) Safety Training program.

Additionally, Metro Rail contractors working on the Right-of-Way without an escort provide FOFs in the form of Efficiency and Compliance (E&C) on their employees as prescribed in their respective contracts.

Bus Contractors

Metro requires Bus contractors providing bus operations service to the public and maintenance on the buses to create their own Agency Safety Plan in accordance with 49 CFR 673. Metro contract management staff, in coordination with Bus Corporate Safety Department staff, will review compliance with each contractor on a triennial basis.

Zero Tolerance Policy

Metro's Zero Tolerance policy for electronic devices is referenced in Metro's OPS-1 policy.

Other Regulatory References

Appendix K and Appendix L outline rule 49 CFR 673 and the National Public Transportation Safety Plan

Subpart D- Safety Plan Documentation and Recordkeeping

§673.31 Safety Plan Documentation

Metro will maintain documents that are included in whole, or by reference, that describe the programs, policies, and procedures used to carry out this PTASP as required by CPUC regulations. Compliance with the retention requirements is ensured through Metro's ISR Process.

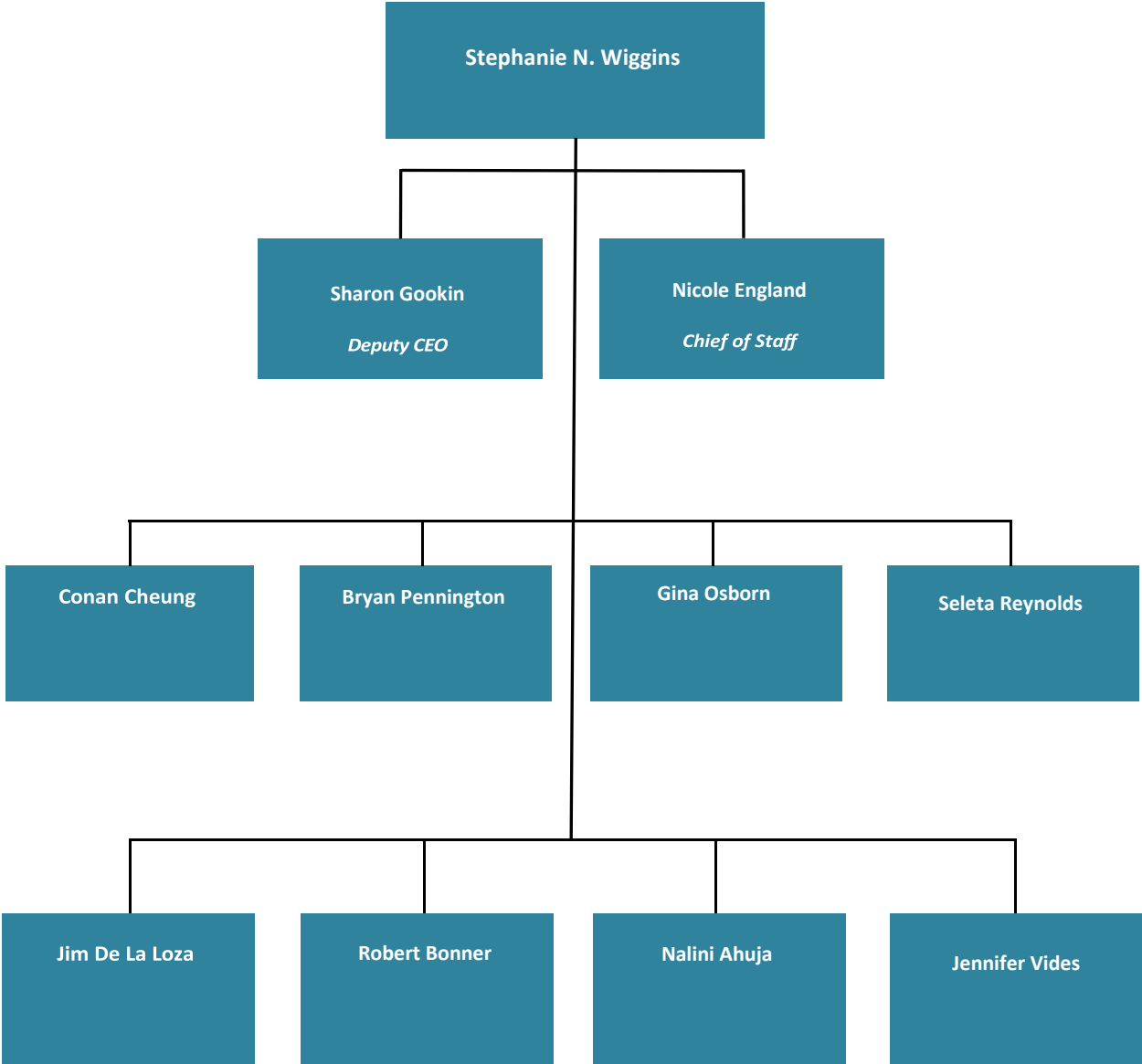
PTASP documents will be made available upon request to the FTA or other Federal entity, or a State Safety Oversight Agency (SSOA) having jurisdiction. The Corporate Safety Department will be the primary point of contact when providing PTASP related information to external agencies.

Appendices

Appendix A: Metro Organization Chart



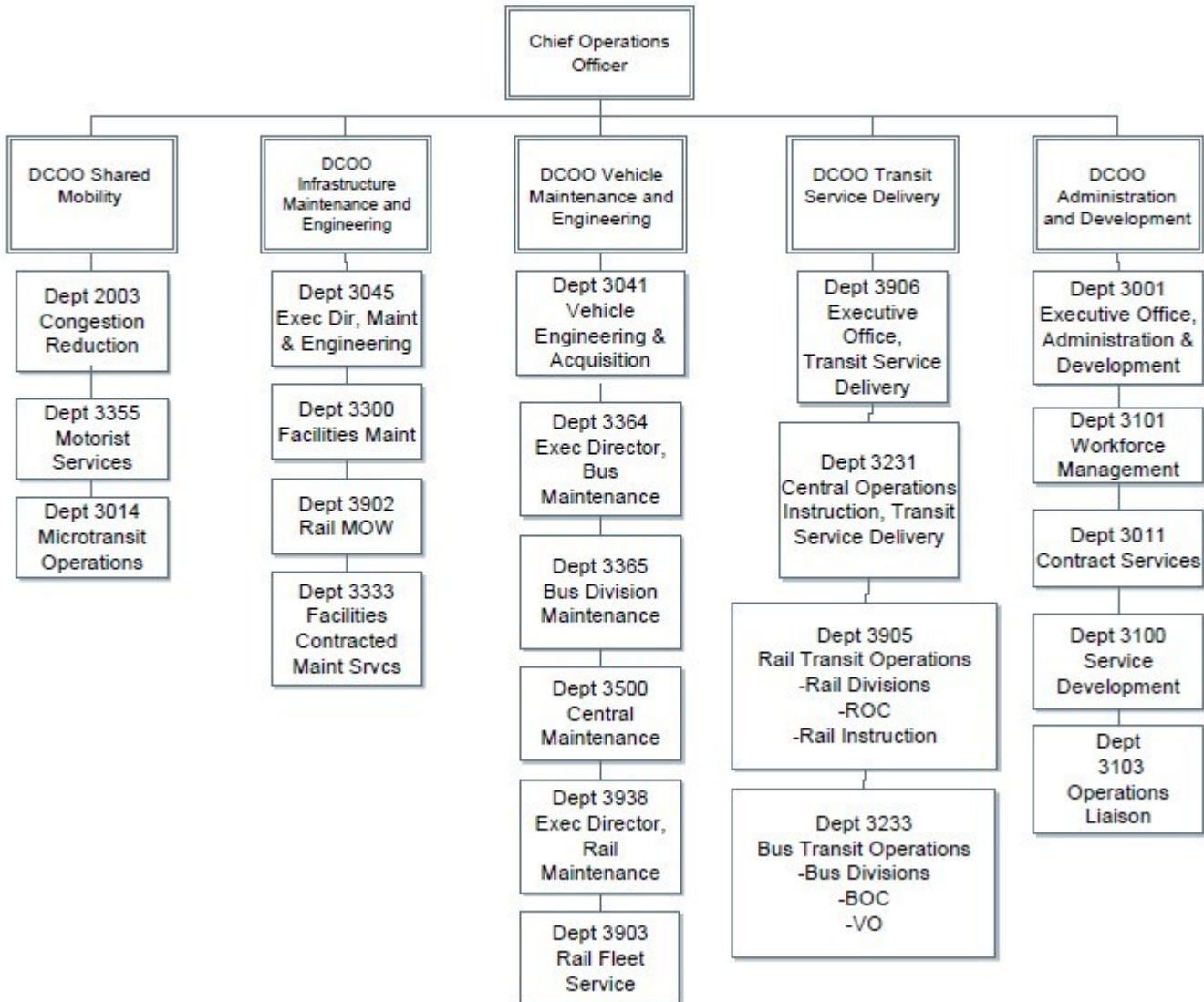
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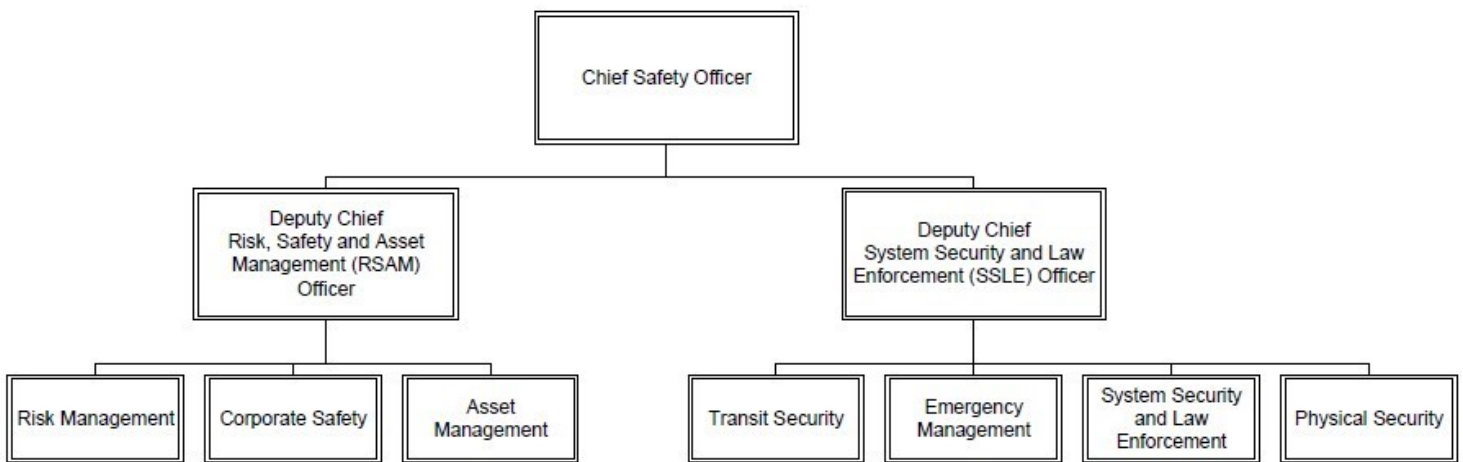
Appendix B: Operations and Maintenance Organization Chart
: Chief Safety Office Organization Chart
: Corporate Safety Organization Chart

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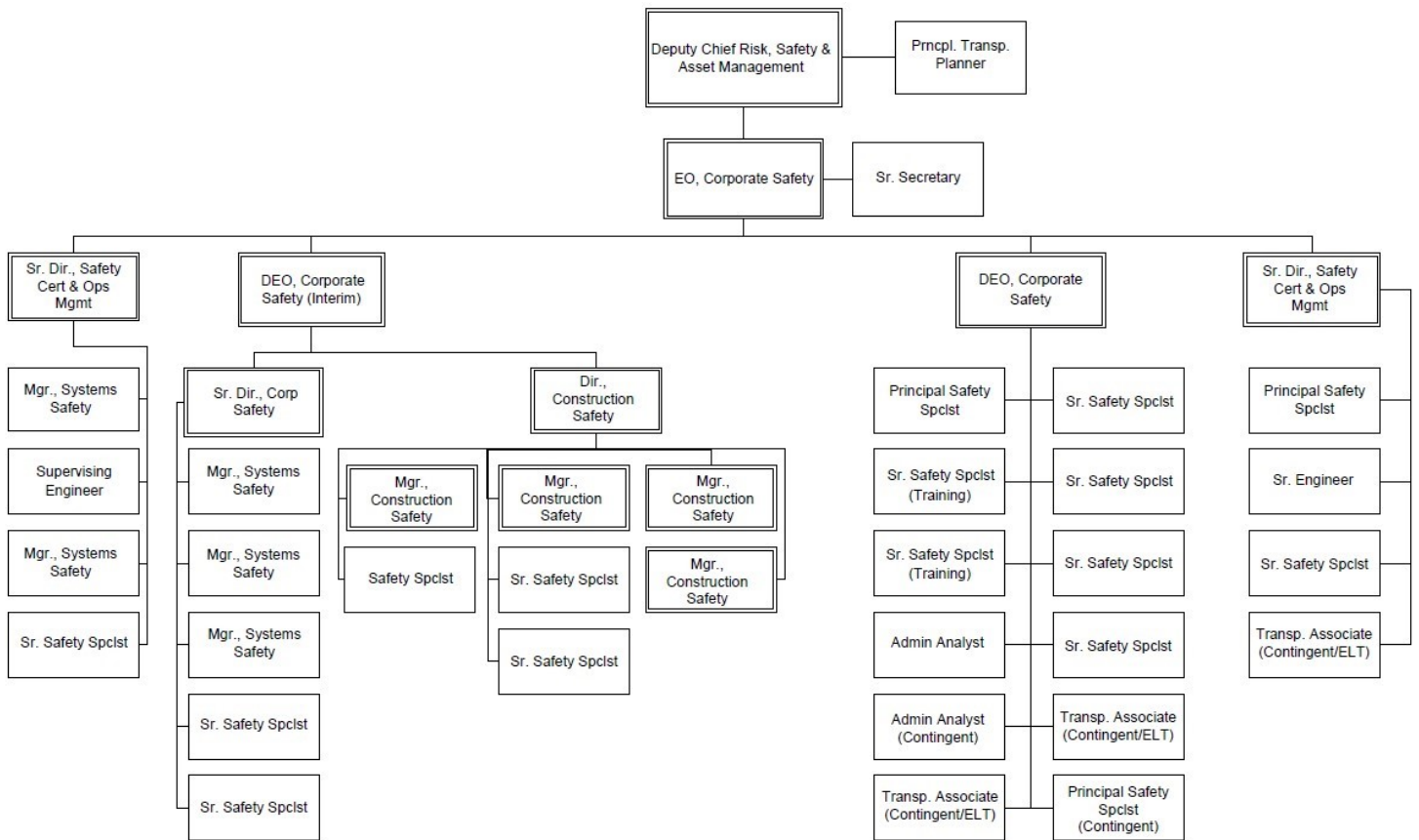
Operations



Chief Safety Office



Corporate Safety



Appendix C: System Description



APPENDIX C: SYSTEM DESCRIPTION

C.1 LOS ANGELES TRANSIT HISTORY

After decades of air pollution and traffic congestion, Los Angeles County voters recognized the need for improved public transportation, and they passed Proposition A, the half-percent sales tax for public transit in 1980. Thirty-five percent of the funds from this tax were allotted to the design, construction, and operation of a rail transit network.

In 1990, county voters approved another half-percent sales tax increase to speed construction of rail and highway projects. Known as Proposition C, this measure sets aside 40% of its funds for improved bus and rail transit.

In 2008 and again in 2016 county voters approved additional tax increased with Measure R and Measure M. Measure R is a half-cent sales tax for Los Angeles County to finance new transportation projects and programs and accelerate those already in the pipeline. The tax took effect July 2009. Measure R alone does not fully fund all projects. The Measure contains an Expenditure Plan that identifies the projects to be funded and additional fund sources that will be used to complete the projects. Measure M added an additional permanent half-percent sales tax increase and was passed with approximately 70% of the vote showing Los Angeles County taxpayers commitment to expanding public transportation efforts in and around Southern California.

C.2 SCOPE OF TRANSIT SERVICES

Metro provides public transportation services in the urbanized area of Los Angeles County and in parts of adjacent counties. It has approximately 9,800 employees in over 27 different physical locations to assist in the operation both bus and rail systems.

C.3 ORGANIZATIONAL STRUCTURE

Metro's organization structure is displayed in Appendix A.

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C.4 RAIL MODE DESCRIPTION

C.4.1 Metro Rail Lines at a Glance

Rail Line	Length of System	Number of Stations	Maximum Speed	Station Design/Line Description
Blue Line (Light Rail) Los Angeles to Long Beach July 1990	22 miles	22	55 mph	There are 21 center-platform stations, partially roofed, open air structures with seating and one station with side platforms in the subway. The alignment consists of two street running segments and one cab-signaling segment.
Red Line Segment 1 January 1993	4.4 miles	5	70 mph	Runs through downtown Los Angeles between Union Station and Westlake/ MacArthur Park. It connects with commuter trains (Metrolink) at Union Station and Metro Blue Line at 7th Street/Metro Center Station.
Red Line Segment 2A/D Line July 1996	2.1 miles	3	70 mph	Extended from Westlake/MacArthur to Wilshire/Western. Rebranded as D Line in August 2006.
Red Line Segment 2B June 1999	4.6 miles	5	70 mph	Turns northward under Vermont Avenue from Wilshire/Vermont Station to Hollywood/Vine Station
Red Line Segment 3 June 2000	6.3 miles	3	70 mph	Extended from Hollywood/Vine Station to North Hollywood Station.

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Rail Line	Length of System	Number of Stations	Maximum Speed	Station Design/Line Description
<p style="text-align: center;">C Line (Light Rail) Norwalk to Redondo Beach</p> <p style="text-align: center;">August 1995</p>	20 miles	14	65 mph	<p>Operates primarily in the center of the Glenn Anderson (I-105) Freeway with fourteen platforms at freeway level. Five stations are elevated center platforms on an aerial guideway on the portion of the line away from the freeway.</p>
<p style="text-align: center;">Gold Line (Light Rail) Los Angeles to Pasadena</p> <p style="text-align: center;">July 2003</p>	13.7 miles	13	55 mph	<p>The alignment consists of both cab signaling and street running segments. 12 stations are partially roofed, open air structures with seating and one station is partially underground. There are 5 side-platforms and 8 center-platforms.</p>
<p style="text-align: center;">Gold Line Eastside Extension (Light Rail) Los Angeles to East LA</p> <p style="text-align: center;">November 2009</p>	6 miles	8	55 mph	<p>Connects the Eastside to Downtown LA and Pasadena. There are 6 at-grade center-platforms and 2 subway stations. The 6 at-grade stations are partially roofed with open air structures and seating.</p>
<p style="text-align: center;">Gold Line Foothill Extension (Light Rail) Pasadena to Azusa (Phase 2A)</p> <p style="text-align: center;">March 2016</p>	11 miles	6	55 mph	<p>Phase 2A Foothill Extension Line connects Pasadena to Azusa. The alignment will consist of at-grade street running segments and cab- signaling segments.</p>
<p style="text-align: center;">Exposition Line (Phase 1)</p> <p style="text-align: center;">April 2012</p>	8.6 miles	10	55 mph	<p>Phase 1 connects Downtown to Culver City. The alignment consists of at-grade street running segments, cab- signaling segments, and aerial guide ways. Phase 1 has 10 stations, three of which are aerial.</p>

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Rail Line	Length of System	Number of Stations	Maximum Speed	Station Design/Line Description
Exposition Line (Phase 2) May 2016	6.6 miles	7	55 mph	Phase 2 of the Exposition Line connects Culver City with Santa Monica. The alignment consists of at-grade street running segments, cab- signaling segments, and 5 aerial guide ways.
Crenshaw 2022	8.5 miles	9	65 mph	The Crenshaw Project will run between the E Line on Exposition Blvd. and the Metro C Line. The alignment will consist of aerial, below-grade, and at grade stations. The initial segment, which opened in 2022, will operate between the Crenshaw station and the Westchester/Veterans station and includes 7 stations. The second segment, which is scheduled to open in Fall 2023, will extend the line to the Aviation/Imperial (LAX) station on the C Line which will be the 8th station. The AMC station, is scheduled to open in late 2024 and will be the 9th station.
Totals	113.8 miles	105		

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Future Lines Under Construction	Length of Systems	Number of Stations	Maximum Speed	Station Design
Regional Connector	1.9 miles	3	55 mph	The Regional Connector is an under- construction light rail subway corridor through Downtown Los Angeles to connect the A and E Lines to the current L Line and Union Station.
Purple Line Extension (PLE1)	3.92 miles	3	70 mph	The first section between Wilshire/Western and Wilshire/La Cienega is now under construction and is scheduled for completion in 2023.
PLE2	2.59 miles	2	70 mph	Section 2 of the Purple Line Extension Project will extend the subway to downtown Beverly Hills and Century City. Section 2 is also currently under construction and is scheduled for completion in 2025.
PLE3	2.56 miles	2	70 mph	Section 3 will then extend the project to two stations in Westwood. The passage of the Measure M sales tax ballot measure by county voters in 2016 will allow this section to be accelerated. Section 3 received the approval to move forward by Metro's board in 2016. Currently, in pre- construction, the project is anticipated to begin construction in 2019 and be open for operations in 2026.
Gold Line Foothill Extension (Light Rail) Azusa to Pomona (Phase 2B)	9.1 miles	4	55 mph	Phase 2B Foothill extension will extend the Gold Line from the Azusa station to the Pomona station, with stations in Glendora, San Dimas, La Verne, and Pomona. The alignment will consist of cab signaling and aerial segments. A future extension to Montclair is being planned and will be built once funding is secured.

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C.4.2 METRO RAIL SAFETY FEATURES

Automatic Train Control (ATC)

This system automatically controls train movement, enforces train safety, and directs train operations. Automatic train control includes the subsystems of automatic train operation, automatic train protection, and automatic train supervision.

(B, C, D Lines)

Automatic Train Protection (ATP)

This system maintains safe train operation through a combination of train detection, train separation, and speed limit enforcement.

(A,B, C, D, E, K, L Lines)

Automatic Train Operation (ATO)

This system performs any or all of the functions of speed regulation, programmed stopping, door control, performance level regulation, and other functions normally assigned to the train operator.

(B, C, D, Lines)

Automatic Train Supervision (ATS)

This monitors the system status and provides the appropriate controls to direct the operation of trains in order to maintain intended traffic patterns and minimize the effect of train delays on the operating schedule.

(B, C, D, Lines)

Local Control Panel (LCP)

This control panel is located in train control rooms/buildings along the right-of-way. The Local Control Panel performs control and indication functions for the signals and switches at the interlockings.

(A,B, C, D, E, K, L Lines)

Grade Crossing Warning System

Devices placed at grade crossings to warn motorists and pedestrians of on-coming trains.

(A, E, K, L Lines)

Four Quad Gates

Consists of two exit gates used in combination with standard entrance gates. The additional gate arms, combined with standard entrance gates, restrict access to the track crossing area.

(A, E, K, L Lines)

Train to Wayside Communication (TWC)

Using the TWC system, the train operator has the ability to control and activate certain switches, crossovers, and/or grade crossing warning devices.

(A,B, D, E, K, L Lines)

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Pedestrian Swing Gates

Pedestrian swing gates provide pedestrian a visual and physical barrier to the railroad Right-of-Way. The gates open away from the tracks to allow easy ROW egress while forcing pedestrians to take a second to make a conscious effort to cross the tracks.

(A, E, K, L Lines)

Pedestrian Gates

Metro has implemented pedestrian gates to give a visual queue to pedestrians that they should not be crossing the tracks. These gates are synced with at-grade crossing gates to descend upon the approach of a train.

(A, E, K, L Lines)

In-pavement Lights.

In-pavement lights help to alert automobiles and other vehicular traffic of an on-coming train on approach to an intersection.

(A, L Lines)

Left Turn Gates

Metro has implemented a parking lot type gate arm in coordination with the city of Los Angeles signal system to prevent illegal left hand turns where practicable.

(A, K Lines)

Active TRAIN Warning Signs

To alert automobile and other vehicular and pedestrian traffic of an approaching train, Metro has installed active train approaching signs.

(A, E, K, L Lines)

LOOK BOTH WAYS signs

To alert pedestrians of an active train track, Metro has installed Look Both way's signs at all grade crossings systemwide.

(A, E, K, L Lines)

Active turn-prohibition blank out signs

To alert automobile and other vehicular traffic that they should not attempt to turn, Metro has installed active turn prohibition blank out signs that activate upon the approach of a train.

(A, E, K, L Lines)

Photo Enforcement System

Metro has initiated a traffic light violation campaign to mitigate the amount of violations at a number of high risk intersections.

(A, E, K, L Lines)

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In-cab cameras

All Metro rail cars are equipped with in-cab cameras which assist in accident investigation, rules violations, and customer complaints.

C.4.3 RAIL FLEET

Car Manufacturer	Breda (Heavy) (A650)	Siemens (P2000)	Breda (Light) (P2550)	Kinki Sharyo (P3010)	CRRC (HR400 0)
No. of cars in fleet	100	52	50	235	64
Car length	75 feet	89 feet	90 feet	89 feet	75'
Car width	10 feet, 4 inches	8.7 feet	9 feet, 10 inches	8.7 feet	10'4"
Car height	12 feet, 7 inches	12 feet, 6 inches	12 feet, 6 inches	12 feet 6 inches	12'5" with antenna
Car weight (empty)	80,000 lbs.	98,043 lbs.	110,000 lbs.	99,000 lbs.	83,500 lbs.
Passenger capacity, seated	59 (1 wheelchair space)	76	76	68	48
Maximum speed	70 mph	65 mph	55 mph	65 mph	70 mph

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C.5 BUS MODE DESCRIPTION

C.5.1 Metro Bus Lines at a Glance

- 12,200 Bus Stops
- 119 Bus Routes
- 2,162 Bus fleet

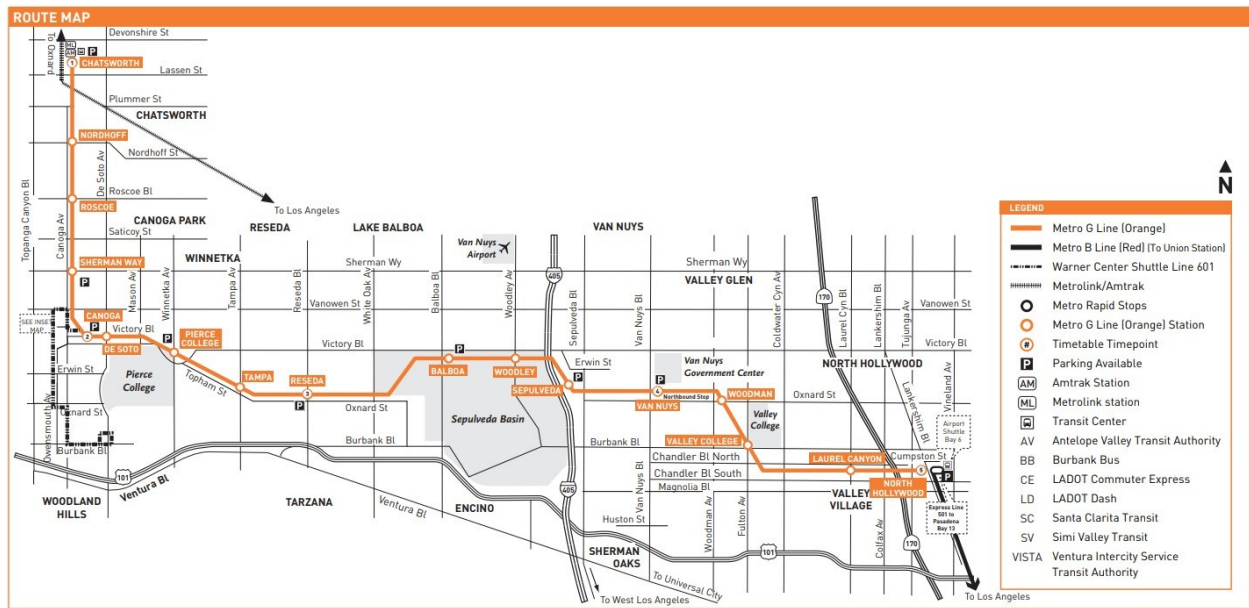
C.5.2 Bus Rapid Transit (BRT)

Bus Lines	Length of System	Number of Stations	Route(s) Description
Orange Line BRT (G Line)	18 miles	17	Metro Orange Line buses operate between North Hollywood and Chatsworth 24 hours a day. At peak hours (between 6 am and 7pm eastbound, 5 am and 6 pm westbound), alternate buses run only between North Hollywood and Canoga Station. Passengers can transfer at Canoga to a shuttle bus that serves the Warner Center area.
Silver Line BRT (J Line)	38 miles	11	Two services are operated under the Silver Line name: <ul style="list-style-type: none"> • Route 910 operates with daily 24-hour service serving only the portion of the route between El Monte station, Downtown Los Angeles and the Harbor Gateway Transit Center. • Route 950 operates with daily service serving the entire route between El Monte station, Downtown Los Angeles and San Pedro.
NoHo to Pasadena BRT (Future Route)	18	21-22	The North Hollywood to Pasadena BRT Project will operate between the North Hollywood Metro Red/Orange Line Station to Pasadena City College at Hill Street and Pasadena. Hoping to get dedicated lanes between the Red/Orange Line Station and the Memorial Park Station and operate in mixed flow along Colorado in Pasadena to PCC.
Vermont BRT (Future Line)	12.4 Miles	9 to 10	The Vermont BRT Project will operate between Hollywood Blvd and 120th Street. We are looking at both side and combo side and center running BRT with dedicated lanes and enhanced stations with a number of passenger amenities.

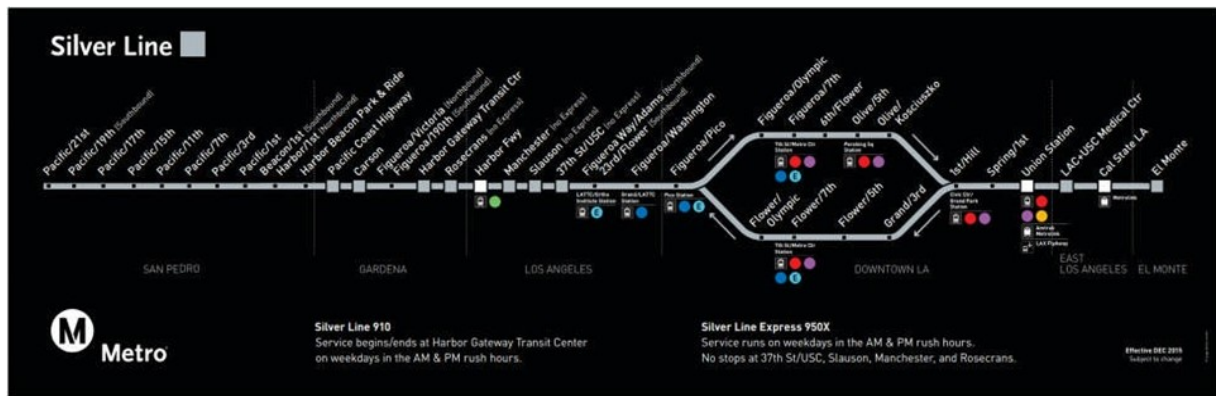
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C.5.3 METRO ORANGE (G) LINE ROUTE MAP



C.5.4 METRO SILVER (J) LINE ROUTE MAP



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C.5.5 METRO LOCAL

Metro Local buses are painted in an off-orange color which the agency has dubbed “California Poppy”. This type of service makes frequent stops along major thoroughfares. As at 2022, we have approximately 12,200 stops served by 119 bus lines (including local, Metro Rapid, Metro G Line (Orange) and J Line (Silver), express, and shuttle services). Some Metro Local routes make limited stops along part of their trip but do not participate in the Rapid program. Some Metro Local bus lines are operated by contractors MV Transportation, Southland Transit, and Transdev. Metro Local buses cover both local, limited-stop, and shuttle bus services.

Metro Local buses can also be found on 400-series (4xx) and 500-series (5xx) routes, which are Metro Express routes with different fare structures and routing.

C.5.6 METRO RAPID

Metro Rapid buses are distinguished by their bright red color which the agency has dubbed “Rapid Red”. Metro Rapid service operates on three of Metro’s most heavily utilized bus services (Line 720 – Wilshire Bl, Line 754 – Vermont Av, Line 761 Van Nuys Bl – Westside). Studies of public bus transportation in Los Angeles have shown that half the time a bus is in service it is stopped either at a traffic signal or at a stop to board patrons.

To improve bus speeds, the Metro Rapid Program was introduced in June 2000. Through system integration of bus signal priority and fewer stops, passenger travel times have been reduced by as much as 29%. As a result, ridership increased up to 40% in the two demonstration corridors, with one-third of the ridership increase consisting of new riders who have never before ridden transit.

Key Metro Rapid Attributes:

- Simple route layout: Makes it easy to find, use and remember.
- Frequent service: Buses arrive as often as every 3-10 minutes during peak commuting times.
- Fewer stops: Stops spaced about $\frac{3}{4}$ of a mile apart at most major transfer points.
- Bus priority at traffic signals: New technology reduces traffic delay by extending the green light or shortening the red light to help Metro Rapid get through intersections.
- Color-coded buses: Metro Rapid’s distinctive red paint makes it easy to identify Metro Rapid buses.
- Enhanced stations: Metro Rapid stations have a very distinct design that includes passenger information and lighting.

C.5.7 METRO EXPRESS

Metro Express buses are routes designed as, minimal stop services along Los Angeles's extensive freeway network. There are 8 lines running as of 2018: 460, 487, 489, 501, 550, and 577.

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C.5.8 BUS FLEET

Bus Manufacturer	Fuel Type	No. of busses in fleet	Bus length	Passenger capacity, seated
BYD	Electric	3	40 feet	38
BYD	Electric	2	60 feet	55
Eldorado National	CNG	549	40 feet	38
NABI	CNG	29	32 feet	25
NABI	CNG	1	40 feet	35
NABI	CNG	412	45 feet	46
NABI	CNG	95	60 feet	55
New Flyer	CNG	897	40 feet	39
New Flyer	CNG	134	60 feet	55
New Flyer	Electric	40	60 feet	55
Grand Total		2162		

The Metro bus fleet (as of October 2022) consists of buses of various makes and models.

All buses in the fleet have wheelchair lifts or ramps, and Metro has purchased 45-foot Composite buses, and 60-foot articulated buses for the dedicated “Orange Line” busway as well as use on regular and rapid routes. Metro has over 2,162 buses in service on an average weekday.

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C.5.9 METRO BUS SAFETY FEATURES

In addition to safety features required by Federal Motor Vehicle Safety Standards, Metro includes safety features in its bus procurement specifications as a means of increasing customer and operational safety.

SMARTDRIVE:

The SmartDrive is g-force based video monitoring utility. When an event on a bus reaches a threshold, the SmartDrive system records video footage. There are four types of events that are triggered and recorded by the SmartRecorder for use in the Measured Safety Program: Erratic, Shock, Speeding, and Manual. Erratic Events are characterized as Moving Events. They are triggered by sustained forces from multiple directions (front/back, left/right, and up/down) over relatively long periods of time (typically between 0.25 and 1.5 seconds) as measured by an accelerometer in the SmartRecorder.

- **Erratic Events:** These capture risky driving maneuvers such as hard braking, acceleration, turning, swerving, speed bumps, dips in the road, etc. Shock Events are also characterized as Moving Events. They are triggered by sudden changes in force in any direction as measured by an accelerometer in the SmartRecorder.
- **Shock Events:** These have a higher likelihood of recording Collisions, but they can also be triggered by other actions that involve sudden changes in forces such as when a vehicle hits a pothole or a bump at high speed.
- **Speeding Events:** These are characterized as Moving Events. They are triggered when the vehicle speed exceeds a specified threshold. For example, if the threshold is set for 70 mph then the SmartRecorder will record a Speeding Event when the vehicle speed exceeds 70 mph. To balance the number of Speeding Events that may be recorded at any given time, the SmartRecorder will only record one Speeding Event within a 30-minute timeframe.
- **Manual Events** Unlike the other three event types, manual events are not Moving Events. They are triggered when the driver or other occupant of the vehicle presses the manual trigger button on the SmartRecorder or on the keypad. Manual Events enable Operators to record Videos which contain actions of interest that are not necessarily related to risky driving.

OPERATOR BARRIERS

In 2013 Metro began the process of retrofitting buses with a steel and polycarbonate barrier that protects the driver from assault. All busses are equipped with these barriers, and all future busses will also come equipped with such barriers.

COLLISION AVOIDANCE TECHNOLOGY

Metro is undergoing a pilot program to implement an audible/visual system to help to mitigate collisions with both automobiles and pedestrians.

Appendix D: Safety Performance Measures and Performance Targets



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APPENDIX D: SAFETY PERFORMANCE MEASURES AND TARGETS

Metro's safety performance measures are based on the measures established under the National Public Transportation Safety Plan. These measures will be evaluated using a three-year rolling average of NTD data. Because of the pandemic, data from 2020-2022 will not be utilized given that Metro was operating reduced service and traffic patterns were significantly less in the LA region. Therefore Metro's three-year rolling average will include data from 2023, 2024, 2025.

RAIL MEASURES AND TARGETS

Performance Measures	Targets
Fatalities	0
Fatality Rate per 100000 Revenue Miles	0
Reportable Injuries	≥5% Reduction based on a three-year rolling average of NTD reported numbers.
Reportable Injuries Rate per 100000 Revenue Miles	Based on Total Reported Injuries
Reportable Safety Events	≥5% Reduction based on a three-year rolling average of NTD reported numbers.
Reportable Safety Events Rate per 100000 Revenue Miles	Based on Total Reported Safety Events
System Reliability Rail (mean distance between major mechanical failures)	≥ 5% Increase in System Reliability based on a three-year rolling average of NTD reported numbers.

BUS MEASURES AND TARGETS

Performance Measures	Targets
Fatalities	0
Fatality Rate per 100000 Revenue Miles	0
Reportable Injuries	≥5% Reduction based on a three-year rolling average of NTD reported numbers.
Reportable Injuries Rate per 100000 Revenue Miles	Based on Total Reported Injuries
Reportable Safety Events	≥5% Reduction based on a three-year rolling average of NTD reported numbers.
Reportable Safety Events Rate per 100000 Revenue Miles	Based on Total Reported Safety Events
System Reliability Bus (mean distance between major mechanical failures)	≥ 5% Increase in System Reliability based on a three-year rolling average of NTD reported numbers.

*Note: Historical data has been obtained from the NTD System/ **Single year data chosen due to varying NTD Reporting Thresholds Safety Events: • Collisions • Fires • Derailments including non-revenue vehicles • Hazardous Material Spills • Acts of God • Other Safety Events as described in 2019 NTD Safety and Security Policy Manual Page 23 - (Slip/ trip/ fall, smoke, power failure event, maintenance issues or electrical shock that require 1 or more persons transported; runaway train).

Safety Performance Targets:

- 0 FATALITIES (total number of reportable¹ fatalities and rate per 100,000 vehicle revenue miles by mode).
- ≥5% Reduction of INJURIES (total number of reportable¹ injuries and rate per total vehicle revenue miles by mode) based on Metro's three-year rolling average of NTD reported numbers.
- ≥5% Reduction of SAFETY EVENTS (total number of reportable events and rate per total vehicle revenue miles by mode) based on a three-year rolling average of NTD reported numbers.
- ≥5% Increase in SYSTEM RELIABILITY (mean distance between major mechanical failures² by mode) based on previous year's incidents.

¹The thresholds for "reportable" fatalities, injuries, and events are defined in the NTD Safety and Security Reporting Manual.

²Major Mechanical System Failures: Major mechanical system failures prevent a vehicle from completing or starting a scheduled revenue trip because actual movement is limited or because of safety concerns. Examples of major bus failures include breakdowns of brakes, doors, engine cooling systems, steering, axles, and suspension.

Appendix E: Operations and Maintenance Department



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APPENDIX E: OPERATIONS AND MAINTENANCE DEPARTMENTS

Per the organization chart as seen in Appendix B, the department head of Operations is responsible for ensuring the overall safety for Metro Rail and Bus system.

The department head of Operations:

- Directs the utilization of resources available to departments within Operations for the Bus and Rail modes.
- Provides direction and support to all transit operations functions to ensure attainment of Metro and departmental objectives within established policies and parameters
- Coordinates activities within transit operations to assure peak performance and productivity, as well as conformance with established or mandated external regulations and policies affecting Metro operations
- Develops and implements strategic business plans focusing on transportation needs in cooperation and coordination with all Metro departments involved in regional decisions
- Provides counsel to the CEO on significant matters affecting Metro transit operations and policies
- Creates Metro's safety vision; approves and adopts the agency's safety rules, policies, and procedures; communicates safety expectations; and maintains accountability for the safety performance of the entire agency
- Assists the CEO in developing and implementing short-range and long-range goals and business plans
- Formulates policy recommendations for the Board of Directors, attends Board meetings, and advises Board

E.1 METRO RAIL MODE

Per the organization chart as seen in Appendix B, the department head is responsible for ensuring the overall safety for Metro Rail Operations. The Rail Operations Department and Management staff (Transportation, RFS, & Wayside Systems) are responsible for implementing the requirements as outlined in this PTASP including training requirements of all Rail Maintenance Supervisors and other Rail Maintenance employees, Rail Wayside employees, Rail Facilities and Custodial personnel, Rail Transit Operations Supervisors (Rail TOS's), ROC Controllers (Train and Communication Controllers), Train Operators, Contractors, and emergency response personnel as required to ensure compliance with Standard Operating Procedures (SOPs).

E.1.1 RAIL TRANSPORTATION

The Senior Executive Officer of Transportation oversees all the rail transportation divisions, field operations, Rail Transportation Instruction department, ROC, and is responsible for the following activities:

- Develop operating rules and procedures

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- Implement changes in rules and procedures by issuing bulletins and notices to Train Operators
- Develop and maintain rail system emergency preparedness and response for rail facilities
- Maintain certification and re-certification requirements as outlined in the training matrix found in Appendix H
- Oversee the activities of the Rail Operating and Maintenance Divisions.
- Develop and oversee implementation of the Efficiency Testing Program
- Comply with Metro's System Modification Procedure (CF15)

E.1.1.1 Rail Transportation Divisions

The department head of each Transportation Division has the following responsibilities:

- Manage day-to-day operations at the Division, monitor train operators' in-service operation; communicate safety messages to Train Operators; investigate accidents and occupational injuries; take corrective actions to prevent or mitigate recurrences including discipline and counseling; inspect facilities; and maintain safety records at the division
- Ensure Train Operators have the required licenses and up-to-date medical certificates; operators receive training, and re-training
- Take appropriate action(s) to resolve reported or otherwise identified hazards and near-miss incidents as required under the Hazard Management Program
- Oversee the performance of Rail Transit Operations Supervisors as Line Supervisors, and Yard Controllers
- Interact with the Instruction Management team
- Oversee the Rail Transit Operations Supervisors' Investigation of rail system operational incidents, injuries and property losses
- Schedule and conduct the required annual emergency drills

E.1.1.2 Rail Operations Control (ROC)

The ROC monitors and controls Metro rail operations for all rail lines. Operations include train control, traction power, fire-life safety systems, communications, issuance of train orders, operating clearances and/work permits for mainline maintenance work. This facility also has emergency operations functions that include monitoring of warnings and alarms through the Supervisory Control and Data Acquisition (SCADA) system, and control of ventilation systems that evacuate smoke and gases from tunnels. SCADA monitors or controls virtually all the subsystems on the rail systems. The ROC is staffed twenty-four hours per day, seven days per week.

The department head of ROC is responsible for overall supervision of the ROC staff, who are responsible for monitoring and authorizing train movement and Closed-Circuit Television operations. The Closed-Circuit Television staff monitors and reports on issues such as platform congestion, vandalism, safety, and security problems.

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The department head of ROC is responsible for the following activities:

- Oversees the activities of Rail Controllers, Rail Controller Instructors and Closed-Circuit Television staff
- Ensures Rail Controllers have the required licenses, up-to-date medical certificates, training, and re-training
- Implements changes in procedures by issuing bulletins and notices to the Controllers
- Develops and maintains rail system emergency preparedness and response plan for the ROC

E.1.1.3 Rail Transportation Instruction

The Rail Transportation Instruction department is responsible for delivering and administering comprehensive instruction to trainees. In addition, the department ensures that all employees, contractors, and outside agencies demonstrate and maintain a satisfactory level of job knowledge and performance in keeping with Metro's standards of operation. Training responsibilities include:

- Oversees operating rules and procedures
 - Development
 - Implementation of changes
- Oversees training lesson plan development and implementation
 - New Hire Rail Operator Training
 - New Hire Rail Transportation Operation Supervisor (RTOS) Training
 - Line Instructor Training
 - Rail Safety / Wayside Worker Protection (WWP) Training
 - Retraining / Return to Work Training
 - Familiarization Training / Training for Change
 - Certification / Re-certification
- Takes corrective actions as necessary to prevent or mitigate recurrences of incidents, accident or occupational injuries.
 - Post-Accident/Incident Training
 - Refresher Training
 - Efficiency Testing
 - Performs observation checks on assigned personnel and evaluates their performance, including safety behaviors, and any need for further instruction
 - Supports investigations of incidents and accidents as necessary

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E.1.2 RAIL FLEET SERVICES (RFS)

The department head of Rail Fleet Services oversees RFS. The RFS Shops are where vehicle inspections and maintenance for the entire fleet occurs. The RFS Department is split into two groups. The first group, RFS, is responsible for meeting daily rollout and for maintenance and repair of both light and heavy railcar fleets. The second group, Rail Vehicle Engineering, is responsible for quality assurance/ warranty, fleet engineering, and the overhaul programs.

E.1.2.1 Rail Fleet Service Shops

The RFS Shops are tasked with providing a safe and mechanically reliable fleet of rail cars. RFS utilizes preventative maintenance programs that include performing maintenance on vehicles at regularly scheduled mileage intervals. The intent is to maintain vehicles in a condition compatible with the highest safety, dependability, and appearance standards. Well-designed preventative maintenance procedures, and enforcement of these procedures, ensure the highest possible reliability of the rail vehicles.

The scheduled preventative maintenance programs attempt to identify problem areas before they require unscheduled corrective maintenance. Therefore, reporting requirements are developed for each inspection procedure to support future preventative maintenance activities as well as effectively communicate the specific need for corrective maintenance. The flow of information between preventative and corrective maintenance activities is critical to the success of both types of Maintenance.

Records of all preventative maintenance actions are documented in the Maintenance Management System database. The preventative maintenance programs include the following:

- Inspection - All rail vehicles are subjected to a periodic inspection program (based on accumulated mileage) to determine if conditions exist that require a maintenance action. The level and frequency of inspections is consistent with contractor and supplier recommendations, industry standards, the safety-criticality of the equipment, and operational experience.
- Servicing - Servicing consists of regularly scheduled activities that are necessary to maintain the performance of the vehicle and its components. These activities include lubrication and adjustment, but they also may involve the replacement of consumables such as air filters. Equipment manufacturers provide recommended servicing schedules in their maintenance manuals. Although manufacturer recommendations will be followed during the warranty period of rail vehicles, servicing schedules may subsequently be modified to suit the operating conditions of each particular rail system.

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For planning purposes, the preventative maintenance of rail vehicles is performed on the basis of miles of operation in accordance with the RFS Maintenance Plan. RFS functions include:

- Conduct prescribed inspections of the rail vehicles in the manner specified by the RFS Maintenance Plan
- Conduct non-scheduled maintenance and inspections
- Develop equipment overhaul specification for all fleets supporting Procurement/ Vendor Contract Management Department throughout bid process
- Provide project management for railcar overhaul programs
- Perform failure analyses, as necessary, to determine the cause(s) of failures and recommend corrective action
- Develop and update maintenance rules and procedures as necessary
- Inspect trains involved in accidents for compliance with all maintenance and operational specifications related to safe operation, e.g., horn functionality, brakes, etc. Place a "hold" on equipment if there is evidence of a system being in a condition outside of its normal & safe operating capability
- Ensure Rail Equipment personnel have been trained and have the required licenses and/or certification
- Train personnel in injury and illness prevention, emergency procedures, and safe vehicle operation; communicate safety messages to personnel; investigate occupational injuries; take corrective actions to prevent or mitigate recurrences including discipline and counseling; investigate reports of unsafe conditions; inspect facilities; and maintain safety records at the facility
- Perform and document random checks of completed maintenance activities at the various mileage intervals
- Comply with Metro's System Modification Procedure (CF15)

E.1.2.2 Rail Vehicle Engineering

The Rail Vehicle Engineering Department's functions include:

- Provide engineering support to both light and heavy railcar fleets in matters other than normal maintenance activities
- Develop test and modification bulletins for all fleets and coordinate with affected departments on these modifications

The quality assurance functions that are performed include the following:

- Perform quality assurance and warranty support activities as necessary to ensure equipment and maintenance activities comply with approved procedures and are being followed
- Inspect all new rail equipment to ensure compliance with all technical, operational and contractual requirements
- Provide quality assurance and warranty inspection on new, rebuilt and overhauled parts and components to ensure compliance with all technical requirements and good manufacturing practices

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- Monitor new equipment test programs for functionality, maintainability and safety

E.1.3 WAYSIDE SYSTEMS

The department head of Wayside Systems oversees the activities of Track Maintenance, Traction Power, Signal, Rail Communications and Supervisory Control and Data Acquisition (SCADA) Engineering, and Rail Facility Maintenance and Custodial Services.

All maintenance is performed in accordance with the Wayside Systems Maintenance Plans for each discipline. Manufacturers recommendations, Federal regulations, Industry Standards, and operational experience were used as guidelines in developing the maintenance plans.

E.1.3.1 Track Maintenance

CPUC GO 143-B, Section 14.05, requires the establishment of a track inspection and maintenance program. All rail system tracks will be inspected and maintained in accordance with CPUC General Order 143-B, Section 14.05. All design and construction will be done using the American Railway Engineering and Maintenance of Way Association Manual as a guideline, as required by CPUC GO 143-B, Section 9.01.

Frequent track inspection is performed to identify potential safety hazards and to report on the changing conditions of track geometry. Main line track is inspected twice each week with at least one-day interval between inspections. Track geometry and fit is inspected for obvious gage and alignment defects, improper ballast section and washouts, tightness and proper fit of switch points and other moving parts. Rail is checked for cracks, deterioration, corrugation, excessive wear, and the right-of-way is inspected for vegetation growth. There are also inspections of the right-of-way for possible clearance infringements.

Track Maintenance responsibilities include:

- Maintain the guideway that consists of ballasted track, embedded track, and direct fixation track
- Maintain crossovers, turnouts and track on the mainline and in yard storage areas
- Utilize a maintenance plan to ensure inspections and maintenance activities are followed and performed timely
- Document and maintain accurate records of inspections, maintenance work, accident related activities, and emergency responses; make records available to the CPUC for review and audit.
- Comply with Metro's System Modification Procedure (CF15)

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E.1.3.2 Traction Power Maintenance

The Traction Power preventative maintenance plan is a scheduled program that was developed through standard maintenance and operating procedures, based on manufacturer recommendations and experience. Inspection forms have been developed for each piece of equipment to document that the preventative maintenance has been performed.

Corrective maintenance consists of trouble-shooting failures and returning equipment to service. Personnel are dispatched by ROC via radio regardless of their assigned preventative maintenance areas. Once on the scene, the inspector will determine what the failure is and take the corrective measures necessary to maintain continuity of revenue service. When necessary, temporary repairs are made in order to maintain revenue service and permanent repairs are performed during non-revenue hours.

Traction Power Maintenance responsibilities include:

- Inspect and maintain electrical power substations, third rail system, overhead contact systems, auxiliary power equipment, ventilation system, tunnel lighting, uninterruptible power supply, and other associated equipment
- Utilize a maintenance plan to ensure inspections and maintenance activities are followed and performed timely
- Document and maintain accurate records of inspections, maintenance work, accident related activities, and emergency responses; make records available to the CPUC for review and audit
- Comply with Metro's System Modification Procedure (CF15)

E.1.3.3 Rail Signal Maintenance

The Rail Signal preventative maintenance plan is a scheduled program routinely performed at specific intervals. The maintenance intervals are set by following the Association of American Railroads (AAR) guidelines, equipment Operations and Maintenance manuals, industry standards such as American Public Transportation Association (APTA), and by tracking equipment performance through routine inspections and failure reports. Manpower deployment is accomplished by means of a check off schedule that lists the routine tasks to be accomplished during the set time frame. This system is designed to prevent duplication of tasks and provides a means whereby many different tasks can be performed in an efficient and timely manner. Reports are filed for each task that is completed and are reviewed to determine if any further action is needed. The objectives of the preventative maintenance plan are to ensure operational safety and system dependability by means of periodic testing and inspections; to reduce service failures; to prolong equipment life; to minimize maintenance costs; and to optimize manpower allocations.

The maintenance consists of troubleshooting failures, the repairing of failed equipment, and returning equipment to operation in a safe, efficient, and timely manner. Equipment failures that affect the operation of revenue service are handled by response crews, who are notified by ROC through radio dispatched trouble calls. Failed equipment is replaced in kind and repaired at a later date to minimize disruption to revenue service. The response

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crews file trouble reports to track equipment failures and to aid in troubleshooting the failed equipment.

Equipment is repaired in-house whenever possible or through an exchange program with the manufacturer and returned to stores as spare equipment. The philosophy of the corrective maintenance plan is to repair failed equipment as quickly as possible with minimal effect on revenue service. Rail Signal Maintenance responsibilities include:

- Inspect and maintain train protection system, train control and crossing warning systems; maintain the track switches, wayside cab signaling system, wayside signals and associated track circuits
- Utilize a maintenance plan to ensure inspections and maintenance activities are followed and performed timely
- Document and maintain accurate records of inspections, maintenance work, accident related activities, and emergency responses; make records available to the CPUC for review and audit
- Comply with Metro's System Modification Procedure (CF15)

E.1.3.4 Rail Communications and Supervisory Control and Data Acquisition (SCADA)

Rail Communication Systems, Transit Automatic Control System (TRACS)/Supervisory Control and Data Acquisition (SCADA) responsibilities include:

- Service and maintain ROC Supervisory Control and Data Acquisition systems, Public Announcement systems, Radio systems, Closed-Circuit Television systems, the Transit Passenger Information System (TPIS) and the Emergency Telephones (ETEL's)
- Utilize a maintenance plan to ensure inspections and maintenance activities are followed and performed timely
- Document and maintain accurate records of inspections, maintenance work, accident related activities, and emergency responses; make records available to the CPUC for review and audit
- Perform facilities inspections as outlined in the department's maintenance plan
- Comply with Metro's System Modification Procedure (CF15)

E.1.3.5 Rail Facility Maintenance and Custodial Services

Specialized supervisors and technical staff maintain rail facilities and systems in safe operating condition. Responsibilities of Facilities Maintenance include the following:

- Perform preventative and remedial maintenance of shop and rail facility equipment; perform building construction and repair and maintenance work on station platforms, parking lots and structures, deluge systems, and on the right-of-way (fences and signs, etc.)
- Perform facilities inspections
- Utilize a maintenance plan to ensure inspections and maintenance activities are followed and performed timely

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- Document and maintain accurate records of inspections, maintenance work, accident related activities, and emergency responses; make records available to the CPUC for review and audit
- Comply with Metro's System Modification Procedure (CF15)

E.2 METRO BUS MODE

E.2.1 BUS TRANSPORTATION

The Senior Executive Officer of Bus Transportation oversees eleven bus transportation divisions and directs the overall activities of Metro's bus service delivery.

E.2.1.1 Bus Transportation Divisions

The head of each Bus Transportation Division has the following responsibilities:

- Safety within their organizational units including the safety of employees, facilities, equipment, operations, and services provided.
- Safety programs within their organizational units
- Coordinating the implementation and maintenance of these safety programs.
- Ensuring employees comply with safe and healthy work practices, communicating with employees regarding occupational health and safety issues, identifying, evaluating and correcting hazards in a timely manner, ensuring that all accidents, injuries, and illnesses are investigated and that recommendations, if appropriate, for corrective actions are developed and implemented as warranted.
- Evaluating the potential impact of proposed modifications on the safety of all affected systems prior to implementation.
- Ensuring that employees have required licenses, and all required up-to-date certifications.
- Ensuring that supervisors and employees under their control are trained in the elements of hazards associated with their work environment, job specific safety requirements, and safety-related policies, procedures, rules, and work practices.

E.2.1.2 Bus Operations Control (BOC)

The BOC manages daily bus operations. This facility dispatches Transit Operations Supervisors in response to collisions and other operational problems. The BOC also provides notification to various departments in the event of emergencies and arranges for replacement equipment. The BOC contacts Field Equipment Technicians and division maintenance to respond to bus road calls. The BOC is staffed 24 hours a day, seven days a week.

E.2.2 BUS MAINTENANCE

E.2.2.1 Bus Maintenance

The Senior Executive Officer of Bus Maintenance oversees eleven bus maintenance divisions and directs the overall maintenance activities for Metro's bus fleet.

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Bus maintenance is tasked with providing a safe and mechanically reliable fleet of buses. Bus maintenance utilizes preventative maintenance programs that include performing maintenance on vehicles at regularly scheduled mileage intervals. The intent is to maintain vehicles in a condition compatible with the highest safety, dependability, and appearance standards. Well-designed preventative maintenance procedures, and enforcement of these procedures, ensure the highest possible reliability of bus fleet.

The scheduled preventative maintenance programs attempt to identify problem areas before they require unscheduled corrective maintenance. Therefore, reporting requirements are developed for each inspection procedure to support future preventative maintenance activities as well as effectively communicate the specific need for corrective maintenance. The flow of information between preventative and corrective maintenance activities is critical to the success of both types of maintenance.

Records of all preventative maintenance actions are documented in the Maintenance Management System. The preventative maintenance programs include the following:

- Inspection - All buses are subjected to a periodic inspection program (based on accumulated mileage) to determine if conditions exist that require a maintenance action. The level and frequency of inspections is consistent with contractor and supplier recommendations, industry standards, the safety-criticality of the equipment, and operational experience.
- Servicing - Servicing consists of regularly scheduled activities that are necessary to maintain the performance of the vehicle and its components. These activities include lubrication and adjustment, but they also may involve the replacement of consumables such as air filters. Equipment manufacturers provide recommended servicing schedules in their maintenance manuals. Although manufacturer recommendations will be followed during the warranty period of bus vehicles, servicing schedules may subsequently be modified to suit the operating conditions of each particular bus division.

For planning purposes, the preventative maintenance of buses will be performed on the basis of miles of operation in accordance with the Revenue Service Bus Maintenance Plan.

Bus Maintenance functions include:

- Conduct prescribed inspections of buses in the manner specified by the Revenue Service Bus Maintenance Plan.
- Conduct non-scheduled maintenance and inspections
- Perform failure analyses, as necessary, to determine the cause(s) of failures and recommend corrective action
- Develop and update maintenance rules and procedures as necessary
- Ensure bus maintenance personnel have been trained and have the required licenses and/or certification

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- Train personnel in injury and illness prevention, emergency procedures, and safe vehicle operation; communicate safety messages to personnel; investigate occupational injuries; take corrective actions to prevent or mitigate recurrences including discipline and counseling; investigate reports of unsafe conditions; inspect facilities; and maintain safety records at the facility
- Perform and document random checks of completed maintenance activities at the various mileage intervals
- Comply with Metro's System Modification Procedure (CF15)

E.2.3 Central Maintenance Facility (CMF)

CMF provides maintenance support to operating divisions. The facility consists of Central Maintenance Shops, Fleet Management and Support Services, and Quality Assurance. The Quality Assurance staff also serve as Metro's liaison with the California Highway Patrol and is responsible for managing compliance with Title 13 of the California Code of Regulations.

The Central Maintenance Shops provide heavy maintenance and bus refurbishment for all bus operating divisions including complete bus painting, major accident repair, engine replacements, and mid-life overhauls/ refurbishments. Additional Central Maintenance Shop functions include the rebuild and fabrication of parts and tools used by bus maintenance and other Metro departments.

Fleet Management and Support Services controls and assigns the bus fleet, aids in repair to buses en-route and at layover zones to avoid service disruption and provides Maintenance Management System technical support to maintenance departments.

The Quality Assurance department is directly responsible for the management of goods and services contracts, bus fire investigations, and brake tests.

The Contract services department is directly responsible for contracted operations oversight.

The non-revenue department is directly responsible for non-revenue vehicle/equipment.

The Revenue Collection department is directly responsible for fare collection maintenance, and radio equipment maintenance.

E.2.4 Operations Central Instruction (OCI)

Metro's OCI Department provides the training ground and continual support to the agency's Operations employees working in Bus Maintenance and Transportation. Mission critical training responsibilities include:

- New Hire Bus Operator Training
- Post-Accident Training
- Safety Training (several certification courses)

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- Customer Relations Training
- Line Instructor Mentor Training
- De-Escalation Training
- Transportation Safety Institute (TSI) Instructor's courses in:
 - Bus Operator Training
 - Accident Investigation Training
 - Return to Work Training
 - World Class Customer Service training

Additionally, OCI produces and implements ad - hoc training programs to address any of the numerous endeavors Metro undertakes to improve service to our customers.

OCI serves as an extension of the Department of Motor Vehicles (DMV) for commercial licensing purposes through DMV's Employer Testing Program (ETP). Through ETP, all OCI instructors are trained and certified by the DMV to conduct official pre-trip, skills and road examinations of employees required to obtain a commercial driver license. The Transportation Safety Institute (TSI) also partners with OCI's own official TSI certified instructors who dedicate themselves to train and certify others to become official train-the-trainers. This credential is necessary to provide legally sanctioned training for coach Bus Operators and supervisors who must receive annual training to maintain CDL validity.

E.2.6 Vehicle Technology

Vehicle Technology identifies, reviews, tests, and procures high-capacity, alternative fueled, advanced technology buses. It provides operational and technical support and training on the operation and maintenance of new vehicles, manages all bus acquisitions, processes bus warranty claims, and oversees advanced vehicle technology projects that can increase operating efficiency or improve services provided for Metro transit passengers and employees.

E.3 FACILITIES MAINTENANCE


The Central Facilities Maintenance group provides direct support to all Metro operating divisions. An important function of facilities includes the development, implementation, and management of capital programs for Metro's facilities to improve existing facilities and the promote employee safety.

Facilities Maintenance has the following functions:

- Provides HVAC, locksmith services, plumbing, painting, and other property maintenance tasks
- Manages select contracted services such as crane inspection/repair, graffiti abatement, glass service, landscaping and railroad right-of-way and parcel property maintenance.
- Produces decals for Metro buses in addition to signs for bus stops, rail, facilities and yard signage (Sign Shop).
- Maintains terminals, bus stops, layover zones, and inactive right-of-way (Stops and Zones)

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Appendix F: Rail Accident Investigation Procedures (Rail AIP)

	LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY	Revision 1.0
	RAIL —ACCIDENT INVESTIGATION PROCEDURE	Effective: Jan 2023

PART 1 GENERAL OVERVIEW

1.1 INTRODUCTION

Section 99152 of the Public Utilities (PU) Code authorizes the California Public Utilities Commission (CPUC) to regulate and oversee the safety of rail transit systems in the State of California. To fulfill its oversight responsibilities, the CPUC establishes safety requirements by adopting rules and procedures, known as General Orders (GO). In 1996, the CPUC adopted GO 164 series, “Rules and Regulations Governing State Safety Oversight of Rail Fixed Guideway Systems”, in response to the Federal Transit Administration’s Final Rule 49 Code of Federal Regulations, Part 673, which requires State safety oversight of rail fixed guideway systems. The requirements for reporting and investigating rail accidents by transit agencies are found in the GO 164 series. Section 315 of the PU Code specifically addresses the investigation of accidents by the CPUC and reads in part:

“The Commission shall investigate the cause of all accidents requiring, in the judgment of the Commission, investigation by it, and may make such order as in its judgment seems just and reasonable.”

The CPUC has the authority to conduct its own independent accident investigations. However, in actual practice the CPUC has delegated this responsibility to the Rail Transit Agencies (RTA’s) on behalf of the Commission.

To meet these requirements, the Los Angeles County Metropolitan Transportation Authority (METRO) has developed the following procedures to be used in the event of rail accidents.


1.2 PURPOSE AND OBJECTIVES

The purpose of this document is to establish procedures and guidelines to be followed by METRO personnel responding to rail accidents. These procedures are intended to facilitate the following objectives:

- To improve system safety by reporting and investigating all reportable rail accidents and implementing corrective measures, if warranted, to prevent or mitigate recurrences.
- To define the role and responsibilities of individuals, and departments who respond to rail accidents which occur on Metro’s operating rail lines.

These procedures detail the accident reporting procedures from the initial notification, through investigation, to the actual preparation of the final report, and tracking of any corrective measures.

Each department is responsible for carrying out their tasks as defined in the Rail Accident Investigation Procedures.

	LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY	Revision 1.0
	RAIL —ACCIDENT INVESTIGATION PROCE- DURES	Effective: Jan 2023

PART 2 GENERAL INVESTIGATION PROCESS

2.1 RESPONSE

Upon notification of an accident by ROC, Metro staff shall proceed to the accident scene and report to the Metro On-Scene Coordinator (OSC), and support the accident investigation process as described below.

2.2 ACCIDENT INVESTIGATION ACTIVITIES


Metro will identify an On-Scene Coordinator (OSC) who will act as a liaison with ROC for all at the scene activities. The Metro OSC will report to the Incident Command Post, if it has been established, or to the Fire or Police personnel assigned or acting as Incident Commander. The OSC will afford the Incident Commander assistance to mitigate the situation.

The OSC or their designee will conduct the investigation for all accidents. The Incident Commander jointly with the OSC will determine when to release the scene for normal operations.

The following activities should be conducted by the OSC or their designee, or support departments, **if applicable and to the extent possible:**

- Secure the scene
- Inspect/preserve physical evidence
- Document fact/findings
- Conduct interviews
- Take photos
- Take measurements
- Assess requirement for drug test per Metro Drug and Alcohol Policy
- Prepare Supervisor's Report

The OSC should document the facts concerning the following: damage to equipment and infrastructure, weather conditions, position and status of signals, switches, cab controls and cut out controls, use of audible warning devices, application of brakes, use of sand, area of impact, and point of rests of other parties involved in the accident, etc.

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PART 3 ROLES AND RESPONSIBILITIES

3.1 GENERAL

The following sections support the foregoing accident investigation process; identify and expand on roles and responsibilities of responding personnel representing the various departments within Metro. This information has been established to ensure that each Department and all personnel within each section understand and provide support to the Rail Accident Investigation Procedures.

It is recognized that not all departments will need to respond to all types of accidents occurring on the operating rail system. The detailed functions described in this part apply to the investigation of accidents described under Section 3.2.2 of this document.

3.2 SAFETY DEPARTMENT


3.2.1 RESPONSIBILITY

The safety department has primary responsibility for developing and updating the Accident Investigation Procedures. In addition, it will provide accident investigation training resources for use by other departments.

The safety department will be responsible for preparing the report that is required by the California Public Utilities Commission (CPUC), by reviewing information contained in various internal and third party reports, videos, and data/information collected by Corporate Safety staff.

The safety department will be the liaison for all accidents investigated by the CPUC or National Transportation Safety Board (NTSB), and for arranging accident reconstructions when warranted. In the event of an NTSB investigation, the safety department will coordinate secure storage and protection of physical evidence at or away from the accident scene.

In the event information such as Police Reports, Coroner's Reports, etc. is not available at the time the CPUC report is due, an interim report will be submitted to the CPUC per the GO 164 series requirements, including 30-day updates.

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3.2.2 NOTIFICATION TO REGULATORY AGENCIES

The safety department will notify the CPUC within two (2) hours of any event/accident that occurs on Rail Transit Agency-Controlled Property⁽¹⁾ which meets the following thresholds identified in 49CFR674 and FTA’s Two-Hour Accident Notification Guide.

- Fatality (occurring at the scene or within 30 calendar days following the accident).
- One or more persons suffering serious injury.⁽²⁾
- Property damage⁽³⁾ resulting from a collision involving a rail transit vehicle.
- Any collision between a rail transit vehicle and another rail transit vehicle.
- Any collision at a grade crossing resulting in serious injury or fatality.
- A collision involving a rail transit vehicle and any other vehicle, object, or individual.
- A runaway train.
- Evacuation due to life-safety reasons⁽⁴⁾.
- A derailment (mainline or yard) of any rail transit vehicle at any location, at any time, whatever the cause.
- Fire resulting in a serious injury or fatality.

⁽¹⁾Rail Transit Agency-Controlled Property accidents are defined as events occurring on the right-of-way between a moving train and a person, vehicle, or object.

⁽²⁾Serious injury as defined in 49CFR674 means an injury which: (1) Required hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third degree burns, or any burns affecting more than 5% of the body surface.

⁽³⁾Substantial damage (as defined in the Guide) is any physical damage to transit or non-transit property including vehicles, facilities, equipment, rolling stock, or infrastructure. Substantial damage includes damage which adversely affects the structural strength, performance, or operating characteristics of the vehicle, facility, equipment, rolling stock, or infrastructure requiring towing, rescue, onsite maintenance, or immediate removal prior to safe operation.

⁽⁴⁾An evacuation for life safety reasons is a condition that occurs when persons depart from transit vehicles or facilities for life safety reasons, including self-evacuation.


A life safety reason may include a situation such as a fire, the presence of smoke or noxious fumes, a fuel leak, a vehicle fuel leak, an electrical hazard, a bomb threat, a suspicious item, or other hazard that constitutes a real potential danger to any person. **DO NOT PROVIDE** Two-Hour Accident Notifications for evacuations that are not for a life safety reason such as an evacuation of a train into the right of-way or onto adjacent track; or customer self-evacuation or transfer of passengers to rescue vehicles or alternate means of transportation due to obstructions, loss of power, mechanical breakdown and system failures, or damage.

The following information will be provided as part of the electronic notification (record of notifications are available from the CPUC):

- The time and date of the accident;
- The location of the accident;
- The number of fatalities and/or injuries;
- The rail transit vehicle involved in the accident;
- The type of incident and brief description of accident,
- The emergency response organizations at the scene of the accident.

The safety department representative shall also notify other Regulatory Agencies in accordance with existing requirements of the Federal Transit Administration, Federal Railroad Administration, and the National Transportation Safety Board.

The safety department shall be responsible for providing the CPUC staff an opportunity to participate to the fullest extent possible in all aspects of the investigation. The safety department representative will provide advance notification of additional (other than those conducted at the scene) interviews, inspections, measurements, tests, examinations and meetings with investigators, consultants, review boards, etc. to review, analyze and draw conclusions regarding accident related information.

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3.2.3 CPUC INVESTIGATION REPORT

On behalf of the CPUC, the safety department is responsible for preparing the investigation report, which includes reviewing external reports such as Police, Fire, Coroner, etc., if applicable. The safety department is also responsible for tracking any corrective action plans resulting from the investigations.

Investigation reports for accidents meeting the thresholds described in section 3.2.2 will be submitted to the CPUC within 60 calendar days of the occurrence of the accident.

3.3 RAIL OPERATIONS CONTROL (ROC)

3.3.1 NOTIFICATION

Rail Operations Control (ROC) receives the initial report of any accident on the rail system. Upon notification, ROC dispatches a field supervisor to respond to the scene and then notifies all pertinent internal departments and external agencies such as law enforcement and emergency response agencies of the nature of the incident.


ROC is responsible for supporting all activities required at the accident scene through the On-Scene Coordinator (OSC).

ROC is responsible for maintaining service, if possible, or arranging for alternate transportation services and preserving video, Supervisory Control and Data Acquisition (SCADA)/ Transit Automatic Control System (TRACS) and voice and data communication information prior to, during, and following all accidents.

ROC will document all requests and events as they occur at the accident scene from initial notification of an accident until service is re-established.

3.3.2 ROC FOLLOW UP ACTIVITIES

ROC is responsible for maintaining the above information and for providing it in support of the accident investigation process and for supporting subsequent activities related to the process.

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3.4 RAIL TRANSIT OPERATIONS SUPERVISOR (RTOS)

The Rail Transit Operations Supervisor will be responsible for assuming the role of On Scene Coordinator (OSC), conducting an investigation and completing the required reports.

3.4.1 RAIL TRANSIT OPERATIONS SUPERVISOR (RTOS) FOLLOW UP ACTIVITIES


The On-Scene Coordinator is responsible for completing the Supervisors Report, in the Metro's electronic database system.

3.5 TRAIN OPERATORS

3.5.1 AT SCENE PROCEDURES

Train Operator's shall:

- a.) Contact ROC immediately & describe the type of accident, location, injuries and damage.
- b.) Protect self and passengers from hazards created by the accident.
- c.) Attempt to extinguish any fires, if possible, without taking undue risks.
- d.) Coordinate evacuation, if necessary, with ROC/OSC. Make PA announcements to keep passengers informed of the situation and status of response agencies.
- e.) In case of injuries, protect the injured parties, but do not attempt to move them, unless they require assistance in evacuating if a fire is involved. Do not volunteer ambulance service or ask persons if an ambulance is desired, unless it is obvious that such service is necessary. However, if a person requests an ambulance, immediately notify the OSC or ROC.
- f.) Pass out Courtesy Cards to bystanders and other persons who were in a position to have witnessed the accident. If injuries occurred on that train, use Courtesy Cards and indicate on the card "passenger."
- g.) Provide the police and other driver (s) with necessary information.

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3.5.2 TRAIN OPERATOR FOLLOW UP ACTIVITIES

The Train Operator is responsible for completing and preparing his or her accident report in Metro’s electronic database system. The train operator is also responsible for co-operating in the accident investigation process.

3.6 DEPARTMENT MANAGERS

3.6.1 DEPARTMENT MANAGERS FOLLOW UP ACTIVITIES

The Department Manager is responsible for coordinating the following activities in all accidents.

- a.) Ensure employee(s) involved in the accident are interviewed and complete their required reports.
- b.) Ensure the completion and accuracy of all reports.
- c.) Support accident investigation process by providing information such as training records, accident history, hours of service, fatigue, etc.
- d.) Implement remedial action(s) necessary to prevent or mitigate recurrences.

3.7 RAIL FLEET SERVICES

3.7.1 AT SCENE PROCEDURES


Upon arrival at the accident scene, the Rail Fleet Services representative will report to the OSC and shall be responsible for the following tasks:

- a.) Provide information and/or assistance to the OSC as requested.
- b.) Make and implement recommendations to the OSC in regard to their specialty, for expediting restoration of normal revenue service.

3.7.2 FOLLOW UP ACTIVITIES

The Rail Fleet Services Department will be responsible for the following activities after the incident train has returned to the shop:

- a.) Conduct a post accident inspection of the incident train(s) and document findings.
- b.) Provide maintenance records & technical data, & make recommendations as appropriate.
- c.) Take any remedial actions necessary to prevent or mitigate recurrences.

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3.8 WAYSIDE SYSTEMS

3.8.1 AT SCENE PROCEDURES


Upon arrival at the accident scene, the responding Wayside Systems representatives shall report to the OSC and shall be responsible for the following tasks as applicable:

- a.) Inspect the integrity of infrastructure and systems as it pertains to their discipline.
- b.) Make and implement recommendations to the OSC in regard to their specialty, for expediting restoration of normal revenue service.

3.8.2 FOLLOW UP ACTIVITIES

As part of the follow-up activities, the Wayside Systems department is responsible for:

- a.) Document the findings from the accident and any repairs performed on any components or systems.
- b.) Providing previous inspection and maintenance activity records on Wayside Systems equipment that are applicable to the incident, such as Preventative Maintenance (PM) records for warning devices for accidents at a grade crossing, or PM records for track for a mainline derailment.

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3.9 Accident Reporting Requirements


The safety department will submit one of three types of accident/incident reports to the CPUC as follows:

For security related events and evacuations due to a bomb threat, small trash can or debris fires, smoking brakes, false gas alarms, suspicious package etc. *that do not constitute a real potential danger to any person*, staff will submit the Incident Report prepared by the ROC.

The safety department will submit a “MAJOR EVENT REPORT” (Form B) to the CPUC within 60 days of the date of the accident for events listed in section 3.2.2 with the exception of collisions that result in non-serious injuries and non-substantial damage. The “CPUC MINOR EVENT REPORT” will be submitted within 60 days of the date of the accident for collisions that meet the exceptions. The formats for the MAJOR EVENT REPORT (Form B) and the CPUC MINOR EVENT REPORT are shown on the following pages.

3.9.1 Accident Reports

The Safety Department will make every attempt to collaboratively work with the CPUC regarding Commission comments and approval in compliance with General Order 164 series as it relates to submittal of Accident Reports.

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3.9.2 CPUC MINOR EVENT REPORT- Page 1 of 2

**CALIFORNIA PUBLIC UTILITIES COMMISSION
MINOR EVENT REPORT
(Not to be used for Fatalities or Serious Injuries¹)**


REPORTED TO CMC (Yes / No) **REPORTED TO NTD (Yes / No) (NTD # _____)**

RAIL TRANSIT AGENCY: 					
LOCATION:		TRAIN/CARS #:	TRAIN DIRECTION OF TRAVEL:		NO. OF NON-SERIOUS INJURIES:
LIGHTING (DAY/NIGHT/DUSK/DAWN):	WEATHER:	DATE:	TIME:	DESIGN SPEED:	ESTIMATED SPEED AT TIME OF EVENTS:
COMMISSION HIGHWAY-RAIL GRADE CROSSING NUMBER (IF APPLICABLE):					
COLLISION WITH A MOTOR VEHICLE		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
COLLISION WITH AN OBJECT		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
COLLISION WITH A PERSON		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
YARD DERAILMENT		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
OPERATOR'S REPORT AVAILABLE		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
SUPERVISOR'S REPORT AVAILABLE		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
GRADE CROSSING COLLISION		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
GATED CROSSING		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
TRAFFIC SIGNAL CONTROLLED CROSSING		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
UNCONTROLLED CROSSING		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
PEDESTRIAN CROSSING		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
OPERATOR TESTED FOR D&A		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
TRANSIT VEHICLE OUT OF SERVICE		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
SUBSTANTIAL DAMAGE ²		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
VIDEO/AUDIO AVAILABLE FOR REVIEW		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
RULE(S) VIOLATION		YES <input type="checkbox"/>	NO <input type="checkbox"/>	N/A <input type="checkbox"/>	
TOW AWAY		TRAIN <input type="checkbox"/>	VEHICLE <input type="checkbox"/>	N/A <input type="checkbox"/>	

¹ Serious injury means any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third-degree burn(s), or any burns affecting more than 5 percent of the body surface.

² Substantial damage is any physical damage to transit or non-transit property including vehicles, facilities, equipment, rolling stock, or infrastructure.

Substantial damage includes damage which adversely affects the structural strength, performance, or operating characteristics of the vehicle, facility, equipment, rolling stock, or infrastructure requiring towing, rescue, onsite maintenance, or immediate removal prior to safe operation.

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3.9.2 CPUC MINOR EVENT REPORT— Page 2 of 2

<u>DESCRIPTION OF THE EVENTS / INVESTIGATION FINDINGS (INCLUDE PHOTOGRAPHS IF APPLICABLE):</u>			
<u>PROBABLE CAUSE:</u>			
<u>CONTRIBUTING FACTORS:</u>			
<u>RECOMMENDATIONS:</u>			
CORRECTIVE ACTION PLAN: (YES <input type="checkbox"/> NO <input type="checkbox"/> RTA's CAP #:	ACTION	SCHEDULE	DEPARTMENT/INDIVIDUAL RESPONSIBLE

PHOTOGRAPHS (IF APPLICABLE):

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Form B Report
Rev. 6 - 8/24/2022

LA METRO
MAJOR EVENT REPORT

(To be used for Fatalities, Serious Injuries¹, or other Non-Minor Report Requirement)

REPORTED TO TOC (Yes / No) REPORTED TO NTD (Yes / No)(NTD#)

RAIL TRANSIT AGENCY: LACMTA					
LOCATION:		TRAIN/CARS #:	TRAIN DIRECTION OF TRAVEL/ TRACK:	NO. OF FATALITY: _____ NO. OF SERIOUS INJURY: _____ NO. OF NON-SERIOUS INJURY: _____	
LIGHTING (DAY/NIGHT/DUSK/DAWN):	WEATHER:	DATE:	TIME:	DESIGN SPEED:	ESTIMATED SPEED AT TIME OF EVENTS:
COMMISSION HIGHWAY-RAIL GRADE CROSSING NUMBER (IF APPLICABLE):					

COLLISION WITH A MOTOR VEHICLE	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
COLLISION WITH AN OBJECT	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
COLLISION WITH A PERSON	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
DERAILMENT	MAIN	<input type="checkbox"/>	YARD	<input type="checkbox"/>	N/A <input type="checkbox"/>
EVACUATION FOR FIRE-LIFE SAFETY REASONS	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
OPERATOR'S REPORT AVAILABLE	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
SUPERVISOR'S REPORT AVAILABLE	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
GRADE CROSSING COLLISION	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
GATED CROSSING	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
IF GATED, TYPE OF GATES	2-QUAD	<input type="checkbox"/>	4-QUAD	<input type="checkbox"/>	N/A <input type="checkbox"/>
TRAFFIC SIGNAL CONTROLLED CROSSING	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
UNCONTROLLED CROSSING (i.e. DWY)	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
PEDESTRIAN CROSSING	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
OPERATOR TESTED FOR D&A	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
TRANSIT VEHICLE OUT OF SERVICE	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
SUBSTANTIAL DAMAGE ²	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
VIDEO/AUDIO AVAILABLE FOR REVIEW	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
THE CPUC REVIEWED RELEVANT VIDEO/AUDIO FILES	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
RTA EMPLOYEE RULE(S) VIOLATION	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
TRAIN/HI-RAIL HORN SOUNDED	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
TYPE OF BRAKES APPLIED (EMERGENCY/FULL-SERVICE)	EB	<input type="checkbox"/>	FS	<input type="checkbox"/>	N/A <input type="checkbox"/>
SUICIDE/ INTENTIONAL ACT ³	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
GENERAL ORDER 143 SERIES HOURS OF SERVICE COMPLIANT	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	N/A <input type="checkbox"/>
ILLEGAL ELECTRONIC DEVICE OBSERVED WHILE OPERATING	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>	
TOWED AWAY FROM SCENE	TRAIN	<input type="checkbox"/>	VEHICLE	<input type="checkbox"/>	N/A <input type="checkbox"/>
MODE OF OPERATION	CAB SIGNAL	<input type="checkbox"/>	STREET	<input type="checkbox"/>	ATO <input type="checkbox"/>
					MTO <input type="checkbox"/>
					BYPASS <input type="checkbox"/>
TYPE OF RAILWAY	STRT RNING	<input type="checkbox"/>	AERIAL	<input type="checkbox"/>	SUBWAY <input type="checkbox"/>
					FREEWAY <input type="checkbox"/>
					SEMI-EXL <input type="checkbox"/>

¹Serious injury means any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third-degree burn(s), or any burns affecting more than 5 percent of the body surface.

²Substantial damage is any physical damage to transit or non-transit property including vehicles, facilities, equipment, rolling stock, or infrastructure. Substantial damage includes damage which adversely affects the structural strength, performance, or operating characteristics of the vehicle, facility, equipment, rolling stock, or infrastructure requiring towing, rescue, onsite maintenance, or immediate removal prior to safe operation.

³ Official determination of suicide related fatalities are made by the coroner. Once the Coroner's report is received Metro will revise the accident report if discrepancies are found.

Confidential pursuant to California Public Utilities. Commission General Order 164 and Federal Transit Administration Guidelines.

Exempt from public disclosure Pursuant to Government Code Sections 6254 (k) and 6255 (a)

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INCIDENT SUMMARY:

FINDINGS:

(Describe what was reviewed regarding pertinent audio and video with respect to the accident)

INJURIES AND DAMAGE:

EMERGENCY RESPONSE:

HOURS OF SERVICE/OPERATOR'S LAST SEVEN DAYS:

DATE	DAY OF WEEK	SIGN-ON	SIGN-OFF	TOTAL ON-DUTY HOURS
Day 7		XXXX hrs.	XXXX hrs.	XX H XX M
Day 6				
Day 5				
Day 4				
Day 3				
Day 2				
XX/XX/XXXX INCIDENT DATE				

PROBABLE CAUSE:

CONTRIBUTING FACTORS:

RECOMMENDATIONS:

CORRECTIVE ACTION PLAN: (YES <input type="checkbox"/> NO <input type="checkbox"/>)	ACTION	SCHEDULE	DEPARTMENT/ INDIVIDUAL RE- SPONSIBLE
	RTA's CAP #:		

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Exempt from public disclosure Pursuant to Government Code Sections 6254 (k) and 6255 (a)

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APPENDIX A

DESCRIPTION OF THE INCIDENT LOCATION (INCLUDE LOCATION MAP):

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APPENDIX B

PHOTOGRAPH(S)/SKETCH (IF APPLICABLE):

Appendix G: Bus Accident Investigation Procedures (Bus AIP)



THE INCIDENT INVESTIGATION & REDUCTION PROCEDURE MANUAL



Metro[™]

PREPARED BY
OPERATIONS CENTRAL INSTRUCTION

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I. INTRODUCTION

This manual was formally known as the Accident Investigation Procedure Manual. It has been revised to increase emphasis on accident prevention and update procedures to include systems new to Metro. Changes were made with the collaborated efforts of numerous Operations personnel from the Transportation Divisions, Bus Operations Control (BOC), Operations Central Instruction (OCI), Risk Management, Corporate Safety, etc.

Accident/Incident investigation is a fundamental element of Metro’s safety program. The role of the investigation procedure is to identify, locate, and otherwise determine the root cause of the incident and reduce errors which allow accidents to occur. Reducing these system errors or conditions which allow accidents to occur is of extreme importance to every individual at Metro. At the very least, human suffering, injury, and property damage may be reduced as a direct result of the investigation process. Ultimately, it reduces expenses that need to be allocated to settle claims for injury and repair damages. These monies could otherwise be redirected to maintaining service or providing our customers and operators with a safer more effective operating environment. Reducing the conditions and causes of accidents will benefit everyone.

This manual seeks to classify accidents into two categories: **Avoidable or Unavoidable**. Accidents classified in this manual are for the purpose of establishing whether or not the operator of the Metro vehicle could have taken reasonable action to avoid an accident. The determination of ability to avoid an accident is based on standards established by the Transportation Safety Institute (TSI).

The application of these standards does not establish nor seek to establish any degree of legal liability that may or may not exist with respect to the accident. There may be occasions when an operator is not legally liable for an accident deemed to be “Avoidable.”

“AVOIDABLE” ACCIDENTS WILL BE CLASSIFIED AS SUCH ONLY AFTER AN INVESTIGATION DETERMINES THE OPERATOR OF THE METRO VEHICLE “COULD HAVE TAKEN REASONABLE ACTION THAT MAY HAVE PREVENTED THE ACCIDENT FROM OCCURRING.”

“UNAVOIDABLE” ACCIDENTS WILL BE CLASSIFIED AS SUCH ONLY AFTER AN INVESTIGATION DETERMINES THE OPERATOR OF THE METRO VEHICLE “COULD NOT HAVE TAKEN ANY REASONABLE ACTION TO PREVENT THE ACCIDENT FROM OCCURRING.”

II. PURPOSE

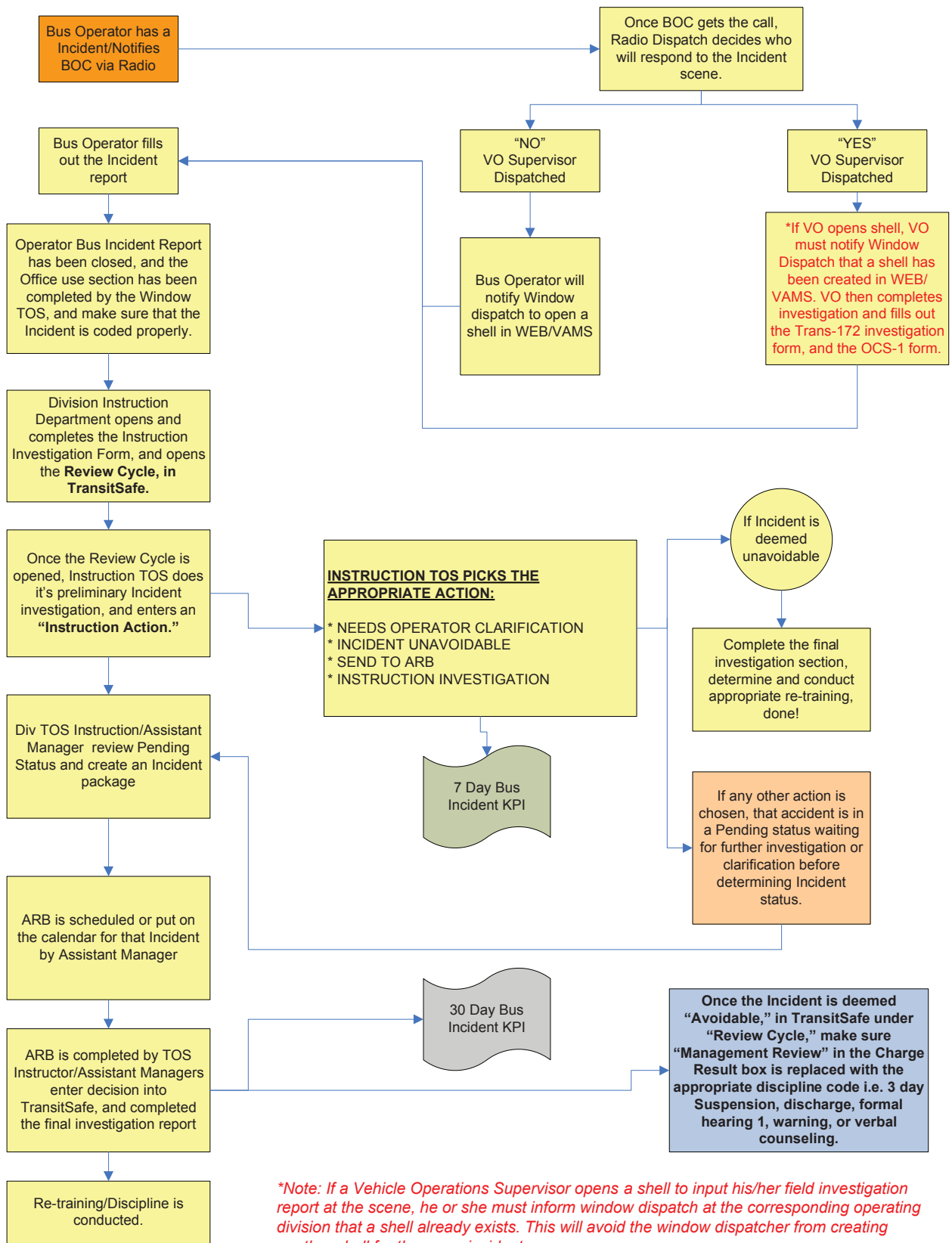
The purpose of this manual is to establish consistent procedures to investigate accidents at all Metro Bus Operations facilities leading to the prevention of future accidents from occurring. The manual sets forth the roles and responsibilities of Metro staff at all levels. Accountability and responsibility at each step of these procedures will be essential to ensure proper investigations, training, and discipline. Most accidents investigations will be completed within 30 days and recommendations, as applicable, for prevention will be developed based on the investigation reports.

III. RESPONSIBILITIES

Various corporate business units have oversight and direct accountability for the implementation of the procedures contained herein. This section of the manual defines those responsibilities.

- 1** The Director of Corporate Safety has oversight over all accident reduction procedures. Corporate Safety will insure that strategies for accident reduction will be widely disseminated throughout the organization. It is also the responsibility of Corporate Safety to maintain the Vehicle Accident Monitoring System (WEBVAMS) and Transitsafe™. (Please see Reference document “XI-A.” Transitsafe™ Procedures).
- 2** The Director of Operations Central Instruction (OCI) has oversight of accident reduction training, the Operator’s Rulebook & SOP, and insures compliance with industry safety practices. (Please see Reference document “XI-C.” Bus Operator Rule Rulebook & SOP’s).
- 3** Transportation Managers at each division are responsible for ensuring that all accidents are investigated in accordance with the procedures set forth in this manual. They are also responsible for recommending accident reduction strategies to Corporate Safety that may arise from experience and internal investigations. It is the responsibility of each division to initiate the accident investigation procedure by entering relevant data (shell) into the Vehicle Accident Monitoring System (VAMS) which allows for the operator to complete the accident report.
- 4** Vehicle Operations (VO) has oversight over field investigation of all accidents involving Metro vehicles, property and employees. Timely submission of reports, pictures and all evidence collected at the scene is the responsibility of VO as well as a responsibility to follow up with any safety concerns identified. A VO Supervisor can initiate the shell process but must notify the effected division to avoid duplication.
- 5** Bus Operations Control (BOC) has oversight of all communication at accident scenes and coordination among multiple departments and agencies. Timely notification to VO, the affected division and any and all relevant emergency personnel is the responsibility of BOC as well as the timely and thorough documentation of the incident.

IV. BUS INCIDENT INVESTIGATION FLOW CHART



V. INCIDENT INVESTIGATION PROCEDURES

The incident/accident investigation process begins when the operator reports the incident/accident to Bus Operations Control (BOC). Once notification is received, BOC notifies a VO Supervisor of the incident. The first VO Supervisor at the location is responsible for conducting the on scene investigation.

During the operator's workday or prior to the conclusion of the workday, the operator inputs his/her incident report into Transitsafe™ at the Division. While not addressed directly here, the VO Supervisor response to the accident/incident scene is critical. The VO Supervisor must collect (but is not limited to) a statement from the operator concerning the incident, a statement from the other party if possible, photographs of the vehicles or property involved, photographs of the scene, request brake tests where appropriate, as well as interact with other local authorities and make efforts for service restoration. If necessary, the operator will be taken for a drug screen before returning to the division to complete necessary paperwork. (Please see Reference document "XI-D." for Metro's HR Drug and Alcohol Policy and Procedures.)

V-A. WINDOW TOS DUTIES & RESPONSIBILITY

The Window Transit Operations Supervisors (TOS) are responsible for the processing of all accident/incident, and/or miscellaneous reports turned in by Division Transportation personnel. The initial copy of the Safe-3, the printed summary report, running board, copies of operator's CDL, medical card and VTT are the responsibility of the Window TOS. The Safe-3 and attendant documents must be reviewed by the Window TOS before closing the accident report in Transitsafe™. In the event the Window TOS is not able to assist the operator, the Manager or Assistant Transportation Manager must be immediately notified.

All reports of accidents/incidents must be completed and filed in Transitsafe™ on the day of occurrence, except where there is an explainable emergency that prevents the employee from completing the report on that day. Where an emergency exists and the report cannot be completed and filed as required, it must be completed at the earliest possible opportunity after the "Incident." In the event of such an emergency, the Manager or Assistant Transportation Manager must be notified immediately and the reason for the delay documented.

ALL COMPLETED ACCIDENT / INCIDENT REPORTS ARE CONSIDERED LEGAL DOCUMENTS AND SHOULD BE VIEWED AS SUCH WHEN THE REPORT IS BEING PROCESSED TO COMPLETION.

WINDOW TOS MUST FOLLOW THESE PROCEDURES:

- Before any shell is created, the Window TOS must question the operator to determine whether an accident report is required. The Window TOS must create a "shell" using the VAMS system. The shell is saved and then released to either the VAMS kiosk, or desktop computer.
- Obtain and copy the employee's driver's license, VTT and medical certificate for the accident file.
- After the employee completes his/her report, the Window TOS must review the report for clarity, accuracy, and completeness, before closing it. The report is then printed and signed by the operator. **Note, "Closing" a report means that the data provided can no longer be edited by the operator or the TOS. Any changes to the data can thereafter only be input (spelling) via a supervisor form.**
- In a collision type accident, the operator must complete a diagram (page 2 of the printed report) showing the approximate location and direction of the vehicles at the time of the accident. The Window TOS must assign the proper accident code prior to closing Transitsafe™. A listing of the accident/incident codes is included in Reference document "B." Collision classification Reference Guide.
- All available courtesy cards must be attached to the package.
- The Operator's running board must also be attached to the package.
- An Equipment Damage Report (EDR) must be filed for every report regardless of accident type. This is now unnecessary. The person that does the EDR now has access to the form in Transitsafe™. We should only be inputting our data in Transitsafe™ and let maintenance finish the form, print and sign it.
- The all night Window TOS, using WEBVAMS, must print a copy of the Accident Summary report of all processed accident/incidents for the particular day and distribute to all Division Management and to the division's Instruction department.
- The Window TOS must check the sequence number and verify that all accidents were recorded and accounted for at the end of the day.

V-B. INSTRUCTION DEPARTMENT'S TOS DUTIES & RESPONSIBILITIES

The Instruction TOS are responsible for completing a thorough investigation related to each and every incident/accident.

INSTRUCTION TOS MUST FOLLOW THESE PROCEDURES:

- *The Instruction TOS must gather the accident/incident reports from the previous day.*
- *Prior to processing the accident/incident, the Instruction TOS must review and verify that each package contains the pertinent information necessary to begin an investigation. The accident package must include, at a minimum, all pertinent items and documents (see Appendix 1).*
- *The Instruction TOS must prepare accident packages for distribution:*
 - a. *Risk Management (located at the USG Headquarters building) gets a copy of the accident and summary report.*
 - b. *Hertz Claims Management (HCM) gets a copy of the accident, summary, and copy of witness cards (originals? We have been sending the originals to HCM. Let us know if there is a change), operator running board, copy of operator license, VTT, and Medical, and ARB results.*
 - c. *Steno gets original accident report, summary report, witness cards, operator running board, copy of operator license, VTT, and Medical, and ARB results.*
 - d. *A copy of the accident/incident summary shall be placed in the Instruction Book.*
- *After reviewing the accident/incident package, the TOS may assign a "pending" status to accidents/incidents identified as requiring additional investigation.*
- *Accident/incidents recommended for a determination of "unavoidable" must be forwarded to an Assistant Transportation Manager, as well as the Transportation Manager, if required. All pedestrian related incidents must be reviewed by the Division Transportation Manager.*
- *Unavoidable accidents/incidents must be closed out in Transitsafe™ and then sent to the Steno for filing.*
- *Accidents identified as requiring further investigation to determine a classification of "avoidable" or "unavoidable" must be forwarded to the 1st Level Accident Review Board.*
- *Instruction TOS may access the status of accident/incident reports from WEB VAMS in the exception reports. Operators who are on long term leave, for example, who cannot be interviewed within the appropriate KPI time frame will be carried in the exception report as "LTS".*
- *The Supervisory Investigation portion of the accident report must be completed in Transitsafe™. Using the following guidelines: Employee Incident Closure – 1 day; Supervisor Incident Investigation – 7 days; Investigation and Final Report – 30 days from date of accident/incident. Certain accidents/incidents shall remain open beyond 30 days pending information pertinent to make a classification. These cases include (but are not limited to) incidents involving pedestrians or severe collision incidents that require additional agency input (e.g. CHP). A notation on the exception report shall be made when the specific incident has gone beyond the 30-day standard.*

INSTRUCTION ACCIDENT/INCIDENT INVESTIGATION

The following is an outline of the Instruction Accident/Incident Investigation Procedure:

- A. Read accident reports (making sure that it is filled out correctly). Go into Transitsafe™ (office use), fill in appropriate boxes (description of accident, supervisor's badge number, bus number, operator's seniority, etc. and appropriate code).
- B. Go into the field investigation section in Transitsafe™ print out road supervisor's report and photos if any. If not, check again in 72 hours.
- C. Print the Incident Report from BOC (from ATMS mta_60).
- D. Go into instruction investigation; fill out the four boxes (damage to bus, injury to operator if any and the next two is vehicle code violations).
- E. Go into view fields. Scroll down and in the accident investigation box put in appropriate field (avoidable, unavoidable, send to accident review board or instruction investigation). If unavoidable fill out appropriate boxes (description of accident, facts, and actions taken).
- F. Make copies of witness cards (translate as needed). Insure that a record is created for all witness confirmation calls.
- G. Print two copies of accident report.
 - i. If the accident is unavoidable, give the original along with the two copies to Steno.
 - ii. If the accident requires further investigation, keep the original accident report. Send an email request to the BOC Assistant Manager(s) and the Assistant Transportation Manager for any DVR download request, include the date, time (30 min before and after accident time), bus number, name (operator), badge, and reason for request. (Some division staff may be able to send a fax directly to the facilities staff to perform the download without additional step for notification).
- H. Record the email request in the video log book.
- I. When DVR is received, make copy of receipt and store receipt in DVR book.
- J. Go to the video log book, label each DVR received and put the DVR in appropriate accident folder.
- K. View DVR to record the time on the video when the incident occurs. Print relevant images of the incident to include in the accident package.
- L. Go into VAMS (reports). Run an exception report, making sure that the accidents are at the bottom of report (if not the boxes were not filled out).
- M. Call witnesses. If at home or work; ask questions on witness form and get statement. If not at home or work, mark date and time called on copy of witness cards, Appendix 2.
- N. As necessary, go to the scene of accident; take photos; take measurements and make a diagram of scene. (An example of an accident scene diagram is included in Appendix 3).
- O. Print the diagram from computer program as drawn by the operator. The investigating TOS should also include an accident diagram of the scene. (See Appendix 4.)
- P. Scan and import all supporting documents in the accident package into Transitsafe™.

VI. 1ST LEVEL ACCIDENT REVIEW BOARD

Before any accident is assigned an “avoidable” status, a three-member, 1st Level Accident Review Board (ARB) must review it. The Board is comprised of one Instruction supervisor, one Line Instructor/Mentor and the Manager or Assistant Manager.

Probationary operators who are involved in accidents are not taken through this process. Their accident reports are reviewed by the Instruction TOS investigating accidents, and then given to the Assistant Transportation Manager for a determination of avoidability. In some cases, further investigation may be required before any charge is made.

The purpose of the ARB is to review the accident file and interview the operator as a means of clarifying the information in his/her report, and to determine the accident’s avoidability. The review process also gives the operator an opportunity to ask questions, and to elaborate on their explanations of the “Incident”.

It is recommended that all members of an ARB have a chance to review all documentation before the actual ARB is convened. ARB members must prepare their questions and/or areas requiring clarification before participating in the ARB. By being prepared, the ARB can better ascertain the factors contributing to the incident/accident and make a better determination as to avoid ability.

After all members of the ARB have submitted their independent written decisions, the Assistant Transportation Manager has the responsibility to review the ARB’s determination and verify that all ARB members’ decisions were substantiated by their written narrative using the rules and standard operating procedures. Within fourteen (14) working days, the operator must receive a written notification of

the outcome of the ARB. If the accident was deemed avoidable, the Assistant Transportation Manager assesses discipline and schedules training following the proper guidelines outlined in this manual.

For those operators who are on extended leave, the ARB will be held as soon as possible after the operator returns back to duty.

For those operators who transfer to another division prior to the ARB, the division where the accident occurred will be the Control Division. The Control Division will be responsible to investigate and hold the ARB. It is incumbent on the Assistant Transportation Manager at the Control Division to ensure proper notification to the operator. If any discipline results, the division where the operator is working may assess the discipline provided that all documentation is provided to the new management.

VII. 2ND LEVEL ACCIDENT REVIEW BOARD

The Grievance Hearing Officer will allocate forty-five (45) minutes for 2nd Level Accident Review Boards. In the event parties are not adequately prepared to present their case at the time scheduled, the case may be rescheduled for a future date.

In order to be properly prepared at the hearing, upon receipt of the second-level hearing schedule, it is the responsibility of the Transportation Manager, Assistant Transportation Manager and respective Labor Relations Representative to meet and review cases to validate required Hearing Packet documents.

Two sets of Hearing Packets for each hearing should be provided to the Grievance Hearing Officer no later than one week prior to the scheduled date.

Transportation Managers and the Labor Relations Representative should ensure that all applicable supporting documents are available for the hearing. The Hearing Packet documents may include, but are not limited to:

- 1 2nd Level Appeal Summary Letter
- 2 Notice of Hearing (if applicable)
- 3 Notice of Disciplinary Action
- 4 Notice of Training
- 5 HR Discipline, Training, Attendance, and Miss-out records
- 6 1st Level Accident Review Board Decisions & notes
- 7 Accident report (Safe 3)
- 8 Witness Cards, reports and statements
- 9 Operator's Vehicle Condition Report
- 10 Brake Inspection Report (if applicable)
- 11 Vehicle Operations Supervisor's Report (Trans 172)
- 12 Damage Assessment Report (OCS 1)
- 13 Original photos
- 14 DVR and audio or visual recordings
- 15 Accident scene diagram or sketch
- 16 Police report (if applicable)
- 17 Attending Physician Statements (if applicable)
- 18 Laboratory Reports (if applicable)
- 19 EAP or SAP referral forms (if applicable)
- 20 Additional items related to this accident

VIII. POST ACCIDENT TRAINING

Training guidelines are established to inform and instruct employees on the proper methods to avoid collisions, passenger injuries, or pedestrian accidents. Operators involved in an accident coded Type 10 through 681 will be scheduled to receive a Line Ride within seven (7) working days of the date of the incident/accident. Accidents shall follow an 18 month training schedule established to prevent future occurrences. Training topics should include current laws and regulations, defensive driving, accident prevention, emergency procedures, or passenger loading and unloading. Lesson plans for training will be developed by OCI and monitored through the Operations Training Tracking System (OTTS).

The re-training program requires training for operators who are involved in accidents. Operators follow two separate training schedules, one for “unavoidable” accidents and one for “avoidable” accidents. Therefore, an operator who may be required to take multiple training if involved in several accidents.

Example:

Within 18 months, an operator is involved in 2 avoidable accidents and 2 unavoidable accidents. The operator will be required to take step 1 & 2 for unavoidable and step 1 & 2 for avoidable accidents.

TRAINING SCHEDULE

TRAINING STEPS	UNAVOIDABLE	AVOIDABLE
1	Coaching & Counseling	One-on-One (BTW)
2	Line Ride	2 Day Classroom Instruction
3	1 Day Classroom Instruction	3 Day Combination Classroom/ BTW Instruction*
4	Line Ride with Counseling	
5	One-on-One (BTW)	
6	2 Day Classroom Instruction	
7	3 Day Combination Classroom/BTW Instruction*	
8	Executive Review	

*Fitness for Duty must be considered.

WHEN AN OPERATOR’S RECORD IS SUCH THAT THERE ARE A SERIES OF ACCIDENTS/INCIDENTS A “FITNESS FOR DUTY” EXAM WILL BE SCHEDULED THROUGH HUMAN RESOURCES TO EVALUATE WHETHER OR NOT THERE ARE OTHER FACTORS, E.G. FAILING PERIPHERAL VISION OR NEUROLOGICAL ISSUES THAT MAY INTERFERE WITH THE OPERATORS’ ABILITY TO PROPERLY DRIVE THE BUS.

IX. DISCIPLINE GUIDELINES

A. BUS OPERATORS

The following guidelines will be followed when assessing discipline for accidents that occur within an eighteen (18) month floating period* :

- 1ST AVOIDABLE ACCIDENT – WRITTEN WARNING
- 2ND AVOIDABLE ACCIDENT – THREE (3) DAY SUSPENSION
- 3RD AVOIDABLE ACCIDENT – FORMAL HEARING

* If it is deemed that mitigating circumstances which indicate a variation from the above progressive discipline, management must present documentation to the employee in accordance with the Formal Hearing process.

If after being assessed discipline for a first avoidable accident, an operator has a subsequent avoidable accident, the operator shall be assessed the next level of discipline (3 day suspension). If an operator has been assessed the second level of discipline and the operator has another avoidable accident, the operator's record will be reviewed to determine if the 3rd avoidable accident falls within 18 months of the 1st accident. If the last accident occurred within 18 months of the 1st accident, the operator is subject to a Formal Hearing. If the last avoidable accident is not within the 18 month period, the operator will only be assessed discipline for the level of discipline appropriate for the number of avoidable accidents within those 18 months.

Mitigating circumstances are those factors which must be taken into consideration when determining the appropriate level of discipline such as:

- 1 Level of disregard for the rules and standard operating procedures
- 2 Length of service
- 3 Extent of personal injury or damage to equipment or property
- 4 Work record
- 5 Training record

IT IS INCUMBENT UPON MANAGEMENT TO DETERMINE IF THE SEVERITY OF THE ACCIDENT WARRANTS BY PASSING ONE OR MORE STEPS, WHICH MAY RESULT IN A RECOMMENDATION FOR SEVERE DISCIPLINE UP TO AND INCLUDING DISCHARGE.

Discipline is a process to change behavior and is not meant strictly to punish an operator for wrong-doing. It serves as a warning process in progressive steps that an operator is approaching a situation that may jeopardize his/her job. Hence, in addition to other duties being fulfilled by the Manager / Assistant Manager assessing discipline, it is imperative that the Operator be notified that this is the first, second or third avoidable accident. Should they have the next incremental accident/incident, they need to be notified, in writing, and preferably written out on the Disciplinary Action Form, that failure to improve will lead to progressive discipline up to and including discharge.

Once the determination is made to charge an operator with a specific incident, he/she should also be counseled and notified that there is an employee assistance program for issues or concerns outside of the job where someone can get help. Operators should be provided with the self-referral brochure at the time of counseling and charging for the incident. (See Section "C." below for detailed procedures).

B. PROBATIONARY/STUDENT BUS OPERATORS

In accordance with the Memorandum of Understanding (MOU) established by OCI for probationary/student bus operators, a three (3) day suspension will be assessed for the 1st avoidable accident. At the discretion of management, a probationary/student may be discharged after the 1st avoidable accident if deemed to be caused by gross negligence or if the accident resulted in serious injury or major damage to vehicles or property. Student/probationary bus operators will be discharged after a 2nd avoidable accident whether or not the accidents are considered to be major.

C. DETAILED DISCIPLINE PROCEDURES

- I. UNAVOIDABLE ACCIDENTS WILL BE SENT TO FILE & TRANSITSAFE™ SHALL BE UPDATED WITH THE RECORD OF DECISION.
- II. SUMMARY BOOK IS UPDATED:
GREEN FOR UA AND RED FOR AVOIDABLE ACCIDENTS.
- III. BASED ON THE SERIOUSNESS OF THE ACCIDENT (FATALITY, BLATENT NEGLIGENCE, ETC.) THE OPERATOR MAY BE SUBJECT TO TERMINATION.

IV. ACCIDENTS TO BE CHARGED (APPLIES TO MINOR DAMAGE & POSSIBLE INJURY TYPE INCIDENTS ALONE FOR PROGRESSIVE DISCIPLINE):

A. Assistant Manager prepares Notice of Disciplinary Action for 1st Avoidable Accident

1. Call Operator in and insure that the operator understands the progression of discipline as described in the contract.
“This is your first avoidable accident in a less than 18 month period. If you have another avoidable accident in less than the 18 month period you may be subject to a possible suspension or termination depending upon the serious nature of the accident.”
2. Assess a Warning for the first avoidable accident; update HRMIS.
3. Have the operator sign and acknowledge receipt of the discipline.
4. Set up operator for training required for the first step – 1 on 1.
5. Issue notice to mark-up and have mark-up sign that they have recorded the training.
6. Issue notice to operator and acknowledge by signing the form that the operator understands that they are required to attend the class and sign-in on the form provided at OCI. They are to be in full uniform and carry all operating credentials with them.
7. Attach to file copy of disciplinary action a copy of the HRMIS record denoting the accident.

B. Assistant Manager prepares Notice of Disciplinary Action for 2nd Avoidable Accident

1. Call Operator in and insure that the operator understands the progression of discipline as described in the contract.
“This is your second avoidable accident in a less than 18 month period. If you have another (3rd) avoidable accident in less than the 18 month period you may be removed from service and required to attend a formal hearing. The outcome of the hearing could subject you to a possible more severe suspension or termination depending upon the serious nature of the accident.”
2. Assess a 3-day suspension for the 2nd avoidable accident; update HRMIS.
3. Have the operator sign and acknowledge receipt of the discipline.
4. Set up operator for training required for the second step – Core Driving Skills.

5. Issue notice to mark-up and have mark-up sign.
6. Issue notice to operator and acknowledge by signing the form that the operator understands that they are required to attend the class and sign-in on the form provided at OCI. They are to be in full uniform and carry all operating credentials with them.
7. Attach to file copy of disciplinary action a copy of the HRMIS record denoting the accident.
8. Identify days off and place on the "Time Off Notice Form" the badge, operator name, and number of days assessed.
 - a. Indicate that the suspension is for the 2nd avoidable accidents and indicate the date of the incident.
 - b. Spell out the day and dates off and indicate a return to work date.
*(e.g. Tuesday April 11, 2010, Wednesday, April 12, 2010, Thursday April 13, 2010, **RETURN TO WORK** Friday, April 14).*
The Assistant Manager shall sign and date the time off slip.
 - c. Have the Operator acknowledge receipt of the Time-Off Notice by placing initials under the Assistant Manager's signature.
 - d. Provide a copy and have Mark-up acknowledge receipt of the notice.

C. Assistant Manager prepares Notice of Disciplinary Action for 3rd (or more) Avoidable Accident(s)

1. Preparing hearing notice and follow notification and time requirements spelled out in Article 27 of the contract.
2. When issuing Notice of Formal Hearing and attached package of documentation, statement of charge, operator record, etc., make sure that the Operator's current address and phone number is recorded on the form.
3. Hold the hearing as scheduled with the UTU representative and the Operator.
4. Make the determination of the appropriate discipline to apply.

V. APPEAL OF DECISION TO 2ND LEVEL REVIEW

A. Operators have a right to appeal discipline applied to a second level Accident Review Board

B. The second level ARB comprises the charging Manager or Assistant Manager, UTU Representative, the Operator involved, and the MTA hearing officer

C. Hearing Appeal Letter and Material prepared by Charging Manager or Assistant Manager

1. Notify Operator of the date that the 2nd Level Hearing is to be held. The notification should also require that the Operator fill out a miscellaneous stating whether or not they will attend the proceedings. Even though this is largely a Union responsibility it often helps in making the determination either to proceed with the hearing or to reschedule based on the expressed desire of the operator involved to attend.
2. Hearing Letter
 - a. Statement describing incident date, vehicle involved.
 - b. Include results of the First Level ARB and the rationale used by the members of the ARB.
 - c. Cite rules that were violated as part of the justification and that constitute the charge.
 - d. Indicate that staff met with the Operator, reviewed the accident and indicate why the accident was charged.
 - e. Provide the following materials as part of the package:
 - i. Copy of Operator Accident Report.
 - ii. Copy of Operator License, credentials, etc.
 - iii. Copy of paddle.
 - iv. Copy of Notice of Disciplinary Action form for this incident.
 - v. Copy of Time off.
 - vi. Notice.
 - vii. Copy of Training.
 - viii. Copy of ARB FIRST LEVEL ACCIDENT REVIEW BOARD DECISION FORM for each ARB member.
 - ix. Copy of ARB FIRST LEVEL REVIEW BOARD NOTES for each ARB member.
 - x. Copy of Notice to Operator for FIRST LEVEL ACCIDENT REVIEW BOARD.

- xi. Copy of diagrams, pictures, video, witness statements, police reports and other information gathered as a result of the investigation.
- xii. Copy of Vehicle Operations Supervisor Report.
- xiii. Copy of Operator's vehicle condition card report.
- xiv. Copy of Police Report, if available.
- xv. Copy of the Operators HRMIS record.
- xvi. Copy of the ARB Package review and cover sheet checklist.
- xvii. Copy of Equipment Damage Report, if available.

VI. POST 2ND LEVEL ARB

- A. **Depending on the outcome of the hearing you may be sustained or the decision may be reversed.**
- B. **If the decision is reversed, update the HRMIS record as well as Transitsafe™.**
- C. **Send e-mail confirmation to the Hearing Officer that the change has been made. Retain a copy of the transmittal for your record.**

X. KEY TERMS

For a complete listing of transit terms refer to the Bus Operator Rulebook & SOPs.

ACCIDENT:

An unplanned incident involving Metro vehicles, property, or employees that results in actual or potential damage to people, property, or vehicles (e.g. collisions, passenger injuries, pedestrian injuries).

AVOIDABLE:

An accident that is classified as such only after an investigation determines the operator of the Metro vehicle could have taken reasonable action that may have prevented the accident from occurring in accordance with Metro's established rules, SOPs, and policies.

BUS OVER LINE (BOL):

A Metro training practice of providing directions and safety information to the bus operators on established routes for the purpose of qualifying them on the route/line.

COLLISION:

An accident involving a Metro vehicle and other vehicles, property, or pedestrians.

DEFENSIVE DRIVING TRAINING:

Training aimed at providing information about the methods to avoid accidents by anticipating unforeseen incidents.

INCIDENT:

(See the definition for Accident).

LINE RIDE:

A method used by Certified Instructors to observe, instruct, and document bus operators' performance while in revenue service.

1 ON 1 TRAINING:

A training method of observation and training by Certified Instructors to evaluate and provide instruction to bus operators while operating a bus.

UNAVOIDABLE:

An accident that could not have been prevented by reasonable actions.

XI. REFERENCES

- A. Transitsafe™ procedures
- B. Collision Classification Reference Guide
- C. Bus Operator Rulebook & SOPs
- D. HR Drug & Alcohol Policy

XII. ATTACHMENTS

- A. Important Forms

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Appendix H: Rail Transportation Instruction Training Matrix



COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
GENERAL CLASSES						
New Equipment/System Training	Train Operators/ RTOS'	Introduction to new equipment, system extensions, system modifications, new lines, procedural changes, etc.	Training includes: <ul style="list-style-type: none"> • Identification of new or modified function, equipment or procedure certification 	Dependent on scope of new systems, equipment and procedures	One Time	Additional Qualification Prerequisite: Prior certification on line, vehicle or pre-modified equipment
Post-Accident/ Incident	Train Operators/ RTOS'	Job specific training focuses on the incident or accident.	Retraining may include: <ul style="list-style-type: none"> • Equipment Operation • Rules and Procedures Mainline/Yard Operation 	2 – 8 Hours	One Time	Verification of Rules and SOP's
ProTran	Rail Personnel/ Contractors	Train employees on ProTran equipment and requirements.	Training includes: <ul style="list-style-type: none"> • Equipment & Set Up • Rules and Procedures 	1 Hour	One Time	Required to emphasize Metro's Rules & SOP's
Radio Class	Rail Personnel/ Contractors	Train personnel to communicate with the Proper Authority.	Training includes: <ul style="list-style-type: none"> • Equipment • Rules & Procedures • Practical exercise 	1 Hour	One Time	Rule Adherence
Rail System Safety, LR & HR	Rail Employees, Contractors, Outside Agencies	Safety training for personnel working within the Metro Rail System on Light and Heavy Rail lines. Training may be incorporated into other training programs.	Training includes: <ul style="list-style-type: none"> • Rules & Procedures • Electronic Device Policy • High voltage hazards • Personnel on the ROW • Terrorism awareness • Vehicle movement 	2 Hours	Once every 24 months	Required by CPUC, GO 143-B, Section 13.03
Rail Transit Sustainability (RTS)	Train Operators and RTOS'	Training review of rules and procedures for Train Operator Certification and DOT Verified (VTT) compliance and Sustaining safe operations in Rail Transit delivery.	Review of rules, procedures & policies: <ul style="list-style-type: none"> • Rail Safety & WWP • Electronic Video Monitoring • Rail Signal compliance • ADA, Customer Service • Defensive Operation • Vehicle Troubleshooting 	8 Hours	Annual	Train Operator Recertification and DOT BP License Requirement and CEO mandated safety training. Prerequisite: Train Operator Certification

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Rail Transit Training	Train Operators and RTOS'	Training review of rules and procedures for Train Operator Certification and DOT verified (VTT) compliance.	Review of rules, procedures & policies: <ul style="list-style-type: none"> • Rail Safety, WWP • ADA, Customer Service • Defensive Operation • Vehicle Troubleshooting • 1-on-1 as needed 	8 Hours	As approved by RTI Director	Train Operator Recertification and DOT BP License Requirement Prerequisite: Train Operator Certification
Remedial Training	Train Operators and RTOS'	To review procedures and functions of current job function. Emphasize areas of deficiency.	Training includes: <ul style="list-style-type: none"> • Overview of job responsibilities • Monitor and Evaluate for job proficiency • Retrain and Test 	4 hours – 5 days	As Requested	Additional Qualification
Return To Work (RTW)	Train Operators and RTOS'	Training review of rules, procedures and responsibilities of job specification.	Training may include: <ul style="list-style-type: none"> • Physical Agility • Sign-for documents • Rules and Procedures • Train & Yard Operation • Vehicle Troubleshooting • Signal Test • Classroom, OJT 	Abs 60 Days = 8 hrs. Abs 90 Days = 16 hrs. Abs > 90 days = 1 – 3 weeks	One Time	RTOS or Train Operator Recertification Prerequisite: RTOS or Train Operator certification
Rule Book	Rail Personnel	Introduction to the Metro Rail System Book of Operating Rules and Procedures for new rail employees.	Review rules and procedures; rule book format; emphasis on rail employee responsibility and safety. How to properly update rule book and procedures.	1 Hour	One Time	Rule Adherence
Wayside Worker Protection (WWP)	All Wayside Employees (Employees, Contractors and Outside Agencies)	Safety training for personnel working on the ROW of any Metro Rail Line. Training may be incorporated into other training programs.	Training includes: <ul style="list-style-type: none"> • Rules and procedures • Protection of personnel from vehicle movement • Hand/Audible Signals • Types of On-Track Protection • Flag set-up • Documentation 	4 hours	Once	Required by CPUC, GO 175 Prerequisite: Rail System Safety LR & HR

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Wayside Worker Protection Recertification	All Wayside Employees (Employees, Contractors and Outside Agencies)	Safety training for personnel working on the ROW of any Metro Rail Line. This includes renewal of Rail System Safety Certification.	Training includes: <ul style="list-style-type: none"> • Rules and procedures • Protection of personnel from vehicle movement • Hand/Audible Signals • Types of On-Track Protection • Flag set-up • Documentation • Rail System Safety 	4 hours	Once every 24 months	Required by CPUC, GO 175 Prerequisite: Rail System Safety LR/HR and Wayside Worker Protection Certification
CCTV OBSERVERS						
Closed Circuit Television Observers Basic Training (CCTV BASIC)	CCTV Observers/ CCTV Observer Supervisors	Train new CCTV Observers in required job functions.	Training includes: <ul style="list-style-type: none"> • Station Familiarization • Safety Hazards • Rules and SOPs • Emergency Notifications • Station Familiarization • ROC Equipment Training 	5 Weeks Total 2 weeks (class & field) 3 weeks (OJT)	One Time	CCTV Observer Certification Prerequisite: NONE
FIRST RESPONDERS						
Fire Department Safety Training	Fire Department Personnel	Rail familiarization for Fire Department personnel.	Training includes: <ul style="list-style-type: none"> • Rail System Safety • Emergency Procedures • Agency Notification • Vehicle training • May include Station & EMP training 	4 – 8 Hours	One Time	Rail Familiarization
Law Enforcement Safety Training	Law Enforcement Personnel: LAPD, LASD, LBPD	Rail familiarization for Law Enforcement personnel.	Training includes: <ul style="list-style-type: none"> • Rail System Safety • Emergency Procedures • Agency Notification • Approved videos of past incidents • May include vehicle & station familiarization 	4 – 8 Hours	One Time	Contract & Safety Requirements

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
RTOS - GENERAL						
RTOS Basic Training	New RTOS	Train new RTOS with the basic concepts and responsibilities on being a supervisor.	Training includes: <ul style="list-style-type: none"> • RTOS Expectations • Metro Policies • Training Requirements • System Access/E-mail 	1 Week	One Time	Additional Qualification
Technical Field Training (TFT)	New RTOS	Provide RTOS with system and equipment familiarization on all Metro Rail Lines.	Training includes: <ul style="list-style-type: none"> • Equipment & Systems • EMP/Ventilation • Classroom and field 	2 Weeks	One Time	Prerequisite for RTOS Basic classes Prerequisite: NONE
RTOS - CONTROLLER						
Controller Basic, Core Training	RTOS	Train new Controllers for the Blue/Expo, Gold, Green, Crenshaw or Red Line.	Training Includes: <ul style="list-style-type: none"> • Rules and Procedures • Equipment & Systems • Mainline Operation • Failure Management • Emergency Response • Notification & Documentation • Traction Power • WWP 	2 Weeks	One Time	Prerequisite for Controller Certification Prerequisite: Technical Field Training (TFT)
Controller Basic, OJT Training	RTOS	Train new Controllers with hands on experience by working 1-on-1 with a Certified Controller.	Training Includes: <ul style="list-style-type: none"> • Comm. Control exp. • Train Control • Failure Management • Setting on/off Hi-Rails • Documenting all work at the console • Implementing WWP • Traction Power Procedures • Ventilation Procedures • Line Specific training 	8 Weeks	One Time	Controller Certification (On 1 Line) Prerequisite: Controller Basic, Core Training

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Controller Cross Training, Blue/Expo Line or Gold Line	Controller	Train a qualified Controller on the Blue/Expo or Gold Line.	Training includes: <ul style="list-style-type: none"> • SCADA system • Train Routing • Equipment & Systems • Ventilation Response • Alarm Response 	3 Weeks	One Time	Blue/Expo Line or Gold Line Controller Certification Prerequisite: Current Controller Certification
Controller Cross Training, Green Line	Controller	Train a qualified Controller on the Green Line.	Training includes: <ul style="list-style-type: none"> • SCADA system • CTC System • Train Routing • Equipment & Systems • Alarm Response 	2 Weeks	One Time	Green Line Controller Certification Prerequisite: Current Controller Certification
Controller Cross Training, Crenshaw Line	Controller	Train a qualified Controller on the Crenshaw Line.	Training includes: <ul style="list-style-type: none"> • SCADA system • Train Routing • Equipment & Systems • Ventilation • ONYX Fire Life Safety • Alarm response 	2 Weeks	One Time	Crenshaw Line Controller Certification Prerequisite: Current Controller Certification
Controller Cross Training, Red/Purple Line	Controller	Train a qualified Controller on the Red/Purple Line.	Training includes: <ul style="list-style-type: none"> • TRACS system • Train Routing • Equipment & Systems • Ventilation • Fire Life Safety • Alarm response 	4 Weeks	One Time	Red Line Controller Certification Prerequisite: Current Controller Certification
Controller Recertification	Controller	Review procedures and functions of RTOS Controller.	Review & Test: <ul style="list-style-type: none"> • Controller SOP's • Equipment & Systems • Failure Management • Emergency Response 	4 – 8 Hours	Once Every 2 Years	Controller Certification Prerequisite: Previously Certified Controller

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
RTOS- FIELD						
Field Supervisor Training	RTOS	Train RTOS on duties of Field Supervision and familiarization with Metro System.	Training includes: <ul style="list-style-type: none"> • Field Supervisor SOP's • Equipment & Systems • EMP/Ventilation • Elevators/Escalators • Mainline Response • 1-on-1 w/Instructor & OJT 	1 Week OJT per line	One Time	Field Supervisor Certification Prerequisite: Technical Field Training (TFT)
RTOS - YARD						
Yard Controller, Basic Training	RTOS	Train RTOS on duties and responsibilities of Yard Controller.	Training Includes: <ul style="list-style-type: none"> • Rules and Procedures • Equipment & Systems • Failure Management • HASTUS • Emergency Response • WWP • Notification & Documentation 	1 Week		Yard Controller Certification Prerequisite: Technical Field Training (TFT)
Yard Controller, HASTUS Training	RTOS	Train RTOS on basics of HASTUS.	Training includes: <ul style="list-style-type: none"> • Icons & Functions • Processing an absence • Splitting an assignment • Processing OT & miss outs • Printing reports for pay package 	1 Week	One Time	Additional Qualification
Yard Controller – Windows Training	RTOS	Train RTOS on duties and responsibilities of Yard Controller.	Training includes: <ul style="list-style-type: none"> • Yard Operations • Implementing Yard Allocation • 1-on-1 with OJT 	6-8 Weeks	One Time	Yard Controller Windows Certification Prerequisite: Yard Controller, Basic Training
Yard Controller – Mark-Up Training	RTOS	Train RTOS on duties of Mark-Up.	Training includes: <ul style="list-style-type: none"> • Marking the Board • HASTUS • 1-on-1 with OJT 	3 Weeks	One Time	Yard Controller Mark-Up Certification Prerequisite: Yard Controller Windows Certification

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
TRAIN OPERATOR						
Train Operator Basic, Core Training	Train Operator	Prepare Bus Operators and RTOS to operate rail vehicles on the Metro Rail System.	Training includes: <ul style="list-style-type: none"> • Rules and Procedures • System Familiarization • Signal Systems • Rail System Safety LR & HR • WWP • Tour of Mainline • TSI & Metro Online Training 	4 Weeks	One Time	Prerequisite for Train Operator Certification Prerequisite: NONE
Train Operator Basic, Blue Line	Train Operator	Train student Train Operators and RTOS to operate LRV's on the Metro Blue Line.	Training includes: <ul style="list-style-type: none"> • Train Operator SOP's • Yard/Line Familiarization • Vehicle equipment (3 Vehicles) • Troubleshooting • Defensive Operations • Yard/Mainline Operation • 1-on-1 w/Instructor for 5-10 hours of operating time • 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Blue Line Certification Prerequisite: Train Operator Basic - Core
Train Operator Basic, EXPO Line	Train Operator	Train student Operators and RTOS to operate LRV's on the Metro Rail EXPO Line.	Training includes: <ul style="list-style-type: none"> ▪ Train Operator SOP's ▪ Yard/Line Familiarization ▪ Vehicle equipment (3 vehicles) ▪ Troubleshooting ▪ Defensive Operations ▪ Yard/Mainline operation ▪ 1-on-1 w/Rail Instructor for 5-10 hours of operating time ▪ 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Expo Line Certification Prerequisite: Train Operator Basic - Core

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Train Operator Basic, Green Line	Train Operator	Train student Operators and RTOS to operate LRV's on the Metro Rail Green Line.	Training includes: <ul style="list-style-type: none"> ▪ Train Operator SOP's ▪ Yard/Line Familiarization ▪ Vehicle equipment (2 vehicles, ATO/MTO) ▪ Troubleshooting ▪ Defensive Operations ▪ Yard/Mainline operation ▪ 1-on-1 w/Rail Instructor for 5-10 hours of operating time ▪ 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Green Line Certification Prerequisite: Train Operator Basic - Core
Train Operator Basic, Gold Line	Train Operator	Train student Operators and RTOS to operate LRV's on the Metro Rail Gold Line.	Training includes: <ul style="list-style-type: none"> ▪ Train Operator SOP's ▪ Yard/Line Familiarization ▪ Vehicle equipment (2 vehicles) ▪ Troubleshooting ▪ Defensive Operations ▪ 2 Yards/ Mainline operation ▪ 1-on-1 w/Rail Instructor for 5-10 hours of operating time ▪ 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Gold Line Certification Prerequisite: Train Operator Basic - Core
Train Operator Basic, Crenshaw Line	Train Operator	Train student Operators and RTOS to operate LRV's on the Metro Rail Crenshaw Line.	Training includes: <ul style="list-style-type: none"> ▪ Train Operator SOP's ▪ Yard/Line Familiarization ▪ Vehicle equipment (2 vehicles) ▪ Troubleshooting ▪ Defensive Operations ▪ Yards/ Mainline operation ▪ 1-on-1 w/Rail Instructor for 5-10 hours of operating time ▪ 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Crenshaw Line Certification Prerequisite: Train Operator Basic - Core

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Train Operator Basic, Red/Purple Line	Train Operator	Train student Operators and RTOS to operate HRV's on the Metro Rail Red Line.	Training includes: <ul style="list-style-type: none"> ▪ Train Operator SOP's ▪ Yard/Line Familiarization ▪ Vehicle equipment (1 vehicle, ATO/MTO) ▪ Troubleshooting ▪ Defensive Operations ▪ Yard/ Mainline operation ▪ 1-on-1 w/Rail Instructor for 5-10 hours of operating time ▪ 1-on-1 w/Line Instructor for 40 hours of operating time 	6 Weeks Total 2 Weeks (Classroom) 4 Weeks (1-on-1 OJT)	One Time	Train Operator Red Line Certification Prerequisite: Train Operator Basic - Core
Train Operator Cross Training	Train Operator	To train operators who transfer to another rail line.	Training is line specific: <ul style="list-style-type: none"> • Rules & procedures • Vehicle Equipment • Yard Operation • Mainline Operation 	2 – 4 Weeks	One Time	Train Operator Line Certification Prerequisite: Train Operator Basic - Core
Vehicle Troubleshooting	Train Operator	Review troubleshooting techniques. Training may be one on one or incorporated into a class.	Training includes: <ul style="list-style-type: none"> • Vehicle features • Indications • Troubleshooting 	2 – 4 Hours	As Needed	Vehicle Certification
Line Instructor Program (LIP)	Train Operator	Train a qualified Train Operator on duties and responsibilities of a Line Instructor.	Training includes: <ul style="list-style-type: none"> • ARB Training • How to perform evaluations • Report writing • Review of Rules & SOPs • Troubleshooting techniques • How to Instruct effectively 	1 week	One Time	Line Instructor Prerequisite: Previously certified Train Operator

COURSE TITLE	ATTENDEES	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
WAYSIDE						
Hi-Rail Certification Course	All Wayside employees who operate or pilot Hi-Rail vehicles or On Track Equipment	Train Operator certification for Hi-Rail vehicles.	Train new Hi-Rail operator on: <ul style="list-style-type: none"> • Rules & Procedures • Safety Recertification • Mainline Operation • Radio Communications • Manual Block Procedures • Signal Training • Wayside Worker Protection 	16 Hours	One Time	Hi-Rail Train Operator Certification Prerequisite: None
Hi-Rail Recertification Course	All Wayside employees who operate or pilot Hi-Rail vehicles or On Track Equipment	Train Operator recertification for Hi-Rail Vehicles.	Train includes: <ul style="list-style-type: none"> • Rules & Procedures • Safety Recertification • Radio Communications • Manual Block • Wayside Worker Protection • Signals review & test 	8 Hours	Once Every 24 months	Hi-Rail Operator Recertification Prerequisite: Hi-Rail Certification

Appendix I: Operation Central Instruction Training Matrix



Operation Central Instruction Training Matrix

ATTENDEES	COURSE TITLE	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
New Hire PT/FT Bus Operators	Basic Training	Train new Bus Operators to Obtain CDL Class BP Prepares bus operators to operate on the Metro Bus System	Training includes: <ul style="list-style-type: none"> Classroom Instruction CDL Training Behind the Wheel-On Street Route Training Rule and SOPs Vehicle, Defensive Driving Bus Equipment Training 	6 weeks	One Time	Certification Course Basic Training Program Prerequisite: CDL Class BP Permit
Full Time Bus Operators	Post-Accident/Incident	Job specific training focuses on the incident or accident	Training includes: <ul style="list-style-type: none"> Classroom Instruction Behind the Wheel-On Street Rule and SOPs Vehicle, Defensive Driving Bus Equipment Training 	1 to 5 Days	As Needed	Verification of Rules and Operation Prerequisite: Bus Operator Certification
Line Instructors Bus Operators Only	Line Instructor Basic Training	DOT Instruction Certification Course for Bus Operators	Training includes: <ul style="list-style-type: none"> Classroom Instruction Instructing Behind the Wheel Instructing on Route Training Instructing Bus Equipment Vehicle, Defensive Driving Skills Acquire DOT & OCI Certification 	6 Weeks	One Time	DOT Transportation Safety Institute & OCI Certification Course Prerequisite: 5years Bus Operator Experience
Bus Operator Return to Work (STS)&(LTS)	Bus Recertification/ Return To Work	Training review of rules, procedures and operation for Bus operator recertification. Over a leave of 18 months or more, will return for 4-week training.	Training includes: <ul style="list-style-type: none"> Classroom Instruction Behind the Wheel 	4 Weeks	One Time	Bus Operator Recertification Prerequisite: Bus Operator Certification
Bus Operator Terminated Reinstatement	Basic Training	Training review of rules and procedures for Bus Operator recertification and DOT Verified Transit Training (VTT) compliance	Training includes: <ul style="list-style-type: none"> Classroom Instruction Behind the Wheel-On Street Vehicle, Defensive Driving Bus Equipment Training 	4 Weeks	One Time	Rule & Policy Adherence Prerequisite: Current CDL
Bus Operator / Supervisors; CDL Only	Verification Transit Training Reinstatement (VTT)	Training review of rules and procedures for recertification and DOT Verified Transit Training (VTT) compliance	<ul style="list-style-type: none"> Training includes: Classroom Instruction Behind the Wheel on Street Rules and Procedures Yard Familiarization 	5 Days	As Needed	Rule & Policy Adherence Prerequisite: Current CDL

Operation Central Instruction Training Matrix

ATTENDEES	COURSE TITLE	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Newly Hired Mechanics "C"	Basic CDL Training	Train Newly Hired Mechanics "C" CDL Class AP Vehicle Familiarization	Training includes: Classroom Instruction Behind the Wheel-On Street Vehicle, Defensive Driving Bus Equipment Training Obtain CDL Class AP	3 Weeks	Once	CDL License Course Basic Training Program Prerequisite: CDL Class AP Permit
Newly Hired Service Attendants	Basic Training	Train Newly Hired Service Attendants, Vehicle Familiarization	Training includes: Classroom Instruction Vehicle Equipment Behind the Wheel Yard Only Rules and Procedures Yard Familiarization	3 Days	One Time	Prerequisite: Class C License Vehicle Familiarization, Rule & Policy Adherence
Goodyear Personnel Contractor	Basic Training	Train Newly Hired, Contracted for Tire Maintenance Vehicle Familiarization	Training includes: Vehicle Equipment Behind the Wheel Yard Only Rules and Procedures Yard Familiarization	2 days.	One Time	Prerequisite: Class C License Vehicle Familiarization, Rule & Policy Adherence
Electrical Communications Tech (ECT) Personal	Basic Training	Job specific training focuses on Vehicle Familiarization only	Training includes: Vehicle Equipment Behind the Wheel Yard Only Rules and Procedures Yard Familiarization	2 Days	One Time	Prerequisite: Class C License Vehicle Familiarization Rule & Policy Adherence
METRO Paint & Body Shop Personal	Basic Training	Job specific training focuses on Vehicle Familiarization only	Training includes: Vehicle Equipment Behind the Wheel Yard Only Rules and Procedures Yard Familiarization	3 Days	One Time	Prerequisite: Class C License Vehicle Familiarization Rule & Policy Adherence
Rail Track & Power	Basic CDL Training	CDL Class A Vehicle Familiarization	Training includes: Classroom Instruction Behind the Wheel-On Street Vehicle, Defensive Driving Obtain CDL Class A	2 Weeks	One Time	CDL License Course Basic Training Program Prerequisite: CDL Class A Permit
Vault Truck Driver	Basic CDL Training	CDL Class B Vehicle Familiarization	Training includes: Classroom Instruction Behind the Wheel-On Street Vehicle, Defensive Driving Obtain CDL Class B	2 Weeks	One Time	CDL License Course Basic Training Program Prerequisite: CDL Class B Permit

Operation Central Instruction Training Matrix

ATTENDEES	COURSE TITLE	COURSE DESCRIPTION	LEARNING OBJECTIVES	DURATION	FREQ.	COURSE MANDATE
Transportation Operations Supervisor (Division & OCI Instruction)	Instruction Basic Training	DOT Instruction Certification Course for Supervisors	Training includes: <ul style="list-style-type: none"> • Classroom Instruction • Instructing Behind the Wheel • Instructing on Route Training • Instructing Bus Equipment • Vehicle, Defensive Driving Skills • Acquire DOT & OCI Certification • VTT Desk • VTT Records • Accident Investigation • Transit Safe & VAMS • Logs 	4 Months	One Time	Supervisor Certification Prerequisite: 5years Bus Operator Experience
Vehicle Operations Supervisors (VO) Rail TOS	DOT/TSI Fundamentals Bus Collision Investigation	Train new TOS VO to perform accident investigation and function as On-Scene Coordinators	Training includes: <ul style="list-style-type: none"> • Classroom Instruction • Field Supervisor Procedures • Review of Control Priorities • Report Writing w/ Diagram • Practical Exercise 	1 Weeks	One Time	Supervisor Certification Prerequisite: None

Appendix J: State Safety Oversight Elements within PTASP

Appendix J: State Safety Oversight Elements within PTASP

	Element	Section
1	Policy Statement	Metro PTASP Policy Statement
2	Goals and Objectives	Metro PTASP Policy Statement & 1.3 Safety Goals
3	Management Structure	Appendix A/B: Metro and Operations Organization Chart
4	PTASP changes	673.11 (5) Review and Update of PTASP
5	Implementing the PTASP	Metro PTASP Policy Statement
6	Hazard Management Program	673.25 Safety Risk Management
7	System Modification Review and Control	673.27(c) Management of Change
8	Safety Certification	673.27(c) Management of Change
9	Safety Data Acquisition / Analysis	673.27(b)(4) Internal Safety Reporting Program Monitoring
10	Accident Notification, Investigation, and Reporting	Appendix F: Rail Accident Investigation Procedures
11	Emergency Management Program	673.11(6) Emergency Management Program
12	Internal Safety Review	673.27(b) Safety Performance Monitoring and Measurement
13	Rules / Procedures Compliance	673.29(a) Safety Training Program
14	Facility Inspections	673.27(b) Safety Performance Monitoring and Measurement
15	Maintenance Reviews / Inspections (All System & Facilities)	Appendix E: Operations and Maintenance Departments
16	Training and Certification	673.29(a) Safety Training Program
17	Configuration Management	673.27(c) Management of Change
18	Safety Requirements	673.29(b) Safety Communication
19	Hazardous Materials Program	673.29(b) Safety Communication
20	Drug and Alcohol Abuse Programs	673.27 (b)(4) Internal Safety Reporting Program Monitoring
21	Procurement	673.25(d) Safety Risk Mitigation
22	Personal Electronic Devices	673.29(b) Safety Communication
23	Roadway Worker Protection	673.29(a) Safety Training Program

Appendix K: 49 CFR Part 673



from March 1, 2016. The video is available at the following link: <https://www.youtube.com/watch?v=FBj5HRa twGA&feature=youtu.be>.

FTA also notes that, in advance of publishing an NPRM, FTA sought comment from the transit industry, including tribes, on a wide range of topics pertaining to safety and asset management through an ANPRM. In the NPRM, FTA asked specific questions about how today's rule should apply to tribal recipients and subrecipients of Section 5311 funds.

In light of the comments that FTA received from tribes in response to the NPRM, and in an effort to further reduce the burdens of this final rule, FTA is deferring regulatory action regarding the applicability of this rule to operators of public transportation systems that only receive Section 5310 and/or Section 5311 funds, including tribal transit operators. FTA is deferring action pending further evaluation of information and safety data to determine the appropriate level of regulatory burden necessary to address the safety risk presented by these operators.

Executive Order 13211 (Energy Effects)

FTA has analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). FTA has determined that this rule is not a significant energy action under that Executive Order because it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. Therefore, a Statement of Energy Effects is not required.

Privacy Act

Any individual is able to search the electronic form of all comments received on any FTA docket by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, or other entity). You may review USDOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477).

Statutory/Legal Authority for This Rulemaking

FTA is issuing this final rule under the authority of section 20021 of MAP-21, which requires public transportation agencies to develop and implement comprehensive safety plans. This authority was reauthorized under the FAST Act. The authority is codified at 49 U.S.C. 5329(d).

Regulation Identification Number

A RIN is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN set forth in the heading of this document can be used to cross-reference this action with the Unified Agenda.

List of Subjects in 49 CFR Part 673

Mass transportation, Safety.

K. Jane Williams,
Acting Administrator.

■ For the reasons set forth in the preamble, and under the authority of 49 U.S.C. 5329(d) and 5334, and the delegations of authority at 49 CFR 1.91, FTA hereby amends Chapter VI of Title 49, Code of Federal Regulations by adding part 673 to read as follows:

PART 673—PUBLIC TRANSPORTATION AGENCY SAFETY PLANS

Subpart A—General

- 673.1 Applicability.
- 673.3 Policy.
- 673.5 Definitions.

Subpart B—Safety Plans

- 673.11 General requirements.
- 673.13 Certification of compliance.
- 673.15 Coordination with metropolitan, statewide, and non-metropolitan planning processes.

Subpart C—Safety Management Systems

- 673.21 General requirements.
- 673.23 Safety management policy.
- 673.25 Safety risk management.
- 673.27 Safety assurance.
- 673.29 Safety promotion.

Subpart D—Safety Plan Documentation and Recordkeeping

- 673.31 Safety plan documentation.

Authority: 49 U.S.C. 5329(d) and 5334; 49 CFR 1.91.

Subpart A—General

§ 673.1 Applicability.

(a) This part applies to any State, local governmental authority, and any other operator of a public transportation system that receives Federal financial assistance under 49 U.S.C. Chapter 53.

(b) This part does not apply to an operator of a public transportation system that only receives Federal financial assistance under 49 U.S.C. 5310, 49 U.S.C. 5311, or both 49 U.S.C. 5310 and 49 U.S.C. 5311.

§ 673.3 Policy.

The Federal Transit Administration (FTA) has adopted the principles and

methods of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation in the United States. FTA will follow the principles and methods of SMS in its development of rules, regulations, policies, guidance, best practices, and technical assistance administered under the authority of 49 U.S.C. 5329. This part sets standards for the Public Transportation Agency Safety Plan, which will be responsive to FTA's Public Transportation Safety Program, and reflect the specific safety objectives, standards, and priorities of each transit agency. Each Public Transportation Agency Safety Plan will incorporate SMS principles and methods tailored to the size, complexity, and scope of the public transportation system and the environment in which it operates.

§ 673.5 Definitions.

As used in this part:

Accident means an Event that involves any of the following: A loss of life; a report of a serious injury to a person; a collision of public transportation vehicles; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause.

Accountable Executive means a single, identifiable person who has ultimate responsibility for carrying out the Public Transportation Agency Safety Plan of a public transportation agency; responsibility for carrying out the agency's Transit Asset Management Plan; and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. 5329(d), and the agency's Transit Asset Management Plan in accordance with 49 U.S.C. 5326.

Chief Safety Officer means an adequately trained individual who has responsibility for safety and reports directly to a transit agency's chief executive officer, general manager, president, or equivalent officer. A Chief Safety Officer may not serve in other operational or maintenance capacities, unless the Chief Safety Officer is employed by a transit agency that is a small public transportation provider as defined in this part, or a public transportation provider that does not operate a rail fixed guideway public transportation system.

Equivalent Authority means an entity that carries out duties similar to that of a Board of Directors, for a recipient or subrecipient of FTA funds under 49 U.S.C. Chapter 53, including sufficient authority to review and approve a

recipient or subrecipient's Public Transportation Agency Safety Plan.

Event means any Accident, Incident, or Occurrence.

FTA means the Federal Transit Administration, an operating administration within the United States Department of Transportation.

Hazard means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

Incident means an event that involves any of the following: A personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

Investigation means the process of determining the causal and contributing factors of an accident, incident, or hazard, for the purpose of preventing recurrence and mitigating risk.

National Public Transportation Safety Plan means the plan to improve the safety of all public transportation systems that receive Federal financial assistance under 49 U.S.C. Chapter 53.

Occurrence means an Event without any personal injury in which any damage to facilities, equipment, rolling stock, or infrastructure does not disrupt the operations of a transit agency.

Operator of a public transportation system means a provider of public transportation as defined under 49 U.S.C. 5302(14).

Performance measure means an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

Performance target means a quantifiable level of performance or condition, expressed as a value for the measure, to be achieved within a time period required by the Federal Transit Administration (FTA).

Public Transportation Agency Safety Plan means the documented comprehensive agency safety plan for a transit agency that is required by 49 U.S.C. 5329 and this part.

Rail fixed guideway public transportation system means any fixed guideway system that uses rail, is operated for public transportation, is within the jurisdiction of a State, and is not subject to the jurisdiction of the Federal Railroad Administration, or any such system in engineering or construction. Rail fixed guideway public transportation systems include but are not limited to rapid rail, heavy rail, light rail, monorail, trolley,

inclined plane, funicular, and automated guideway.

Rail transit agency means any entity that provides services on a rail fixed guideway public transportation system.

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard.

Risk mitigation means a method or methods to eliminate or reduce the effects of hazards.

Safety Assurance means processes within a transit agency's Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

Safety Management Policy means a transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.

Safety Management System (SMS) means the formal, top-down, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

Safety Management System (SMS) Executive means a Chief Safety Officer or an equivalent.

Safety performance target means a Performance Target related to safety management activities.

Safety Promotion means a combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

Safety risk assessment means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks.

Safety Risk Management means a process within a transit agency's Public Transportation Agency Safety Plan for identifying hazards and analyzing, assessing, and mitigating safety risk.

Serious injury means any injury which:

- (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date of the injury was received;
- (2) Results in a fracture of any bone (except simple fractures of fingers, toes, or noses);
- (3) Causes severe hemorrhages, nerve, muscle, or tendon damage;
- (4) Involves any internal organ; or
- (5) Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

Small public transportation provider means a recipient or subrecipient of Federal financial assistance under 49 U.S.C. 5307 that has one hundred (100) or fewer vehicles in peak revenue service and does not operate a rail fixed guideway public transportation system.

State means a State of the United States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, Guam, American Samoa, and the Virgin Islands.

State of good repair means the condition in which a capital asset is able to operate at a full level of performance.

State Safety Oversight Agency means an agency established by a State that meets the requirements and performs the functions specified by 49 U.S.C. 5329(e) and the regulations set forth in 49 CFR part 674.

Transit agency means an operator of a public transportation system.

Transit Asset Management Plan means the strategic and systematic practice of procuring, operating, inspecting, maintaining, rehabilitating, and replacing transit capital assets to manage their performance, risks, and costs over their life cycles, for the purpose of providing safe, cost-effective, and reliable public transportation, as required by 49 U.S.C. 5326 and 49 CFR part 625.

Subpart B—Safety Plans

§ 673.11 General requirements.

(a) A transit agency must, within one calendar year after July 19, 2019, establish a Public Transportation Agency Safety Plan that meets the requirements of this part and, at a minimum, consists of the following elements:

- (1) The Public Transportation Agency Safety Plan, and subsequent updates, must be signed by the Accountable Executive and approved by the agency's Board of Directors, or an Equivalent Authority.
- (2) The Public Transportation Agency Safety Plan must document the processes and activities related to Safety Management System (SMS) implementation, as required under subpart C of this part.
- (3) The Public Transportation Agency Safety Plan must include performance targets based on the safety performance measures established under the National Public Transportation Safety Plan.
- (4) The Public Transportation Agency Safety Plan must address all applicable requirements and standards as set forth in FTA's Public Transportation Safety Program and the National Public Transportation Safety Plan. Compliance

with the minimum safety performance standards authorized under 49 U.S.C. 5329(b)(2)(C) is not required until standards have been established through the public notice and comment process.

(5) Each transit agency must establish a process and timeline for conducting an annual review and update of the Public Transportation Agency Safety Plan.

(6) A rail transit agency must include or incorporate by reference in its Public Transportation Agency Safety Plan an emergency preparedness and response plan or procedures that addresses, at a minimum, the assignment of employee responsibilities during an emergency; and coordination with Federal, State, regional, and local officials with roles and responsibilities for emergency preparedness and response in the transit agency's service area.

(b) A transit agency may develop one Public Transportation Agency Safety Plan for all modes of service, or may develop a Public Transportation Agency Safety Plan for each mode of service not subject to safety regulation by another Federal entity.

(c) A transit agency must maintain its Public Transportation Agency Safety Plan in accordance with the recordkeeping requirements in subpart D of this part.

(d) A State must draft and certify a Public Transportation Agency Safety Plan on behalf of any small public transportation provider that is located in that State. A State is not required to draft a Public Transportation Agency Safety Plan for a small public transportation provider if that agency notifies the State that it will draft its own plan. In each instance, the transit agency must carry out the plan. If a State drafts and certifies a Public Transportation Agency Safety Plan on behalf of a transit agency, and the transit agency later opts to draft and certify its own Public Transportation Agency Safety Plan, then the transit agency must notify the State. The transit agency has one year from the date of the notification to draft and certify a Public Transportation Agency Safety Plan that is compliant with this part. The Public Transportation Agency Safety Plan drafted by the State will remain in effect until the transit agency drafts its own Public Transportation Agency Safety Plan.

(e) Any rail fixed guideway public transportation system that had a System Safety Program Plan compliant with 49 CFR part 659 as of October 1, 2012, may keep that plan in effect until one year after July 19, 2019.

(f) Agencies that operate passenger ferries regulated by the United States

Coast Guard (USCG) or rail fixed guideway public transportation service regulated by the Federal Railroad Administration (FRA) are not required to develop agency safety plans for those modes of service.

§ 673.13 Certification of compliance.

(a) Each transit agency, or State as authorized in § 673.11(d), must certify that it has established a Public Transportation Agency Safety Plan meeting the requirements of this part one year after July 19, 2019. A State Safety Oversight Agency must review and approve a Public Transportation Agency Safety Plan developed by rail fixed guideway system, as authorized in 49 U.S.C. 5329(e) and its implementing regulations at 49 CFR part 674.

(b) On an annual basis, a transit agency, direct recipient, or State must certify its compliance with this part.

§ 673.15 Coordination with metropolitan, statewide, and non-metropolitan planning processes.

(a) A State or transit agency must make its safety performance targets available to States and Metropolitan Planning Organizations to aid in the planning process.

(b) To the maximum extent practicable, a State or transit agency must coordinate with States and Metropolitan Planning Organizations in the selection of State and MPO safety performance targets.

Subpart C—Safety Management Systems

§ 673.21 General requirements.

Each transit agency must establish and implement a Safety Management System under this part. A transit agency Safety Management System must be appropriately scaled to the size, scope and complexity of the transit agency and include the following elements:

- (a) Safety Management Policy as described in § 673.23;
- (b) Safety Risk Management as described in § 673.25;
- (c) Safety Assurance as described in § 673.27; and
- (d) Safety Promotion as described in § 673.29.

§ 673.23 Safety management policy.

(a) A transit agency must establish its organizational accountabilities and responsibilities and have a written statement of safety management policy that includes the agency's safety objectives.

(b) A transit agency must establish and implement a process that allows employees to report safety conditions to senior management, protections for

employees who report safety conditions to senior management, and a description of employee behaviors that may result in disciplinary action.

(c) The safety management policy must be communicated throughout the agency's organization.

(d) The transit agency must establish the necessary authorities, accountabilities, and responsibilities for the management of safety amongst the following individuals within its organization, as they relate to the development and management of the transit agency's Safety Management System (SMS):

(1) *Accountable Executive.* The transit agency must identify an Accountable Executive. The Accountable Executive is accountable for ensuring that the agency's SMS is effectively implemented, throughout the agency's public transportation system. The Accountable Executive is accountable for ensuring action is taken, as necessary, to address standard performance in the agency's SMS. The Accountable Executive may delegate specific responsibilities, but the ultimate accountability for the transit agency's safety performance cannot be delegated and always rests with the Accountable Executive.

(2) *Chief Safety Officer or Safety Management System (SMS) Executive.* The Accountable Executive must designate a Chief Safety Officer or SMS Executive who has the authority and responsibility for day-to-day implementation and operation of an agency's SMS. The Chief Safety Officer or SMS Executive must hold a direct line of reporting to the Accountable Executive. A transit agency may allow the Accountable Executive to also serve as the Chief Safety Officer or SMS Executive.

(3) *Agency leadership and executive management.* A transit agency must identify those members of its leadership or executive management, other than an Accountable Executive, Chief Safety Officer, or SMS Executive, who have authorities or responsibilities for day-to-day implementation and operation of an agency's SMS.

(4) *Key staff.* A transit agency may designate key staff, groups of staff, or committees to support the Accountable Executive, Chief Safety Officer, or SMS Executive in developing, implementing, and operating the agency's SMS.

§ 673.25 Safety risk management.

(a) *Safety Risk Management process.* A transit agency must develop and implement a Safety Risk Management process for all elements of its public transportation system. The Safety Risk

Management process must be comprised of the following activities: Safety hazard identification, safety risk assessment, and safety risk mitigation.

(b) *Safety hazard identification.* (1) A transit agency must establish methods or processes to identify hazards and consequences of the hazards.

(2) A transit agency must consider, as a source for hazard identification, data and information provided by an oversight authority and the FTA.

(c) *Safety risk assessment.* (1) A transit agency must establish methods or processes to assess the safety risks associated with identified safety hazards.

(2) A safety risk assessment includes an assessment of the likelihood and severity of the consequences of the hazards, including existing mitigations, and prioritization of the hazards based on the safety risk.

(d) *Safety risk mitigation.* A transit agency must establish methods or processes to identify mitigations or strategies necessary as a result of the agency's safety risk assessment to reduce the likelihood and severity of the consequences.

§ 673.27 Safety assurance.

(a) *Safety assurance process.* A transit agency must develop and implement a safety assurance process, consistent with this subpart. A rail fixed guideway public transportation system, and a recipient or subrecipient of Federal financial assistance under 49 U.S.C. Chapter 53 that operates more than one hundred vehicles in peak revenue service, must include in its safety assurance process each of the requirements in paragraphs (b), (c), and (d) of this section. A small public transportation provider only must

include in its safety assurance process the requirements in paragraph (b) of this section.

(b) *Safety performance monitoring and measurement.* A transit agency must establish activities to:

(1) Monitor its system for compliance with, and sufficiency of, the agency's procedures for operations and maintenance;

(2) Monitor its operations to identify any safety risk mitigations that may be ineffective, inappropriate, or were not implemented as intended;

(3) Conduct investigations of safety events to identify causal factors; and

(4) Monitor information reported through any internal safety reporting programs.

(c) *Management of change.* (1) A transit agency must establish a process for identifying and assessing changes that may introduce new hazards or impact the transit agency's safety performance.

(2) If a transit agency determines that a change may impact its safety performance, then the transit agency must evaluate the proposed change through its Safety Risk Management process.

(d) *Continuous improvement.* (1) A transit agency must establish a process to assess its safety performance.

(2) If a transit agency identifies any deficiencies as part of its safety performance assessment, then the transit agency must develop and carry out, under the direction of the Accountable Executive, a plan to address the identified safety deficiencies.

§ 673.29 Safety promotion.

(a) *Competencies and training.* A transit agency must establish and implement a comprehensive safety

training program for all agency employees and contractors directly responsible for safety in the agency's public transportation system. The training program must include refresher training, as necessary.

(b) *Safety communication.* A transit agency must communicate safety and safety performance information throughout the agency's organization that, at a minimum, conveys information on hazards and safety risks relevant to employees' roles and responsibilities and informs employees of safety actions taken in response to reports submitted through an employee safety reporting program.

Subpart D—Safety Plan Documentation and Recordkeeping

§ 673.31 Safety plan documentation.

At all times, a transit agency must maintain documents that set forth its Public Transportation Agency Safety Plan, including those related to the implementation of its Safety Management System (SMS), and results from SMS processes and activities. A transit agency must maintain documents that are included in whole, or by reference, that describe the programs, policies, and procedures that the agency uses to carry out its Public Transportation Agency Safety Plan. These documents must be made available upon request by the Federal Transit Administration or other Federal entity, or a State Safety Oversight Agency having jurisdiction. A transit agency must maintain these documents for a minimum of three years after they are created.

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Appendix L: National Public Transportation Safety Plan



FTA

FEDERAL TRANSIT ADMINISTRATION



National Public Transportation Safety Plan

January 2017

Version 1.0



U.S. Department of Transportation
Federal Transit Administration

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Acronyms and Abbreviations

APTA	American Public Transportation Association
DOT	Department of Transportation
FAST	Fixing America's Surface Transportation Act
FTA	Federal Transit Administration
MAP-21	Moving Ahead for Progress in the 21 st Century Act
NTD	National Transit Database
National Safety Plan, NSP, Plan	National Public Transportation Safety Plan
NPRM	Notice of Proposed Rulemaking
NTSB	National Transportation Safety Board
PTSCTP	Public Transportation Safety Certification Training Program
Section 5329	Public Transportation Safety Program, 49 U.S.C. 5329
SGR	state of good repair
SMS	Safety Management System
SSO	State Safety Oversight
SSOA	State Safety Oversight Agency
TAM	Transit asset management

EXECUTIVE SUMMARY

MAP-21 (Pub. L. 112-141 (2012))¹ amended Federal transit law by authorizing a new Public Transportation Safety Program at 49 U.S.C. § 5329. Pursuant to Section 5329(b), the Public Transportation Safety Program must include a National Public Transportation Safety Plan to improve the safety of all public transportation systems that receive Federal transit funds.

Purpose of the National Public Transportation Safety Plan

The purpose of the National Public Transportation Safety Plan or National Safety Plan, is to guide the national effort in managing the safety risks and safety hazards within our Nation's public transportation systems. The National Safety Plan must include, at minimum, the following elements:

1. Safety performance criteria for all modes of public transportation (Chapter III),
2. The definition of the term "state of good repair" (Chapter III),
3. Minimum safety performance standards for public transportation vehicles used in revenue operations that are not otherwise regulated by any other Federal agency, and that take into account relevant recommendations of the NTSB and other industry best practices and standards (Chapter IV),
4. Minimum safety standards to ensure the safe operation of public transportation systems that are not related to vehicle performance standards, (Chapter IV), and
5. A safety certification training program (See description in Executive Summary on Page 8).

FTA is committed to developing, implementing, and consistently improving strategies and processes to ensure that transit achieves the highest practicable level of safety. FTA has adopted the principles and methods of SMS as the basis for enhancing the safety of public transportation in the United States. FTA will follow the principles and methods of SMS in its development of future iterations of the National Safety Plan, rules, regulations, policies, guidance, best practices and technical assistance.

SMS helps organizations improve upon their safety performance by supporting the institutionalization of beliefs, practices, and procedures for identifying, mitigating, and

¹ MAP-21 was superseded by the FAST Act, which was signed into law on December 4, 2015. Pub. L. 114-94.

monitoring safety risks. FTA will work with the industry to phase-in the implementation of SMS. Over the next several years, FTA will continue to utilize pilot projects to build the transit industry's understanding of SMS and help FTA to both identify areas where further guidance and technical assistance are needed, and build its own core safety capabilities and processes.²

The direction and guidance set forth in this Plan are intended to guide FTA's partners within the transit industry towards improving an already excellent safety record. FTA believes that this Plan represents a great opportunity to make a difference in transit safety. FTA expects to see measurable improvements in safety performance across the transit industry as the Safety Program matures.

The National Safety Plan is just one component of the Public Transportation Safety Program. In addition to this Plan, FTA is undertaking the following rulemakings to improve transit safety:

- ❧ ***Public Transportation Safety Program Rule*** - On August 11, 2016, FTA issued a final rule for the Public Transportation Safety Program³ that establishes substantive and procedural rules for FTA's administration of the Safety Program. Importantly, the rule formally establishes SMS as the foundation for FTA's development and implementation for the Safety Program. In addition, the rule institutes due process mechanisms related to FTA's exercise of its safety oversight and enforcement authorities.
- ❧ ***State Safety Oversight Rule*** - On March 16, 2016, FTA issued a final rule for State Safety Oversight to strengthen States' authority to investigate rail transit accidents and oversee the safety of rail transit systems.
- ❧ ***Public Transportation Safety Certification Training Program Rule*** - The Safety Certification Training Program establishes a curriculum and minimum competencies for Federal, SSOA personnel and contractors who conduct safety audits and examinations of rail fixed guideway public transportation systems, and for designated transit agency personnel and contractors who are directly responsible for safety oversight of a recipient's rail fixed guideway public transportation

² For more information on SMS, please visit FTA's SMS webpage at http://www.fta.dot.gov/tso_15176.html.

³ Docket No. FTA-2015-0009. The Public Transportation Safety Program Final Rule is available at <https://www.gpo.gov/fdsys/pkg/FR-2016-08-11/pdf/2016-18920.pdf>.

systems. The final rule for the Safety Certification Training Program replaces an interim program which became effective on May 28, 2015. For more information on safety training resources, visit <https://safety.fta.dot.gov/cms/welcome>.

- ❖ **Public Transportation Agency Safety Plan Rule** - This rule would establish requirements for recipients of Federal transit funds to develop public transportation agency safety plans. The plans would include the recipient's strategies for minimizing the exposure of the public, personnel, and property to unsafe conditions and include safety performance targets.
- ❖ **Preventing Transit Worker Assaults Rule** - The FAST Act requires FTA to issue an NPRM to establish "rail and bus safety standards, practices, or protocols" for "protecting rail and bus operators from the risk of assault." In the proposed rulemaking, the Secretary shall consider different safety needs of drivers of different modes, differences in operating environments, the use of technology to mitigate driver assault risks, existing experience, from both agencies and operators that already are using or testing driver assault mitigation infrastructure; and the impact of the rule on future rolling stock procurements and vehicles currently in revenue service.

Each component of the National Safety Program will work together to ensure that appropriate and adequate risk surveillance, monitoring, and intervention methods and practices are utilized to minimize risks through the strategic application of available resources.

Organization of the National Safety Plan

This National Safety Plan is comprised of four chapters and two appendices.

Chapter I Introduction: Chapter I discusses the need for the Plan and the status of safety performance within the transit industry.

Chapter II SMS Framework: Chapter II provides a framework for applying SMS to a transit agency.

Chapter III Safety Performance Management: Chapter III lays out FTA's strategic approach to safety performance. This chapter sets forth FTA's safety vision and mission and establishes safety performance measures⁴ for all modes of public transportation,

⁴ In this Plan FTA uses the term "performance measure" as a synonym for "performance criteria" which is used in statute at 49 U.S.C. § 5329(b)(1).

which are designed to monitor improvement of safety performance in day-to-day operations. This chapter also describes how FTA will collect and disseminate safety performance data; and, based on that data, set national goals for improving the transit industry's safety performance.

Chapter IV Managing Safety Risk and Assuring Safe Performance: Chapter IV provides information about the actions FTA has taken to improve transit safety performance, voluntary minimum safety performance standards for procurement of heavy and light rail vehicles and minimum performance standards for operations, and information about other sources of technical assistance.

Appendix A and B contain a Glossary and a Sample Safety Management Policy Statement, respectively.

Chapter I - INTRODUCTION

Our national well-being is dependent upon the provision of safe, efficient, and reliable public transportation. Every day, people use buses and trains to get to and from work, school, medical appointments, and to visit friends and family. Transit systems are a part of the fabric of our nation—weaving our urban and rural environments together and encouraging economic development.

In calendar year 2014, public transit systems across the nation provided 10.7 billion trips—the highest annual ridership number in 58 years—with the number of trips exceeding 10 billion for the seventh year in a row. There is reason to believe that this is just the beginning of a sustained period of growing demand for public transportation as the population of elderly individuals who will become reliant on public transportation increases and as more young people move to urban areas to have greater access to transit options. To keep pace with growing demand, transit operators will need to balance competing priorities to expand service, while continuing to operate existing service, replace and maintain existing capital assets, and ensure that operations are safe for their employees and the riding public.





Although transit is a relatively safe mode of travel, the statistical reality is that as transit ridership increases, data indicates that the total number of fatalities and serious accidents likely will also increase. For example, although transportation-related fatalities declined in the years 2002–2012 by approximately 25 percent, according to the U.S. Department of Transportation’s Bureau of Transportation Statistics’ (BTS) injury rates for transit modes have been trending upward since 2002.⁵

Now is the time to implement a new framework to support and complement the existing approach to public transportation safety, and to identify deficiencies and promote improvements in transit safety performance. The National Safety Plan will serve as FTA's key communication tool for this new safety approach.

This Plan sets forth a proactive approach to safety risk management that is outcome-focused and emphasizes safety performance. Traditionally, the transit industry has

⁵http://www.rita.dot.gov/bts/data_and_statistics/index.html.

made safety improvements reactively: a crash occurs, a cause is determined, and action is taken to mitigate those causes. SMS will focus on the use of data to anticipate future risks and detect problems before crashes occur. In other words, move to a more proactive risk management approach. SMS will support FTA and transit providers of varying sizes and operating environments in the development of a data-based framework for identifying and analyzing safety hazards and risks, and prioritizing resources toward the mitigation of those safety hazards and risks.

From Compliance Approach		To SMS Approach
Documentation of current procedures and practices		Documentation of strategies to address priority safety risks
Safety regulators as primary users of safety data		Safety regulators, agency leadership, employees, and stakeholders as primary users of safety data
Focus on compliance with prescriptive regulations		Focus on measurement of effectiveness of risk control strategies and achieving safety outcomes
Reactive post-facto response to lagging indicators such as accidents		Proactive focus on accident precursors such as close calls to prevent events

Improving safety performance within the public transportation industry is a collaborative effort that requires participation from a number of partners at every level of the transit industry, including the Federal government, States, regional entities, local governmental authorities, tribal governments, and transit providers of all sizes in both cities and rural areas. Guided by FTA’s safety mission and vision, the National Safety Plan will guide the collective effort to manage safety risks within our Nation’s public transportation systems.

FTA and the industry’s success will be based on delivering positive, measurable results, and ensuring the best use of available resources to identify safety hazards, analyze safety risks, and mitigate the potential of accidents occurring. This requires collection

and sharing of safety data to build situational awareness and enable effective risk-informed decision making. In addition, safety risk management depends on noticing risk precursors such as training compliance or preventive maintenance compliance – not just objective information about risk probability and severity, but what these precursors tell us about safety and reliability, and the public interest that drives many decisions.

FTA has a responsibility to help the industry transition into the new regulatory environment under the Public Transportation Safety Program. The National Safety Plan will be FTA's primary tool for disseminating guidance, technical assistance, templates and other information to educate, inform and assist transit providers to improve their safety performance. This Plan is not a regulation. Although transit providers are required by law to set safety performance targets based on the measures in this Plan, FTA is not currently proposing to impose mandatory requirements on the transit industry through this Plan, but may do so in the future. Accordingly, FTA will publish future iterations of the Plan in the *Federal Register* for public notice and comment.

Chapter II – SMS FRAMEWORK

Explanation of the SMS Framework

SMS is a key aspect of the FTA's new National Public Transportation Safety Program. FTA believes that effective SMS implementation will improve public transportation safety and provide transit agencies with a structure for understanding and addressing safety risks through proactive and timely data-driven organizational decision-making.

FTA developed this SMS Framework to guide public transportation and oversight agencies by:

- ⊗ Providing a brief overview of key SMS concepts;
- ⊗ Describing attributes of an effective SMS; and
- ⊗ Presenting FTA's adopted SMS components and sub-components.

FTA's SMS Framework provides the building blocks of SMS and some of the major milestones for its implementation. By sharing this Framework, FTA aims to standardize the understanding of SMS and actively support its implementation through communication and partnership with the public transportation industry.

Why SMS?

The safety of passengers and employees is a top priority for all public transportation industry stakeholders. When compared to other modes of surface transportation, public transit has demonstrated a strong safety record. However, accidents still occur, and injury rates are trending upwards. In recent years, the understanding of how accidents happen in the public transportation industry has expanded. Looking beyond the assignment of blame to an individual employee or supervisor, SMS allows public transportation agencies to examine how organizational factors contribute to incidents, accidents, and near misses. Organizational factors include how an agency:

- ⊗ Allocates its resources;
- ⊗ Defines and establishes operational procedures;
- ⊗ Supervises frontline personnel;
- ⊗ Selects and trains staff;

- ☐ Monitors service delivery operations; and
- ☒ Resolves human performance issues.

Recent investigations of accidents and incidents have revealed the importance of these organizational factors *after the fact*. SMS proactively identifies and analyzes contributing organizational factors *before the fact* before accidents or incidents bring them to light.

Successful management of these organizational factors requires that transit agencies make wise decisions about how they identify, prioritize, and address safety concerns. To date, most public transportation agencies have experience in applying system safety principles to address safety concerns. SMS builds on this experience by integrating basic system safety principles – updated to reflect advances in safety thinking – into specific organizational and management processes through:

- ☒ Increasing the focus on hazard identification across the organization;
- ☒ Broadening the scope of safety data collection;
- ☒ Emphasizing the importance of managing safety risks across all areas of operations;
- ☒ Integrating data from other organizational processes into safety data analysis;
- ☒ Promoting participation and contribution of frontline personnel in the management of safety; and
- ☒ Fostering an organizational culture that encourages proactive safety reporting and safety risk management.

SMS is a management system, akin to a financial or quality management system. It ensures that a public transportation agency, regardless of its size or service environment, has the necessary organizational structures, activities and tools in place, and the necessary safety accountabilities to direct and control resources to manage safety proactively and optimally.

SMS activities proactively detect safety concerns and organizational factors, and correct them using data-driven prioritization. As such, important to its success are the:

1. Effective collection, analysis, and sharing of safety data, and
2. Active, accurate, and routine safety performance measurement.

SMS provides transit and oversight agencies with additional tools and activities, and therefore new opportunities to efficiently and effectively align safety priorities and promote continuous improvement in safety performance.

Attributes of SMS

SMS is a formal, top-down, data-driven, organization-wide approach to managing safety risks and assuring the effectiveness of safety risk mitigations. SMS helps a transit agency focus its safety management efforts by ensuring that:

1. Senior management has access to the information necessary to strategically allocate resources based on the unique safety priorities of the specific transit agency;
2. Lines of safety decision-making accountability are established throughout the organization to support the resolution of safety concerns and thus promote a proactive safety culture; and
3. Transit agencies address organizational factors that may lead to safety breakdowns, identify system-wide trends in safety, and manage hazards before they result in accidents or incidents.

SMS can be adapted to the mode, size, and complexity of any transit agency in any environment: urban, suburban, or rural. The extent to which SMS processes, activities, and tools are implemented (and documented) will vary from agency to agency. For a small transit operation, SMS processes will likely be straightforward, and activities and tools less burdensome. For a larger transit agency with hundreds or thousands of employees and multiple modes, SMS processes will likely be complex, and activities and tools more resource-intensive.

SMS is adaptable

- SMS adapts to transit agencies of all sizes, service environments, modes, and operating characteristics.
- SMS provides the necessary processes, activities, and tools to manage safety effectively.

The FTA SMS Framework helps to standardize the building blocks of an effective SMS; however, each transit agency will determine the level of detail necessary to identify and

establish its accountabilities, as well as the complexity and detail of its own processes, activities, and tools to address its unique safety risks.

EXECUTIVE MANAGEMENT COMMITMENT

It is a basic management tenet that accountabilities flow top-down. Therefore, as a management system, SMS requires that safety accountability reside with the top executive of a transit agency. While this is usually at the CEO or General Manager level, an agency's Board of Directors also plays an integral role for establishing a sound foundation for safety management.

Regardless of agency size, executive management must play a significant role in developing and sustaining an SMS and a positive safety culture. Without the ongoing commitment of agency executives, any attempt for successful integration of SMS practices into the agency's activities will likely fall short. As such, before going into

SMS requires management commitment

- ❶ The Accountable Executive is ultimately responsible for safety management.
- ❷ Executive management includes the management of safety through SMS among its top priorities.
- ❸ Support for safety and the SMS is visible throughout all levels of management.

detail on each of the four components of the FTA SMS Framework, it is important to discuss the role of executive management in SMS implementation and continued operation.

Executive management is ultimately accountable for safety because they are tasked with allocating resources to address business functions, including the management of safety as organizational processes.

SMS requires the establishment of explicit lines of decision-making accountability at the senior management levels. Within SMS, the individual with ultimate accountability for its day-to-day operation is known as the *Accountable Executive*. Typically, the Accountable Executive is the head of a transit agency: its CEO, President, General Manager, or Executive Director. Regardless of title, the Accountable Executive plays a central role in the development, implementation, and operation of SMS, in addition to setting safety objectives and safety performance targets.

The Accountable Executive does not need to hold special qualifications or be a safety expert. However, the Accountable Executive must:

- ⊗ Understand how SMS works, what it seeks to achieve, the potential benefits it will generate for the agency, and his or her role in the management system operation;
- ⊗ Know the key personnel to consult for the safety information that will inform decisions related to the allocation of resources; and
- ⊗ Have an understanding of significant safety issues that a transit agency might face during delivery of services.

For an Accountable Executive, safety information—like financial, schedule, planning, and service information – is an integral source of the overall information necessary to allocate resources, set budgets, and manage safety risks. The Accountable Executive should use safety reports and analyses, which are products of SMS processes, as factors in budget planning.

The Board of Directors, or equivalent authority, plays a similar critical role in budget planning and will need to stay informed of top agency safety management priorities and, in consultation with the Accountable Executive, ensure that safety risks are minimized through the strategic application of available resources.

SMS COMPONENTS AND SUBCOMPONENTS

The FTA SMS Framework is comprised of four components and eleven sub-components.

SAFETY MANAGEMENT SYSTEM COMPONENTS

Safety Management Policy <ol style="list-style-type: none">1. Safety Management Policy Statement2. Safety Accountabilities and Responsibilities3. Integration with Public Safety and Emergency Management4. SMS Documentation and Records	Safety Assurance <ol style="list-style-type: none">8. Safety Performance Monitoring and Measurement9. Management of Change10. Continuous Improvement
Safety Risk Management <ol style="list-style-type: none">5. Safety Hazard Identification6. Safety Risk Assessment7. Safety Risk Mitigation	Safety Promotion <ol style="list-style-type: none">11. Safety Communication12. Competencies and Training

Each component and its sub-components are applicable to an agency of any size. SMS provides the flexibility for each transit agency to decide how to implement these processes and activities. SMS components interact with each other to provide an effective system of feedback. The following sections describe the components of SMS and serves as guidance to the transit agencies in their implementation of SMS.



I. ⚙️ Safety Management Policy

The Safety Management Policy is the written foundation of a public transportation agency’s safety management system. It formally and explicitly commits an agency to the development and implementation of the organizational structures and resources necessary to sustain the safety management processes and activities of an SMS. An effective Safety Management Policy establishes that a transit agency’s top executive is ultimately accountable for safety management.

The Safety Management Policy component encompasses an agency’s safety objectives and safety performance targets, and the necessary organizational structures to accomplish them. It establishes senior leadership and employee accountabilities and responsibilities for safety management throughout an agency. It also

SMS is formal and structured

SMS defines management commitment to meet established safety objectives and safety performance targets

commits senior leadership to the oversight of an agency's safety performance through meetings and regular reviews of activity outputs and discussions of resource allocation with key agency stakeholders.

The Safety Management Policy is implemented in practice through the Safety Management Policy Statement, which the Accountable Executive formally endorses.

SAFETY MANAGEMENT POLICY SUB-COMPONENTS

1. *Safety Management Policy Statement* – This sub-component clearly frames the fundamentals upon which a transit agency will build and operate its SMS. It documents executive management's commitment to the SMS, and places the management of safety at the same level as a transit agency's topmost business processes. Appendix B provides an example of a Safety Management Policy Statement.

To be effective, a transit agency's Safety Management Policy Statement addresses the following six crucial aspects:

- ⊗ Must be signed by the highest executive in the agency (typically, the Accountable Executive (CEO/GM) or Board of Directors/oversight entity) to convey that SMS is important to the highest level of the organization;
- ⊗ Includes a clear statement about providing resources for managing safety during service delivery because no activities, safety-oriented or otherwise, can operate without resources;
- ⊗ Commits the agency to an employee safety reporting program to convey that receiving safety information from employees is critical to the operation and success of the SMS;
- ⊗ Defines conditions under which exemptions from disciplinary actions would be applicable, thus encouraging the reporting of safety concerns by employees;
- ⊗ Spells out unacceptable operational behaviors; and
- ⊗ Is communicated, with visible and explicit support from executive management, throughout the transit agency.

Finally, the Safety Management Policy Statement documents management's commitment to continuous safety improvement, as well as to the continuous improvement of the safety management system itself.

2. *Safety Accountabilities and Responsibilities* – This sub-component defines the accountabilities and responsibilities for the performance of the SMS. It describes the relationships between the Accountable Executive and a transit agency's governance structure.

Under the Safety Accountabilities and Responsibilities sub-component, an Accountable Executive is identified and accountabilities, responsibilities, and authorities are defined for other executive and senior managers. These accountabilities, responsibilities (and their delegation), and authorities ensure the effective and efficient operation of the SMS, and may vary from agency to agency based on the size and complexity of the agency.

It is critical to appoint a subject matter expert for the implementation and day-to-day operation of the SMS, as well as staff necessary to support the subject matter expert in the day-to-day operation of the SMS. The following sample responsibilities would most likely fall to this SMS manager:

- ☒ Directs collection and analysis of safety information;
- ☒ Manages hazard identification and safety risk evaluation activities;
- ☒ Monitors safety risk mitigations;
- ☒ Provides periodic reports on safety performance;
- ☒ Advises senior management on safety matters;
- ☒ Maintains safety management documentation; and
- ☒ Plans and organizes safety training.

While SMS responsibilities will not look the same at all transit agencies, the following are some anticipated, and minimum, sample responsibilities that fall on all line and technical management personnel who have responsibilities under SMS:

- ☒ Actively support and promote the SMS;

- ☐ Ensure that they and their staff comply with the SMS processes and procedures;
- ☒ Assist in ensuring that resources are available to achieve the outcomes of the SMS; and
- ☒ Continually monitor their area of SMS responsibility.

Each transit agency will determine the structure for accountabilities and responsibilities that will best support its SMS. However, the following principles apply to all:

- ☒ Ensure accountability for SMS performance is at the highest level of the organization;
- ☒ Implement SMS in a manner that meets transit agency safety performance objectives;
- ☒ Establish the meeting or committee structure necessary for the size of the agency to ensure that safety information moves up, down and across the agency;
- ☒ Effectively communicate SMS roles and responsibilities to all relevant individuals; and
- ☒ Ensure SMS policies and procedures have been communicated to all agency employees.

3. *Integration with Public Safety and Emergency Management* ☒ This sub-component ensures integration of programs that have input into, or output from, the SMS. Each transit agency will identify and describe the necessary coordination with both external organizations and internal departments for dealing with emergencies and abnormal operations, as well as the return to normal operations. This sub-component addresses the various internal and external programs that may affect safety management and includes an index of the plans and procedures that support the transit agency's public safety and emergency management activities. Pursuant to the Public Transportation Agency Safety Plan Rule, rail transit agencies are required to have emergency preparedness and response plans.

4. *SMS Documentation and Records* – This sub-component includes the activities for the documentation of SMS implementation, the tools required for day-to-day SMS operation, and the management of new or revised safety requirements, regulatory or otherwise.

The extent and complexity of the SMS documentation will be commensurate to an agency's size and structure. SMS documentation and records must be readily available to those with accountabilities for SMS performance or responsibilities for SMS implementation and operation.

II ✳Safety Risk Management

The Safety Risk Management component is comprised of the processes, activities, and tools a transit agency needs to identify and analyze hazards and assess safety risks in operations and supporting activities. It allows a transit agency to carefully examine what could cause harm, and determine whether the agency has taken sufficient precautions to minimize the harm, or if further mitigations are necessary.

SMS is proactive

- ✳ Safety Risk Management promotes the identification of hazards before they escalate into accidents or incidents.
- ✳ Safety Risk Management assesses safety risk and establishes necessary mitigations.

All transit agencies have implemented activities to identify safety concerns. Under an SMS, this practice will expand to ensure use of both proactive (i.e. employee safety reporting) and reactive (i.e. investigations) sources that are as comprehensive as necessary for the size and complexity of the agency.

Through ongoing Safety Risk Management activities, safety hazards and concerns in transit operations are identified and assessed, and mitigations are put in place to manage their safety risk.

SAFETY RISK MANAGEMENT SUB-COMPONENTS

5. *Safety Hazard Identification* – As the first step in the Safety Risk Management process, safety hazard identification involves establishing methods or processes to identify hazards and consequences of the hazards to address them before they escalate into incidents or accidents. It also provides a foundation for the safety risk assessment and mitigation that follows.

Hazards are an inevitable part of transit operations. Only after a transit agency identifies hazards can it address them. Many transit agencies have some of the following hazard identification sources in place:

- ☒ Employee safety reporting program
- ☒ Observations of operations
- ☒ Inspections
- ☒ Internal safety investigations
- ☒ Accident reports
- ☒ Compliance programs
- ☒ Committee reviews
- ☒ Industry data
- ☒ Governmental sources (FTA, NTSB, oversight agency)
- ☒ Customer and public feedback or complaints

There are many sources for safety information and many ways to identify hazards, and the sources and methods used depend on the size and complexity of the organization. The data sources may vary, but there are key attributes of effective hazard identification:

- ☒ The more comprehensive the data sources and documentation, the more confident management can be that safety concerns are being identified;
- ☒ Training employees on proper identification and reporting of safety concerns increases the likelihood that hazards can be addressed;
- ☒ Focus on the collection of safety concerns while safety representatives work with operations and management personnel to identify the exact hazard(s); and

- ▣ Promote and support agency-wide safety concern reporting and hazard identification.

Each transit agency will establish its preferred methods for identifying safety hazards. As appropriate, subject matter experts from relevant departments should be involved in a transit agency's hazard identification.

6. *Safety Risk Assessment* – Following safety hazard identification, a transit agency establishes methods or processes to assess the safety risks associated with identified hazards.

The term “safety risk” represents the likelihood that people could be harmed, or equipment could be damaged, by the potential consequences of a hazard and the extent of the harm or damage. Therefore, safety risk is expressed and measured by the predicted probability and severity of a hazard's potential consequences.

Safety risk assessment must consider existing mitigations when determining whether further measures are needed to reduce the likelihood and severity of the potential consequences of a hazard.

7. *Safety Risk Mitigation* – Following the safety risk assessment, a transit agency identifies any mitigations or strategies that may be necessary to protect the public and personnel from unsafe conditions.

Safety risk mitigations are actions taken to reduce the likelihood and/or severity of the potential consequences of a hazard. Safety risk mitigation enables a transit agency to actively “manage” safety risk in a manner that is aligned with its safety performance targets, and consists of initial, ongoing, and revised mitigations.

III ✨ Safety Assurance

The Safety Assurance component ensures that mitigations are implemented, adhered to, appropriate, effective, and sufficient in addressing the potential consequences of identified hazards. Mitigations developed under the Safety Risk Management process are “handed-off” to Safety Assurance analysts reviewing the data to determine if (1) the mitigations are effective, and (2) that no new risks have been introduced through implementation of the mitigations. Safety Assurance also ensures that the SMS is effective in meeting an agency’s safety objectives and safety performance targets. A transit agency assures its safety objectives are met through the collection and analysis of safety data, including the tracking of safety risk mitigations.

Safety Assurance builds confidence and assures mitigation effectiveness

- ✦ Safety Assurance ensures that transit agencies implement appropriate and effective mitigations.
- ✦ Safety Assurance is a never-ending process that monitors the safety performance of an organization.

A transit agency implements its Safety Assurance process through the active monitoring of operations, safety reporting systems, routine workplace observations, inspections, audits, and other activities, designed to support safety oversight and performance monitoring. An effective employee safety reporting program is essential to the Safety Assurance function.

Safety Assurance also helps a transit agency evaluate whether an anticipated change may affect the safety of operations. If an anticipated change is determined to introduce safety risk, a transit agency would conduct Safety Risk Management activities to minimize the safety risk associated with the change.

SAFETY ASSURANCE SUB-COMPONENTS

8. *Safety Performance Monitoring and Measurement* ✦ SMS generates data and information that senior management needs in order to evaluate whether implemented safety risk mitigations are appropriate and effective and how well an agency’s safety performance is in line with established safety objectives and safety performance targets. Safety performance monitoring does not focus on monitoring individuals, but rather monitoring the safety performance of a

transit agency itself through routine monitoring of operations and maintenance activities. Safety performance monitoring informs the annual reviews of overall safety performance, and the SMS itself, as described below in the Continuous Improvement sub-component.

Examples of safety performance monitoring activities include the following:

- ☒ Monitor employee safety reporting program
 - ☒ Monitor service delivery activities (must include field observations)
 - ☒ Monitor operational and maintenance data
 - ☒ Conduct safety surveys
 - ☒ Conduct safety audits, studies, reviews, and inspections
 - ☒ Conduct safety investigations
 - ☒ Evaluate data and information from external agencies or peers
9. *Management of Change* – Change may introduce new hazards and safety risk into transit operations. Therefore, agencies should establish the criteria that define when a change must be evaluated through the Safety Risk Management process. If a proposed or identified change meets or triggers those criteria, the agency uses Safety Risk Management to review existing mitigations to determine if they are sufficient or if new mitigations are necessary. It is important that a transit agency leverage its field monitoring activities (under the Safety Performance Monitoring and Measurement sub-component) to support the identification of changes in a system that may not be planned.
10. *Continuous Improvement* – Evaluation of the SMS is necessary to ensure that it effectively and efficiently allows the agency to meet safety objectives and performance targets. Transit agencies should leverage the data and information gathered while conducting safety performance monitoring to address any identified weaknesses in SMS organizational structures, processes, and resources in a timely manner, and also complete annual reviews of overall safety performance.

IV ✨ Safety Promotion

Safety Promotion provides visibility of executive management's commitment to safety, and fosters improved safety performance by increasing safety awareness through communication and training. Through communication of lessons learned and broader safety information, employees are made aware of safety priorities and safety concerns at both the organizational level and as they relate to their own duties and responsibilities.

The appropriate training for all staff, regardless of their level in the agency, provides visibility for, and knowledge of, the SMS. It ensures employees receive the training they need to do their job safely, and gives them shared ownership of the transit agency's safety mission. This training commitment demonstrates management's commitment to establishing an effective SMS.

SAFETY PROMOTION SUB-COMPONENTS

11. *Safety Communication* – A two-way feedback loop between frontline employees and management about safety information is crucial in establishing a positive safety culture. Effective safety communication makes personnel aware of safety priorities and initiatives and ensures that feedback is captured and acted upon as appropriate. Safety-related information must be actively and routinely communicated, and must focus on raising awareness of hazards and potential safety risks. Regular discussion of safety concerns promotes an environment that encourages employees to report concerns and demonstrates management commitment to both the employees and the agency's safety performance objectives.
12. *Competencies and Training* – Training of all employees with respect to their role and responsibilities as they relate to agency safety performance is perhaps the most critical driver for successful SMS implementation. It also shapes employee perception of executive management's commitment to safety. Achieving appropriate levels of competency for each staff level enables the consistent application of their skills to help the transit agency achieve its safety performance objectives.

At the frontline employee level, safety management training should provide for the development of *safety reporting competencies*, i.e. employees should receive formal training on the expected contents of employee safety reporting (what to report; what not to report) and the procedures established for reporting.

SMS promotes a strong culture of safety

- Safety Promotion encourages and teaches safety through effective communication and training.
- Safety Promotion ensures employees at all levels get the training they need to do their job safely.

At the safety management level, formal training should develop safety data management competencies, i.e. how to analyze safety *data*, extract *information* from the safety data, and turn safety information into safety *intelligence* for senior management decision-making for the allocation of safety management resources.

Chapter III – SAFETY PERFORMANCE MANAGEMENT

What is Performance Management?

MAP-21 transformed the Federal transit program by establishing new requirements for performance management for safety and transit asset management. Through the establishment of goals, measures, targets and plans, performance management refocuses attention on accountability and transparency and improves project decision-making through performance-based planning and programming. The performance management requirements are intended to facilitate more effective investment of Federal transportation funds by refocusing attention on national, regional, and local transportation goals, increasing the accountability and transparency of the Federal transit and Federal-aid highway programs, and improving project decision-making through performance-based planning and programming.

FTA has undertaken a number of separate but related rulemakings to implement the performance management framework and establish national performance measures. FTA must establish performance measures for transit asset management and safety, respectively. On July 26, 2016, FTA published a final rule for Transit Asset Management (TAM) NPRM which includes performance measures to improve the condition of public transportation capital assets.⁶ Through this National Safety Plan, FTA is establishing safety performance measures for all modes of public transportation. Transit operators that are subject to the requirements for Public Transportation Agency Safety Plans would set targets in their Safety Plans based on the measures established in this Plan.

Safety performance management is a critical tool that will support transit providers and FTA in identifying safety concerns and monitoring progress in safety improvements. FTA's safety mission, vision and focus areas provide strategic direction for improving safety performance within the transit industry. Based on the vision, mission, and focus areas, FTA will establish performance measures to monitor industry progress towards improving safety performance and help build a common understanding of the state of safety performance.

⁶ 80 FR 58912.

<p>VISION</p> <p><i>To be recognized as the industry leader in safety promotion, information sharing, and fair oversight.</i></p>	<p>MISSION</p> <p><i>To make transit safer through policy development, hazard investigation, data collection, risk analysis, effective oversight programs, and information sharing.</i></p>
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Safety Focus Areas

FOCUS AREA: IMPROVE PUBLIC TRANSPORTATION SAFETY PERFORMANCE

Public transportation is an integral part of local and regional communities, providing access to work, entertainment, and critical resources. The increase in demand for public transportation, combined with lack of funding for maintenance and replacement of assets, has placed an increased burden on transit providers who must balance safety, operational, state of good repair, and expansion demands. Managing safety performance will help public transportation agencies make critical decisions about investments in safety, reconstruction, or rehabilitation of existing assets in order to achieve and maintain a state of good repair.

FOCUS AREA: IMPROVE SAFETY FOR TRANSIT ACCESS AND TRANSIT FACILITIES

Transit customers often access transit systems by walking or biking. The safety of pedestrians and bicyclists is an important consideration as public transportation providers plan projects and operate service in their communities. Transit-accessible communities promote a general sense of wellness and vitality, extending the walkability of neighborhoods and improving quality of life. It is these attributes that, in part, have created an increased demand for public transportation across the country. FTA encourages public transportation agencies to incorporate into their local safety plans performance measures that foster safe access to and safe operation of their systems. Through coordination at the local and regional level, public transportation agencies can ensure that their transit systems are both safe and accessible.

The Importance of Safety Performance Measures

Safety performance measurement will help transit agencies monitor their safety performance. The measurement and evaluation of safety performance requires a carefully structured program of planning, setting targets, identifying valid measures, conducting proper data analysis, and implementing appropriate follow-up activities. Safety performance measurement is a key aspect of a safety management process, and provides the basis for continuous safety improvement.

In order to capture the broad and varied nature of public transportation, in this first National Safety Plan, FTA is relying on measures that can be applied to all modes of public transportation and are based on data that is generally currently collected in the National Transit Database (NTD).⁷ FTA's safety performance measures focus on improving transit safety performance through the reduction of safety events, fatalities and injuries. In the future, FTA intends to identify and incorporate proactive measures in future Plans. For example, FTA provides SMS training across the industry and collects information on participation in the training. In the future, FTA will be able to provide a safety performance measure related to SMS training participation from which individual transit agencies will be able to establish their own safety performance indicators and targets. Likewise, FTA will be able to establish a safety performance target for the entire industry or modes.

Pursuant to 49 U.S.C. § 5329(d), a Public Transportation Agency Safety Plan must include safety performance targets based on the safety performance measures in this Plan. The safety performance measures (fatalities, injuries, safety events and system reliability) selected by FTA are intended to provide "state of the industry" high-level measures and help focus individual agencies on the development of specific performance indicators and measurable targets relevant to their operations. These measures should also inform agencies as they identify actions they each would take to improve their own safety outcomes. Agencies should select performance targets that are appropriate to their operations and environment. Successful performance targets are specific, measurable, attainable, relevant, and time-bound (SMART). As part of the

⁷ FTA recognizes that each transit agency has its own operating policies that impact how performance is reported to the NTD. However, bringing greater attention to safety and reliability metrics will encourage more robust, consistent data reporting in the future.

annual review of a Public Transportation Agency Safety Plan, each transit agency should reevaluate its safety performance measures and determine how the measures should be refined, sub-measures developed, and performance targets selected.

What are the Safety Performance Measures?

SAFETY PERFORMANCE MEASURE: FATALITIES (total number of reportable fatalities and rate per total vehicle revenue miles by mode)

Reducing the number of fatalities is a top priority for the entire Department of Transportation. As an industry, we must try to understand the factors involved in each fatality in order to prevent further occurrences. Measuring the number of fatalities over vehicle revenue miles, by mode, provides a fatality rate from which to assess future performance.

SAFETY PERFORMANCE MEASURE: INJURIES (total number of reportable⁸ injuries and rate per total vehicle revenue miles by mode)

Many transit agencies have never had a fatality, and continued safe operation is exactly what is desired. However, injuries occur much more frequently, and are due to a wide variety of circumstances. Analyzing the factors that relate to injuries is a significant step in developing actions to prevent them. Again, measuring the number of injuries by mode, over vehicle revenue miles provides an injury rate from which to assess future performance.

SAFETY PERFORMANCE MEASURE: SAFETY EVENTS (total number of reportable events and rate per total vehicle revenue miles by mode)

The safety events measure captures all reported safety events that occur during transit operations and the performance of regular supervisory or maintenance activities. A reduction in safety events will support efforts to reduce fatalities and injuries, as well as damages to transit assets. Measuring the number of safety events by mode over vehicle

⁸ The thresholds for "reportable" fatalities, injuries, and events are defined in the NTD Safety and Security Reporting Manual.

revenue miles provides a safety event rate from which future performance can be compared.

SAFETY PERFORMANCE MEASURE: SYSTEM RELIABILITY (mean distance between major mechanical failures by mode)

The system reliability measure expresses the relationship between safety and asset condition. The rate of vehicle failures in service, defined as mean distance between major mechanical failures, is measured as revenue miles operated divided by the number of major mechanical failures.⁹ This is a measure of how well a fleet of transit vehicles is maintained and operated. FTA recognizes the diversity of the transit industry, and that agencies have varied equipment types, with varied rates of performance, so this measure allows agencies to develop safety performance targets that are specific to their own fleet type, age, operating characteristics, and mode of operation.

How are Safety Performance Measures Used to Improve Safety Performance?

The public transportation industry already has parameters for measuring some aspects of safety performance which are reported to the NTD (see Table 3-1). However, these measures need clear definitions to ensure consistency in data reporting, and better baselines against which to make future comparisons. To address these inconsistencies, FTA will develop performance measures for future editions of the National Safety Plan that address industry-wide concerns as well as those that are mode-specific. Transit agencies would have the opportunity to select those that address their particular objectives for safety improvement.

Table 3-1 Data and Information from Safety and Risk Monitoring in the Transit Industry¹⁰

⁹ Major Mechanical System Failures: Major mechanical system failures prevent a vehicle from completing or starting a scheduled revenue trip because actual movement is limited or because of safety concerns. Examples of major bus failures include breakdowns of brakes, doors, engine cooling systems, steering, axles, and suspension.

¹⁰ Table 3-1 illustrates the types of information that is currently collected by the transit industry to measure its safety performance.

Existing safety performance measures (under NTD)

- ☒ **Casualties**
 - Fatalities (customers, employees, and the public)
 - Injuries (customers, employees, and the public)
- ☒ **Property damage**
- ☒ **Reportable events (Accidents)**
 - Train derailments (mainline, yard, side tracks)
 - Collisions (vehicle-to-vehicle, vehicle-to-person, vehicle-to-object)
 - Collisions at grade-crossings
 - Fires
 - Evacuations for life safety reasons

Results from reportable event (accident) investigations

- ☒ Probable cause
- ☒ Contributing factors
- ☒ Corrective actions

Audit results

- ☒ Findings
- ☒ Corrective actions

Safety risk management and monitoring information

- ☒ Safety reporting from all levels of the organization
- ☒ Violations of operations and maintenance rules
- ☒ Job-based certification and awareness training
- ☒ All-hazards preparedness analyses
- ☒ Operations and maintenance performance, including state of good repair (SGR) and TAM
- ☒ Monitoring of hazard logs
- ☒ Crime trends, such as trespassing, perimeter breaches, and fare evasion
- ☒ Fitness for duty, including drug/alcohol program results and hours of service
- ☒ Liability losses
- ☒ Customer complaint information
- ☒ Changes to management, operations, or maintenance
- ☒ Studies of hazardous materials, spills, and environmental concerns
- ☒ Ad hoc studies of hazards and vulnerabilities

For every performance measure selected, FTA and transit agencies can develop baselines and targets against which to measure and compare performance. Meaningful performance targets are timely, accurate, accessible, and complete. When possible, it is best to analyze data over time to determine if trends are present.

Establishing baselines for performance measures provides grounded metrics as the basis for further and future comparison. Safety performance baselines may be established for individual transit agencies, for transit agency modes, and/or for the public transportation industry as a whole.¹¹ After a baseline is established, a transit agency can develop safety performance indicators and select safety performance targets to allow tracking of safety performance improvement progress. Performance should be measured at least annually by comparing actual performance metrics with targets and original baselines. If safety performance improves, an agency may choose to revise its safety performance targets to be more stringent or select different safety performance indicators and targets for improvement.

Transit safety performance can be measured using a number of measures, including lagging indicators such as accidents, fatalities, injuries, and property damage associated with transit agencies' provision of service, and leading indicators. Leading indicators provide a transit agency with the ability to monitor information or conditions that may affect safety performance. Lagging indicators provide information on events that have already taken place.

In the future, FTA intends to transition to include proactive measures and encourages transit agencies to do the same. Table 3-2 describes lagging and leading indicators in greater detail. In addition to the performance measures set forth in this Plan, FTA strongly encourages agencies to incorporate both lagging and leading indicators directly related to safety issues identified in their agencies as high risk into their performance management portfolio. Agencies should consider including positive measures that assess what people are doing rather than what they are failing to do.

¹¹ FTA and States can establish baselines for the performance measures within their SMS programs, as well.

Table 3-2. Lagging and Leading Indicators¹²

Lagging indicators characteristically:

- ☐ Identify trends in past safety performance
- ☐ Assess outcomes and occurrences
- ☐ Have a long history of use
- ☐ Are an accepted standard
- ☐ Are easy to calculate

Leading indicators are safety culture metrics that are associated with, and precede, an accident. They can:

- ☐ Reveal areas of weakness in advance of accidents
- ☐ Be associated with proactive actions to identify hazards
- ☐ Aid risk assessment and management

This is also the starting point from which FTA expects to advance through the development and implementation of a new strategic data management plan which will support the standardization of data and information collection and analysis. Standardized analyses and reporting will enable FTA to apply meta-analyses to transit safety performance results for better national-level monitoring of transit safety performance. Along with continued collaboration with States and the public transportation industry, this national-level monitoring will facilitate FTA's identification of opportunities to assist agencies in improving transit safety through technical assistance, research, and development of resource materials that address emerging safety issues.

FTA expects that each agency, regardless of size, will evaluate its own operating environment and safety concerns to determine its safety risks, link specific safety objectives to agency actions, develop measures for identified actions, and set performance targets based on the measures. After FTA issues a final rule for the Public Transportation Agency Safety Plan, each transit agency will be required to reevaluate its safety performance measures annually when reviewing and updating its agency

¹² Adapted from *Guidance Notes on Safety Culture and Leading Indicators of Safety*. American Bureau of Shipping (ABS), page 3. Available at http://www.eagle.org/eagleExternalPortalWEB/ShowProperty/BEA%20Repository/Rules&Guides/Current/188_Safety/Guide

safety plan, and determine how these measures should be refined, sub-measures developed, and performance targets selected.

Safety Data Trends

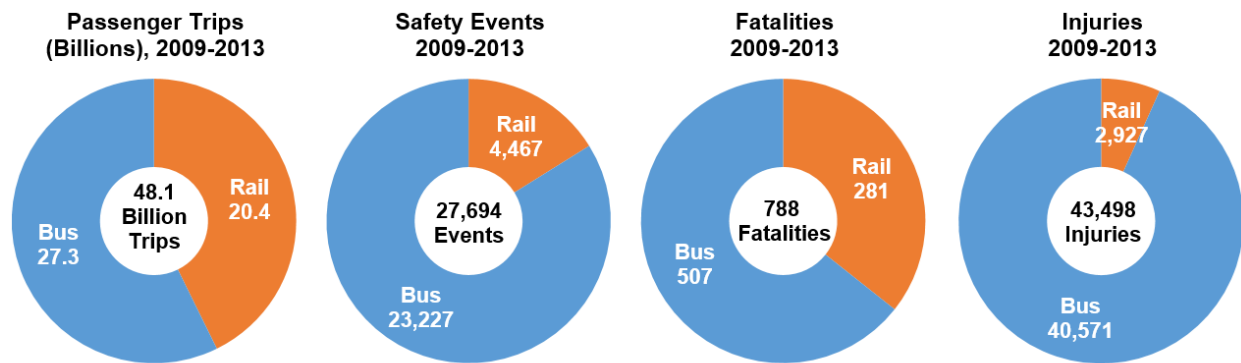
FTA currently maintains two sources for safety data reporting: the NTD, to which transit agencies report data as a condition for funding for public transportation agencies, and the State Safety Oversight (SSO) program, for rail transit modes that do not fall under the Federal Railroad Administration's jurisdiction. FTA utilizes these data sets to provide indicators of safety performance in outcome measures such as safety events, fatalities and injuries, as well as to provide trends in areas for which FTA believes additional focus may be warranted.

Current reporting of safety-related data and information in the transit industry is complex. Almost all transit agencies and modes report safety-related data to NTD.¹³ Rail transit agencies also annually submit safety-related data and information to the NTD and FTA's SSO program through their State Safety Oversight Agency (SSOA). Small/rural transit agencies, mostly bus and paratransit modes, usually report NTD data as a grant sub-recipient through their SDOT. Bus operators in urban areas over 50,000 in population report directly to the NTD. Rural bus transit agencies report NTD data as a grant sub-recipient through their State Department of Transportation.

SAFETY EVENTS, FATALITIES AND INJURIES, 2009 ✶2013

During the period 2009 – 2013, bus transit accounted for a majority of the industry's passenger trips, as well as the majority of safety events, fatalities and injuries. While rail transit accounted for 42% of all passenger trips, only 16% of safety events were attributable to rail transit. However, this 16% share of safety events resulted in 36% of all transit fatalities, but only seven percent of injuries reported. In other words, rail-related safety events have occurred less frequently, but the average rail-related safety event had more catastrophic outcomes than the average bus-related safety event during the time period.

¹³ Exceptions exist for small, rural transit agencies.



Sources: SSO program (rail safety data), NTD (service and bus safety data)

The following table presents transit safety metrics per 100 million passenger trips for the last five years. As an industry, safety events, fatalities and injuries show an upward trend, and through safety performance monitoring, FTA hopes that agencies can investigate the reasons for this trend, and mitigate identified causal safety risks. However, by itself, rail transit shows downward trends in fatalities and injuries.

Modes	Rate	2009	2010	2011	2012	2013	Total	Trendline
Rail	Event Rate	22.5	22.6	22.2	20.4	22.1	21.9	
	Fatality Rate	1.3	1.2	1.2	1.7	1.4	1.4	
	Injury Rate	14.7	16.5	14.2	13.9	12.8	14.4	
Bus	Event Rate	83.5	83.2	83.8	84.1	90.5	85.0	
	Fatality Rate	1.6	1.7	1.7	2.1	2.1	1.9	
	Injury Rate	137.6	148.9	148.1	150.2	157.7	148.6	
All Transit	Event Rate	58.2	57.3	57.5	56.8	60.6	58.1	
	Fatality Rate	1.5	1.5	1.5	1.9	1.8	1.7	
	Injury Rate	86.5	92.5	90.9	91.6	94.5	91.2	

Sources: SSO program (rail safety data), NTD (service and bus safety data)

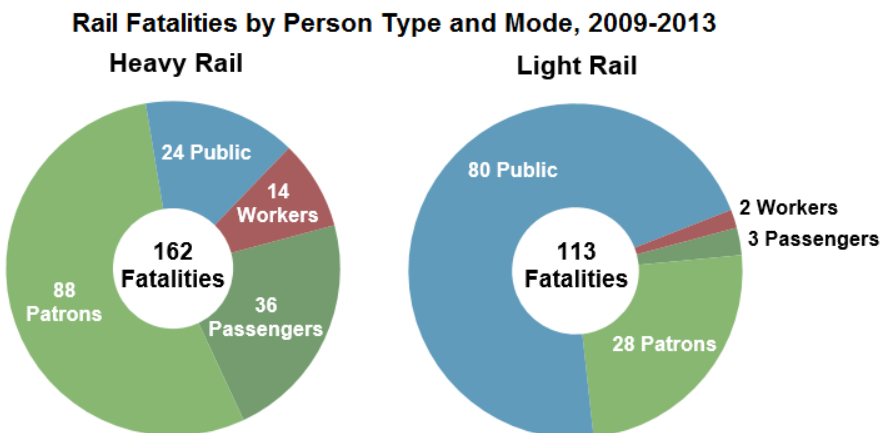
NOTE: Data includes safety events (reportable derailments, collisions, fires, and evacuations), fatalities (not including suicides or trespassers), and injuries (not including assaults or injuries due to crimes).

Over the five-year period from 2009-2013, transit agencies reported a total of 788 fatalities. 507 of these occurred in bus and other non-rail operating environments (64%), and 281 occurred in rail operating environments (36%).

When these data are normalized by looking at the number of fatalities divided by the number of passenger trips provided, the fatality rates over the last five years average 1.7 fatalities per 100 million passengers transported. This rate has been relatively steady, but has been trending slightly upward over the reporting period.

Heavy Rail and Light Rail Fatalities: 2009 - 2013

Fatality rates vary across rail modes due in large part to distinct operating environments and the inherent safety risk exposure associated with each. The charts below present heavy rail and light rail fatalities by person type, including passengers (customers onboard a transit vehicle), patrons (customers not onboard a vehicle), public (non-customers), and transit system employees, including right of way workers. It should be noted that heavy rail and light rail operations accounted for 275 of the 281 rail-related fatalities. An additional five fatalities occurred on automated guideway systems.

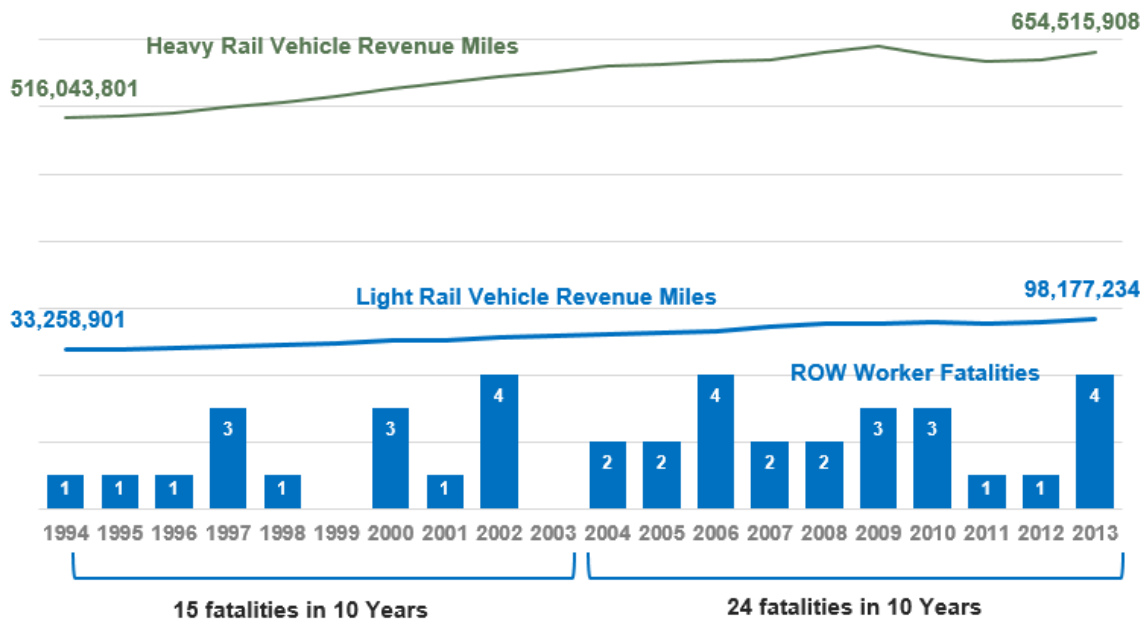


Source: SSO Program

Right of Way Worker Fatalities

Fatality data reflect the exposure characteristics of particular types of operations (e.g., whether or not grade crossings exist, whether stations are enclosed, and how many customers are served). For example, heavy rail transit has experienced several right-of-way (ROW) worker fatalities in recent years. The chart below presents ROW fatalities for all rail modes over the last 20 years. Vehicle revenue miles have increased by about 39% over the past 20 years, increasing exposure for ROW workers.

Comparison of ROW Worker Fatalities and Heavy Rail and Light Rail Vehicle Revenue Miles (VRM), 1994-2013

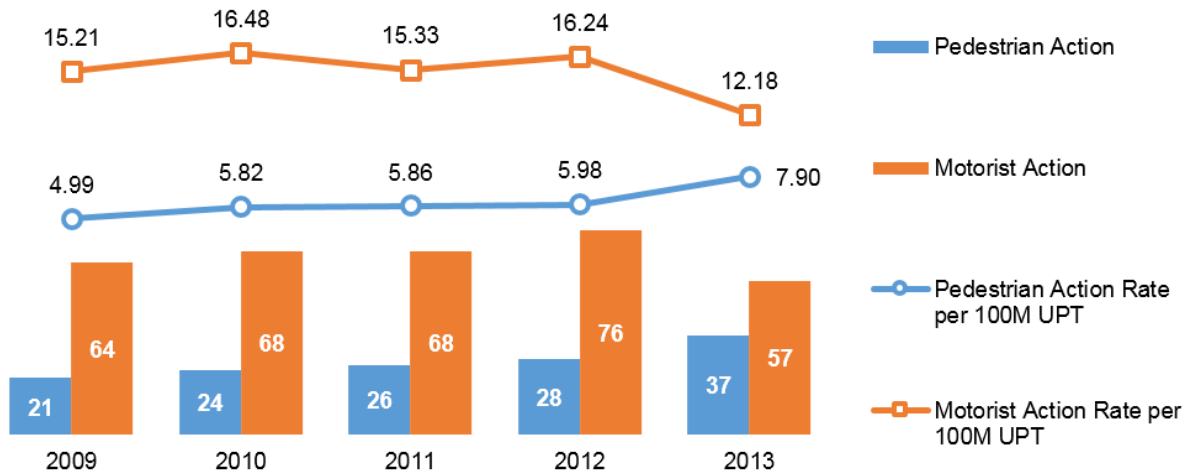


Source: SSO Program

Rail Grade Crossing Events

Light rail operating environments vary greatly from heavy rail systems. Light rail service utilizes rail grade crossings and even street-running alignments, increasing the exposure to vehicular and pedestrian traffic. Event data indicate a growing number of rail grade crossing events caused by pedestrians, as opposed to motor vehicles, underscoring the importance of ensuring safe transit access.

**Comparison of Light Rail Pedestrian Action and Motorist Action Events
- Events Reported to SSOAs with Fatalities and Injuries, 2009-2013**

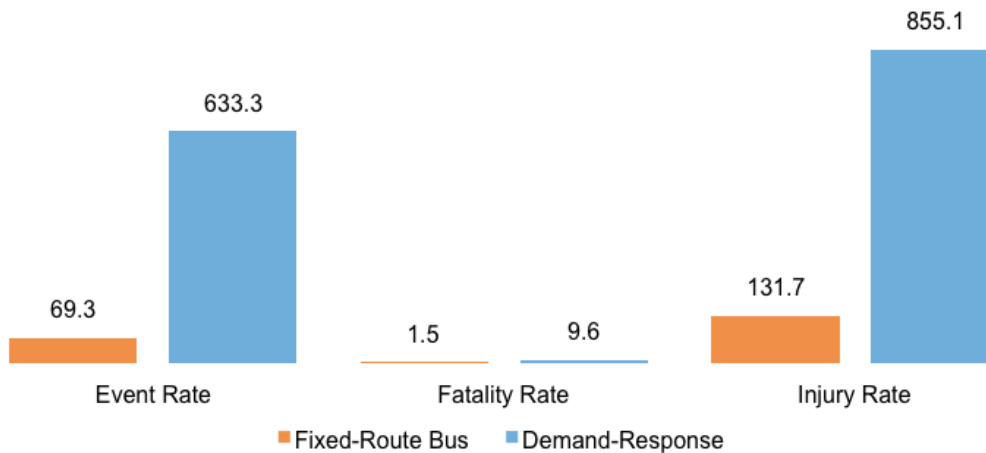


Sources: SSO program (rail safety data), NTD (service and bus safety data)

Bus and Paratransit Safety Events

Bus modes accounted for 27.3 billion trips between 2009 and 2013. This is 57% of the 48.1 total public transportation trips during the five-year period. Urban fixed-route bus modes represent 96% of these 27.3 billion trips. Demand response service and vanpools represent the remaining 4%. Data reveal that the safety performance of fixed-route bus modes is significantly better than demand response modes.

Comparison of Average Safety Event, Fatality, and Injury Rates (per 100M UPT), Fixed-Route Bus and Demand-Response Modes, 2009-2013



Source: NTD

Relationship between the National Safety Plan and Public Transportation Agency Safety Plans

In accordance with the statutory requirements of 49 U.S.C. § 5329(d)(1)(E), each transit agency must include in its public transportation agency safety plan, performance targets based on the safety performance measures established in this Plan. Each public transportation agency should establish sub-measures and related safety performance targets in their Public Transportation Agency Safety Plans that are appropriate to the agency's size and complexity.¹⁴ Transit agencies will use these safety performance measures and targets to inform evaluation of the effectiveness of their SMS. These measures should evolve in subsequent years based on information learned through the Safety Risk Management and Safety Risk Assurance processes, and should help inform these activities.

The process of setting performance targets would require each transit provider to think quantitatively about its own safety needs and analyze what resources it could leverage to address those needs. How a transit provider sets its performance targets would be an entirely local process and decision; however, each provider should be able to explain what happened as a result of actions taken during the performance measurement period that affected its safety outcomes. For example, what mitigations were put in place that appear to have led to improved safety performance?

Relationship between Safety Performance and Transit Asset Management

The safety and performance of a public transportation system depend, in part, on the condition of its assets. When transit assets are not in a state of good repair, the consequences include increased safety risks, decreased system reliability, higher maintenance costs, and lower system performance.

In passing MAP-21, Congress recognized the critical relationship between safety and asset condition. We note, in particular, the congressional direction that the National

¹⁴ Initially, some agencies may use output measures, such as the number of vehicles inspected, or the percentage of employees who have completed safety training. Outcome measures are useful for establishing benchmark performance and setting targets.

Safety Plan include the definition of *state of good repair* set in the rulemaking for asset management (49 U.S.C. § 5329(b)(2)(B)). The Transit Asset Management rule at 49 CFR part 625 define state of good repair as "the condition in which a capital asset is able to operate at a full level of performance." 49 CFR § 625.5.

Transit asset management is a strategic approach to improving and maintaining the condition of transit capital assets. The TAM rule aims to reduce the Nation's state of good repair backlog of deferred maintenance and replacement needs by requiring recipients to create TAM plans that will help them systematically address their maintenance needs, which will in turn improve service. Implementing a TAM plan will require transit agencies to collect and use asset condition data, set targets, and develop informed strategies to prioritize investments to meet their state of good repair goals.

TAM plans must include an asset inventory, condition assessments of inventoried assets, and a prioritized list of investments to improve the state of good repair of their capital assets. Recipients also must set SGR performance targets to monitor improvements in the condition of their assets. Implementing a TAM plan will require transit agencies to use data to make informed investment priorities to meet their state of good repair goals. Optimally, a transit agency's asset management planning process will work hand-in-hand with the agency's SMS for the mutual benefit of both, all under the leadership of the Accountable Executive. The following are three specific elements of the connection between safety and transit asset management:

1. A condition assessment should direct and inform a transit agency's SMS

The result of a condition assessment required under the TAM rule may oblige a transit agency to perform risk assessment and quality assurance--in accordance with the second and third pillars of SMS--for facilities, equipment, rolling stock, and infrastructure in poor condition. Although an asset that is in poor condition might not pose any specific safety risk to the transit system, that asset still might be prioritized for repair, rehabilitation, or replacement if the asset is negatively affecting system performance, reliability, or quality of service. Even for an asset that is in optimal condition, a transit agency may have reason to perform a risk assessment in light of its operating environment or other agency objectives (for example, resiliency for assets in flood zones).

2. A transit agency's SMS will inform its TAM Plan and investment prioritization

The results of safety risk management and safety assurance under a transit agency's SMS will provide valuable input to the agency's TAM Plan, and, in some instances, motivate the agency to revise its investment priorities accordingly. Ultimately, a transit agency makes its own decisions about trade-offs and investment priorities, based on the analytical processes, decision support tools and policies under its TAM Plan, and the agency's written policy for safety—the first pillar of an effective SMS—but the constant, deliberate feedback between the TAM Plan and the SMS will bring greater accountability and transparency to the agency's decision-making on the annual allocation of its financial resources.

3. An Accountable Executive should have a decision-making role in the TAM Plan and investment prioritization

The Accountable Executive who is ultimately responsible for risk management and safety assurance under a transit agency's SMS should be the same person who is responsible for approving the agency's capital plan and who makes decisions about investment prioritization. At minimum, however, the Accountable Executive should have a focal role in the transit agency's decision-making about the trade-offs amongst reinvestment in existing facilities, equipment, rolling stock, and infrastructure, versus investment in any new capital assets for purposes of improved performance of an expansion of service. Logically, the Accountable Executive for a transit agency's SMS would be either the General Manager or CEO. Across the industry, however, there are a variety of organizational structures for transit agencies, and in many agencies, the decisional authority for capital and operating expenditures lies with a Board of Directors. Whatever the structure of an organization, the Accountable Executive should engage with other agency executives in a candid, continuous dialogue about the connection between safety and transit asset management.

Positive changes in safety performance across public transportation will depend largely on a common understanding between transit asset management and safety, dedicated implementation of both a TAM Plan and Public Transportation Agency Safety Plan, and a targeted safety oversight and monitoring program. The performance measures and targets for both safety and transit asset management will enable transit agencies and

FTA to quantify our progress in enhancing safety and improving the condition of our facilities, equipment, rolling stock, and infrastructure through continuous performance management.

Relationship between Safety Performance Management and Planning

The safety performance targets set by transit providers, along with other performance targets set pursuant to other statutes, are an essential component of the planning process. The planning provisions at 49 U.S.C. 5303 and 5304 require States and MPOs to establish performance targets for transit that are based on the national measures for state of good repair and safety established by FTA and to coordinate the selection of those performance targets, to the maximum extent practicable, with performance targets set by transit providers to ensure consistency. 5303(h)(2)(B)(ii), 5304(d)(2)(B)(ii).

Furthermore, the Long Range Statewide Transportation Plan should and the Metropolitan Transportation Plan shall include: (1) a description of the performance measures and targets; and (2) a report evaluating the condition of the transit system(s) with respect to the State and MPO performance measures and targets, including the progress achieved in meeting performance targets compared with system performance recorded in previous years. 49 U.S.C. 5303(i)(2)(B) and (C), 5304(f)(7). Transportation improvement programs (TIPs) and statewide transportation improvement programs (STIPs) must include, to the maximum extent practicable, a discussion of the anticipated effects of the TIP/STIP toward achieving the performance targets in the Statewide and Metropolitan Transportation Plans by linking investment priorities to those performance targets. 49 U.S.C. 5303(j)(2)(D), 5304(g)(4).

The integrated planning process mandated by MAP-21 and the FAST Act should result in States and MPOs being able to identify investment and management strategies to improve or preserve the condition of transit capital assets in order to achieve and maintain a state of good repair.

FTA strongly encourages transit providers, States, and MPOs to set meaningful progressive targets, based on creative and strategic leveraging of all available financial resources. Although the law does not provide FTA with the authority to reward transit providers for meeting a performance target, or impose penalties for missing a

performance target, FTA believes that the process of setting targets and measuring progress reflects the increased expectations for improving transit safety.

Chapter IV - Managing Safety Risk and Assuring Safe Performance

FTA will apply the principles and methods of SMS to drive activities that mitigate risk and improve the safety performance of public transportation. FTA activities will guide, support, and monitor the implementation of the SMS framework across the transit industry. Using a risk-based oversight approach, FTA will initially focus on data collection and ongoing communication to support the analysis and identification of nationwide safety trends.

FTA will rely on several different tools to communicate actions to improve safety performance within the public transportation industry including future iterations of the Plan, rules, safety directives, safety advisories, training, establishment of safety performance standards and tasking to the Transit Advisory Committee for Safety (TRACS).

FTA SAFETY DIRECTIVES

Section 5329 provides FTA with several explicit authorities to administer the Safety Program and to take enforcement actions, including issuing directives. The Public Transportation Safety Program Rule (49 CFR part 670) establishes two types of directives—general directives and special directives. General directives are generally applicable and will be issued through the *Federal Register* and subject to public comment. Special directives apply to one or more named entities based on a specific set of facts. FTA will issue special directives directly to the named recipient(s).

For more information on the procedural rules related to the issuance of a general or special directive, please refer to the Public Transportation Safety Program rule at <https://www.gpo.gov/fdsys/pkg/FR-2016-08-11/pdf/2016-18920.pdf>.

FTA SAFETY ADVISORIES

FTA has issued several Safety Advisories to the public transportation industry. An advisory is a notice from FTA to the transit industry that recommends a particular action to mitigate an existing or potential hazard or risk. While compliance is not mandatory, FTA strongly encourages transit agencies to take the actions recommended in an advisory.

FTA has issued the following advisories to the transit industry:

Contact Rail (Third Rail) System Hazards (FTA Safety Advisory 16-2, May 16, 2016)

Safety Advisory 16-2 requests information from State Safety Oversight Agencies regarding the condition and safety performance of contact rail (third rail) traction power electrification systems at the Rail Fixed Guideway Public Transportation Systems in their jurisdictions.

Stop Signal Overruns (FTA Safety Advisory (FTA Safety Advisory 16-1, April 12, 2016)

Safety Advisory 16-1 requests that State Safety Oversight Agencies (SSOAs) work with their Rail Fixed Guideway Public Transportation Systems (RFGPTS) to obtain information regarding stop signal overruns during calendar year 2015.

Audit All Rail Fixed Guideway Public Transportation Systems (RFGPTS) with Subway Tunnel Environments (FTA Safety Advisory 15-1, June 17, 2015)

Safety Advisory 15-1 informs rail fixed guideway public transportation systems (RFGPTS) of planned audits to be conducted by State Safety Oversight Agencies (SSOAs). This safety advisory identifies specific areas of concern identified by the National Transportation Safety Board (NTSB) in regards to subway tunnel environments.

Vintage/Heritage Trolley Vehicle B and K Operating Controllers (FTA Safety Advisory 14-3, August, 1, 2014, updated August 6, 2014)

Safety Advisory 14-3 advised rail transit agencies that operate reconditioned vintage/heritage trolley vehicles manufactured before January 1956 of the risk of fire

with B and K operating controllers. The advisory refers operators to the APTA industry standard and the California Public Utilities Commission's General Order on the topic.

Verification of Rail Vehicle Safe Stopping Distances in Terminal Stations (Safety Advisory 14-2, June 12, 2014)

Safety Advisory 14-2 alerted rail transit operators of the need to assess the adequacy of safe stopping distances for rail transit trains in emergency braking in terminal stations. The advisory urges each rail transit agency to immediately conduct a review of the configuration of terminal stations in order to verify that designed safe braking distances address the actual operating conditions of these stations.

Redundant Protection to Protect Unintended Train Movement in Rail Yards (Update to Urgent Safety Advisory 10-4-13, Mar. 10, 2014)

FTA issued an update to the Urgent Safety Advisory following the publication of NTSB's preliminary report recommending FTA issue an advisory asking all rail transit properties to review their operating and maintenance procedures for stored unoccupied cars to ensure the propulsion and brake systems are left in a condition that would not facilitate unintended movement and that redundant means of stopping unintended rail car movements are used. The update recommends that each rail transit agency:

- ❏ Conduct a safety risk assessment to evaluate the adequacy of practices and procedures in place to manage the movement and storage of out-of-service railcars in yards and maintenance facilities.
- ❏ Review procedures for cleaning electrical equipment, with special attention to conduit entry points and other areas susceptible to unintended water intrusion or contamination from the cleaning process.
- ❏ Document the results of the assessments, and take action to address any identified concerns or issues requiring further investigation.

Right-of-Way Worker Protection (Safety Advisory 14-1, Dec. 31, 2013)

Safety Advisory 14-1 requested that State Safety Oversight (SSO) agencies coordinate with the rail transit agencies in their jurisdiction to identify current practices in place to

protect roadway workers, and conduct a formal hazard analysis regarding workers' access to the roadway and how the protections identified address the consequences associated with each hazard.

Unintended Train Movements (Urgent Safety Advisory, Oct. 4, 2013)

FTA issued an Urgent Safety Advisory instructing rail transit agencies to immediately review their own operating practices to utilize redundant train stopping mechanisms such as wheel chocks and/or derails in response to the NTSB's safety recommendation R-14-03.

FTA's safety advisories are available at <https://www.transit.dot.gov/regulations-and-guidance/safety/transit-safety-oversight-tso>.

VOLUNTARY MINIMUM VEHICLE SAFETY PERFORMANCE STANDARDS FOR PROCUREMENT OF HEAVY AND LIGHT RAIL¹⁵

Many public transportation agencies already follow voluntary consensus-based standards developed by APTA and other organizations. While compliance with the standards is not mandatory, FTA strongly encourages all public transportation agencies to consider adopting these voluntary, consensus-based standards and recommended practices included herein. As FTA segues towards the implementation of mandatory requirements through the Federal rulemaking process, it is committed to working with public transportation officials to develop rules ensuring that all public transportation agencies, regardless of size, may confidently procure assets that are safe and improve the safety potential of the public transportation industry.

Recent high-profile accidents involving light rail and heavy rail transit vehicles have highlighted the need for rail vehicle safety standards. In several of these accidents, vehicle crashworthiness contributed to injuries and casualties.¹⁶ Furthermore, NTSB has

¹⁵ These standards do not apply to heritage and vintage streetcar systems, inclined planes, cable cars, or monorails/automated guideway systems, nor do they apply to bus or paratransit service, though FTA reserves the right to issue subsequent regulations to these vehicles and their safe operation.

¹⁶ WMATA's Ft. Totten crash, June 22, 2009; WMATA's Woodley Park/Adams Morgan crash, November 3, 2004, and MBTA's Newton Green Line crash, May 28, 2008.

recommended, among other things, that crashworthiness be addressed by FTA and the transit industry, along with implementation of positive train control systems.

In light of these factors, FTA strongly encourages that agencies consider the following rail vehicle safety standards when procuring heavy and light rail vehicles. They address vehicle crashworthiness, fire-life safety, vehicle data recorders, and emergency lighting and signage. These voluntary standards reflect existing best practices and effectively address several NTSB recommendations:

[American Society of Mechanical Engineers \(ASME\) Safety Standard for Structural Requirements for Heavy Rail Vehicles \(ASME RT-2 2008\)](#).¹⁷ This standard addresses part of NTSB recommendation R-06-06 by recommending crashworthiness standards for rail vehicles operated in heavy rail transit systems.

[ASME Safety Standard for Structural Requirements for Light Rail Vehicles \(ASME RT-1 2009\)](#).¹⁸ This standard addresses crashworthiness for rail vehicles operated in light rail transit systems.

[Institute of Electrical and Electronics Engineers \(IEEE\) Standard for Rail Transit Vehicle Event Recorders \(1482.1-2013\)](#).¹⁹ This standard addresses NTSB recommendation R-02-019, which recommends event data recorders meeting this standard be installed on new, and retrofitted onto existing rail transit vehicles to facilitate accident investigations and causal analysis.

[Emergency Lighting System Design for Rail Transit Vehicles \(APTA RT-S-VIM-20-10\)](#).²⁰ This standard establishes minimum performance standards for emergency lighting for rail transit vehicles. This standard, used in conjunction with Emergency Signage for Rail Transit Vehicles and Low-location Emergency Path Marking for Rail Transit Vehicles, is intended to facilitate safe egress routes, paths, and exits for passengers aboard rail transit vehicles. This standard addresses NTSB recommendation R-06-05.

¹⁷ <http://files.asme.org/Catalog/Codes/PrintBook/28205.pdf>.

¹⁸ <http://files.asme.org/Catalog/Codes/PrintBook/28205.pdf>.

¹⁹ <http://standards.ieee.org/findstds/standard/1482.1-2013.html>.

²⁰ <http://www.apta.com/resources/standards/Documents/APTA-RT-VIM-S-020-10.pdf>.

[Emergency Signage for Rail Transit Vehicles \(APTA RT-S-VIM-021-10\).](#)²¹ This standard establishes minimum performance standards for emergency signage for rail transit vehicles to enable passengers to identify safe egress. Used in conjunction with Emergency Lighting System Design for Rail Transit Vehicles and low-location Emergency Path Marking for Rail Transit Vehicles, this standard is intended to facilitate safe egress routes, paths, and exits for passengers aboard rail transit vehicles. This standard addresses NTSB recommendation R-06-05.

[Low-Location Emergency Path Marking for Rail Transit Vehicles \(APTA RT-S-VIM-022-10\).](#)²² This rail vehicle standard sets minimum standards for emergency path lighting for rail transit vehicles. Used in conjunction with Emergency Lighting System Design for Rail Transit Vehicles and Emergency Signage for Rail Transit Vehicles, this standard is intended to facilitate safe egress routes, paths, and exits for passengers aboard rail transit vehicles. This standard addresses NTSB recommendation R-06-05.

[National Fire Protection Association Standard for Fixed Guideway Transit and Passenger Rail Systems \(NFPA 130\).](#)²³ In response to NTSB's urgent recommendation R-15-7, this standard establishes fire protection and life safety requirements for underground, surface, and elevated fixed guideway transit and passenger rail systems. Additionally, FTA highly recommends implementation of [Recommended Fire Safety Practices for Rail Transit Materials Section](#)²⁷ as prepared by the National Association of State Fire Marshals for FTA.

While FTA encourages rail transit agencies to make enhancements during vehicle retrofits and overhauls, as well as when purchasing new vehicles, FTA is aware of cost barriers that may limit improvements on existing vehicles in revenue service, and encourages transit agencies to adopt these voluntary standards to the extent practicable.

On August 1, 2016, FTA published a final rule for bus testing to improve the process of ensuring the safety and reliability of new transit buses.²⁴ The rule satisfies requirements in MAP-21 to establish minimum performance standards, a standardized scoring

²¹ <http://www.apta.com/resources/standards/Documents/APTA-RT-VIM-S-021-10.pdf>.

²² <http://www.apta.com/resources/standards/Documents/APTA-RT-VIM-S-022-10.pdf>.

²³ <http://catalog.nfpa.org/2014-NFPA-130-Standard-for-Fixed-Guideway-Transit-and-Passenger-Rail-Systems-P1229.aspx?icid=B484>.

²⁴ <https://www.gpo.gov/fdsys/pkg/FR-2016-08-01/pdf/2016-17889.pdf>.

system, and a pass-fail threshold that will better inform local transit agencies as they evaluate and purchase buses. Vehicles procured with federal funds are required to pass a test to meet certain thresholds for structural integrity, safety, maintainability, reliability, fuel economy, emissions, noise, and performance.

VOLUNTARY MINIMUM SAFETY PERFORMANCE STANDARDS FOR OPERATIONS

Operational safety standards also contribute to a public transportation system's overall performance. FTA strongly encourages recipients to adopt minimum standards to improve their operational safety. FTA believes that the following operational standards reinforce FTA's commitment to safety and aligns FTA with the other DOT modal administrations that have already instituted regulations addressing issues like distracted driving and operator fatigue. The following voluntary minimum operational standards are part of the APTA standards development program:

[APTA-RT-OP-S-017-11, Electronic Device Distraction Policy \(NTSB's Top Ten Most Wanted\)](#).²⁵ This standard applies to rail transit systems. The standard provides minimum requirements for the use and prohibition of electronic devices for rail transit operators and employees working on or around rail tracks and facilities.

[APTA-RT-OP-S-016-11, Roadway Worker Protection Program Requirements \(R-12-32 to -35; R-13-39 to -40, and R-14-36 thru -43\)](#).²⁶ This standard sets minimum requirements to ensure the safety of roadway workers at a rail transit system.

[APTA-RT-OP-S-004-03, Standard for Work Zone Safety \(R-12-32 to -35; R-13-39 to -40, and R-14-36 thru -43\)](#).²⁷ This standard establishes minimum requirements for a rail transit system's Work Zone Safety Rules and Procedures, and applies to both mainline and yard operations.

[APTA-RT-OP-S-010-03, Standard for Contractor's Responsibility for Right of Way Safety \(R-12-32 to -35; R-13-39 to -40, and R-14-36 thru -43\)](#).²⁸ This standard identifies

²⁵ <http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-017-11.pdf>.

²⁶ <http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-016-11.pdf>.

²⁷ <http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-004-03.pdf>.

²⁸ <http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-010-03.pdf>.

requirements for a contractor's responsibilities for knowing, complying with, and enforcing a rail transit system's guidelines, rules and procedures. This standard governs a contractor's activities when performing inspection, investigation, design, construction and/or any other work on or near a rail transit system.

[APTA-RT-OP-S-011-10, Rule Compliance \(R-2-18\)](#).²⁹ This standard applies to rail transit systems that operate light and heavy rail systems and sets minimum requirements for operating rules.

TRANSIT ADVISORY COMMITTEE FOR SAFETY (TRACS)

TRACS is a formal advisory committee that provides FTA advice on safety issues, as tasked by the FTA Administrator. TRACS membership represents a cross-section of stakeholders in transit safety – representing transit agencies, State Safety Oversight agencies, labor unions, and safety research experts. Information about TRACS responsibilities, actions, and reports are available at <https://www.transit.dot.gov/tracs-work-group>.

A selection of reports developed by TRACS is presented below:

Establishing a Fatigue Management Program for the Bus and Rail Transit Industry ❖

TRACS was tasked by the FTA Administrator with developing recommendations for FTA on the elements that should comprise a Safety Management System (SMS) approach to a fatigue management program. Using an SMS approach, the report presents TRACS' recommendations regarding the components of a successful fatigue management program, including hours of service (HOS), shift scheduling, fatigue prevention and awareness training, fitness-for-duty medical evaluations and screenings, work and vehicle environment design, safety culture, incident investigation, and data collection.

Preventing and Mitigating Transit Worker Assaults in the Bus and Rail Transit Industry – In 2014, the (FTA) Administrator tasked the Transit Advisory Committee for Safety (TRACS) with developing recommendations for FTA on the elements that should

²⁹ <http://www.apta.com/resources/standards/Documents/APTA-RT-OP-S-011-10.pdf>.

comprise a Safety Management System (SMS) approach to preventing and mitigating transit worker assaults. Best practice recommendations included:

- ❏ Installing protective barriers, video surveillance, automatic vehicle location (AVL) systems, and overt or covert alarms on bus and rail transit vehicles;
- ❏ Training safety-sensitive employees about how to de-escalate potentially violent situations, the important of reporting assaults, and the standard agency response to reports of assault;
- ❏ Educating the public about reporting assaults by conducting public awareness campaigns, providing resources and incentives for passengers to report assaults, and meeting with passengers to discuss strategies for preventing assaults;
- ❏ Providing support for transit workers by offering psychological support and post-incident counseling, responding to every report of assault or other serious incident, and involving transit workers in safety committees;
- ❏ Enforcing transit agency policy by posting passenger codes of conduct, suspending service for assailants, posting police officers on transit vehicles and property in high-risk areas, providing legal support for transit workers who file complaints, and collaborating with other agencies and organizations to develop social safety plans and advocate for changes in state and local legislation to better address assaults against transit; and
- ❏ Collecting data regarding the number, location, times, and types of assaults.

Implement SMS in Rail Transit Systems – Originally, TRACS was established to address weaknesses in rail transit system oversight and provide guidance to FTA as to how best to approach its enhanced oversight role and improve rail system safety. TRACS recommended that FTA adopt SMS for rail transit systems, and recommended that FTA proceed with a set of actions to support SMS implementation.

Close Call Reporting Systems ❖TRACS recommended that FTA initiate a work group comprised of stakeholders to facilitate the development of a confidential, non-punitive, close call safety reporting system, beginning with a pilot program. FTA is proceeding with this recommendation as it develops an SMS Implementation Program.

Contents of the National Safety Plan and the Agency Safety Plans – Following the passage of MAP-21, TRACS developed recommendations regarding the elements that should be contained in each of these sets of plan requirements, and FTA incorporated

TRACS input during development of this plan and the rulemaking documents. TRACS recommended that FTA base the plans on SMS, establish a means to assess and protect sensitive data, establish training and requirements for State Safety Oversight and provide tools to the industry to communicate the performance-based approach that underpinned Congress' intent in this legislation.

Currently, TRACS is researching, and in the process of developing recommendations for FTA that address Improving Safety Culture and Safety Data and Performance Management. The current taskings request TRACS members to (1) develop practical recommendations detailing how processes, practices, tasks, and individual employee responsibilities can support a strong safety culture and (2) develop recommendations that help define the functional requirements and data elements of a comprehensive safety data collection and analysis framework to support improvements in the transit industry's safety performance respectively.

How will the National Safety Plan be updated?

FTA has committed to reviewing and updating this Plan periodically. At a minimum, FTA will analyze transit industry safety performance data, refine national safety performance measures, and as a result of this analysis, report on the progress of the national implementation of SMS. FTA will report on national safety performance trends identified through data collected, safety audits, examinations, and inspections.

FTA will also share any lessons learned on the status of safety culture in the public transportation industry through training and communication of best practices.

Appendix A

Glossary

Accident means an event that involves any of the following: a loss of life; a report of a serious injury to a person; a collision of rail transit vehicles; a runaway train; an evacuation for life safety reasons; or any derailment of a rail transit vehicle, at any location, at any time, whatever the cause.

Accountable Executive, (typically the highest executive in the agency) means a single, identifiable person who has ultimate responsibility for carrying out the Safety Management System of a public transportation agency, and control or direction over the human and capital resources needed to develop and maintain both the agency's Public Transportation Agency Safety Plan, in accordance with 49 U.S.C. 5329(d), and the agency's Transit Asset Management Plan in accordance with 49 U.S.C. 5326.

Event means an accident, incident, or occurrence.

Hazard means any real or potential condition that can cause injury, illness, or death; damage to or loss of the facilities, equipment, rolling stock, or infrastructure of a public transportation system; or damage to the environment.

Incident means an event that involves any of the following: a personal injury that is not a serious injury; one or more injuries requiring medical transport; or damage to facilities, equipment, rolling stock, or infrastructure that disrupts the operations of a transit agency.

Major Mechanical Failures are failures caused by vehicle malfunctions or subpar vehicle condition which requires that it be pulled from service.

Passenger means a person other than an operator who is on board, boarding, or alighting from a vehicle on a public transportation system for the purpose of travel.

Safety Assurance means the process within a transit agency's Safety Management System that functions to ensure the implementation and effectiveness of safety risk mitigation, and to ensure that the transit agency meets or exceeds its safety objectives through the collection, analysis, and assessment of information. .

Safety Management Policy means a transit agency's documented commitment to safety, which defines the transit agency's safety objectives and the accountabilities and responsibilities of its employees in regard to safety.

Safety Management System (SMS) means the formal, top-down, data-driven, organization-wide approach to managing safety risk and assuring the effectiveness of a transit agency's safety risk mitigation. SMS includes systematic procedures, practices, and policies for managing risks and hazards.

Safety objective means a general goal or desired outcome related to safety.

Safety performance means an organization's safety effectiveness and efficiency, as defined by safety performance indicators and targets, measured against the organization's safety objectives.

Safety performance indicator refers to a data-driven, quantifiable parameter used for monitoring and assessing safety performance.

Safety Performance Measure is an expression based on a quantifiable indicator of performance or condition that is used to establish targets and to assess progress toward meeting the established targets.

Safety performance monitoring means activities aimed at the quantification of an organization's safety effectiveness and efficiency during service delivery operations, through a combination of safety performance indicators and safety performance targets.

Safety performance target means a quantifiable level of performance or condition, expressed as a value for a given performance measure, achieved over a specified timeframe related to safety management activities.

Safety Promotion means a combination of training and communication of safety information to support SMS as applied to the transit agency's public transportation system.

Safety risk means the assessed probability and severity of the potential consequence(s) of a hazard, using as reference the worst foreseeable, but credible, outcome.

Safety risk assessment means the formal activity whereby a transit agency determines Safety Risk Management priorities by establishing the significance or value of its safety risks.

Safety Risk Management means a process within a Rail Transit Agency's Safety Plan for identifying hazards, assessing the hazards, and mitigating safety risk.

Safety risk mitigation means the activities whereby a public transportation agency controls the probability or severity of the potential consequences of hazards.

Safety risk probability means the likelihood that a consequence might occur, taking as reference the worst foreseeable—but credible—condition.

Safety risk severity means the anticipated effects of a consequence, should it materialize, taking as reference the worst foreseeable—but credible—condition.

Serious Injury means any injury which: (1) Requires hospitalization for more than 48 hours, commencing within seven days from the date of the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

State of Good Repair means the condition in which a capital asset is able to operate at a full level of performance.

Vehicle Revenue Miles (VRM) Means the miles that vehicles are scheduled to or actually travel while in revenue service. Vehicle revenue miles include:

- Layover / recovery time. Exclude:
- Deadhead;
- Operator training;
- Vehicle maintenance testing; and
- School bus and charter services.

Appendix B

Sample

Safety Management Policy Statement

The management of safety is one of our core business functions. [Transit agency] is committed to developing, implementing, maintaining, and constantly improving processes to ensure that all our transit service delivery activities take place under a balanced allocation of organizational resources, aimed at achieving the highest level of safety performance and meeting established standards.

All levels of management and all employees are accountable for the delivery of this highest level of safety performance, starting with the [Chief Executive Officer (CEO)/Managing Director/or as appropriate to the organization].

[Transit agency] commitment is to:

- **Support** the management of safety through the provision of appropriate resources, that will result in an organizational culture that fosters safe practices, encourages effective employee safety reporting and communication, and actively manages safety with the same attention to results as the attention to the results of the other management systems of the organization;
- **Integrate** the management of safety among the primary responsibilities of all managers and employees;
- **Clearly define** for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organization's safety performance and the performance of our safety management system;
- **Establish and operate** hazard identification and analysis, and safety risk evaluation activities, including an employee safety reporting program as a fundamental source for safety concerns and hazard identification, in order to eliminate or mitigate the safety risks of the consequences of hazards resulting from our operations or activities to a point which is consistent with our acceptable level of safety performance;
- **Ensure** that no action will be taken against any employee who discloses a safety concern through the employee safety reporting program, unless disclosure indicates, beyond any reasonable doubt, an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures;
- **Comply** with, and wherever possible exceed, legislative and regulatory requirements and standards;

- **Ensure** that sufficient skilled and trained human resources are available to implement safety management processes;
- **Ensure** that all staff are provided with adequate and appropriate safety-related information and training, are competent in safety management matters, and are allocated only tasks commensurate with their skills;
- **Establish and measure** our safety performance against realistic and data-driven safety performance indicators and safety performance targets;
- **Continually improve** our safety performance through management processes that ensure that appropriate safety management action is taken and is effective; and
- **Ensure** externally supplied systems and services to support our operations are delivered meeting our safety performance standards.

[Accountable Executive]

Date

Appendix M: LA Metro Board Meeting Recap (Minutes) & Final Board Agenda



Virtual Online Meeting
Watch online: <http://boardagendas.metro.net> OR
Listen by phone: Dial 213.306.3065 and enter PIN: 263 641 558

RECAP of Proceedings

Thursday, April 23, 2020

10:00 AM

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Los Angeles, CA 90012

Board of Directors - Regular Board Meeting

James Butts, Chair
Eric Garcetti, Vice Chair
Hilda Solis, 2nd Vice Chair
Kathryn Barger
Mike Bonin
Jacquelyn Dupont-Walker
John Fasana
Robert Garcia
Janice Hahn
Paul Krekorian
Sheila Kuehl
Ara Najarian
Mark Ridley-Thomas
John Bulinski, non-voting member

Phillip A. Washington, Chief Executive Officer

CALLED TO ORDER: 10:04 A.M.

ROLL CALL

1. APPROVED Consent Calendar Items: 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 19, 20, 21, 23, 24*, 25, 27, 30, 32, 34, 34.1, 35, 36, and 37.

Consent Calendar items were approved by one motion except item 37 which was held by a Director for discussion and separate action.

*Item required 2/3 vote

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
A	Y	Y	A	Y	Y	Y	Y	Y	A	Y	Y	Y

2. **SUBJECT: MINUTES** **2020-0302**

APPROVED ON CONSENT CALENDAR Minutes of the Regular Board Meeting held February 27, 2020.

3. **SUBJECT: REMARKS BY THE CHAIR** **2020-0303**

RECEIVED remarks by the **Chair**.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
P	P	P	A	P	P	P	P	P	A	P	P	P

4. **SUBJECT: REPORT BY THE CHIEF EXECUTIVE OFFICER** **2020-0304**

RECEIVED report by the **Chief Executive Officer**.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
P	P	P	A	P	P	P	P	P	A	P	P	P

PK = P. Krekorian	HS = H. Solis	KB = K. Barger	RG = R. Garcia
JF = J. Fasana	JB = J. Butts	JDW = J. Dupont-Walker	
JH = J. Hahn	EG = E. Garcetti	MRT = M. Ridley-Thomas	
MB = M. Bonin	SK = S. Kuehl	AN = A. Najarian	

LEGEND: Y = YES, N = NO, C = HARD CONFLICT, S = SOFT CONFLICT ABS = ABSTAIN, A = ABSENT, P = PRESENT

5. SUBJECT: ORANGE LINE TERMINUS IMPROVEMENTS

2020-0192

APPROVED ON CONSENT CALENDAR:

- A. APPROVING the G (Orange) Line Terminus Improvement Project;
- B. CONCLUDING that the G Line Terminus Improvement Project is statutorily exempt from the California Environmental Quality Act pursuant to Public Resources Code Section 21080, Subdivisions (b) (10) and (b)(11) and CEQA Guidelines Section 15275, Subdivision (a); and
- C. AUTHORIZING Metro staff to file a Notice of Exemption with the County Clerk and the State Clearinghouse.

6. SUBJECT: EXTENSION TO REVENUE CONTRACT NO. PS097140250 2020-0211

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to approve the extension to revenue contract with All Vision, LLC, No. PS097140250 for an additional two years and three one-year options.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
		N										

7. SUBJECT: I-5 NORTH HIGH OCCUPANCY VEHICLE AND TRUCK LANES PROJECT FROM STATE ROUTE (SR)-14 to PARKER ROAD ENVIRONMENTAL MITIGATION AGREEMENT 2020-0220

AUTHORIZED ON CONSENT CALENDAR the CEO to execute a third-party Agreement with the California Department of Transportation (Caltrans) and Mountain Recreation and Conservation Authority (MRCA) to fund wetlands mitigation costs as stipulated in the Streambed Alteration Agreement associated with the implementation of the I-5 North Capacity Enhancements Project (the Project).

8. SUBJECT: 2021 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM 2020-0226

ADOPTED ON CONSENT CALENDAR the resolution for the 2021 Los Angeles County Transportation Improvement Program as shown in Attachment A.

9. SUBJECT: CAP-AND-TRADE LOW CARBON TRANSIT OPERATIONS PROGRAM (LCTOP) 2020-0230

APPROVED ON CONSENT CALENDAR the Resolution in Attachment A that:

- A. AUTHORIZES the Chief Executive Officer (CEO) or his designee to claim \$39,098,039 in fiscal year (FY) 2019-20 LCTOP grant funds for the Electric Bus Charging Infrastructure Project;

(continued on next page)

(Item 9 – continued from previous page)

- B. CERTIFIES that Metro will comply with LCTOP certification and assurances and the authorized agent requirements; and
- C. AUTHORIZES the CEO or his designee to execute all required documents and any amendment with the California Department of Transportation.

10. SUBJECT: RESPONSE TO MOTION 8.1 - 710 CLEAN TRUCK PROGRAM 2020-0231

APPROVED ON CONSENT CALENDAR staff recommendation to program \$50 million in Metro-controlled funding sources, including but not limited to Measure R funds identified in the expenditure plan for the Interstate 710 South and/or Early Action Projects, as seed funding for the 710 Clean Truck Program, to be made available contingent upon a Record of Decision issued by the Federal Highway Administration for the Interstate 710 South Project

BONIN AMENDMENT: Money cannot be spent on fossil fuel infrastructure.

11. SUBJECT: MEASURE M MULTI-YEAR SUBREGIONAL PROGRAM ANNUAL UPDATE - NORTH COUNTY SUBREGION 2020-0232

A. APPROVED ON CONSENT CALENDAR:

1. Deobligation of \$4,226,964 previously approved Measure M Multi-Year Subregional Program (MSP) - Active Transportation Program, for re-allocation at the request of project sponsors, as shown in Attachment A;
2. Programming of additional \$12,750,000 within the capacity of Measure M MSP - Transit Program, as shown in Attachment B; and
3. Inter-program borrowing and programming of additional \$4,350,143 from the Subregion's Measure M MSP - Active Transportation and Transit Programs to the Highway Efficiency Program, as shown in Attachment C; and

- B. AUTHORIZED the Chief Executive Officer or his designee to negotiate and execute all necessary agreements and/or amendments for approved projects.

12. SUBJECT: PROPERTY INSURANCE PROGRAM 2020-0092

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to negotiate and purchase All Risk Property and Boiler and Machinery insurance policies for all property at the current policy limits at a not to exceed price of \$4.2 million for the 12-month period May 10, 2020 through May 10, 2021.

14. SUBJECT: PROPOSITION C BONDS

2020-0221

ADOPTED a resolution, Attachment A, that:

- A. AUTHORIZES the issuance of bonds to refund the Proposition C Series 2010-A Bonds, consistent with the Debt Policy to achieve approximately \$4.4 million in net present value savings over the three-year life of the bonds;
- B. APPROVES the forms of Notice of Intention to Sell Bonds, Notice Inviting Bids, Supplemental Trust Agreement, Escrow Agreement, Continuing Disclosure Certificate, Bond Purchase Contract and Preliminary Official Statement on file with the Board Secretary as set forth in the resolution all as subject to modification as set forth in the resolution; and
- C. AUTHORIZES taking all action necessary to achieve the foregoing, including, without limitation, the further development and execution of bond documentation associated with the issuance of the refunding bonds.

(REQUIRED SIMPLE MAJORITY BOARD VOTE)

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
A	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y

15. SUBJECT: MEASURE R BONDS

2020-0222

A. ADOPTED a Resolution, Attachment A, that:

- 1. AUTHORIZES Measure R Junior Subordinate Sales Tax Revenue Refunding Bonds in one or more series, to refinance one or more of Metro’s Transportation Infrastructure Finance and Innovation Act (“TIFIA”) Loans to achieve up to \$170 million estimated net present value savings over the 18-year life of the bonds through the negotiated bond sale of up to \$1.75 billion of bonds.
- 2. APPROVES the forms of the supplemental trust agreement, second amended and restated trust agreement, junior subordinate trust agreement, supplemental junior subordinate trust agreement, continuing disclosure certificate, preliminary official statement and such other documents as required for the issuance of the bonds, and approves related documents on file with the Board Secretary as set forth in the resolution all as subject to modification as set forth in the Resolution;
- 3. APPROVES the form of the bond purchase contract on file with the Board Secretary, that will be entered into with the underwriters as listed in Attachment B hereto; and

(continued on next page)

(Item 15 – continued from previous page)

4. AUTHORIZES taking all action necessary to achieve the foregoing, including, without limitation, the further development and execution of the bond purchase contract and bond documentation associated with the issuance of the Measure R Junior Subordinate Sales Tax Revenue Refunding Bonds (the “Refunding Bonds”).

B. ESTABLISHED an underwriter pool as shown in Attachment B that will be used to select underwriters for all future negotiated debt issues through June 30, 2024; and

C. APPOINTED the underwriter team selected for the Refunding Bonds from the above underwriter pool as shown in Attachment B that will be used to market the refunding bonds.

(REQUIRED SIMPLE MAJORITY BOARD VOTE)

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
A	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y

16. SUBJECT: ANNUAL FINANCIAL AND COMPLIANCE AUDITS OF METRO AND ITS COMPONENT UNITS 2020-0250

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to award a five-year, firm fixed-price Contract No. PS64807000 to Crowe LLP to provide Annual Financial and Compliance Audit Services in the amount of \$1,836,135 effective April 24, 2020, subject to resolution of protest(s), if any.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
											S	

17. SUBJECT: CURRENCY PROCESSING SERVICES 2020-0246

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to execute Modification No. 3 to Contract No. OP39497-2000 to exercise three (3), one-year options with Los Angeles Federal Armored Services, Inc. to provide currency processing services, in the amount of \$572,000 for Option Year 2, \$629,000 for Option Year 3, and \$686,400 for Option Year 4, for a combined total amount of \$1,887,400, increasing the contract value from \$972,400 to \$2,859,800, and extending the contract term to December 31, 2022.

19. SUBJECT: MEMBERSHIP ON METRO'S SAN FERNANDO VALLEY SERVICE COUNCIL 2020-0201

APPROVED ON CONSENT CALENDAR Perri Sloane Goodman for membership on Metro’s San Fernando Valley Service Council.

20. SUBJECT: PURCHASE OF THREE 35 TON TOW TRUCKS 2020-0247

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to award a firm fixed price contract OP66644000 to Los Angeles Truck Centers, LLC the lowest responsive and responsible bidder for three (3) 35-ton tow trucks for a firm fixed price of \$1,069,966.24 inclusive of sales tax.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
					S							

21. SUBJECT: PURCHASE OF THIRTY 1-TON UTILITY TRUCKS 2020-0248

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to award a firm fixed price contract under IFB OP67225 to Theodore Robins Ford the lowest responsive and responsible bidder for thirty (30) 1-ton utility trucks for a firm fixed price of \$1,417,782.25 inclusive of sales tax, subject to the resolution of any submitted protest(s).

23. SUBJECT: TIRE KITS FOR LIGHT RAIL VEHICLES 2020-0187

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to award a 36-month, firm fixed price contract under Bid No. SD634320000 to ORX Railway Corporation the lowest responsive and responsible bidder for Tire Kits for an amount not to exceed \$2,125,956 subject to resolution of protest(s), if any.

24. SUBJECT: BUS ENGINE COOLING SYSTEM REBUILD KITS 2020-0137

APPROVED ON CONSENT CALENDAR BY A 2/3 VOTE:

- A. FINDING that the procurement of Metro Bus Electric Cooling Systems under Public Utilities Code (PUC) Section 130237, as an Original Equipment Manufacturer (OEM) item, constitutes a single source procurement method for the purpose of duplicating equipment already in use; and
- B. AUTHORIZING the Chief Executive Officer to award a single source, five-year, Indefinite Delivery, Indefinite Quantity Contract No. MA66578000 to Engineered Machined Products, Inc. (EMP) for 810 kits to rebuild EMP engine cooling systems currently installed on Metro buses. The Contract three-year base amount for \$2,712,857 inclusive of sales tax, with the first one-year option in the amount of \$841,668, inclusive of sales tax, and the second one-year option in the amount of \$841,668, inclusive of sales tax for a total contract amount of \$4,396,193 subject to resolution of protest(s), if any.

(REQUIRED 2/3 BOARD VOTE)

25. SUBJECT: PUBLIC TRANSPORTATION AGENCY SAFETY PLAN 2020-0085

APPROVED ON CONSENT CALENDAR the PTASP which documents Metro’s processes and activities related to Safety Management System (SMS) implementation in compliance with Federal and State regulations.

27. SUBJECT: I-5 NORTH CAPACITY ENHANCEMENTS FROM SR- 118 2020-0202 TO SR-134; SEGMENT 3

AUTHORIZED ON CONSENT CALENDAR Contract Modification No. 306 (CCO 306) by the California Department of Transportation (Caltrans) for the construction contract for Segment 3 (Empire) of I-5 North Capacity Enhancements Project between SR-134 and SR-118 (Project) in the amount not to exceed \$1.06 million under Funding Agreement No. MOU. P0008355/8501A/A9 within the LOP budget.

28. SUBJECT: SUSTAINABILITY ENGINEERING SERVICES FOR SOLID WASTE, RECYCLING AND HAZARDOUS WASTE COMPLIANCE 2020-0127

A. AUTHORIZED the Chief Executive Officer (CEO) to award a Cost Plus Fixed Fee Contract for a base period of performance of three (3) years, Contract No. AE61890, to Jacobs Engineering Group, Inc., for **Sustainability Engineering Services for Solid Waste, Recycling and Hazardous Materials and Waste Compliance**, for total Contract amount not-to-exceed \$11,047,603 for the 3 year baseline term and to exercise two one (1) year options, year one option not-to-exceed \$3,825,715 and year two option not-to-exceed \$3,954,885; and

B. AUTHORIZED the Chief Executive Officer (CEO) to execute changes and modifications within the Board approved not-to-exceed contract amount.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
Y	Y	C	C	Y	C	Y	Y	C	C	Y	C	Y

30. SUBJECT: WILLOWBROOK/ROSA PARKS STATION IMPROVEMENT PROJECT 2020-0154

AUTHORIZED ON CONSENT CALENDAR the Chief Executive Officer to increase the Life of Project Budget (LOP) Budget for Willowbrook/Rosa Parks Station Improvement Project (CP 210151) by \$18,998,400 from \$109,350,000 to \$128,348,400.

32. SUBJECT: STATE LEGISLATION 2020-0235

ADOPTED ON CONSENT CALENDAR staff recommended positions:

- Senate Bill 1366 (Archuleta) - Los Angeles County Metropolitan Transportation Authority: light rail: West Santa Ana Branch Transit Corridor. **WORK WITH AUTHOR**

34. SUBJECT: METRO PARKING MANAGEMENT PROGRAM AND SYSTEMWIDE PARKING OPERATOR SERVICES

2020-0225

APPROVED ON CONSENT CALENDAR:

- A. APPROVING revisions to Metro’s Parking Ordinance Administrative Code Title 8 (Attachment C) and Metro’s Parking Rates and Fee Resolution (Attachment D) in support of the implementation of the Parking Management Program.

- B. AUTHORIZING the Chief Executive Officer (“CEO”) to execute a five-year base period, firm fixed price Contract No. PS66007000 to L & R Auto Parks, Inc. DBA Joe’s Auto Parks for systemwide parking operator services in the amount of \$26,878,513 with two, one-year options, in the amounts of \$5,840,059 and \$7,651,918, respectively, for a total amount of \$40,370,490, through a revenue generating contract where the contractor will be compensated for their operating costs from the parking revenue collected and Metro will receive the net revenue amount collected, subject to resolution of protest(s) if any.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
					C				C			

34.1 SUBJECT: WEEKEND AND HOLIDAY FREE PARKING AT METRO LOTS

2020-0292

APPROVED ON CONSENT CALENDAR Motion by Director Fasana

Metro has successfully adopted best management practices in its parking program to assess demand and manage inventory for maximum public transit user benefit without negatively impacting adjacent neighborhoods. In continuing that effort, Metro should assess utilization at its transit stations in support of promoting transit ridership. In consultation with staff, Metro parking facilities typically have high demand or reach capacity on weekdays. However, transit user parking utilization is minimal and well below 30% on weekends and holidays at most Metro parking facilities.

I, THEREFORE MOVE that the Board direct the CEO to:

- A. Provide free parking for transit patrons at Metro parking facilities with 30% or below capacity on Saturday, Sunday and Federally Observed Holidays.

- B. Union Station and any Metro parking facilities that have special arrangements/contracts with municipalities or local jurisdictions for public parking or other non-transit parking use are exempt from this motion.

35. SUBJECT: INVENTORY OF SUITABLE LOCATIONS FOR TEMPORARY HOMELESS HOUSING ON METRO LAND **2020-0228**

APPROVED ON CONSENT CALENDAR:

1. RECEIVING AND FILING Metro Property Inventory for Temporary Sheltering of the Homeless Report (Attachment A); and
2. DELEGATING authority to the Chief Executive Officer (CEO) to enter into no-fee leases with local jurisdictions for temporary (less than five years) supportive homelessness-related facilities, including bridge housing for Metro-owned properties that do not have a conflicting transit or joint development purpose.

36. SUBJECT: TRANSPORTATION BUSINESS ADVISORY COUNCIL MEMBER APPOINTMENT **2020-0252**

APPROVED ON CONSENT CALENDAR appointing the Chinese American Construction Professionals (CACCP) organization to the Transportation Business Advisory Council membership.

37. SUBJECT: SOUTH BAY COG FIBER OPTIC RING URGENCY MOTION **2020-0290**

APPROVED Motion by Directors Butts and Hahn that the Board:

Approve an immediate additional \$2.5 million from the South Bay Measure M TSMIP II account for the SBCCOG South Bay Fiberoptic Network project and amended into Funding Agreement #MM 5502.05 forthwith.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
Y	A	Y	Y	ABS	Y	Y	Y	Y	Y	Y	Y	N

40. SUBJECT: 103RD ST/WATTS TOWERS STATION JOINT DEVELOPMENT **2020-0184**

AUTHORIZED the Chief Executive Officer (“CEO”) to execute an Exclusive Negotiation Agreement and Planning Document (“ENA”) with Watts Station LP, a California limited partnership, for the development of 3.67 acres of Metro-owned property at the 103rd St/Watts Towers Station (“Site”) for 18 months with the option to extend up to 30 months.

(CARRIED OVER FROM FEBRUARY REGULAR BOARD MEETING DUE TO ABSENCES AND CONFLICTS)

JF	PK	MB	RG	SK	EG	JB	HS*	JH	KB	JDW	MRT	AN
Y	C	C	C	Y	Y	Y	Y	Y	C	Y	C	Y

* SELECTED UNDER RULE OF NECESSITY.

41. SUBJECT: METRO CENTER PROJECT (FORMERLY ESOC)

2020-0179

WITHDRAWN:

AUTHORIZING the Chief Executive Officer (CEO) to:

- A. Award a firm fixed price contract, Contract No. C52151C1169-2 to S.J. Amoroso Construction Co., Inc., the responsive and responsible Proposer determined to provide Metro with the best value for the design and construction of the Metro Center Project (Project), in the amount of \$129,365,128.00;
- B. Align the Life-of-Project Budget (LOP) of \$112.7 million to \$206 million including \$109.5 million of Prop 1B California Transit Security Grant Program funds awarded to the Project by the State;
- C. Execute Modification No. 9 to Contract No. AE451150019779 with HDR Engineering Inc. to provide Design Support During Construction in the amount of \$1,976,222 increasing the Total Contract Value from \$6,528,181 to \$8,504,403 and increase the Contract Modification Authority (CMA) for HDR Engineering Inc. in the amount of \$400,000; and,
- D. Execute all agreements, task orders and contract modifications necessary up to the LOP budget to complete the above actions.

(CARRIED OVER FROM FEBRUARY REGULAR BOARD MEETING)

42. SUBJECT: CORONAVIRUS - COVID19

2020-0289

APPROVED BY A 2/3 VOTE the Chief Executive Officer to authorize the Chief, Vendor Contract Management Officer approval authority for procurements to support the emergency condition that is being declared due to the coronavirus pandemic, in accordance with Los Angeles County Metropolitan Transportation Authority’s Acquisition Policy and Procedure Manual, Acquisition Procedures ACQ2, chapter 11, section 11.8 “Emergency Procurements”, Public Utilities Code 130234 and Public Contracting Code 20233, that cannot be met through normal procurement methods through June 1, 2020.

(REQUIRED 2/3 BOARD VOTE)

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

43. SUBJECT: ASSISTANCE TO TRANSIT-ORIENTED BUSINESSES IN RESPONSE TO COVID-19 2020-0307

APPROVED AS AMENDED Motion by Directors Ridley-Thomas, Kuehl, Butts, Garcetti, and Dupont-Walker:

Directing the Chief Executive Officer to negotiate and execute amendments to the agreement with the Los Angeles County Development Authority (LACDA) to reallocate up to \$853,000 of the TOC Small Business Program funds to implement a TOC COVID-19 Business Recovery Loan Program with the following components:

1. Restrict the funds to businesses within Los Angeles County that are within 1/4 mile of a Major Transit Stop as defined by California Public Resources Code Section 21064.3, which may be amended from time to time;
2. Require the loans funded with Metro funds be subject to the following requirements:
 - a. Each below-market interest loan will not exceed \$20,000 and will cover operating expenses for a qualifying small business with up to 25 full time employees;
 - b. Each loan will have a 5-year term with repayment of principal and interest deferred for the first 12 months;
 - c. There will be no loan origination fee and no collateral required; and
 - d. Each recipient must have been in continuous operation for not less than 24 months prior to the COVID-19 crisis and have demonstrated a negative financial impact due to the COVID-19 crisis.
3. Limit LACDA's administrative costs to no more than \$37,000; and
4. Metro staff will provide an update to the Board of Directors in writing within 6 months of Board Approval regarding the impact of the TOC COVID-19 Business Recovery Loan Program.

AMENDMENT: WE FURTHER MOVE that the Board direct the CEO to:

1. Ensure that any Metro funding added to the LA County Business Recovery Loan Program will be repaid back to Metro and retained for the Transit Oriented Communities Small Business Program;
2. Work with LACDA to ensure geographic distribution of Metro funds across subregions; and

(continued on next page)

(Item 43 – continued from previous page)

3. Report back to the Planning & Programming Committee in 120 days with recommendations for improvements to the Transit Oriented Communities Small Business Program, including but not limited to guideline revisions to make funding easier for small businesses to access.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

44. SUBJECT: CLOSED SESSION

2020-0301

A. Conference with Legal Counsel - Existing Litigation - G.C. 54956.9(d)(1)

1. Kimberlee Ann Watkins v. LACMTA, Case No. BC 704890

AUTHORIZED settlement of \$6,000,000 and turning over balance of \$1,200,000 to Metro’s excess insurance carrier to resolve remaining accidents that arose from this accident.

JF	PK	MB	RG	SK	EG	JB	HS	JH	KB	JDW	MRT	AN
Y	Y	A	Y	Y	A	Y	Y	Y	C	Y	A	Y

ADJOURNED AT 12:21 P.M.

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Agenda - Final

Thursday, April 23, 2020

10:00 AM

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Los Angeles, CA 90012

Board of Directors - Regular Board Meeting

James Butts, Chair

Eric Garcetti, Vice Chair

Hilda Solis, 2nd Vice Chair

Kathryn Barger

Mike Bonin

Jacquelyn Dupont-Walker

John Fasana

Robert Garcia

Janice Hahn

Paul Krekorian

Sheila Kuehl

Ara Najarian

Mark Ridley-Thomas

John Bulinski, non-voting member

Phillip A. Washington, Chief Executive Officer

**SUMMARY OF AGENDA ITEMS
LOS ANGELES COUNTY
METROPOLITAN TRANSPORTATION AUTHORITY**

**REGULAR BOARD MEETING
THURSDAY, APRIL 23, 2020**

CONSENT CALENDAR ITEMS	NON-CONSENT ITEMS	CLOSED SESSION
2	3	44
5	4	
6	14	
7	15	
8	28	
9	40	
10	41	
11	42*	
12	43	
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37		

* ITEM REQUIRES 2/3 VOTE

METROPOLITAN TRANSPORTATION AUTHORITY BOARD RULES
(ALSO APPLIES TO BOARD COMMITTEES)

PUBLIC INPUT

A member of the public may address the Board on agenda items, before or during the Board or Committee's consideration of the item for one (1) minute per item, or at the discretion of the Chair. A request to address the Board must be submitted electronically using the tablets available in the Board Room lobby. Individuals requesting to speak will be allowed to speak for a total of three (3) minutes per meeting on agenda items in one minute increments per item. For individuals requiring translation service, time allowed will be doubled. The Board shall reserve the right to limit redundant or repetitive comment.

The public may also address the Board on non agenda items within the subject matter jurisdiction of the Board during the public comment period, which will be held at the beginning and/or end of each meeting. Each person will be allowed to speak for one (1) minute during this Public Comment period or at the discretion of the Chair. Speakers will be called according to the order in which their requests are submitted. Elected officials, not their staff or deputies, may be called out of order and prior to the Board's consideration of the relevant item.

Notwithstanding the foregoing, and in accordance with the Brown Act, this agenda does not provide an opportunity for members of the public to address the Board on any Consent Calendar agenda item that has already been considered by a Committee, composed exclusively of members of the Board, at a public meeting wherein all interested members of the public were afforded the opportunity to address the Committee on the item, before or during the Committee's consideration of the item, and which has not been substantially changed since the Committee heard the item.

In accordance with State Law (Brown Act), all matters to be acted on by the MTA Board must be posted at least 72 hours prior to the Board meeting. In case of emergency, or when a subject matter arises subsequent to the posting of the agenda, upon making certain findings, the Board may act on an item that is not on the posted agenda.

CONDUCT IN THE BOARD ROOM - The following rules pertain to conduct at Metropolitan Transportation Authority meetings:

REMOVAL FROM THE BOARD ROOM The Chair shall order removed from the Board Room any person who commits the following acts with respect to any meeting of the MTA Board:

- a. Disorderly behavior toward the Board or any member of the staff thereof, tending to interrupt the due and orderly course of said meeting.
- b. A breach of the peace, boisterous conduct or violent disturbance, tending to interrupt the due and orderly course of said meeting.
- c. Disobedience of any lawful order of the Chair, which shall include an order to be seated or to refrain from addressing the Board; and
- d. Any other unlawful interference with the due and orderly course of said meeting.

INFORMATION RELATING TO AGENDAS AND ACTIONS OF THE BOARD

Agendas for the Regular MTA Board meetings are prepared by the Board Secretary and are available prior to the meeting in the MTA Records Management Department and on the Internet. Every meeting of the MTA Board of Directors is recorded and is available at www.metro.net or on CD's and as MP3's for a nominal charge.

DISCLOSURE OF CONTRIBUTIONS

The State Political Reform Act (Government Code Section 84308) requires that a party to a proceeding before an agency involving a license, permit, or other entitlement for use, including all contracts (other than competitively bid, labor, or personal employment contracts), shall disclose on the record of the proceeding any contributions in an amount of more than \$250 made within the preceding 12 months by the party, or his or her agent, to any officer of the agency, additionally PUC Code Sec. 130051.20 requires that no member accept a contribution of over ten dollars (\$10) in value or amount from a construction company, engineering firm, consultant, legal firm, or any company, vendor, or business entity that has contracted with the authority in the preceding four years. Persons required to make this disclosure shall do so by filling out a "Disclosure of Contribution" form which is available at the LACMTA Board and Committee Meetings. Failure to comply with this requirement may result in the assessment of civil or criminal penalties.

ADA REQUIREMENTS

Upon request, sign language interpretation, materials in alternative formats and other accommodations are available to the public for MTA-sponsored meetings and events. All requests for reasonable accommodations must be made at least three working days (72 hours) in advance of the scheduled meeting date. Please telephone (213) 922-4600 between 8 a.m. and 5 p.m., Monday through Friday. Our TDD line is (800) 252-9040.

LIMITED ENGLISH PROFICIENCY

A Spanish language interpreter is available at all Committee and Board Meetings. All other languages must be requested 72 hours in advance of the meeting by calling (213) 922-4600 or (323) 466-3876.



323.466.3876 x2

Español

323.466.3876 x3

한국어

日本語

中文

русский

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Tiếng Việt

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NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA

CALL TO ORDER

ROLL CALL

1. APPROVE Consent Calendar Items: 2, 5, 6, 7, 8, 9, 10, 11, 12, 16, 17, 19, 20, 21, 23, 24*, 25, 27, 30, 32, 34, 34.1, 35, 36, and 37.

Consent Calendar items are approved by one motion unless held by a Director for discussion and/or separate action.

*Item requires 2/3 vote

CONSENT CALENDAR

2. **SUBJECT: MINUTES** [2020-0302](#)

RECOMMENDATION

APPROVE Minutes of the Regular Board Meeting held February 27, 2020.

Attachments: [Regular Board Meeting MINUTES - February 27 2020](#)

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

5. **SUBJECT: ORANGE LINE TERMINUS IMPROVEMENTS** [2020-0192](#)

RECOMMENDATION

CONSIDER:

- A. APPROVING the G (Orange) Line Terminus Improvement Project;
- B. CONCLUDING that the G Line Terminus Improvement Project is statutorily exempt from the California Environmental Quality Act pursuant to Public Resources Code Section 21080, Subdivisions (b) (10) and (b)(11) and CEQA Guidelines Section 15275, Subdivision (a); and
- C. AUTHORIZING Metro staff to file a Notice of Exemption with the County Clerk and the State Clearinghouse.

Attachments: [Attachment A – Project Site Plan & Rendering](#)
[Attachment B – CEQA Notice of Exemption](#)

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (3-1):

6. **SUBJECT: EXTENSION TO REVENUE CONTRACT NO. PS097140250** [2020-0211](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to approve the extension to revenue contract with All Vision, LLC, No. PS097140250 for an additional two years and three one-year options.

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

7. **SUBJECT: I-5 NORTH HIGH OCCUPANCY VEHICLE AND TRUCK LANES PROJECT FROM STATE ROUTE (SR)-14 to PARKER ROAD ENVIRONMENTAL MITIGATION AGREEMENT** [2020-0220](#)

RECOMMENDATION

AUTHORIZE the CEO to execute a third-party Agreement with the California Department of Transportation (Caltrans) and Mountain Recreation and Conservation Authority (MRCA) to fund wetlands mitigation costs as stipulated in the Streambed Alteration Agreement associated with the implementation of the I-5 North Capacity Enhancements Project (the Project).

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

8. **SUBJECT: 2021 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM** [2020-0226](#)

RECOMMENDATION

ADOPT the resolution for the 2021 Los Angeles County Transportation Improvement Program as shown in Attachment A.

Attachments: [Attachment A - Resolution for the 2021 Los Angeles County TIP](#)

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (5-0):

9. **SUBJECT: CAP-AND-TRADE LOW CARBON TRANSIT OPERATIONS PROGRAM (LCTOP)** [2020-0230](#)

RECOMMENDATION

CONSIDER approving the Resolution in Attachment A that:

- A. AUTHORIZES the Chief Executive Officer (CEO) or his designee to

claim \$39,098,039 in fiscal year (FY) 2019-20 LCTOP grant funds for the Electric Bus Charging Infrastructure Project;

- B. CERTIFIES that Metro will comply with LCTOP certification and assurances and the authorized agent requirements; and
- C. AUTHORIZES the CEO or his designee to execute all required documents and any amendment with the California Department of Transportation.

Attachments: [Attachment A - Resolution to Execute LCTOP Project, Certifications and Assurances](#)
[Attachment B - Funding Table for Metro Electric Bus Charging Infrastructure Project](#)

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION AS AMENDED (5-0):

- 10. SUBJECT: **RESPONSE TO MOTION 8.1 - 710 CLEAN TRUCK PROGRAM** [2020-0231](#)

RECOMMENDATION

APPROVE staff recommendation to program \$50 million in Metro-controlled funding sources, including but not limited to Measure R funds identified in the expenditure plan for the Interstate 710 South and/or Early Action Projects, as seed funding for the 710 Clean Truck Program, to be made available contingent upon a Record of Decision issued by the Federal Highway Administration for the Interstate 710 South Project

BONIN AMENDMENT: Money cannot be spent on fossil fuel infrastructure.

Attachments: [Attachment A - LA Metro Countywide Clean Truck Initiative Working Group Summary](#)
[Attachment B - March 2020 LA Metro Countywide Clean Truck Initiative Meeting Presentation](#)
[Attachment C - Development of the 710 Clean Truck Program Presentation](#)

PLANNING AND PROGRAMMING COMMITTEE MADE THE FOLLOWING RECOMMENDATION (5-0):

- 11. SUBJECT: **MEASURE M MULTI-YEAR SUBREGIONAL PROGRAM ANNUAL UPDATE - NORTH COUNTY SUBREGION** [2020-0232](#)

RECOMMENDATION

CONSIDER:

- A. APPROVING:
 - 1. Deobligation of \$4,226,964 previously approved Measure M

Multi-Year Subregional Program (MSP) - Active Transportation Program, for re-allocation at the request of project sponsors, as shown in Attachment A;

2. Programming of additional \$12,750,000 within the capacity of Measure M MSP - Transit Program, as shown in Attachment B; and
3. Inter-program borrowing and programming of additional \$4,350,143 from the Subregion's Measure M MSP - Active Transportation and Transit Programs to the Highway Efficiency Program, as shown in Attachment C; and

B. AUTHORIZING the Chief Executive Officer or his designee to negotiate and execute all necessary agreements and/or amendments for approved projects.

Attachments: [Attachment A - Active Transportation Project List](#)
 [Attachment B - Transit Program Project List](#)
 [Attachment C - Highway Efficiency Program Project List](#)

FINANCE, BUDGET AND AUDIT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (3-0):

12. SUBJECT: PROPERTY INSURANCE PROGRAM

[2020-0092](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to negotiate and purchase All Risk Property and Boiler and Machinery insurance policies for all property at the current policy limits at a not to exceed price of \$4.2 million for the 12-month period May 10, 2020 through May 10, 2021.

Attachments: [Attachment A recommended program final](#)
 [Attachment B alternatives considered final](#)

FINANCE, BUDGET AND AUDIT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

16. SUBJECT: ANNUAL FINANCIAL AND COMPLIANCE AUDITS OF METRO AND ITS COMPONENT UNITS

[2020-0250](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a five-year, firm fixed-price Contract No. PS64807000 to Crowe LLP to provide Annual Financial and Compliance Audit Services in the amount of \$1,836,135 effective April 24, 2020, subject to resolution of protest(s), if any.

Attachments: [Attachment A - Procurement Summary .pdf](#)
 [Attachment B - DEOD Summary.pdf](#)

FINANCE, BUDGET AND AUDIT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

17. SUBJECT: CURRENCY PROCESSING SERVICES [2020-0246](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to execute Modification No. 3 to Contract No. OP39497-2000 to exercise three (3), one-year options with Los Angeles Federal Armored Services, Inc. to provide currency processing services, in the amount of \$572,000 for Option Year 2, \$629,000 for Option Year 3, and \$686,400 for Option Year 4, for a combined total amount of \$1,887,400, increasing the contract value from \$972,400 to \$2,859,800, and extending the contract term to December 31, 2022.

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - Contract Modification Change Order Log](#)
 [Attachment C - DEOD Summary](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

19. SUBJECT: MEMBERSHIP ON METRO'S SAN FERNANDO VALLEY SERVICE COUNCIL [2020-0201](#)

RECOMMENDATION

APPROVE Perri Sloane Goodman for membership on Metro's San Fernando Valley Service Council.

Attachments: [Attachment A - Nominees Listing of Qualifications](#)
 [Attachment B - Nomination Letters](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

20. SUBJECT: PURCHASE OF THREE 35 TON TOW TRUCKS [2020-0247](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a firm fixed price contract OP66644000 to Los Angeles Truck Centers, LLC the lowest responsive and responsible bidder for three (3) 35-ton tow trucks for a firm fixed price of \$1,069,966.24 inclusive of sales tax.

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

21. SUBJECT: PURCHASE OF THIRTY 1-TON UTILITY TRUCKS [2020-0248](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a firm fixed price contract under IFB OP67225 to Theodore Robins Ford the lowest responsive and responsible bidder for thirty (30) 1-ton utility trucks for a firm fixed price of \$1,417,782.25 inclusive of sales tax, subject to the resolution of any submitted protest(s).

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

23. SUBJECT: TIRE KITS FOR LIGHT RAIL VEHICLES [2020-0187](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a 36-month, firm fixed price contract under Bid No. SD634320000 to ORX Railway Corporation the lowest responsive and responsible bidder for Tire Kits for an amount not to exceed \$2,125,956 subject to resolution of protest(s), if any.

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

24. SUBJECT: BUS ENGINE COOLING SYSTEM REBUILD KITS [2020-0137](#)

RECOMMENDATION

CONSIDER:

- A. FINDING that the procurement of Metro Bus Electric Cooling Systems under Public Utilities Code (PUC) Section 130237, as an Original Equipment Manufacturer (OEM) item, constitutes a single source procurement method for the purpose of duplicating equipment already in use; and

-
- B. AUTHORIZING the Chief Executive Officer to award a single source, five-year, Indefinite Delivery, Indefinite Quantity Contract No. MA66578000 to Engineered Machined Products, Inc. (EMP) for 810 kits to rebuild EMP engine cooling systems currently installed on Metro buses. The Contract three-year base amount for \$2,712,857 inclusive of sales tax, with the first one-year option in the amount of \$841,668, inclusive of sales tax, and the second one-year option in the amount of \$841,668, inclusive of sales tax for a total contract amount of \$4,396,193 subject to resolution of protest(s), if any.

(REQUIRES TWO-THIRDS VOTE)

Attachments: [Attachment A - Procurement Summary](#)
 [Attachment B - DEOD Summary](#)

OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

- 25. SUBJECT: PUBLIC TRANSPORTATION AGENCY SAFETY PLAN**

[2020-0085](#)

RECOMMENDATION

APPROVE the PTASP which documents Metro's processes and activities related to Safety Management System (SMS) implementation in compliance with Federal and State regulations.

Attachments: [Attachment A - PTASP
Presentation](#)

CONSTRUCTION COMMITTEE MADE THE FOLLOWING RECOMMENDATION (5-0):

- 27. SUBJECT: I-5 NORTH CAPACITY ENHANCEMENTS FROM SR- 118
TO SR-134; SEGMENT 3**

[2020-0202](#)

RECOMMENDATION

AUTHORIZE Contract Modification No. 306 (CCO 306) by the California Department of Transportation (Caltrans) for the construction contract for Segment 3 (Empire) of I-5 North Capacity Enhancements Project between SR-134 and SR-118 (Project) in the amount not to exceed \$1.06 million under Funding Agreement No. MOU. P0008355/8501A/A9 within the LOP budget.

CONSTRUCTION COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

- 30. SUBJECT: WILLOWBROOK/ROSA PARKS STATION IMPROVEMENT PROJECT** [2020-0154](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to increase the Life of Project Budget (LOP) Budget for Willowbrook/Rosa Parks Station Improvement Project (CP 210151) by \$18,998,400 from \$109,350,000 to \$128,348,400.

Attachments: [Attachment A - WRP Funding and Expenditure Plan 200214](#)

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (6-0):

- 32. SUBJECT: STATE LEGISLATION** [2020-0235](#)

RECOMMENDATION

ADOPT staff recommended positions:

- Senate Bill 1366 (Archuleta) - Los Angeles County Metropolitan Transportation Authority: light rail: West Santa Ana Branch Transit Corridor. **WORK WITH AUTHOR**

Attachments: [Attachment A - SB 1366 \(Archuleta\) Legislative Analysis](#)

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (5-0-1):

- 34. SUBJECT: METRO PARKING MANAGEMENT PROGRAM AND SYSTEMWIDE PARKING OPERATOR SERVICES** [2020-0225](#)

RECOMMENDATION

CONSIDER:

- A. APPROVING revisions to Metro's Parking Ordinance Administrative Code Title 8 (Attachment C) and Metro's Parking Rates and Fee Resolution (Attachment D) in support of the implementation of the Parking Management Program.
- B. AUTHORIZING the Chief Executive Officer ("CEO") to execute a five-year base period, firm fixed price Contract No. PS66007000 to L & R Auto Parks, Inc. DBA Joe's Auto Parks for systemwide parking operator services in the amount of \$26,878,513 with two, one-year options, in the

amounts of \$5,840,059 and \$7,651,918, respectively, for a total amount of \$40,370,490, through a revenue generating contract where the contractor will be compensated for their operating costs from the parking revenue collected and Metro will receive the net revenue amount collected, subject to resolution of protest(s) if any.

- Attachments:**
- [Attachment A - Procurement Summary](#)
 - [Attachment B - DEOD Summary](#)
 - [Attachment C - Metro Parking Ordinance](#)
 - [Attachment D - Metro Parking Rates and Permit Fee Resolution January 2020 F](#)
 - [Attachment E -Supportive Transit Parking Program Master Plan Presentation](#)

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (6-0):

34.1 SUBJECT: WEEKEND AND HOLIDAY FREE PARKING AT METRO LOTS [2020-0292](#)

RECOMMENDATION

APPROVE Motion by Director Fasana

Metro has successfully adopted best management practices in its parking program to assess demand and manage inventory for maximum public transit user benefit without negatively impacting adjacent neighborhoods. In continuing that effort, Metro should assess utilization at its transit stations in support of promoting transit ridership. In consultation with staff, Metro parking facilities typically have high demand or reach capacity on weekdays. However, transit user parking utilization is minimal and well below 30% on weekends and holidays at most Metro parking facilities.

I, THEREFORE MOVE that the Board direct the CEO to:

- A. Provide free parking for transit patrons at Metro parking facilities with 30% or below capacity on Saturday, Sunday and Federally Observed Holidays.
- B. Union Station and any Metro parking facilities that have special arrangements/contracts with municipalities or local jurisdictions for public parking or other non-transit parking use are exempt from this motion.

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (6-0):

35. SUBJECT: INVENTORY OF SUITABLE LOCATIONS FOR TEMPORARY HOMELESS HOUSING ON METRO LAND [2020-0228](#)

RECOMMENDATION

CONSIDER:

1. RECEIVING AND FILING Metro Property Inventory for Temporary Sheltering of the Homeless Report (Attachment A); and
2. DELEGATING authority to the Chief Executive Officer (CEO) to enter into no-fee leases with local jurisdictions for temporary (less than five years) supportive homelessness-related facilities, including bridge housing for Metro-owned properties that do not have a conflicting transit or joint development purpose.

Attachments: [Attachment A - Metro Property Inventory for Temporary Sheltering of the Homeless Presentation](#)

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (6-0):

36. SUBJECT: TRANSPORTATION BUSINESS ADVISORY COUNCIL MEMBER APPOINTMENT [2020-0252](#)

RECOMMENDATION

CONSIDER appointing the Chinese American Construction Professionals (CACP) organization to the Transportation Business Advisory Council membership.

EXECUTIVE MANAGEMENT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0-2):

37. SUBJECT: SOUTH BAY COG FIBER OPTIC RING URGENCY MOTION [2020-0290](#)

RECOMMENDATION

APPROVE Motion by Directors Butts and Hahn that the Board:

Approve an immediate additional \$2.5 million from the South Bay Measure M TSMIP II account for the SBCCOG South Bay Fiberoptic Network project and amended into Funding Agreement #MM 5502.05 forthwith.

NON-CONSENT

3. **SUBJECT: REMARKS BY THE CHAIR** [2020-0303](#)

RECOMMENDATION

RECEIVE remarks by the **Chair**.

4. **SUBJECT: REPORT BY THE CHIEF EXECUTIVE OFFICER** [2020-0304](#)

RECOMMENDATION

- RECEIVE report by the **Chief Executive Officer**.

FINANCE, BUDGET AND AUDIT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

14. **SUBJECT: PROPOSITION C BONDS** [2020-0221](#)

RECOMMENDATION

ADOPT a resolution, Attachment A, that:

- A. AUTHORIZES the issuance of bonds to refund the Proposition C Series 2010-A Bonds, consistent with the Debt Policy to achieve approximately \$4.4 million in net present value savings over the three-year life of the bonds;
- B. APPROVES the forms of Notice of Intention to Sell Bonds, Notice Inviting Bids, Supplemental Trust Agreement, Escrow Agreement, Continuing Disclosure Certificate, Bond Purchase Contract and Preliminary Official Statement on file with the Board Secretary as set forth in the resolution all as subject to modification as set forth in the resolution; and
- C. AUTHORIZES taking all action necessary to achieve the foregoing, including, without limitation, the further development and execution of bond documentation associated with the issuance of the refunding bonds.

(REQUIRES SEPARATE, SIMPLE MAJORITY BOARD VOTE)

Attachments: [Attachment A - Authorizing Resolution](#)

FINANCE, BUDGET AND AUDIT COMMITTEE MADE THE FOLLOWING RECOMMENDATION (4-0):

15. SUBJECT: MEASURE R BONDS

[2020-0222](#)

RECOMMENDATION

CONSIDER:

A. ADOPTING a Resolution, Attachment A, that:

1. AUTHORIZES Measure R Junior Subordinate Sales Tax Revenue Refunding Bonds in one or more series, to refinance one or more of Metro's Transportation Infrastructure Finance and Innovation Act ("TIFIA") Loans to achieve up to \$170 million estimated net present value savings over the 18-year life of the bonds through the negotiated bond sale of up to \$1.75 billion of bonds.
2. APPROVES the forms of the supplemental trust agreement, second amended and restated trust agreement, junior subordinate trust agreement, supplemental junior subordinate trust agreement, continuing disclosure certificate, preliminary official statement and such other documents as required for the issuance of the bonds, and approves related documents on file with the Board Secretary as set forth in the resolution all as subject to modification as set forth in the Resolution;
3. APPROVES the form of the bond purchase contract on file with the Board Secretary, that will be entered into with the underwriters as listed in Attachment B hereto; and
4. AUTHORIZES taking all action necessary to achieve the foregoing, including, without limitation, the further development and execution of the bond purchase contract and bond documentation associated with the issuance of the Measure R Junior Subordinate Sales Tax Revenue Refunding Bonds (the "Refunding Bonds").

B. ESTABLISHING an underwriter pool as shown in Attachment B that will be used to select underwriters for all future negotiated debt issues through June 30, 2024; and

C. APPOINTING the underwriter team selected for the Refunding Bonds from the above underwriter pool as shown in Attachment B that will be used to market the refunding bonds.

(REQUIRES SEPARATE, SIMPLE MAJORITY BOARD VOTE)

- Attachments:** [Attachment A - Authorizing Resolution](#)
[Attachment B - Summary of Underwriter Selection](#)
[Attachment C - Findings of Benefit](#)
[Presentation](#)

CONSTRUCTION COMMITTEE FORWARDED THE FOLLOWING DUE TO CONFLICTS:

- 28. SUBJECT: SUSTAINABILITY ENGINEERING SERVICES FOR SOLID WASTE, RECYCLING AND HAZARDOUS WASTE COMPLIANCE** [2020-0127](#)

RECOMMENDATION

CONSIDER:

- A. AUTHORIZING the Chief Executive Officer (CEO) to award a Cost Plus Fixed Fee Contract for a base period of performance of three (3) years, Contract No. AE61890, to Jacobs Engineering Group, Inc., for **Sustainability Engineering Services for Solid Waste, Recycling and Hazardous Materials and Waste Compliance**, for total Contract amount not-to-exceed \$11,047,603 for the 3 year baseline term and to exercise two one (1) year options, year one option not-to-exceed \$3,825,715 and year two option not-to-exceed \$3,954,885; and
- B. AUTHORIZING the Chief Executive Officer (CEO) to execute changes and modifications within the Board approved not-to-exceed contract amount.

- Attachments:** [Attachment A - Procurement Summary](#)
[Attachment B - DEOD Summary](#)
[Attachment C - Anticipated Projects and Tasks](#)

- 40. SUBJECT: 103RD ST/WATTS TOWERS STATION JOINT DEVELOPMENT** [2020-0184](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (“CEO”) to execute an Exclusive Negotiation Agreement and Planning Document (“ENA”) with Watts Station LP, a California limited partnership, for the development of 3.67 acres of Metro-owned property at the 103rd St/Watts Towers Station (“Site”) for 18 months with the option to extend up to 30 months.

- Attachments:** [Attachment A - Project Location and Ownership.pdf](#)
[Attachment B - Project Rendering.pdf](#)
[Presentation](#)

(CARRIED OVER FROM FEBRUARY REGULAR BOARD MEETING DUE TO ABSENCES AND CONFLICTS)

41. SUBJECT: METRO CENTER PROJECT (FORMERLY ESOC)

[2020-0179](#)

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to:

- A. Award a firm fixed price contract, Contract No. C52151C1169-2 to S.J. Amoroso Construction Co., Inc., the responsive and responsible Proposer determined to provide Metro with the best value for the design and construction of the Metro Center Project (Project), in the amount of \$129,365,128.00;
- B. Align the Life-of-Project Budget (LOP) of \$112.7 million to \$206 million including \$109.5 million of Prop 1B California Transit Security Grant Program funds awarded to the Project by the State;
- C. Execute Modification No. 9 to Contract No. AE451150019779 with HDR Engineering Inc. to provide Design Support During Construction in the amount of \$1,976,222 increasing the Total Contract Value from \$6,528,181 to \$8,504,403 and increase the Contract Modification Authority (CMA) for HDR Engineering Inc. in the amount of \$400,000; and,
- D. Execute all agreements, task orders and contract modifications necessary up to the LOP budget to complete the above actions.

Attachments: [Attachment A-1 - Procurement Summary, S. J. Amorosa Construction Co., Inc.](#)
[Attachment A - 2 Procurement Summary, HDR Engineering, Inc.](#)
[Attachment B - Funding Expenditure Plan](#)
[Attachment C - Contract Modification Change Order Log, HDR Engineering, Inc](#)
[Attachment D-1 DEOD Summary TBA Construction Firm](#)
[Attachment D-2 DEOD Summary, HDR Engineering, Inc](#)
[Presentation - Metro Center St Project -032420](#)

(CARRIED OVER FROM FEBRUARY REGULAR BOARD MEETING)

42. SUBJECT: CORONAVIRUS - COVID19

[2020-0289](#)

RECOMMENDATION

APPROVE the Chief Executive Officer to authorize the Chief, Vendor Contract Management Officer approval authority for procurements to support the emergency condition that is being declared due to the coronavirus pandemic, in accordance with Los Angeles County Metropolitan Transportation Authority's Acquisition Policy and Procedure Manual, Acquisition Procedures ACQ2, chapter 11, section 11.8 "Emergency Procurements", Public Utilities Code 130234 and Public Contracting Code 20233, that cannot be met through normal procurement methods through June 1, 2020.

(REQUIRES TWO-THIRDS VOTE)

Attachments: [Attachment A - CEO Emergency Conditions ACQ CH11](#)
[Attachment B - CEO Emergency Conditions PUC 130234](#)
[Attachment C - CEO Emergency Conditions PCC 20233](#)

43. SUBJECT: ASSISTANCE TO TRANSIT-ORIENTED BUSINESSES IN RESPONSE TO COVID-19

[2020-0307](#)

RECOMMENDATION

APPROVE Motion by Directors Ridley-Thomas, Kuehl, Butts, Garcetti, and Dupont-Walker:

Directing the Chief Executive Officer to negotiate and execute amendments to the agreement with the Los Angeles County Development Authority (LACDA) to reallocate up to \$853,000 of the TOC Small Business Program funds to implement a TOC COVID-19 Business Recovery Loan Program with the following components:

1. Restrict the funds to businesses within Los Angeles County that are within 1/4 mile of a Major Transit Stop as defined by California Public Resources Code Section 21064.3, which may be amended from time to time;
2. Require the loans funded with Metro funds be subject to the following requirements:
 - a. Each below-market interest loan will not exceed \$20,000 and will cover operating expenses for a qualifying small business with up to 25 full time employees;
 - b. Each loan will have a 5-year term with repayment of principal and interest deferred for the first 12 months;

c. There will be no loan origination fee and no collateral required; and

d. Each recipient must have been in continuous operation for not less than 24 months prior to the COVID-19 crisis and have demonstrated a negative financial impact due to the COVID-19 crisis.

3. Limit LACDA's administrative costs to no more than \$37,000; and

4. Metro staff will provide an update to the Board of Directors in writing within 6 months of Board Approval regarding the impact of the TOC COVID-19 Business Recovery Loan Program.

END OF NON-CONSENT ITEMS

44. SUBJECT: CLOSED SESSION

[2020-0301](#)

A. Conference with Legal Counsel - Existing Litigation - G.C. 54956.9(d)(1)

1. Kimberlee Ann Watkins v. LACMTA, Case No. BC 704890

SUBJECT: GENERAL PUBLIC COMMENT

[2020-0305](#)

RECEIVE General Public Comment

Consideration of items not on the posted agenda, including: items to be presented and (if requested) referred to staff; items to be placed on the agenda for action at a future meeting of the Committee or Board; and/or items requiring immediate action because of an emergency situation or where the need to take immediate action came to the attention of the Committee subsequent to the posting of the agenda.

COMMENTS FROM THE PUBLIC ON ITEMS OF PUBLIC INTEREST WITHIN COMMITTEE'S SUBJECT MATTER JURISDICTION

Adjournment

Appendix N: Revision Summary of Changes



PUBLIC TRANSPORTATION AGENCY SAFETY PLAN

Version 1.1 Effective July 1, 2021	<ol style="list-style-type: none"> 1. Version 1.1 Effective July 1, 2021 2. Modified Table of Contents 3. Modified Revision Table 4. Safety Policy Statement. New Accountable Executive, Stephanie N. Wiggins Signature 5. Section 673.11(6)(b) Clerical changes 6. Section 673.25(b) clarified that CPUC and other external agency findings are tracked separately from Metro’s internal SAFE-7 Hazard/Near-Miss tracking system. 7. Section 673.25(c) clarified reporting of Priority 1 hazards to CPUC within 2 hours of being assessed as such. 8. Section 673.25(d) explained when risks are considered acceptable by Department Head, with monitoring by Corporate Safety staff. 9. Moved information Rule/SOP modification from section 673.29(a) to section 673.27(c) 10. Updated Appendix A and B Organization Charts 11. Updated Appendix F with PTASP instead of SSPP, which is no longer in effect. 12. Added Appendix N- Revision Summary of Changes
Version 1.2 Effective January 2023	<ol style="list-style-type: none"> 1. Included all requirements of Bipartisan Law Requirements – Joint labor/management Committee, de-escalation training, Infectious Diseases Exposure Plan, trending based on 3-year rolling average of NTD data, risk reduction projects for reducing accidents, visibility impairments on buses, and transit worker assaults.

Appendix O: Approval of PTASP by Joint Labor Management Safety Committee

Meeting Minutes

JOINT LABOR MANAGEMENT SAFETY COMMITTEE MEETING

Virtual Meeting: ZOOM

Order of Business

- The meeting was called to order by Committee Chair, Cristian Leiva.
- The minutes of the last meeting were reviewed by the attendees.
- Errol Frazier made the motion to accept the minutes; Judith Serlin seconded the motion. The minutes were unanimously approved as presented.

In attendance at the JLMSC meeting were:

Management Committee Members

- Cristian Leiva, Deputy Chief, Employee & Labor Relations
- Ken Hernandez – Risk, Safety, & Asset Mgmt. (sub. for G. Osborn)
- Errol Taylor – Maintenance & Engineering
- Edna Stanley – Transportation Operations
- Gina Osborn – Chief Safety Officer (Absent)

Alternates

Vijay Khawani
Leticia Solis
Roman Alarcon

Union Committee Members

- Errol Frazier, President, ATU Local 1277
- John Ellis, General Chairman, SMART/UTU
- Fred Hines, Vice President, AFSCME, Local 3634
- Judith Serlin, Business Agent, Teamsters, Local 911
- Michael Winston, Chairman, TCU/IAM, Local 1315

Alternates

Jeff Shaffer
Quintin Wormley
Frank Forde
Nicholas Romero
Joshua Ott

Committee Support

- Rhonda Hilyer, Agreement Dynamics/JLMSC Facilitator
 - Esther Reed, Interim Director, Employee & Labor Relations/JLMSC Notetaker
-

Change in JLMSC Member(s) and Roles and Responsibilities

- Effective immediately, Errol Frazier assumed the role of Union Committee Member and President of the Amalgamated Transit Union (ATU) because of the former President, Art Aguilar's appointment to the position of ATU International Vice President.
- SMART recognized Victor Baffoni as the appointed Union Committee Member, who will act in the role of Committee Member in the absence of John Ellis and/or Quintin Wormley.
- CSO Gina Osborn has replaced former Management Committee Member Andrew Black.



Metro

Los Angeles County
Metropolitan Transportation Authority

Meeting Focus: 1) Address Comments provided by Union members on the PTASP – Joint Committee Members

2) Approve the 2023 Version 1.2 Public Transportation Agency Safety Plan (PTASP).

1) Review Unions' comments and Management's responses on the PTASP – Joint Committee Members

The Joint Committee Members worked collaboratively and reached consensus on the proposed language modifications to the **Public Transportation Agency Safety Plan**.

2) Approval of the Public Transportation Agency Safety Plan (PTASP)

The Joint Labor Management Safety Committee approved the 2023 Version 1.2 Public Transportation Agency Safety Plan (PTASP).

3) The attached PTASP includes the additional language as mentioned in 2) above.

4) The attached signature page confirms approval of the 2023 PTASP, Version 1.2 by the JLMSC.

Next Meeting:

The next JLMSC meeting is scheduled for Tuesday, October 25, 2022, at 1:00 p.m. The meeting will be held on the ZOOM virtual platform. Notetaker Esther Reed or Committee Member Jeff Shaffer will provide the ZOOM link.

Meeting was Adjourned by: Cristian Leiva, Committee Chair

Minutes were Submitted by: Esther Reed, JLMSC Notetaker

Date: October 13, 2022

Minutes were Approved by:



Date:

10/17/2022



Metro

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000 Tel
metro.net

**Los Angeles County Metropolitan Transportation Authority
2023 Public Transportation Agency Safety Plan – Approved by the Committee**

The Joint Labor Management Safety Committee (JLMSC) members met over the past several months and have worked collaboratively to revise the current Public Transportation Agency Safety Plan (PTASP) consistent with the requirements of the Bipartisan Infrastructure Law and the requirements of 49 CFR Part 673. The JLMSC has approved the 2023, Version 1.2 PTASP which is attached, and incorporates changes recommended by all Unions. The Committee will move forward to seek full Metro Board approval of the 2023 PTASP.

The 2023 Version 1.2 Public Transportation Agency Safety Plan has been approved as recorded below.

Signed and executed this 13 day of October 2022 at One Gateway Plaza,
Los Angeles, California

For the JLMSC
Management Committee Members

Cristian Leiva
JLMSC Co-Chair – Management

For the JLMSC
Labor Committee Members

John Ellis
JLMSC Co-Chair – Labor

Union Committee Members

- Errol Frazier, President, ATU Local 1277
- John Ellis, General Chairman, SMART/UTU
- Fred Hines, Vice President, AFSCME Local 3634
- Judith Serlin, Business Agent, Teamsters, Local 911
- Michael Winston, Chairman, TCU/IAM, Local 1315

Alternates

Jeff Shaffer
Quintin Wormley
Frank Forde
Nicholas Romero
Joshua Ott

Management Committee Members

- Cristian Leiva, Deputy Chief, Employee & Labor Relations
- Ken Hernandez – DC., Risk, Safety, & Asset Mgmt.
- Errol Taylor – DCOO, Maintenance & Engineering
- Gina Osborn – CSO, Systems Security Law Enforcement
- Edna Stanley – DCOO Transportation Operations

Alternates

TBD
Vijay Khawani
Leticia Solis
Nancy Felix
Roman Alarcon

cc: Stephanie N. Wiggins, Chief Executive Officer
Robert Bonner, Chief People Officer

Conan Cheung, Chief Operations Officer
JLMSC File

Appendix P: Approval of PTASP Version 1.2 by Metro Board
of Directors





Board Report

File #: 2022-0649, File Type: Contract

Agenda Number: 32.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: BUS PEST CONTROL SERVICES

ACTION: APPROVE CONTRACT AWARD

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a five-year, firm fixed unit rate Contract No. OP75359-2000 to Rentokil North America, Inc. dba Isotech Pest Management to provide bus pest control services for an amount not-to-exceed \$4,917,442, effective December 2022, subject to the resolution of protest(s), if any.

ISSUE

This contract will provide Metro bus divisions with pest control services for the transit bus fleet through November 30, 2027. The objective of this service contract is to prevent pest activity and infestation using equipment and/or products that target pests in and around their harborage/breeding areas on the bus fleet.

Bus pest control services are currently being performed under a contract with ISOTECH Pest Management which is scheduled to expire on November 30, 2022. Pest control services of Metro rail cars and facilities are administered under separate contracts.

BACKGROUND

Effective pest control services are necessary to provide a clean, safe, and sanitary environment for Metro patrons and employees. The services performed under this contract will be monitored by the Metro Quality Assurance Department. To continue providing a clean, sanitary, and comfortable environment to our patrons and employees, a new contract for bus pest control services must be awarded in December 2022.

A request for proposal for pest control services was initiated in early 2022 with bids due by April 29, 2022. The evaluation process included a review of four proposals and vendor interviews. The procurement process concluded in August, with Rentokil North America, Inc. dba Isotech Pest Management receiving the highest ranking in the cost, qualification, and performance evaluation process.

DISCUSSION

Pest control services improve the customer experience by ensuring that insects and rodents that can carry disease are prevented from infesting transit vehicles, which supports Metro's efforts to ensure the health and safety of our passengers. This pest prevention and eradication contract includes pest control treatment for cockroaches, ants, fleas, bees, mites, bed bugs, rodents, and spiders. The areas that will be treated include inside bus control panels, behind trim molding, inside electronic compartments, floors, and subfloors, behind seat mounting plates, seat rails, beneath the floor turntable and folding bellows in articulated buses, exterior electric relay panels, interior wheel-well cavities/molding and beneath the rear bench seats.

Pest control products used by the contractor must be approved by Metro Corporate Safety, compliant with state and federal regulations, registered by the Environmental Protection Agency, and in compliance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) that governs the registration, distribution, sale and use of pesticides in the United States.

The safety and well-being of both customers and operators are ensured by the use of approved products and application in cracks and crevices on the interior of buses. The pest control products do not leave any noticeable residue or odor, and treated buses are not placed into service until at least four hours after treatment.

DETERMINATION OF SAFETY IMPACT

Award of this contract shall ensure that the application of pest control products onboard Metro equipment is performed by a licensed contractor with certified technicians that have the training and experience to safely perform this service.

FINANCIAL IMPACT

Funding of \$1,000,000 for the new contract is included in the FY23 budget in cost center 3120 Quality Assurance Department, under project 306002, Operations Maintenance, account 50320, Service Contract Services. Since this is a multi-year contract, the cost center manager and Sr. Executive Officer, Maintenance will be responsible for ensuring adequate budget for these contract services in future years.

Impact to Budget

The current source of funds for this action are applicable operating eligible Federal Funds, Proposition C, and Transportation Development Act. Use of these funding sources currently maximizes funding allocations given approved funding provisions and guidelines. This activity is part of on-going maintenance costs as pest control services are required to provide a clean and sanitary environment.

EQUITY PLATFORM

The benefits of this action are to ensure that the bus fleet that serves most regions in Los Angeles County, including many underserved communities, is able to provide safe, clean, and pest free transportation services to neighborhoods where disparities within the region can exist between residents' access to jobs, housing, education, health, and safety. Bus transportation provides an important lifeline for the residents in underserved communities.

This action is anticipated to support safety and quality of service on the Metro bus fleet, which disproportionately serves marginalized groups and Equity Focus Communities (EFCs). . As part of a comprehensive bus maintenance program, bus pest control will ensure buses remain in a State of Good Repair to provide uninterrupted transportation services for these underserved communities.

The Diversity and Economic Opportunity Department (DEOD) established a five percent (5%) DBE goal for this contract and verified the commitment by the successful bidder of this procurement in achieving this goal.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Pest control services on board Metro buses support Strategic Goal 2: Deliver outstanding trip experiences for all users of the transportation system. The routine treatment of buses will eliminate pests on board buses. This service will ensure patrons and Metro operators experience a pest-free and comfortable environment.

ALTERNATIVES CONSIDERED

An alternative is to have Metro employees perform these services; however, this is not recommended. The application of the required products to effectively eliminate unwanted pests on Metro equipment requires a California State Technician Certification. Metro employees do not possess the necessary state technician certification, equipment, or experience to safely and effectively apply the necessary pest control chemicals.

NEXT STEPS

Upon approval by the Board, staff will execute Contract No. OP75359-2000 to Rentokil North America, Inc. dba Isotech Pest Management to provide bus pest control services throughout Metro bus facilities effective December 2022.

ATTACHMENTS

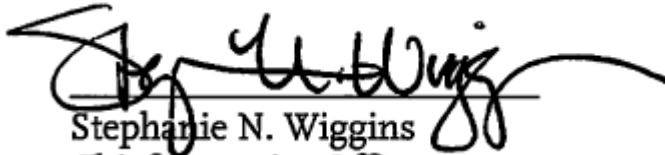
Attachment A - Procurement Summary
Attachment B - DEOD Summary

Prepared by: James Jimenez, Sr. Manager Environmental Compliance & Service
James Pachan, Sr. Executive Officer (213) 922-5804
Debra Avila, Deputy Chief Vendor/Contract Management (213) 418-3051

Lillia Montoya, Deputy Chief Operations Officer, Admin & Development
(213) 922-4061

Reviewed by:

Conan Cheung, Chief Operations Officer (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

BUS PEST CONTROL SERVICES / OP75359-2000

1.	Contract Number: OP75359-2000	
2.	Recommended Vendor: Rentokil North America, Inc. dba Isotech Pest Management	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: March 31, 2022	
	B. Advertised/Publicized: March 31, 2022	
	C. Pre-Proposal Conference: April 14, 2022	
	D. Proposals Due: April 29, 2022	
	E. Pre-Qualification Completed: October 4, 2022	
	F. Conflict of Interest Form Submitted to Ethics: October 4, 2022	
	G. Protest Period End Date: November 21, 2022	
5.	Solicitations Picked up/Downloaded: 8	Bids/Proposals Received: 4
6.	Contract Administrator: Marc Margoni	Telephone Number: (213) 922-1304
7.	Project Manager: James Jimenez	Telephone Number: (213) 922-5870

A. Procurement Background

This Board Action is to approve the award of Contract No. OP75359-2000 to Rentokil North America, Inc. dba Isotech Pest Management, to provide bus pest control services at ten bus divisions and Metro's Central Maintenance Facility. Board approval of contract awards are subject to resolution of any properly submitted protest.

On March 31, 2022, Request for Proposal (RFP) No. OP75359-2 was issued as a competitive negotiated procurement in accordance with Metro's Acquisition Policy and the contract type is firm fixed unit rate. The RFP was issued with a 5% Race Conscious Disadvantaged Business Enterprise (DBE) goal.

No amendments were issued during the solicitation phase of this RFP.

The solicitation was available for download from Metro's website. Advertisements were placed in four leading publications within Los Angeles County (Los Angeles Daily News, La Opinion, Watts Times, and the Asian Journal) to notify potential proposers of this solicitation. Metro also notified proposers from the Metro's vendor database based on applicable North American Industry Classification System (NAICS) codes.

A virtual pre-proposal conference was held on April 14, 2022.

A total of eight (8) firms downloaded the RFP and were included on the planholders list. No questions were received regarding the solicitation.

A total of four (4) proposals were received on April 29, 2022, and are listed below in alphabetical order:

1. Pestmaster Services, L.P.
2. Rentokil North America, Inc. dba Isotech Pest Management
3. Stafford Environmental Services, Inc.
4. TMC Pest Management dba Sprague Pest Solutions

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from Finance & Admin Management Services, Maintenance Operations, and Environmental Compliance & Service was convened and conducted a comprehensive technical evaluation of the four proposals.

On May 17, 2022, the PET met to review the evaluation criteria package, process confidentiality and conflict of interest forms, and take receipt of the proposals to initiate the evaluation phase. Evaluations were conducted from May 17, 2022, through August 2, 2022.

On June 29, 2022, Metro's Diversity and Economic Opportunity Department (DEOD) determined TMC Pest Management dba Sprague Pest Solutions (TMC) to be ineligible for contract award for failure to meet the 5% DBE goal for this procurement. Hence, TMC was excluded from further consideration.

The PET continued to evaluate the remaining three proposals based on the following evaluation criteria stated in the RFP:

Phase 1 Evaluation – Minimum Qualification Review: This is a pass/fail criteria. The criteria focused on the experience of the proposer in providing bus pest control services for transit agencies of similar size and complexity to Metro, the annual volume of bus pest control services provided in the last three years, and the chemical products proposed to be used.

The PET reconvened and determined that Stafford Environmental Services, Inc. did not meet the minimum experience requirements for providing bus pest control services. As a result, it was eliminated from consideration.

The proposals of Rentokil North America, Inc. dba Isotech Pest Management (Isotech) and Pestmaster Services, L.P. were found to be responsive to the Phase 1 minimum qualification requirements and were further evaluated in accordance with the following evaluation criteria and weights:

- Experience and Qualifications of the Proposer/Team 40 percent
- Understanding of the Scope of Services and Proposed Approach/Work-Plan 35 Percent
- Cost Proposal 25 Percent

The evaluation criteria are appropriate and consistent with criteria developed for similar bus pest control services' procurements. Several factors were considered in developing these weights, giving the greatest importance to the experience and qualifications of the proposer/team.

After evaluation of the proposals, the PET determined that the proposal received from Isotech addressed the RFP requirements and demonstrated its personnel are qualified and experienced with all aspects of the required tasks. Based on a thorough evaluation of the proposal, the PET determined Isotech to be the highest rated firm.

Qualifications Summary of Firms within the Competitive Range:

Pestmaster Services, L.P.

Pestmaster Services, L.P. (Pestmaster), founded in 1979, is located in Cudahy, CA. It specializes in all phases of pest control, including Integrated Pest Management (IPM), termite control, bed bug control, and many more. Clients include Alameda - Contra Costa Transit (AC Transit), San Diego Metropolitan Transit System (MTS). MICC – West Point, VA Northern California Health Care System (Palo Alto Division/Menlo Park Division), Malcom Randall Department of Veterans Affairs Medical Center and Lake City VA Medical Center.

Pestmaster has been providing pest and bird control services to Metro since 2018 and performance has been satisfactory.

Rentokil North America, Inc. dba Isotech Pest Management

Rentokil North America, Inc. dba Isotech Pest Management (Isotech), is headquartered in Anaheim, CA and is a full-service pest control company serving commercial customers from a wide range of business sectors. It offers customers expertise and innovative solutions such as specialist services, commercial pest control, and critical disinfection service. Isotech has been providing bus pest control services to Metro for over 10 years.

The following is a summary of the PET scores:

	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
1	Rentokil North America, Inc. dba Isotech Pest Management				

2	Experience and Qualifications of the Proposer/Team	95.83	40.00%	38.33	
3	Understanding of the Scope of Services and Proposed Approach/Work-Plan	82.80	35.00%	28.98	
	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
4	Cost Proposal	80.36	25.00%	20.09	
5	Total		100.00%	87.40	1
6	Pestmaster Services, L.P.				
7	Experience and Qualifications of the Proposer/Team	78.33	40.00%	31.33	
8	Understanding of the Scope of Services and Proposed Approach/Work-Plan	66.69	35.00%	23.34	
9	Cost Proposal	100.00	25.00%	25.00	
10	Total		100.00%	79.67	2

C. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based on price analysis, technical analysis and fact-finding. The recommended price is lower than Metro's independent cost estimate (ICE).

	Proposer Name	Proposal Amount	Metro ICE	Award Amount
1.	Rentokil North America, Inc. dba Isotech Pest Management	\$4,917,442	\$6,405,385	\$4,917,442
2	Pestmaster Services, L.P.	3,951,649		

It has been six years since the award of the current contract. During the term of that contract, there was no unit rate increase. When preparing the ICE, staff estimated a unit rate increase of 20% from current rates based on an increased cost for labor and material since 2016. That increase did not materialize in the proposals received.

D. Background on Recommended Contractor

Isotech has been in business for over 30 years. It offers innovative pest control solutions and a wide range of other pest management solutions including disinfection, air filtration, and food safety services.

Isotech has been providing bus pest control services to Metro for over 10 years and performance has been satisfactory. In addition, Isotech also provides year-round pest services to a number of commercial properties in the Los Angeles metro area such as grocery stores, healthcare facilities, hotels, resorts, restaurants, schools and universities.

The Isotech team includes one DBE subcontractor, We the People Janitorial & Maintenance. The proposed Project Manager has over 12 years of pest control experience and is the current project manager of Metro's bus pest control services contract.

DEOD SUMMARY

BUS PEST CONTROL SERVICES/OP75359-2000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 5% Disadvantaged Business Enterprise (DBE) goal for this solicitation. Rentokil North America, Inc. dba Isotech Pest Management met the goal by making a 5% DBE commitment.

Small Business Goal	5% DBE	Small Business Commitment	5% DBE
----------------------------	---------------	----------------------------------	---------------

	DBE Subcontractor	Ethnicity	% Committed
1.	We the People Janitorial & Maintenance	Hispanic American	5%
Total DBE Commitment			5%

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy (LW/SCWRP) is applicable to this contract. Metro staff will monitor and enforce the policy guidelines to ensure that applicable workers are paid at minimum, the current Living Wage rate of \$23.81 per hour (\$18.04 base + \$5.77 health benefits), including yearly increases. The increase may be up to 3% of the total wage, annually. In addition, contractors will be responsible for submitting the required reports for the Living Wage and Service Contract Worker Retention Policy and other related documentation to staff to determine overall compliance with the policy.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.



Board Report

File #: 2022-0678, File Type: Contract

Agenda Number: 33.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: A650 HEAVY RAIL VEHICLE MIDLIFE MODERNIZATION

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to solicit competitive negotiations Request for Proposals (RFPs), pursuant to Public Contract Code (PCC) §20217 and Metro's procurement policies and procedures for the midlife modernization of Metro's A650 Heavy Rail Vehicles (HRVs).

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

ISSUE

Staff has determined that the midlife modernized HRV solicitation constitutes a specialized rail transit equipment purchase. This determination renders it appropriate that the work to midlife and modernize the option order A650 HRVs may be procured by a competitively negotiated process in accordance with PCC § 20217. PCC § 20217 states that the Board, upon a finding by a two-thirds vote of all members, may find the competitive low bid procurement method is not adequate for the agency's needs and direct that the procurements be conducted through competitive negotiation. This competitive negotiation process is the same procurement model Metro used for previous new and midlife modernization rail vehicles procurement projects, including P3010 New LRVs Procurement, HR4000 New HRVs Procurement, P2000 LRV Midlife Modernization, and P2550 LRV Midlife Modernization projects.

BACKGROUND

The existing Red/Purple Line fleets (A650) consist of 104 HRVs, a base order of 30 HRVs, and an option order of 74 HRVs. Metro accepted the base fleet between 1992 and 1993. The option fleet was accepted between 1997 and 1999. Based on a 30-year useful life, the base order HRVs are scheduled for retirement between 2022 and 2023, and the option order HRVs between 2027 through 2029.

In accordance with the Rail Fleet Management Plan (RFMP) FY2020-FY2040, the rail fleet will need to be expanded to accommodate anticipated growth in ridership, support future line extensions and service expansions, and replace vehicles reaching the end of their useful revenue service life.

DISCUSSION

It is in the public's interest to utilize competitive negotiation rather than a sealed bid process to consider factors other than price in awarding contracts for rail vehicles as allowed under PCC § 20217. The competitive negotiation process allows consideration of factors other than price that could not be adequately quantified or considered in a strictly low bid procurement.

Staff recommends the use of a competitive negotiation process for the A650 HRV midlife modernization project, which includes the acquisition of specialized rail transit equipment, to allow for the consideration of technical and commercial factors, such as past performance related to schedule adherence, quality, reliability, aftermarket support, and vehicle performance, in addition to price in the contract award selection process.

In addition to the ability to evaluate key technical and schedule factors, the competitive negotiation process permits direct discussions and negotiations with Proposers to clarify requirements and costs before an award recommendation. This process minimizes the risks associated with a complex specification and scope of work by allowing the parties to clarify ambiguities and correct deficiencies.

DETERMINATION OF SAFETY IMPACT

The approval of this capital project will directly and positively impact safety, service quality, system reliability, performance, and overall customer satisfaction.

FINANCIAL IMPACT

Upon final LOP determination and approval, once the proposals are evaluated, and a qualified contractor is selected, a fully funded requisition shall be initiated to start the solicitation processes as per VCM policies. If the award value is greater than planned, project staff shall return to the board with the award amount and LOP adjustment if needed. Since this project will occur over a multi-year period, the Cost Center Manager, Project Manager, and Chief of Operations will be responsible for future fiscal year budgeting.

Impact to Budget

Upon approval, the recommendation shall be funded with a combination of Federal, State, and Local funds, primarily consisting of Proposition A Sales Tax Revenues and Federal State of Good Repair 5337 funds. The use of these funding sources currently maximizes funding allocations given approved funding provisions and guidelines. This recommendation supports Operations State of Good Repair efforts. Current fiscal year funding may be required to enact this project and shall be funded via a net zero budget transfer from approved FY23 funded projects.

EQUITY PLATFORM

The existing A650 option order HRVs operate on Metro's Red and Purple Lines and will be used on Purple Line Extensions 2 & 3. Approving this recommendation will ensure that safe, reliable HRVs

are available to support the planned line and service expansions and will encourage fair, competitive bidding process. Performing the midlife modernization work on these existing HRVs, prevents vehicle performance degradation, and enhances vehicle reliability and maintainability, potentially impacting vehicle availability and service.

The modernized A650 fleet will operate on lines currently serving passengers living in majority Equity Focus Communities that rely on public transportation for their daily jobs.

Based on the 2019 Customer Survey, the Red and Purple heavy rail lines serve the following ridership:

- 27.7% below the poverty line
- 56.4% had no car available

Ethnicity:

- Latino 38.9%;
- Black 13.1%;
- White 25.8%;
- Asian/Pacific Islander 15.2%;
- Other 6.5%

Please refer to Attachment A for Metro's current rail line map showing the areas of Metro's Equity Focus Communities (EFCs) that will benefit from this board decision.

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Disadvantaged Business Enterprise (DBE) goal for this procurement as it is not applicable. This procurement falls under the Federal Transit Administration's (FTA) Transit Vehicle Manufacturer (TVM) goal in accordance with 49 Code of Federal Regulations (CFR) Part 26.49.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This recommendation supports Metro Strategic Plan Goal No. 5) to "provide responsive, accountable, and trustworthy governance within the Metro organization." This goal strives to position Metro to deliver the best possible mobility outcomes and improve business practices so that Metro can perform more effectively and adapt more nimbly to the changing needs of our customers.

ALTERNATIVES CONSIDERED

The Board of Directors may choose to pursue a low bid process, but this methodology is not recommended. The sealed bid process does not adequately account for any technical superiority of performance, reliability, or system life cycle costs that one firm's equipment or solution may have over another since the process must award to the lowest responsive and responsible bidder. For these reasons, staff does not recommend this alternative. The competitively negotiated procurement process will provide for the evaluation of critical non-price related factors in the source selection process.

NEXT STEPS

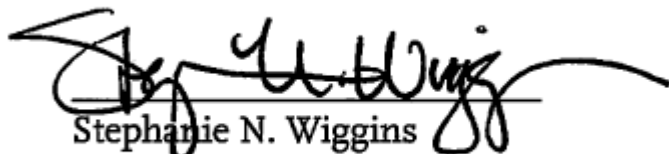
If these actions are approved, staff will proceed with a competitively negotiated solicitation for the midlife modernization of the A650 option order HRV fleet.

ATTACHMENTS

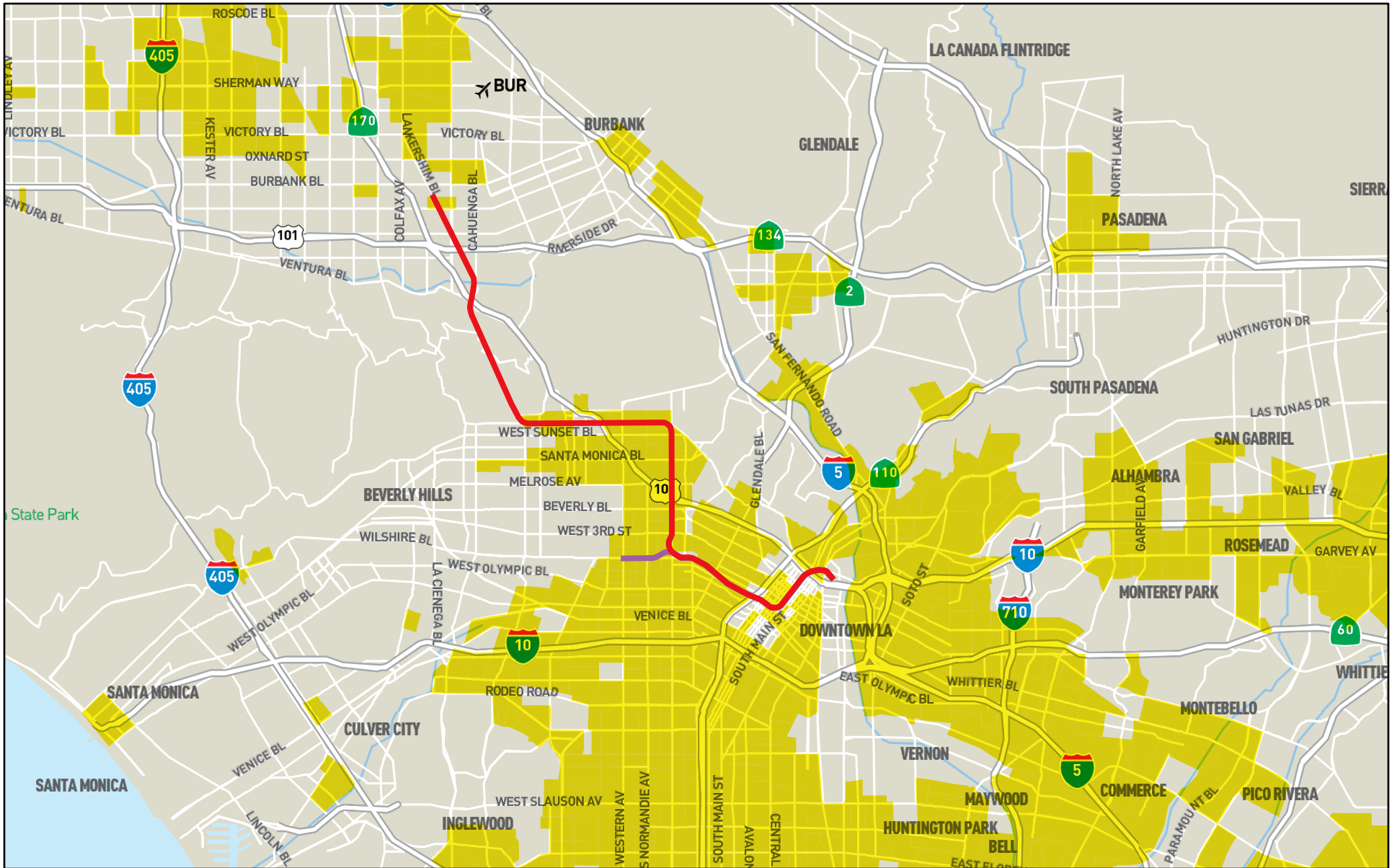
Attachment A - Metro EFC Map - 2022

Prepared by: Annie Yang, Sr. Director, Vehicle Engineering & Acquisition, (213) 922-3254
Jesus Montes, Sr. Executive Officer, Vehicle Engineering & Acquisition (213) 418-3277
Debra Avila, Deputy Chief Vendor/Contract Management Officer, (213) 418-3051
Lillia Montoya, Deputy Chief Operations Officer, Admin & Development (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034

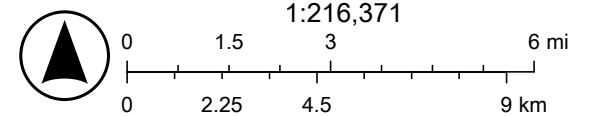

Stephanie N. Wiggins
Chief Executive Officer

Attachment A_Metro EFC Map - 2022



10/27/2022

Metro Rail and Busway (Existing) — D Line (Purple)
— B Line (Red) — EFCs (Updated 2022)





Board Report

File #: 2022-0719, File Type: Contract

Agenda Number: 34.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: MANAGED PRINT AND DIGITAL COPY SERVICES

ACTION: APPROVE CONTRACT AWARD

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a five-year, firm-fixed unit rate Contract No. PS83011000 to Canon Solutions America, Inc. to provide managed print and digital copy services Metro-wide for an amount not-to-exceed \$3,620,673, effective March 1, 2023, subject to resolution of protest(s), if any.

ISSUE

The existing contract with Xerox Corporation will expire on February 28, 2023.

Approval of the contract award will allow sufficient time for the transition/mobilization period required for the acquisition and installation of 240 multi-function devices (MFD) at various Metro locations and the removal of old equipment.

BACKGROUND

The current contract with Xerox Corporation has been in place for seven (7) years, and the equipment is now outdated. The award of a new contract will allow Metro to implement new technology and software with Managed Print Services (MPS). The MPS monitors the usage of the copiers and addresses malfunctions and repairs that are required. In addition, it will also place orders for replacement parts and supplies. This will allow for efficient management of printing and imaging services. It also supports a hybrid and remote work environment since print management is centralized.

DISCUSSION

Metro currently leases 228 MFDs to enable staff at all Metro locations to copy, print, fax, and scan documents. Under the new contract, Metro intends to lease 240 units to facilitate the agency's growth and provide equipment to new locations. New locations include:

- Compton, Chatsworth, Azusa, and Willowbrook locations

- Division 11 Trailers A & B
- Division 15 Maintenance Shop

In addition to the new MFDs, Metro will now have access to a Managed Print Services solution. The MPS solution will help support Metro's new hybrid culture of teleworking. This solution will improve accessibility to our equipment for staff teleworking which will support employees in completing work assignments. Additionally, Metro will only pay per click prints, which is a cost-effective solution.

DETERMINATION OF SAFETY IMPACT

Approval of this item will not impact the safety of Metro's employees and patrons.

FINANCIAL IMPACT

The funding of \$1,004,000 is allocated in the FY23 Budget within cost center 6420, Copy Services, Account 51205, Rental & Lease of Office Equipment, under Project 100001. Since this is a multi-year contract, the cost center manager and the Chief People Officer will be responsible for budgeting the cost in future years.

Impact to Budget

The source of funds for this contract is Project 100001 General Overhead, and is comprised of Federal, State, and local funds. These funds are eligible for these services.

EQUITY PLATFORM

There are no adverse equity impacts anticipated from this contract. The updated printing services are expected to better support Metro's hybrid workforce.

The Diversity and Economic Opportunity Department (DEOD) established an 8% Disadvantaged Business Enterprise (DBE) goal for this solicitation. Canon Solutions America, Inc. made an 8% DBE commitment for this contract.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The Board action supports Strategic Goal 5: Provide responsive, accountable, and trustworthy governance within the Metro organization. These services will ensure that Metro maintains and nurtures a diverse, inspired, and high-performance workforce.

ALTERNATIVES CONSIDERED

The Board may decline to approve this contract. This is not recommended as the alternatives below this recommendation are not feasible:

1. Send all photocopying and printing requirements to the Copy Center and/or an outside vendor. This is not recommended because it would impede workflow. Although staff already sends

large copy projects to the Copy Center, efficient and effective office productivity requires the ability to scan, copy, and print documents in smaller quantities immediately within the employees' work area.

2. Purchasing new machines. This alternative is also not recommended due to the large initial capital cost involved in acquiring multi-function devices, continued maintenance agreements, and the obsolescence that occurs with electronic devices.
3. Continue the current lease for multi-function devices. This alternative is not recommended because the equipment has been used for almost 7 years, and the technology is obsolete. Additionally, newer technology and increased capabilities of new devices will allow staff to improve the document management process.

NEXT STEPS

Upon approval by the Board, staff will execute Contract No. PS83011000 with Canon Solutions America, Inc. to manage print and digital copy services Metro-wide effective March 1, 2023.

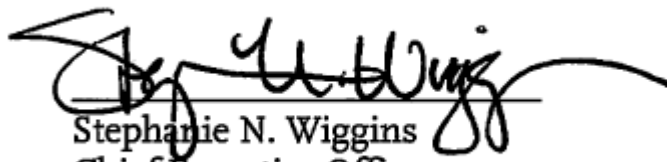
ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - DEOD Summary

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Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

MANAGED PRINT AND DIGITAL COPY SERVICES/PS83011000

1.	Contract Number: PS83011000	
2.	Recommended Vendor: Canon Solutions America, Inc.	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: June 14, 2022	
	B. Advertised/Publicized: June 14, 2022	
	C. Pre-Proposal Conference: June 23, 2022	
	D. Proposals Due: August 19, 2022	
	E. Pre-Qualification Completed: October 25, 2022	
	F. Conflict of Interest Form Submitted to Ethics: August 23, 2022	
	G. Protest Period End Date: November 11, 2022	
5.	Solicitations Picked up/Downloaded: 26	Bids/Proposals Received: 3
6.	Contract Administrator: Antonio Monreal	Telephone Number: (213) 922-4679
7.	Project Manager: Raul Gomez	Telephone Number: (213) 922-7494

A. Procurement Background

This Board Action is to approve the award of Contract No. PS83011000 to Canon Solutions America, Inc. to provide managed print and digital copy services Metro-wide for a period of five (5) years. Board approval of contract award is subject to the resolution of any properly submitted protest.

On June 14, 2022, Request for Proposals (RFP) No. PS83011 was issued as a competitive procurement in accordance with Metro's Acquisition Policy and the contract type is a firm-fixed unit rate.

The RFP was issued with a Disadvantaged Business Enterprise (DBE) goal of 8%.

Four amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on July 15, 2022, extended the proposal due date.
- Amendment No. 2, issued on August 3, 2022, extended the proposal due date, revised the scope of services to clarify scanning solution requirements, and updated the schedule of quantities and prices to include an option to upgrade licenses for Metro's document management solution.
- Amendment No. 3, issued on August 5, 2022, revised the invoicing and billing requirements in the scope of services and updated the schedule of prices and quantities accordingly.
- Amendment No. 4, issued on August 12, 2022, modified the scope of services to refine software requirements for the multifunction devices, adjusted the schedule

of quantities and prices to align with changes to the scope of services, and clarified the evaluation criteria and submittal requirements.

A virtual pre-proposal conference was held on June 23, 2022. Seventy-five questions were received, and Metro provided responses prior to the proposal due date.

A total of 26 firms downloaded the RFP and were included on the planholders' list.

Three proposals were received by the due date of August 19, 2022, and are listed below in alphabetical order:

1. Canon Solutions America, Inc. (Canon)
2. Ricoh USA, Inc. (Ricoh)
3. Xerox Corporation (Xerox)

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from General Services, Transportation Planning, and Information Technology Services was convened and conducted a comprehensive technical evaluation of the proposals received.

On August 22, 2022, the PET met to review the evaluation criteria package, process confidentiality and conflict of interest forms, and take receipt of the proposals to initiate the evaluation phase. Evaluations were conducted from August 22, 2022, through October 13, 2022.

On October 13, 2022, Metro's Diversity and Economic Opportunity Department (DEOD) determined Ricoh USA (Ricoh) to be non-responsive for failure to meet the DBE 8% goal. Hence, Ricoh was excluded from consideration.

The PET evaluated proposals based on the following evaluation criteria stated in the RFP:

Phase I Evaluation – Minimum Qualification Review: This is a pass/fail criteria. The criteria focused on the proposer's years of experience in providing managed print services and related support services, capability to service the leased equipment throughout the term of the contract, and availability of a web-based online reporting and tracking system.

Phase II Evaluation – Technical Evaluation Review.

Proposals that passed the Phase I evaluation were further evaluated based on the following criteria:

Qualifications of the Prime Contractor and the Team Skills and Experience	15 percent
---	------------

Technical and Functional Capability of Proposed Equipment, Software, and Overall Infrastructure	15 percent
Understanding of the Scope of Services and Management Plan/Approach	40 percent
Cost Proposal	30 percent

The evaluation criteria are appropriate and consistent with criteria developed for similar projects. Several factors were considered in developing these weights, giving the greatest importance to the understanding of the scope of services and management plan/approach.

Demonstrations were held starting September 14, 2022, through September 29, 2022. Initial demonstrations were conducted at the proposers' client site to test the performance and functionality of the proposed equipment. A second demonstration was held at Metro's headquarters to test network connectivity, security and integration. Oral presentations were held immediately following the second demonstration. The Proposers' project managers and key team members had an opportunity to present their team's qualifications, discuss their technical approach, and respond to questions from the PET.

Qualifications Summary of Firms within Competitive Range:

Canon Solutions America, Inc.

Canon Solutions America, Inc., (Canon), a wholly owned subsidiary of Canon U.S.A., Inc., is a provider of consumer, business-to-business, and industrial digital imaging solutions in the United States, Latin America, and the Caribbean. It has been in business since 1974 and has four local sales/service offices located in Glendale, Long Beach, Ontario, and Irvine. Southern California clients include Redondo Beach Unified School District, the Counties of San Francisco and Ventura, and the City of San Francisco.

Xerox Corporation

Xerox Corporation (Xerox), headquartered in Norwalk, CT, was founded in 1906 as The Haloid Photographic Company, a manufacturer and distributor of photographic paper and equipment. The company changed its name to Xerox Corporation in 1961. It provides workplace solutions, document management, and digital printing technologies. Southern California clients include the Superior Court of California and Counties of Los Angeles and San Diego.

The following is a summary of the PET scores:

1	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
2	Canon Solutions America, Inc.				
3	Qualifications of the Prime Contractor and the Team Skills and Experience	90.27	15%	13.54	
4	Technical and Functional Capability of Proposed Equipment, Software, and Overall Infrastructure	99.20	15%	14.88	
5	Understanding of the Scope of Services and Management Plan/Approach	93.02	40%	37.21	
6	Cost Proposal	100.00	30%	30.00	
7	Total		100%	95.63	1
8	Xerox Corporation				
9	Qualifications of the Prime Contractor and the Team Skills and Experience	89.47	15%	13.42	
10	Technical and Functional Capability of Proposed Equipment, Software, and Overall Infrastructure	99.20	15%	14.88	
11	Understanding of the Scope of Services and Management Plan/Approach	88.28	40%	35.31	
12	Cost Proposal	97.63	30%	29.29	
13	Total		100%	92.90	2

C. Cost/Price Analysis

The recommended price has been determined to be fair and reasonable based on price analysis, technical analysis, and fact-finding. The recommended price is 41.74% lower than Metro's independent cost estimate (ICE). Proposers were able to offer very competitive prices due to significant improvements in technology which reduced production costs, economies of scale and competition.

Proposer Name	Proposal Amount	Metro ICE	Award Amount
Canon Solutions America, Inc.	\$3,620,673	\$6,214,920	\$3,620,673
Xerox Corporation	\$3,708,706		

D. Background on Recommended Contractor

Canon Solutions America, Inc., (Canon), headquartered in Melville, New York, provides digital print technologies, large-format printing solutions and document management services. It has four local sales/service offices located in Glendale, Long Beach, Ontario and Irvine and a US based Help Desk Call Center that covers a

wide spectrum of hardware, software, network connectivity, application, and workflow issues.

Canon's proposed Project Manager has 30 years of experience in the industry and focuses on government and education accounts in Southern California. The Canon team includes two DBE subcontractors: Say Cargo Express and Triumph Technology Group. Collectively, the subcontractors will provide ground transportation, transport hardware, and training and support. Canon currently provides lease and maintenance of high-speed copiers and equipment for the Metro Copy Center, and performance has been satisfactory.

DEOD SUMMARY

MANAGED PRINT AND DIGITAL COPY SERVICES/PS83011000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established an 8% Disadvantaged Business Enterprise (DBE) goal for this solicitation. Canon Solutions America met the goal by making an 8% DBE commitment.

Small Business Goal	8% DBE	Small Business Commitment	8% DBE
----------------------------	---------------	----------------------------------	---------------

	DBE Subcontractors	Ethnicity	% Committed
1.	Say Cargo Express, Inc.	Hispanic American	3.12%
2.	IMAP Inc. dba Triumph Technology Group	Hispanic American	4.88%
Total Commitment			8.00%

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

C. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.



Board Report

File #: 2022-0262, File Type: Policy

Agenda Number: 35.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022

SUBJECT: METRO 2022 TRANSIT SERVICE POLICY

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

ADOPT the 2022 Transit Service Policy (Attachment A).

ISSUE

Metro's Transit Service Policy (TSP) is periodically revised to reflect the policy framework for how the agency meets existing and anticipated challenges with providing high quality transit service. This policy is required as part of Federal Title VI compliance. Changes to the Metro TSP were last adopted by the Metro Board in January 2020, reflecting the newly developed framework for the NextGen Bus Plan focused on developing a fast, frequent, and reliable bus network. Since that time, the NextGen Bus Plan has been adopted and the majority of the service plan has been implemented. This 2022 update for the TSP reflects the approved and implemented NextGen Bus Plan and will serve as a fundamental guide for bus route design, scheduling, implementation and evaluation for Metro transit service moving forward based on the principles established in the NextGen Bus Plan.

BACKGROUND

Metro's Transit Service Policy (TSP) establishes criteria and guidelines to ensure that the transit system is developed and managed consistent with policy guidance approved by the Metro Board of Directors. These include criteria for service provision including minimum service frequencies, load standards and route and stop spacing. The TSP also includes a formal process for evaluating services, service design guidelines, and a process for implementing service changes.

DISCUSSION

This 2022 update of the Transit Service Policy (Attachment A) incorporates the following changes:

- Critical elements of the NextGen Bus Plan were updated to reflect the plan having been adopted and largely implemented, including:
 - NextGen frequency tiers
 - Toolkit of bus speed and reliability tools,

- Key system principals and design concepts
- Addition of Metro MicroTransit pilot service
- Metro's Equity Platform, recognizing the need in planning service to consider higher need for people to use transit in areas with a higher transit equity score, such as Equity Focus Communities
- Restored documentation of on time performance standards

A redlined version of all of the changes is provided in Attachment B.

DETERMINATION OF SAFETY IMPACT

This Transit Service Policy and all recommendations identified will be implemented with full adherence to established safety policies and procedures.

FINANCIAL IMPACT

Implementation of any of the recommendations, elements, and principles established in the policy document would be reflected in the annual Metro Operating and Capital budgets brought to the Board for approval. The adoption of this updated TSP document does not directly impact the budget.

EQUITY PLATFORM

This 2022 update of the TSP continues to incorporate Metro's Title VI Service and Fare Equity Analysis policy which provides for formal consideration of the impact on people of color (minority) and low-income communities of any Metro major service change. This update also incorporates the 2022 Equity Focus Communities definition and addresses the Four Pillars of the Equity Platform.

The TSP also reflects the NextGen principles of all day frequent service based on a set of frequency tiers, which resulted in more bus service resources in areas with higher Transit Equity scores and in Equity Focus Communities (EFCs), where the need to use the Metro transit system is greatest. The TSP also includes the NextGen Bus Speed and Reliability program of new bus lanes, signal priority, all door boarding, plus bus stop and terminal optimization. The roll out of these enhancements will further improve the rider experience through faster and more reliable travel, especially in areas with higher Transit Equity scores and in EFCs where the most frequent and highest ridership bus services are concentrated.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan goal #1: Provide high quality mobility options that enable people to spend less time traveling. This update to the TSP also encompasses two sub-goals: 1) Target infrastructure and service investments towards those with the greatest mobility needs; and 2) Invest in a world class bus system that is reliable, convenient, safe, and attractive to more users for more trips.

Alternatives_Considered

ALTERNATIVES CONSIDERED

This new version of the TSP updates the January 2020 version to reflect the NextGen Bus Plan implementation. There are no other updates required at this time.

NEXT STEPS

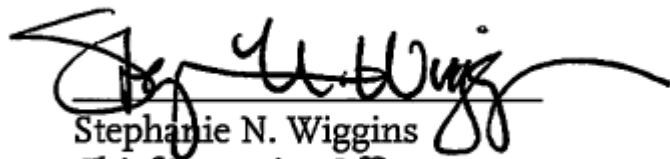
With the adoption of the 2022 Metro Transit Service Policy, staff will continue to work towards the full implementation of the NextGen Bus Plan with the roll out of addition bus speed and reliability improvements. Lessons learned from this process will be included in future updates for the Transit Service Policy.

ATTACHMENTS

Attachment A - December 2022 Metro Transit Service Policies and Standards
Attachment B - The redline version

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Stephanie N. Wiggins
Chief Executive Officer

Transit Service Policy

December 2022



Metro®

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EXECUTIVE SUMMARY

Los Angeles County Metropolitan Transportation Authority (Metro) serves as transportation planner, coordinator, designer, builder and operator for Los Angeles County. More than 10.3 million people live, work, and play within its 1,469-square-mile service area.¹

Metro's Transit Service Policy (TSP) establishes criteria and guidelines to ensure that the transit system is developed and managed consistent with policy guidance approved by the Metro Board of Directors, including a formal process for evaluating services, service design guidelines, and a process for implementing service changes.

In 2018, the Board adopted Metro Vision 2028 as the agency's strategic plan. The Plan outlines five goals to guide the development of transportation in LA County. These goals will help Metro ensure that our customers feel safe when riding, that they do so in clean equipment, service is reliable and on-time, and our staff provides service in a courteous manner.

Goal 1: Provide high-quality mobility options that enable people to spend less time traveling

Goal 2: Deliver outstanding trip experiences for all users of the transportation system

Goal 3: Enhance communities and lives through mobility and access to opportunity

Goal 4: Transform LA County through regional collaboration and national leadership

Goal 5: Provide responsive, accountable, and trustworthy governance within the Metro organization

Also in 2018, Metro began the NextGen Bus Study to review and update the Metro bus system to ensure it provides a competitive transit service to meet the travel needs of LA County residents and visitors. The NextGen Bus Study included a comprehensive look at both Metro bus service performance and the overall travel market in LA County to determine where Metro bus service could be more useful. The study included significant input from riders and stakeholders to help develop a framework of guiding principles for positioning Metro's bus services to be more competitive in the overall travel market and to most effectively serve Equity Focus Communities, where the need for high quality transit is greatest.

In early 2020, the Metro Board approved the release of a draft NextGen Bus Plan for public review. Significant public input gathered in the first half of 2020 resulted in a revised draft NextGen Bus Plan being released ahead of public hearings, Service Council approvals, and Board adoption of this plan in October 2020. Phased implementation of the NextGen Bus Plan occurred beginning in December 2020, with additional phases in June and September/December-2021. Key elements of the NextGen Bus Plan, including a set of frequency tiers and bus speed and reliability tools, are reflected in this update of the Transit Service Policy.

¹ Represents all people living in the Census Tracts covered by Metro's service area per the 2020 Census Data. Service area is calculated from taking 0.75 mile buffer around all Metro bus line and rail stations.

SECTION 1: INTRODUCTION, PURPOSE & BACKGROUND

Metro first adopted a Transit Service Policy (TSP) in 1986. The TSP is reviewed on at least a triannual basis and updated as needed to better reflect agency goals and objectives, major initiatives, and changes in local, state, and federal regulations and funding. It is a required component of Metro's Title VI Plan. This document updates the most recent version adopted by the Board as part of the NextGen Bus Plan adoption in October 2020². This document sets forth the policies, principles, and service guidelines that are used by Metro staff in the design or modification of the bus network to better serve customers and make more beneficial use of available operating resources. The TSP outlines the service change process that provides the quantitative tools to evaluate the system, identifies the process required to seek public input on and approvals for major service changes to the system, and ensures the regional transit system is adjusted according to the service goals and objectives approved by the Metro Board.

Metro operates a comprehensive bus and rail network that complements Metrolink regional rail and municipal operator services across LA County. Determining the most appropriate transit service on a corridor depends on several factors such as demand, resource availability, site and corridor characteristics, environmental considerations, and community acceptance. The characteristics that determine which type of service is most appropriate are summarized in Table 1.1.

Metro Bus

As of December 2021, Metro operates 119 bus routes. Metro's bus operations consist of directly operated and contract operated services: 103 routes are directly operated by Metro, and 16 routes are operated by contractors. Metro serves over 12,200 bus stops, including station stops on the G Line (Orange) and J Line (Silver) BRT systems. On weekdays, Metro operates a fleet of over 1,600 buses during peak service hours. Metro operates the largest portion of all bus services provided in the region. Municipal and Local Return operators provide additional public bus and paratransit services in areas of the region where Metro provides limited or no service. Metro relies on Access Services for provision of ADA paratransit service in the Metro service area.

As developed in the NextGen Bus Study, Metro classifies its bus services into tiers stratified by the frequency of service. The tiers are assigned to individual routes in accordance with demand and propensity for future growth. Table 1.2 describes the features of each of Metro's bus service types. Tier definitions are:

- **Core (Tier 1):** weekday all day headways of 10 minutes or better
- **Convenience (Tier 2):** 12 to 15 minutes
- **Connectivity (Tier 3):** 20 to 30 minutes
- **Community (Tier 4):** 40 to 60 minutes
- **Commuter (Tier 5):** Varies by Line

² boardagendas.metro.net/board-report/2020-0617/

Table 1.1 *Service Type Determination*³

Service Type	Corridor	Optimal Characteristics
Heavy Rail (Subway)	Operate 100% within an exclusive right of way.	<ul style="list-style-type: none"> – 2,500 boardings per route mile or more than 50,000 boardings per day. – Ability to construct a fully grade-separated facility.
Light Rail	Operate in mixed flow traffic, semi-exclusive or a fully- exclusive right of way.	<ul style="list-style-type: none"> – 1,000 boardings per route mile or more than 25,000 boardings per day. – Ability to construct a guideway within or adjacent to the corridor.
Commuter Routes (Tier 5)	Operate in mixed-flow traffic in either a High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane. May operate segments of the route on local streets. Operated using 40', 45', or 60' buses.	<ul style="list-style-type: none"> – 300 or more boardings during peak-hour and in peak direction of travel.
Metro Liner and Metro Rapid	Operated using 40', 45' or 60' buses. <ul style="list-style-type: none"> – Metro G Line BRT and J Line (Metro Liner) operate entirely or partially on a fixed guideway dedicated to transit buses. – Metro Rapid Lines operate in exclusive peak period or all day bus lanes or mixed flow traffic on local streets with signal priority. 	<ul style="list-style-type: none"> – 300 or more boardings during peak-hour and in peak direction of travel. – Daily average of more than 500 boardings per route mile or more than 10,000 daily boardings. – Ability to implement operating speed improvements in the corridor.
Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), and Community (Tier 4) Local Routes	Operate in mixed flow traffic on local streets by 32', 40', 45', or 60' buses. <ul style="list-style-type: none"> – Core lines to be supported by exclusive peak period or all day bus lanes and signal priority on existing and former Metro Rapid corridors. – Lines are also defined in terms of the frequency of service offered, with Core lines being the most frequent and Community lines having a minimum frequency of at least hourly, with all tiers intended to run all days of the week. 	<ul style="list-style-type: none"> – The median bus route carries about 4,500 average weekday boardings (pre-COVID, 2019). – Core and Convenience services are expected to carry more than the daily median, while Connectivity and Community are anticipated to carry less.

³Capacity limits adapted from TCRP, Research Results Digest, November 1999—Number 35, Highlight of Large Transit Capacity and Quality of Service Manual, Figure 1 Achievable Capacity (Peak direction passengers/hour)

These frequency tiers are especially important to ensure high frequency service is provided on key corridors serving Equity Focus Communities⁴ where the need for high-quality transit is greatest.

Table 1.2 *Metro Bus Service Types and Features*

Feature	Bus Service Type			
	BRT and Liner	Rapid	Commuter (Tier 5)	Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community (Tier 4) Local Bus Services
Right of Way	Segregated right-of-way	Major arterials; peak hour or all-day bus lanes	Major arterials and freeways.	Major arterials and local streets; peak hour or all-day bus lanes for Core Tier 1 lines, with bus bulbs as alternative to bus lanes for Tier 1 and 2 lines
Target Average Stop Spacing	1.25 miles	0.75 mile	1.25 miles	0.25 mile
Target Travel Market	Inter-community, regional	Inter-community	Inter-community, regional	Inter-community, neighborhood
Vehicle Type	40/45/60-foot buses	40/45/60-foot buses	40/45/60-foot buses	32/40/45/60-foot buses
Communities Served	Multiple	Multiple	Multiple	Multiple
Signal Priority	Yes	Yes	No	Yes for Core and Convenience (Tiers 1 and 2)
Fare Collection	On board J Line (Silver) Off-board pre-pay G Line (Orange)	On board	On board	On board, with all-door boarding a goal for Core and Convenience (Tier 1 and 2)
Passenger Amenities	Shelters and stations	Shelters and stations	Shelters and stations	Benches and shelters
Real-time Passenger Info	Yes	Yes	Yes	At some stops and via smart phone applications

Metro Liner Transit

⁴ In 2018, Metro’s Board adopted ~~an~~ the Equity Platform, a framework that guides how the agency works to address inequities and create more equitable access to opportunity. In 2019, under the Equity Platform, the Board adopted ~~a definition for~~ community designation called Equity Focus Communities (EFCs) to help identify where transportation needs are greatest. ~~The EFCs are definition of EFCs, as of 2022, ed as areas~~ consists of areas where there are higher concentrations of resident and household demographics associated with mobility barriers (low-income households earning less than \$60,000 per year; Black, Indigenous, or People of Color (BIPOC) populations; and households that do not have a car) ~~least 40% of residents are low income (earning \$35,000 or less per year), and 80% of residents are people of color, or 10% of households do not have a car.~~

Metro Liner transit provides regional, high-speed line haul service in high-volume corridors. These lines are designed to operate like rail service, complete with separated right-of-way, wide stop spacing, bus stations, pre-paid and/or all door boarding, real time customer information, and transit signal priority. Currently, Metro operates two Metro Liner services:

- **G Line (Orange)** operates on its own semi-exclusive right-of-way, and meets the Federal Transit Administration (FTA) definition of Bus Rapid Transit (BRT)
- **J Line (Silver)** operates on the I-10 and I-110 ExpressLanes (freeway toll lanes) as well as surface streets through downtown Los Angeles, so it does not fully meet the FTA definition of BRT. J Line charges a premium fare (coordinated with Foothill Transit service fares on same corridor) since it operates on the freeway.

Attributes supporting the Metro Liner services and other Metro bus services as part of the NextGen Bus Speed and Reliability focus are:

- **Separated Bus Lanes:** There are three types of segregated bus lanes that Metro Liner service can use:
 - Fully segregated transit bus right-of-way: segregated bus lanes reserved exclusively for transit service on a full-time basis such as the right-of-way built for the G Line (Orange) or the I-10 transitway for the J Line (Silver) other transit services. These lanes can either be spaced apart from streets and freeways or be physically separated with either physical barriers or painted lines.
 - Exclusive bus lanes operating on existing arterial roads and local streets on a part-time basis (e.g. peak period weekday, daytime weekday, etc.). These lanes are also being implemented to support the NextGen Core (Tier 1) Local bus lines and Metro Rapid lines.
 - HOV travel lanes reserved not only for transit but also for high occupancy vehicles and sometimes vehicles paying a toll. Separation is achieved with either physical barriers or painted lines. J Line (Silver) and Metro Commuter (Tier 5) services use this third type of lane on parts of the I-10 and I-110 freeways.

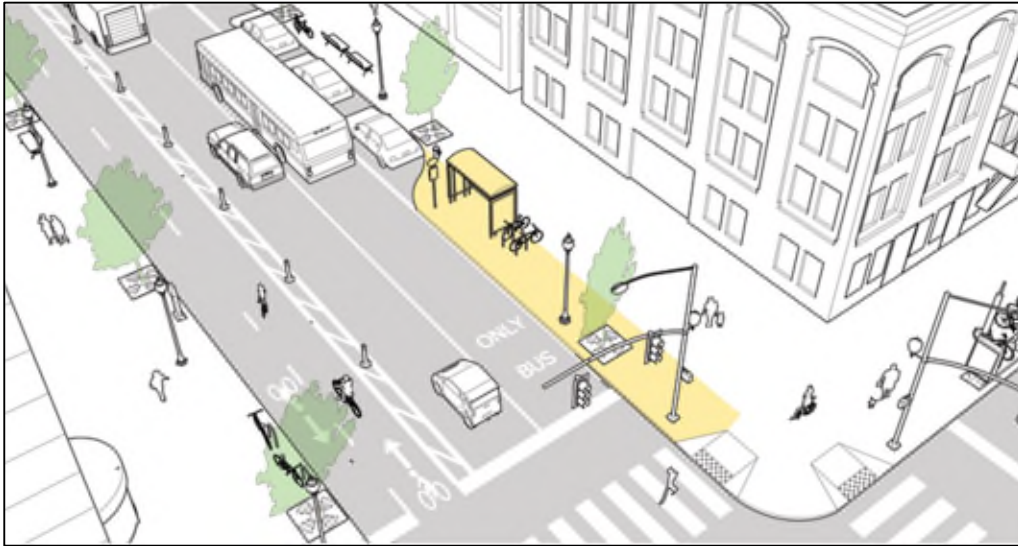


Figure 1.1 *Bus bulb*

Bus Bulb Outs: On NextGen Core (Tier 1) and Convenience (Tier 2) corridors where dedicated bus lanes are unable to be accommodated due to the need to maintain traffic and parking capacity, or where the frequency of service (less than 7.5 minute headway) does not warrant dedicated lanes, bus bulb-outs can support transit service by minimizing stop delay. Bulb-outs are extensions of the bus zone, typically across the first parking lane, that enable buses to serve the bus stop from the second traffic lane. This reduces delays for buses merging in and out of traffic and creates additional space for transit stop amenities. Figure 1.1 provides an illustration.⁵

- **Transit-Signal Priority:** This key NextGen Bus Speed and Reliability strategy facilitates the movements of in-service transit vehicles through signalized intersections to improve transit performance by extending the green phase or shortening the red phase (advancing the green phase) of traffic signals when a transit bus is detected at an intersection. This technology already exists on former and existing Metro Rapid corridors in City of LA, selected other cities, and LA County unincorporated areas, or is being added to NextGen Core (Tier 1) and Convenience (Tier 2) routes. Metro is working with LADOT to adapt LADOT’s existing Transit Signal Priority system to better serve Metro’s NextGen service model. The work underway will adapt LADOT’s system to provide signal priority to all Metro buses. Certain constraints of the old system such as only serving buses that arrived late and requiring individual buses to be associated with a single corridor will also be removed. This project will provide improved signal priority operation for all Metro buses operating on equipped corridors. Work on this project is anticipated to be complete by fall 2022.
- **Headway-Based Service Management:** Operating the most frequent and highest usage bus lines on a system based on managing headways (or intervals) between trips rather than operating based on timepoints to regulate service offers the chance to keep service

⁵ Illustration from National Association of City Transportation Officials Urban Design Guide: nacto.org/publication/urban-street-design-guide/street-design-elements/curb-extensions/bus-bulbs/

moving while minimizing wait times and travel times for riders. This approach will be piloted as part of the NextGen Bus Speed and Reliability initiatives using a mix of staff- and technology-based line management techniques.

- **Bus Transit Centers and Stop Amenities:** Stations and shelters provide customers with enhanced comfort and safety. As part of the NextGen Bus Plan, Metro will continue to work with municipalities to maximize the number of bus stops with seating and shelter, as this function is led by municipalities. An emphasis will be made on allocating many of these amenities to Equity Focus Communities where the need for high quality transit is greatest.
- **Streetscape:** Streetscape and other design features such as landscaping, pedestrian countdown signals, bicycle racks, and well-designed crosswalks make it easier for pedestrians and bicyclists to access the stations.
- **Fare Collection Amenities:** For convenience and faster service, major stations have ticket vending machines (TVMs) which allow customers to preload their TAP cards. For the G Line (Orange), all fare collection is completed at the stations and the fleet does not have on-board fare boxes. The J Line (Silver) has TAP validators at both the front and back doors to facilitate all-door boarding to speed up boarding and reduce rider travel times. Metro Rapid Lines 720 (Wilshire) and 754 (Vermont) operate on two of Metro’s busiest bus service corridors and have also piloted this option. All-door boarding will be extended to all Core (Tier 1) and Convenience (Tier 2) lines by mid-decade to help reduce travel times for most riders.
- **Park & Ride Facilities:** Provided in close proximity to major stops and stations. Adjacent development and joint use parking are encouraged.
- **Advanced Transportation Management Systems:** ATMS provide an array of technologies to improve service reliability and customer experience including on-board stop announcements.

Articulated Buses

The G Line (Orange) operates with a dedicated fleet of 60’ higher capacity articulated buses. The advantage of the deployment of articulated buses is the opportunity to reduce vehicle requirements and service hours while maintaining high ridership capacity; however, deployment should not increase service intervals to the point where service quality is degraded. For this reason, bus lines with a peak headway of five minutes or better are ideal candidates for this type of bus. In evaluating services for higher capacity articulated buses, other factors must be considered including facility compatibility, street design, and operational factors such as buses that operate on a mix of lines during their operating day. The deployment of articulated buses must also be coordinated with the efforts to convert the Metro fleet to fully zero-emission buses.

Metro Rail

As of May 2022, Metro operates two heavy rail and four light rail lines serving a total of 96 stations across approximately 101 route miles, with a fleet of 102 heavy rail and 293 light rail cars. Metro Rail operates in heavily congested, high-demand travel corridors and provides

connections to key multi-modal transportation hubs. Metro operates two types of rail service to better match the transit mode with specific customer demand and needs. Metro heavy rail is high-capacity, two line rapid transit services operating along a dedicated subway right-of-way, serving full-scale transit stations in some of the most densely populated areas of LA County. Metro's existing light rail system consists of four lines with segments of mixed flow, street running, or grade separated right of way, with full-scale transit stations. The rail system is a critical public transportation asset in the greater Los Angeles region, linking many key multi-modal transportation centers and destinations together.

Metro's heavy rail is the subway system served by the B and D Lines (Red, Purple) powered by a third rail and operated with 4- or 6-car train sets. Metro's four light rail lines – A (Blue), C (Green), E Line (Expo), and L Line (Gold) are powered by overhead catenary wires, generally use shorter 2- or 3-car train sets, and operate at slower speeds than heavy rail.

The first segment of the new 8.5 mile, 8-station Crenshaw/LAX K Line is expected to open in late 2022. A ninth new station, the Airport Metro Connector (AMC) Station, should open by the end of 2024. The new 1.9 mile Regional Connector light rail alignment through downtown LA will also open around the same time as the K Line, which will see the L Line (Gold) rail line realigned into the A Line (Blue) and E Line (Expo) services, creating direct links from Long Beach to Azusa (A Line) and Santa Monica to East LA (E Line). This alignment includes two new stations and one replacement station.

SECTION 2: DESIGNING A WORLD CLASS BUS SYSTEM

As outlined in the Executive Summary, in 2018, the Board adopted Metro Vision 2028 as the agency's strategic plan. The Plan outlines five goals to guide the development of transportation in LA County. The NextGen Bus Study was also initiated in 2018 to reimagine the Metro bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. The NextGen Bus Plan and Study were completed to address **Goal #1: Provide high quality mobility options that enable people to spend less time traveling.** The study also encompassed two sub-goals: 1) Target infrastructure and service investments towards those with the greatest mobility needs; and 2) Invest in a world class bus system that is reliable, convenient, safe, and attractive to more users for more trips.

In addition to the Vision 2028 strategic plan, the Board adopted Motion 38.1 (June 2018), endorsing travel speed, service frequency, and system reliability as the highest priority service design objectives for the NextGen Bus Study. Finally, regardless of the level of resources expended on the bus network, optimizing system performance should always be an objective in network design to maximize benefit to the public from available resources.

These goals and objectives drove the development of the NextGen Bus Plan, including guiding principles for routing, stop spacing, frequency, span of service, and coordination with municipal operators. A set of performance measures are defined below to ensure the bus network continues to evolve consistent with the intent of NextGen to create a competitive bus service for LA County.

NextGen Bus Plan

Metro Vision 2028 envisions building a World Class Transportation System in which a World Class Bus System is a cornerstone to its success. Building a World Class Bus System requires improving the attractiveness and competitiveness of the bus network. Attractiveness includes addressing issues such as safety and security, cleanliness, comfort, real-time arrival information, easy fare payment, wayfinding and signage, and first/last mile access. Competitiveness requires developing a bus network that minimizes the overall travel time to complete a trip compared to the driving alternative. This travel time considers directness of route, access to and from the bus stop, waiting time, and onboard travel time.

As mentioned in the Executive Summary, NextGen's primary purpose was to improve the competitiveness of the bus network. However, through this process, improvements to certain aspects of attractiveness can also be achieved. The following outlines the strategy of the NextGen Bus Plan's design as the foundation for building a fast, frequent, and reliable World Class Bus System.

Step 1: Reconnect Scenario: Metro currently provides roughly 7 million revenue service hours (RSH) of bus service per year. The first step in creating a World Class Bus System is to redesign the routes and schedules to attract trips where and when there is the greatest market potential. The lessons learned in Phase 1 of the bus study presented a path forward for reinventing the bus network through restructuring the bus lines consistent with service usage and travel patterns using the following guiding principles identified in the NextGen Bus Study:

- **85% of LA County residents have used transit at least once in the past year**, THEREFORE, the NextGen Bus Plan attempts to maintain coverage throughout the County by minimizing discontinued segments.
- **Fast/frequent/reliable service is key**; THEREFORE, the NextGen Bus Plan is designed to create a competitive transit network that reduces overall travel time by optimizing all components of the trip, including walking, waiting, and riding.
- **Metro’s pre-NextGen bus system was not always competitive to get people where they want to go**, THEREFORE NextGen Bus Plan has adjusted routing to reflect the key origins and destinations identified in cell phone location data and ridership patterns.
- **The greatest opportunity to grow ridership is between midday & evening when many trips are short distance**, THEREFORE service levels under the NextGen Bus Plan have been improved for off-peak periods, especially midday weekday and weekends, with more improvements planned, especially for evenings. New overnight Owl services have been added or are planned.
- **Need to integrate Metro’s Equity Framework into the planning process**, THEREFORE the NextGen Bus Plan service improvements prioritize equity-focus areas where the need for high-quality transit service is greatest.

These lessons were incorporated into the Plan’s Service Design Guidelines outlined in Section 3 to “reconnect” routes and schedules with where and when people travel today as the NextGen Bus Plan Reconnect scenario implemented across the December 2020, June 2021, and September/December 2021 service change cycles. Reconnect was estimated to increase ridership by 5% with no additional increase in revenue service hours. It will also help Metro recover from the impacts of the COVID-19 pandemic on ridership.

Step 2: Transit First Scenario: Building upon the Reconnect scenario of NextGen Bus Plan that provides a bus network that better reflects the travel patterns of today, the next step in building a World Class Bus System is to: 1) invest in speed and reliability infrastructure, 2) create safe and comfortable waiting environments, 3) improve the boarding and riding experience, and 4) establish facilities to optimize layovers. These capital improvements create a more competitive and attractive bus network while saving resources to be reinvested into more frequent service.

- **Speed and Reliability Improvements** – As bus system speeds have continued to decline over the last decade, Metro has had to allocate an additional \$10 million cumulatively on an annual basis to provide the same amount of service. Not only does this reduce the opportunity to increase service, it degrades the competitiveness and attractiveness of bus service and is not sustainable. Therefore, investing to improve the speed and reliability of the bus system is critical to the success of NextGen. Some improvements can be implemented within Metro’s control, such as optimizing stop spacing, implementing all-door boarding, and piloting headway-based service management. However, other improvements can only be implemented through collaboration with local jurisdictions, such as transit signal priority system upgrades and expansion, new bus bulb-outs, and bus-only or bus priority lanes. Under the NextGen Transit First scenario, a major 5-year program of capital improvements was approved to support speed and reliability

improvements for the regional bus network. This investment is anticipated to save 25 - 34% in system speed if fully implemented, and to allow for more frequent service to be delivered without adding additional operating costs. New bus lanes have already been rolled out in 2020 and 2021 on 5th and 6th Sts, Grand Av, Olive St, and Aliso St in downtown LA, and on Alvarado St between 7th St and the 101 freeway. These are just the beginning of a program to add over 80 miles of dedicated bus lanes through partnerships with City of LA and other municipalities.

- **Customer Wait Environment** – Through the significant public outreach conducted in Phase 1 of the NextGen Bus Study, as well as other Metro initiatives such as the How Women Travel Study⁶, we learned that an uncomfortable and unsecured wait environment is a significant barrier for customers in using the bus network. This is particularly concerning for women who account for over half of our customers and often travel with young children. Metro completed the Metro Transfers Design Guide in March 2018⁷. Under the Transit First scenario, the NextGen Bus Plan is intended to begin implementing the recommendations from this policy document at our busiest wait and transfer locations. This investment is anticipated to cost \$150 million and address several of the safety and comfort issues identified through the NextGen outreach and the How Women Travel Study. Implementation will be completed in partnership with local authorities responsible for the provision of bus stop amenities throughout the Metro transit network.
- **Boarding and Riding Experience** – Metro has implemented all-door boarding on the G Line (Orange), J Line (Silver), and Rapid Lines 720 (Wilshire) and 754 (Vermont). Experience on the J Line showed that dwell times were reduced by up to 15% on average, on-time performance improved, and cash payment declined with more TAP penetration. Surveys confirmed that both customers and operators were significantly satisfied with the implementation of all-door boarding. In early 2022, the Metro Board approved the purchase of rear door validators and other equipment to allow for implementation of all-door boarding across the higher frequency Core and Convenience (Tiers 1 and 2) local bus lines. Other strategies to improve the boarding and riding experience have focused on improved real-time information accuracy.
- **Layover Optimization** – Due to limited curb space, many routes are extended purely to access a suitable layover location. These route extensions are not required for riders and cost several million dollars in operating costs per year. By investing in off-street layover terminals to optimize layover locations, Metro can reallocate wasted resources to more productive uses. In addition, these locations can provide facilities for better regional mobility coordination, better wait and rest environments for customers and operators, improved bus service reliability, and opportunities for new en-route Zero Emission Bus (ZEB) charging infrastructure.

⁶ libraryarchives.metro.net/DB_Attachments/2019-0294/UnderstandingHowWomenTravel_FullReport_FINAL.pdf

⁷ dropbox.com/s/jv6ruaxdw5g945b/Metro_Transfers_Design_Guide_2018-0312.pdf?dl=0

This estimated \$1 billion capital program, planned for implementation over a five-year period, is expected to achieve resource savings by generating more revenue service miles/trips with the same number of revenue service hours. These savings would be reinvested into Transit First service improvements, including:

- Ensuring that all bus lines operate seven days per week;
- Increased weekday midday and evening service levels;
- Increased weekend service levels and;
- Expanded owl (overnight) service.

Investing “one time” capital dollars into transit supportive infrastructure will increase the attractiveness and competitiveness of the bus network, while freeing resources to reinvest into service enhancements. Under the Transit First scenario, these benefits are expected to generate a 15-20% increase in ridership (10-15% over and above what Reconnect can achieve) without additional increases in revenue service hours.

Step 3: Future Funding Scenario: Should future funding be secured through efforts such as congestion pricing, additional resources can be added to the NextGen Transit First network. However, without disincentives for driving, there will be diminishing returns on benefits since most customers would already have been served within the Transit First Scenario. Therefore, a 34% increase in revenue service hours to provide even more frequent service, as planned under a Future Funding Scenario, would only be expected to yield a 10% increase in ridership over Transit First.

SECTION 3: SERVICE DESIGN GUIDELINES

Key Principles of Network Design

Three key elements were taken into consideration during the NextGen Bus Study and NextGen Bus Plan to identify when and where transit can be competitive and successful.

- **Transit Propensity** – Areas where the propensity to use transit is the greatest embody three main characteristics: first, there is a significantly large population of transit market segments, including people who rely on transit (especially those identified in Metro’s Equity Focus Communities) for most of their travel such as commuters, students who use transit for work and school trips, and discretionary customers who choose transit for some or all their trips. The second characteristic is the intensity of travel demand to and from areas based on population and employment densities, retail and entertainment, colleges and universities, and other trip generators. Third, a pedestrian-oriented street environment that includes safe and well lighted pathways, sidewalks and curb-cuts, grid street network, and level topography is critical.
- **Existing Service Performance** – It is important to identify the most productive segments of the existing bus network which articulate current transit demand. These corridors and routes have been optimized through the NextGen Bus Plan, and lessons learned will be applied to other areas with similar demand and service characteristics.
- **Service Environment** – A transit-oriented service environment is also critical to the success of transit, not just to facilitate fast, frequent, and reliable transit operations, but also to support to the ability of transit to thrive as a viable option. The importance of environmental elements such as pedestrian orientation of the streets, land use, barriers to other modes such as limited and costly parking supply, and transit supportive infrastructure such as bus-only lanes and other transit prioritization design are critical. The NextGen Bus Speed and Reliability program is working to address this key element.

Once these key elements are taken into consideration in the NextGen Bus Plan’s focus on fast, frequent, and reliable service, this transit orientation can then be translated into design considerations, including elements explained in the following sub-sections.

3.1 Service Design Concepts

Service design concepts were developed as part of the NextGen Bus Study and incorporated into the NextGen Bus Plan based on the feedback received through the study’s stakeholder and public outreach sessions and established as guidelines. Network characteristics most important to the public include:

- Faster service
- Frequent service throughout the day
- More reliable service
- Better network connectivity
- Accessibility to key destinations
- Improved security

Based on these themes, the following service design concepts were incorporated into the NextGen Bus Plan implemented to deliver an improved Metro bus network:

Hybrid Local/Rapid Stop Spacing – Past practice was that stop spacing was determined by route classification. For example, Local lines were planned with $\frac{1}{4}$ mile stop spacing while Rapid lines had $\frac{3}{4}$ to 1 mile stop spacing. As a result, customers travelling on Local lines travelled more slowly but had closer access to origins and destinations. Conversely, Rapid customers travelled faster along a corridor, but may have been picked up or dropped off much further from their origin or destination. In addition, resources were split between the Local and Rapid lines resulting in less frequency for each service. Thus overall end-to-end travel time including walking/rolling to/from stops, waiting for the bus, and in-vehicle run time may result in longer overall travel times on the Rapid, especially for shorter distance trips.

Consolidating Local and Rapid resources along 18 major transit corridors was implemented in 2020/2021 as part of the initial roll out of the NextGen Bus Plan. The single hybrid service retained on these key corridors provides more frequent service at all stops and, when matched with optimized $\frac{1}{4}$ mile average stop spacing adopted as part of NextGen Bus Plan and new bus lanes, results in shorter wait times, faster on-board travel times compared to the previous Local service, and shorter walk/roll compared to Rapid service. In addition, this standardizes the service frequency along the entire corridor as compared to providing inconsistent frequencies between Local and Rapid services that have different speeds. Stop spacing can be adjusted to reflect local conditions with the needs of key destinations such as schools, medical centers, and senior centers being taken into account while balancing the impact each stop has not just for those that use the stop, but for those on board that are delayed by buses stopping.

Shorter Route Lengths and Subarea Transit Hubs – Location-based cell phone data indicates that almost half of all trips made in Los Angeles County are within 1 to 5 miles. In addition, the origin-destination travel patterns indicate that many people travel locally and not necessarily across the region. Creating shorter, core route lengths with maximized service frequency and bus speed improvements such as new bus lanes will improve schedule reliability. Being able to tie the lines to subarea transit hubs will improve network efficiencies and provide safer and more convenient locations for transfers.

Municipal Operator Coordination – Metro serves as LA County’s regional coordinator of transit services. Improved coordination between all operators and modes is vital to establishing an integrated regional transit network. Metro operates within a hierarchy of services, in which Metrolink provides the region’s commuter rail to serve high volume, longer distance trips. Metro Rail, Metro Liner [G Line (Orange) and J Line (Silver)], and Metro Bus serve as the backbone of the urban transit network within much of LA County, and are augmented by municipal operators. Municipal and local return operators complement the system with community and shuttle buses that serve specific neighborhood needs.

It is imperative that Metro bus service be closely coordinated with municipal transit service as roughly one-third of transit service in LA County is provided by municipal bus operators and Metrolink. Their coverage is especially strong in Santa Monica, Culver City, South Bay, Gateway Cities, and eastern San Gabriel Valley as well as Santa Clarita and the Antelope Valleys. Given that several municipal operators are currently undergoing their own system redesigns, there are opportunities to work together to develop service change ideas between Metro and municipal

services to improve overall coordination for customers. The NextGen Bus Plan included four transfers of Metro bus service to municipal operators, two of which were implemented in 2021 in cases where the line was more appropriate as part of the municipal operator’s network.

MicroTransit and Other On-Demand Services – Some areas of the County are difficult to serve with fixed-route transit due to terrain, narrow streets, dispersed lower density destinations, and relatively low travel activity. To address this, Metro is currently conducting a three-year microtransit pilot program, an on-demand, van-based rideshare service branded as Metro Micro. The service launched in December 2020 and the final eighth zone was implemented in December 2021. The zones are: Watts/Compton, LAX/Inglewood, North Hollywood/Burbank, El Monte, Highland Park/Glendale/Eagle Rock, Pasadena/Altadena/Sierra Madre, Northwest San Fernando Valley, and Westwood/UCLA. The service is designed to provide short trips within a zone where each rider would have to wait no more than 15 minutes from the time a reservation is made to when they are picked up at a designated pickup location. Reservations can be made the same day and up to a week in advance. Riders can reserve rides by calling Metro’s Call Center, through an online reservation system, or via the service’s dedicated smart phone application. All pickup and drop-off locations are located within the zone and must be ADA accessible, but are not limited to bus stops. The pilot program will operate for three years, after which Metro will determine whether to make the service permanent or not. A number of lower ridership fixed-route services have been discontinued within the new Metro Micro zones as part of the NextGen Bus Plan implementation, to determine if microtransit can be an effective and efficient replacement for Metro fixed route bus service in these hard-to serve areas.

Table 3.1 *Minimum Rail and NextGen Bus Plan Frequency by Service Type*

Service Type	Peak	Midday Weekday	Weekend	Evening
Heavy Rail	10	12	12	20
Light Rail	10	12-15	15	20
Core Network (Tier 1) Metro Liner and Metro Rapid	5-10	5-10	15	7.5
Convenience Network (Tier 2)	12-15	12-15	30	10
Connectivity Network (Tier 3)	20-30	20-30	60	15
Community Network (Tier 4)	40-60	40-60	60	30
Commuter Network (Tier 5)	varies	varies	varies	varies

Standardize Frequencies by Service Tiers – Prior to the implementation of the NextGen Bus Plan, schedules were written based on the Board-adopted load standard for frequent services (15 min or better) and on policy service levels for low frequency services (less than 15 min). To ensure the core network has consistent frequencies and span of service, the NextGen Bus Plan categorized transit lines into tiers based on transit propensity, current ridership, the nature of the service, and overall travel demand. Each tier has been assigned a frequency range for each time period to ensure that all services within the tier provide consistent service levels for ease of transfer across the network, with minimal adjustment from year to year. These frequency levels are defined in Table 3.1. A line may see frequency improved at a selected time of day in

response to high demand, consistent with the Board-adopted load standard being met on all trips operating on the line.

Routing to Reflect Current Travel Patterns and Transit Propensity – Corridors are currently being evaluated by segments based on the origin-destination travel patterns identified using the cell phone location-based data and regional TAP data. The segments will be connected together to create lines that better align the routing with travel patterns. This is expected to reduce the number of transfers required to make a trip, and to increase the distance travelable and access to opportunities along the network within a given time frame. While resources will be focused in areas with high transit propensity, there will be a concerted effort to maintain service in areas of low demand but with the greatest mobility needs.

Transit Supportive Infrastructure – Service design will identify transit supportive infrastructure that either improves overall travel time and reliability, or reduces inefficiencies in the network. Speed and reliability improvements include bus-only lanes, queue jumpers, bus bulb-outs, traffic signal retiming, transit signal priority, all door-boarding, fare payment technology, and other technologies and infrastructure that improve the attractiveness and competitiveness of transit while reducing revenue hours so that they can be reapplied to provide more frequent service. Infrastructure that optimizes terminals and layover locations, reduces out of direction movements, and improves transfer movements will reduce non-revenue miles and hours that can also be reallocated to more frequent service.

Table 3.2 *Service Design Concepts*

	Faster service	Frequent service throughout the day	More reliable service	Better network connectivity	Access to key destinations	Improved security
Routing to reflect current travel patterns and transit propensity				X	X	X
Standardize frequency by service tier	X	X				
Subarea transit hubs				X		X
Shorter route lengths			X			
Optimize stop spacing	X		X			
Municipal operator coordination				X	X	
MicroTransit and other on-demand		X			X	
Transit-supportive infrastructure	X		X			X

Table 3.2 illustrates how each service concept will address the various themes expressed by the public and stakeholders.

3.2 Service Standards

Board-adopted service standards are established to ensure that service levels are maintained to meet a minimum standard of rider experience. These focus on such items as maximum average loads on trips and on time performance and are discussed below.

Headways

The headway standard provides for the maximum scheduled gap (in minutes) between trips in the peak direction of travel at the maximum load point of a line by time of day; it should not be exceeded for at least 90% of all hourly periods as summarized in Table 3.3. The frequencies below are the minimum service levels versus the target frequencies established under NextGen Bus Plan shown in Table 3.1 above.

Table 3.3 *Minimum Headway by Service Type*

Service Type	Peak (Weekday)	Off-Peak (Weekday-Weekend)
Heavy Rail	10	20
Light Rail	12	20
Liner	12	30
Rapid	20	30
Core Network (Tier 1)	10	10-15
Convenience Network (Tier 2)	15	15-30
Connectivity Network (Tier 3)	30	30-60
Community Network (Tier 4)	60	60
Commuter Network (Tier 5)	Varies	Varies

Passenger Loads

Passenger load standards have been developed to ensure there is sufficient capacity on Metro Bus and Rail service. The loading standard for bus is based on the maximum average ratio of customers to available seating per vehicle size (i.e. 40-foot, 45-foot, and 60-foot buses). The loading standard for rail is based on the maximum average ratio of customers per seat by service type (i.e. Heavy Rail and Light Rail). Current loading standards are shown in Table 3.4.

- **Bus Passenger Loading Standard** expresses the maximum average ratio of customers to vehicle size and frequency by direction for a one-hour period that should not be exceeded for at least 95% of all hourly periods. This TSP sets the current loading standard for Metro bus to 1.3 as recommended by the 2016 APTA Peer Review Committee. Vehicles used for MicroTransit will have a load standard of 1.0.
- **Rail Passenger Loading Standard** expresses the maximum average ratio of customers to seats by service type and by direction for one-hour period by time of day and should not be exceeded for at least 95% of all hourly periods.

Table 3.4 *Passenger Loading Standards by Vehicle Type*

Service Type	Seats per Vehicle	Peak Passengers per Seat	Off-Peak Passengers per Seat	Maximum Passengers Onboard
Heavy Rail	52	2.30	2.30	120
Light rail	60-76	1.75	1.75	105-133
Bus – 40 foot	38	1.30	1.30	49
Bus – 45 foot	46	1.30	1.30	60
Bus – 60 foot	57	1.30	1.30	74
Van - MicroTransit	10	1.0	1.0	10

Wheelchair Boardings and Pass ups.

Ideally, in a floating 6-month period, regular operating bus service will average no more than 6% in pass-ups of customers who use wheelchairs or other mobility devices. Should the average increase to over the 6% threshold, Service Planning will adjust service to better serve the ridership patterns of the route in such a way so as to minimize pass-ups.

Network Route Spacing

Network Route Spacing refers to the average distance between two or more parallel bus and/or rail lines. It is generally accepted that customers are willing to walk up to 0.25 mile to a bus stop. Generally, bus routes operating parallel to each other in an urban area should be spaced 0.5 mile apart from one another, and bus routes operating parallel to rail should be spaced a 0.5 mile apart on either side of a rail route. Bus routes operating parallel in a suburban area should be spaced no more than one mile apart from each other, and bus routes operating in low density or underdeveloped areas should be operated where needed in a cost-effective manner. Where possible, alternate delivery methods should be considered.

Stop/Station Spacing

Stop/Station spacing refers to the average distance between consecutive stops/stations along an entire bus/rail route. The standard is expressed as the maximum average stop/station spacing in miles by type of service and is not to be exceeded by at least 90% of all routes operated. Stop/station spacing is established based on the goals and guidelines each service type is designed to achieve as discussed below. Metro’s maximum average stop/station spacing by mode is summarized in Table 3.4.

- **Heavy/Light Rail Line** station spacing is greater than bus stop/station spacing to achieve a higher operating speed, recognizing that riders are willing to access such service from a greater distance and to ensure this mode is competitive for longer distance travel, while ensuring stations serve key activity nodes and transit connection points. Rail station location is determined during the design phase. Ideal average rail station spacing should be no greater than 1.50 miles.
- **Metro Liner and Rapid Bus Routes** achieve the highest bus speeds through even greater stop spacing than Local Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community (Tier 4), and Commuter (Tier 5) lines. To ensure these services provide access to major activity centers and transfer points, average stop/station spacing should be no

greater than 1.25 miles, though there may be exceptions due to geography or existing facility design such as freeway HOT or HOV lanes. See Table 3.5 for further details.

- **Core, Convenience, Connectivity, and Community Bus Routes** primarily operate on city streets and secondary streets respectively. These route types are designed to provide service closer to a customer’s destination and reduce walking times. Therefore, average stop spacing should be no greater than 0.25 mile for convenient walk access.

Decisions regarding bus stop spacing and location call for analysis of ridership density, customer service requirements such as balancing access to key destinations and impact to on board riders, rider and operational safety, equipment size, the service type provided, interaction of stopped buses with general traffic flow, and coordination with other curbside space allocations such as parking and driveways. Stops should be closer together in major commercial districts and farther apart in outlying areas. In general, bus stop spacing should not exceed 0.3 miles for local bus service except in areas where local conditions and/or lack of ridership generators may result in a wider gap between stops. Care should be taken to avoid low usage stops in areas where the buses are closest to the maximum load on board the bus. Special consideration may be given to stops near schools, senior centers, and medical centers where there is reasonable ridership (>= 15 boardings or alightings on average per weekday).

Table 3.5 *Target Average Stop/Station Spacing*

Service Type	Average Stop/Station Spacing (miles)
Heavy Rail	1.50
Light Rail	1.50
BRT	1.25
Rapid	0.75
Commuter (Tier 5)	1.25
Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community (Tier 4)	0.25

On-Time Performance

A key element of high quality transit service, as confirmed in the NextGen Bus Study, is reliability. This element is measured firstly in terms of on time performance. Managing this metric is intended to provide a high standard of service reliability. On-time performance for buses is defined as a range from no more than one minute early to no more than five minutes late, which is measured at all timepoints along its route. For rail lines, on-time performance is measured based on end terminal arrival. This standard varies between heavy rail and light rail. The on-time performance standard is summarized in the Table 3.6.

As part of the NextGen Bus Plan speed and reliability improvements, a pilot of headway-based service management will be conducted. This involves the operation of high- frequency bus lines without intermediate timepoints along the line. The reliability of this type of service will be based

on the intervals between buses remaining within a range. More information will be added and standards developed for this mode of operation once the pilot has been completed.

Table 3.6 *Target Standard for On-Time Performance*

Service Type	On-Time Performance
Heavy Rail	95%
Light Rail	90%
BRT	85%
Rapid	85%
Commuter (Tier 5)	85%
Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community Bus (Tier 4)	85%

Service Cancellations:

In recent years, both pre-pandemic and during times of significant impacts from the COVID-19 pandemic on the Metro operator workforce, cancelled service due to lack of available operators has had a significant impact on service reliability. Metro should not enter into service level changes unless sufficient operators are available to provide the required extraboard operator as required (OAR) ratio of 1.2 for bus and 1.25 for rail at each operating division. Cancelled service should ideally be zero each day in support of the best customer experience. As of March 2022, a target of 2% or less cancelled service has been set as part of service restoration preconditions.

3.2 Bus/Rail Interface Planning

As the Metro Rail system expands, the surrounding bus system within a half mile of each station is assessed for adjustments that would improve access to rail stations, take advantage of new transfer facilities, and reduce bus and rail service duplication. The following guidelines provide direction for routing and scheduling changes that will be necessary as the Metro Rail system is expanded:

Discontinuation of Parallel Limited and Express Service

Competing Community and Commuter (Tiers 4 and 5) bus services that parallel the rail corridor will be discontinued where duplication exists. Revenue services should be reinvested to improve service on lines that feed the new rail service where possible.

Bus Route Deviation

Bus routes that run parallel to a rail line may be diverted to a station when:

- Walk time from the nearest station is greater than 3 minutes;
- Diversion time in one direction is 5 minutes or less, and;
- Net travel time benefit for connecting customers is positive i.e. the transfer to rail does not result in overall increased travel time.

Intersecting bus lines or ones that travel in a perpendicular direction to a rail line will be diverted to serve the closest rail station when:

- Diversion time in one direction is 5 minutes or less
- Net travel time benefit for connections and through travel

Extend Terminating Lines

Bus routes that end within one mile of a rail station will be extended to terminate at the station. Routes that terminate at distances greater than one mile may be extended if the rerouting will create a valuable link to the rail system consistent with area travel patterns or will result in a reduction in travel time for a significant number of customers.

New Bus Routes

New rail feeder service will be considered as part of the service change process if a need is demonstrated based on significant area travel patterns and if funding is available.

Scheduling Rail/Bus Interface

Bus arrival and departure times should be governed by the rail arrival and departure times when predominant movement is from bus to rail. Bus routes with frequencies of 20 minutes or greater ending at a rail station should be scheduled to arrive 5 minutes before the rail departure time (plus walk time between the modes). When the predominant movement is from rail to bus, terminal buses should be scheduled to depart 5 minutes after the scheduled rail arrival time (plus walk time between the modes).

3.3 Metro Bus Routing Guidelines

An easy-to-understand-and-use transit system relies on simple network and route design. Consolidating duplicative services on the same or parallel corridors within a quarter-mile to a half-mile distance provides an opportunity to simplify the network for ease of use, reduce underutilized capacity, and invest those resources into other areas of the network. This concept requires better coordination of schedules and transfer points and will result in an easier-to-use and more convenient system while reducing wait time and overall travel time.

Metro's directly-operated service primarily operates three types of buses: a standard 40-foot bus, a 45-foot bus, and a 60-foot "articulated" bus. To ensure that buses can adequately navigate route alignments and serve bus stops, Metro established the following standards:

- **Transit Centers /Bus Terminals**
 - Layover zones should be designed to accommodate various sizes of buses.
 - Layover zones should utilize sawtooth bay configurations where possible to ensure curb space is more efficiently and reliably utilized, and accommodating 60' buses where needed.
 - Re-striping of layover zones should be completed as needed based on the needs of the service and bus sizes scheduled.

- Routes should be scheduled so that the amount of layover space needed is available. Layover zones should be placed as close as possible to the route terminal. Where not accommodated by the design, the added operating cost to serve the location will be computed and made part of the decision-making process for bus/rail interface.
- **Minimum turning radius clearance required for each type size bus movement**
 - 50 feet for 40-foot buses (Figure 3.1)
 - 47.5 feet for 45-foot buses (Figure 3.3)
 - 44 feet for 60-foot articulated buses (Figure 3.2)
- **Desired street lane widths** for bus operations should be 12 feet or more.
- **Optimal Bus Stop Curb Lengths and Zone** - 40-foot buses should at minimum:
 - Far-side – 90 feet
 - Near-side – 100 feet
 - Mid-block – 150 feet

For two 40-foot buses servicing a stop simultaneously, add 50 feet. Additional bus stop curb length may be needed for 45-foot buses.

- **60-foot bus should at a minimum:**
 - Far-side and mid-block – 120 feet
 - Near-side – 170 feet

For two 60-foot buses servicing a stop simultaneously, add 70 feet.

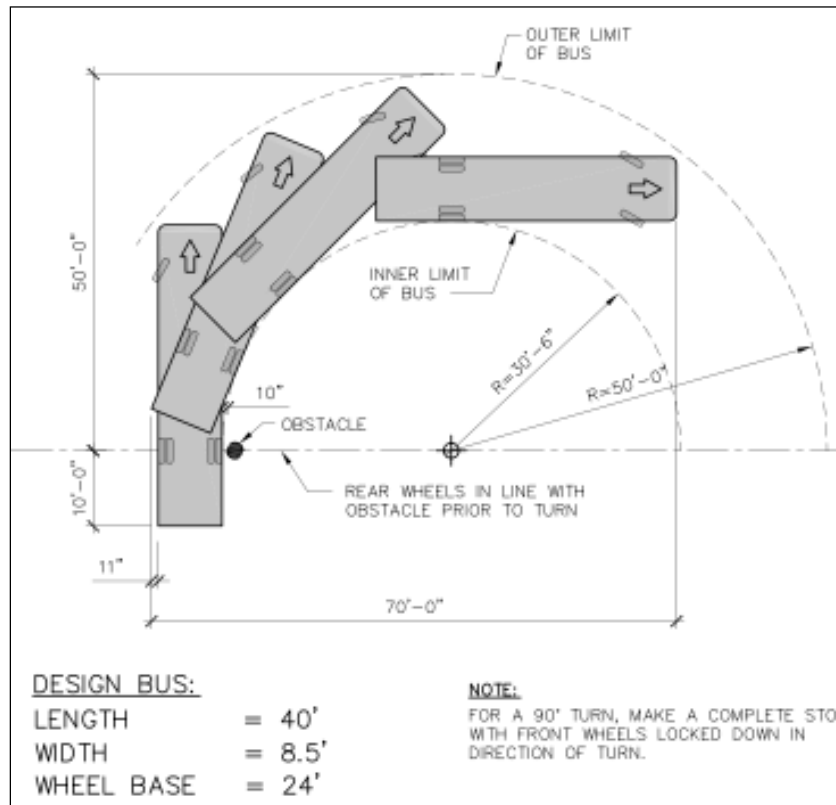


Figure 3.1 40-foot bus turning radius

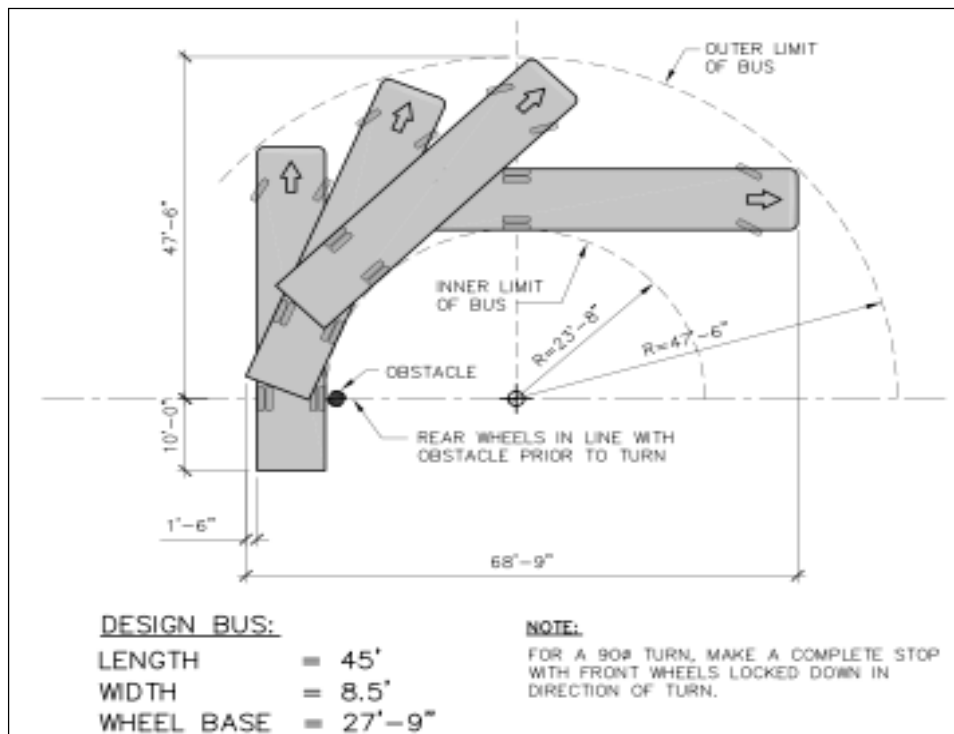


Figure 3.2 45-foot bus turning radius

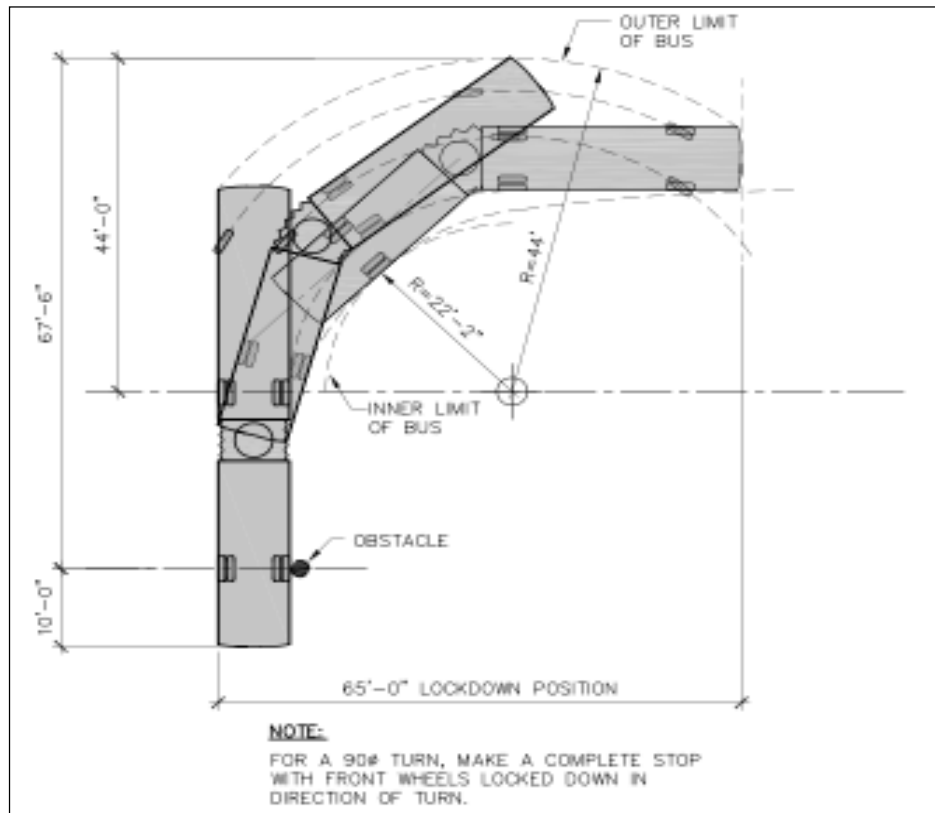


Figure 3.3 Articulated 60-foot bus turning radius

- **Bus Layover Zone** general space requirements based on frequency between scheduled trips:
 - One space – 20 minute service or less frequent
 - Two spaces – 12 to 15 minute frequency
 - Three spaces – 7.5 to 10 minute frequency
 - Four spaces – 5 to 6 minute frequency

3.4 Vehicle Assignment

Metro’s goal is to ensure a consistent basis for assigning vehicles to facilities to meet operating needs and provide equitable access to the newest vehicles across the Metro network to enhance quality of service.

Metro’s transit system consists of light rail, heavy rail, and bus operations. As of October 2019 (pre-COVID), for an average weekday Metro served approximately 925,000 bus boardings and 297,000 rail boardings.⁸

⁸ Figures taken from October 2019 data; selected for seasonal average and adjusted for A Line (Blue) closure.

- **Buses:** Buses will be assigned to individual facilities based on vehicle size requirements for lines supported by each facility. The fleet is also distributed to ensure the average age of fleet is consistent across each division for each bus type, so that all areas may have some service delivered using the newest buses.
- **Light Rail:** Light Rail cars will be assigned to individual lines based on a variety of factors including facility compatibility, the deposition of the feet during mid-life modernization programs and age so that no single light rail line must solely rely on the oldest rail fleet. Ideally, the number of vehicle types/manufacturers will be kept to no more than two at any facility to minimize parts storage and maximize maintenance expertise/training for mechanics on the different fleets. There is also a weight restriction that precludes the P2550 light rail cars from being assigned to the C Line along the I-105 freeway.
- **Heavy Rail:** Assignment policy is not applicable to Heavy Rail. The Metro B Line (Red) and D Line (Purple) operate out of the same division, with the same vehicle type.

3.5 School Trippers

School trippers are extra service operated to protect against overcrowding on bus lines serving schools. Metro's policy on school trippers is based on FTA regulations (49 CFR Part 605). These regulations are directed at protecting the private sector against unfair competition and ensuring that FTA funding is focused on providing services that meet the needs of the general public. School tripper service may be operated if the following criteria are met:

- There is sufficient demand to warrant the operation of a tripper that cannot on average be accommodated within the load factor applicable to the regular service available;
- There are sufficient resources to operate a tripper;
- The school tripper will not result in a significant increase in travel time (no more than 5 minutes extra) for regular customers if the service is to be deviated via a school; and
- The school tripper is operated as part of the regularly-scheduled public transportation service and is included in such schedules and available for any person to ride.

School tripper service must meet the following requirements:

- All school trippers must fully comply with established policies and procedures;
- All regularly scheduled school trippers must be published on public timetables;
- All locations where trippers board or alight customers, including the bus stops at deviated routes, must be marked with Metro signage including the bus line numbers servicing the stop;
- School tripper changes must be provided to the public by a service change notice or on the Metro website at metro.net; and
- Requests for new school trippers or modifications to existing school trippers (bell time changes, etc.) will be considered when a notice is given at least 30-days in advance

providing ample time to complete an appropriate analysis of the request and to allow appropriate notification of changes to the public.

School tripper services changes must comply with the following procedures

- Service Development Managers (SDM) in the Service Planning & Scheduling Department are responsible for ensuring that all school trippers in their respective service area fully comply with Metro’s School Tripper Policy as discussed herein.
- Uniform standards for the documentation of daily school tripper arrangements must be employed. This includes standardizing the documentation form and oversight of the documented information being input into the scheduling system to ensure accuracy. All requests for new school trippers and modifications to existing school trippers must be logged into the scheduling system regardless of whether the requested new or modified school tripper is implemented.
- SDMs are responsible for working with school districts in their service area which use school tripper service, where special events and bell-time changes are disseminated to Metro through communication with district staff.
- The information fed to transit apps and trip planners, such as Transit App and Google Transit, is made available via a General Transit Feed Specification (GTFS) compatible feed which is updated weekly to reflect school tripper service changes captured in the transit service scheduling software calendar utilized by Metro.

3.5 Charter Service

As a grantee of Federal funds, Metro is prohibited from using its federally-funded equipment and facilities to provide charter service except on an incidental basis and when one or more of the applicable exceptions below apply:

- Charter service shall be incidental to the mass transportation service and shall be provided only during times of the day when vehicles are not needed for regularly scheduled service.
- Charter service will only be considered when one of the following exceptions apply:
 - There are no willing or able private charter operators;
 - For special events the private operators are not capable of providing the service;
 - When there is a formal agreement regarding the provision of charter services between the recipient and all private charter operators who have been identified to be willing and able; and
 - For government or certain non-profit organizations, if the trip involves a significant number of handicapped persons, or if the organization is a qualified social service agency, or if it receives public welfare assistance funds whose implementation may require transportation services.

- All requests for charter service must be approved by the Chief Executive Officer and may require a waiver from the FTA. Petitions for a waiver should be requested in writing 90 days in advance of the event whenever possible.
- The rates for charter service shall equal or exceed the annual fully allocated cost, including depreciation, of providing charter bus operations, and Metro shall deduct the mileage and hours from the useful life of the buses.
- The operation of charter service also must comply with relevant state laws, including Section 30630.5 of the California Public Utilities Code.

Charter service is the use of buses, vans or facilities (rail system) to provide a group of persons under a single contract, at a fixed charge, with the exclusive use of the vehicle or service to travel together under an itinerary either specified in advance or modified after having left the place of origin. Generally, for service not to be considered charter, it must meet the following tests:

- Be available to the public;
- Operate within the system’s normal scope (existing routings, fit within normal hours of operation and established fare structure);
- Provide a published timetable; and
- Customers must pay their own fare.

3.6 Special Event Service

Special event services are bus routes designed to take customers to a specific venue and are not part of regularly scheduled operations. Metro will provide service under contract to other entities only if the provision of these services does not interfere with Metro’s ability to meet regularly scheduled service obligations and fits within the scope of the agency’s regular operation in terms of route structure, fares, and span of service. Special event services will be provided on a full cost recovery basis and in conformance with the agency’s charter bus policy which is consistent with FTA Charter Bus regulations.

3.7 Service Transfer Guideline

The regional public transit network in LA County consists of 17 “Included or Eligible” fixed route operators (including Metro). Included operators (and routes) are those that were operating within LA County in 1971 at the time of adoption of the State of California Transit Development Act/State Transit Assistance statute. Eligible operators (and routes) are those added to the Formula Allocation Procedure (FAP) since that time.

Much of the funding for operation of “Included or Eligible” fixed route public transit service in LA County is distributed according to an adopted FAP. The FAP allocates sales tax receipts for public transit each fiscal year in support of public transit throughout the region. Many of the “Included and Eligible” systems operate under the guidelines of the “reserve service areas” established in 1971. Municipal operators have also grown, providing an expanded route network that has improved connections to Metro’s regional lines. In addition, there are

numerous Local Return fixed route transit providers who are not eligible for FAP funding, but instead are funded through Propositions A and C (1990 sales tax initiative), Measure R (2008 sales tax initiative), and Measure M (2016 sales tax initiative). These Operators are funded as “Local Return” operators (see Appendix B for a list of operators funded as Local Return and/or Included/Eligible Municipal operators).

Policy guidance states that the network should be well integrated, coordinated, reduce service duplication, and simplify service. Therefore, the evaluation of transit corridors for consideration to be operated in the future by another operator should include:

- Existing performance relative to the system average;
- Value to the customer through integration into an established nearby transit provider;
- Net cost to each operator and the region;
- Completion of another operator’s route network;
- Provide improved connections to a Municipal Operator’s established network;
- Impacts to exiting and projected ridership;
- Generation of a net cost saving to Metro based on Metro’s calculation of the FAP impacts for all service realignment proposals.

Any transfer of directly operated Metro services to a municipal or contract operator must adhere to the terms and conditions governing such transfers as agreed to within the adopted collective bargaining and other superseding agreements between the affected labor unions and Metro.

If a proposed service change is adopted that results in a reduction of service, Metro should reinvest at least half of the net savings (operating cost less customer and FAP reduction) to improve service on Metro’s core network of regionally significant lines in the service area from which the savings were drawn.

Any significant service modifications will be subject to review under the latest FTA procedures for adherence to Title VI of the Civil Rights Act of 1964, as amended, the approval of the appropriate Metro Service Council(s), and the local transit provider’s Board of Governance, and must be in compliance with local, regional, and labor legislation or agreements. Finally, the agency that assumes service will be required to maintain or improve the days, span, and frequency of the existing Metro service for at least a two-year period (two-year lag) for which Metro will include such operation through the FAP. In addition, the assuming agency must be a participant in the regional TAP program to minimize fare change impacts.

3.8 Alternative Service Delivery Options

Alternative service delivery options generally refers to services not directly operated by Metro, such as contract services, Municipal and Local Return Operators, taxis, and other flexible destination operations. These alternatives can complement traditional transit service. In addition, Access Services provides mandatory ADA complementary paratransit services for

functionally disabled individuals in Los Angeles County as required by federal ADA law. Access Services transportation service is available for any ADA paratransit-eligible individual to any location within $\frac{3}{4}$ of a mile of any fixed route bus operated by the Los Angeles County public fixed route bus operators and within $\frac{3}{4}$ of a mile around Metro Rail stations during the hours that the systems are operational. Complementary paratransit service is not required to complement commuter rail and commuter bus services, since the federal ADA law does not require that these services provide complementary paratransit service.⁹

Metro has launched two pilot programs to leverage demand-responsive technology to improve mobility, customer experience, and system performance by providing additional first-mile and last-mile service options: Mobility on Demand and MicroTransit.

The Mobility on Demand pilot launched in January 2019 and operated for 12 months. Metro partnered with Via, a provider of on-demand ride sourcing services, to develop on-demand technology to increase access to Metro's transit system by offering service to and from three of Metro's transit stations: North Hollywood, Artesia, and El Monte. This pilot program was funded in part by a \$1.35-million Mobility on Demand (MOD) Sandbox Demonstrations grant from the FTA. The system was operated utilizing private cars. The Mobility on Demand pilot concluded in January 2021 and the three Mobility on Demand zones were transitioned to become part of the Metro Micro microtransit pilot program.

Metro's microtransit program, Metro Micro, is a three year pilot of on demand ride-source service operated with passenger vans within eight designated zones, intended to test a range of use cases including areas where fixed route service has not been effective or is unable to access parts of a community. Metro is partnering with a third-party vendor for the technology to support this pilot program, while Metro staff operate and manage the service. The pilot zones were coordinated with the NextGen Bus Plan to replace some lower usage fixed route lines or route segments where Metro Micro service could better serve such areas, though this is only one of a range of use cases being tested by Metro Micro.

The first two zones were launched in December 2020 (LAX/Inglewood and Watts/Willowbrook). The three Mobility on Demand zones were added to the Metro Micro program in January 2021. Two additional Metro Micro zones launched in June 2021 (Highland Park/Eagle Rock/Glendale and Altadena/Pasadena/Sierra Madre). The Northwest San Fernando Valley zone was launched in September 2021, and the final pilot zone at UCLA/Westwood launched in December 2021, for a total of eight pilot zones.

Based on experience to date, Metro Micro generally serves short trips of approximately 20 minutes in vehicle time and one to five miles in distance on average. These short trips are intended to serve as connections to other transit options such as Metro-operated bus and rail services and municipal operators. The target maximum size for each zone was originally set at no greater than 20 square miles to ensure the goal of no more than an average 15-minute wait time for pick up could be consistently achieved. However, a number of zones were expanded to

⁹ accessla.org/about_us/overview.html

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help better replace some low performing fixed route services during NextGen Bus Plan implementation, and the overlapping Artesia and Watts/Willowbrook zones were also combined into a 35 square mile mega zone (Watts/Compton) in December 2021.

SECTION 4: CUSTOMER INFORMATION AND AMENITIES

Customer information instructs both regular customers and infrequent customers on how to use transit as a viable mode of transportation to and from their destinations. Clear, accurate, and timely information is an important adjunct to service quality, particularly when bus and rail services are not operating as planned. Amenities aid in the comfort and security of customers.

4.1 Customer Information

Customers need to know how to use transit: where to go to access it, where to alight to access their destination, whether transfers are required, when transit services are scheduled to depart and arrive, and how planned and unplanned service changes or disruptions impact travel. Both regular and infrequent users require specific route information when they need to travel to a location they rarely visit or that is new to them. Information must be provided in accessible formats. Metro provides customer trip planning information via telephone, through customer service representatives. Metro buses, railcars, and stations also include announcement systems for stops and stations as well as other general service information. Mobile device applications and text/SMS messaging have expanded significantly as smart phones have become a common part of life for many people. Published schedules, maps, and other information are also available through Metro Customer Service Centers and by mail. Significant information is also provided online at the metro.net website, and via email alerts for customers who sign up to receive them. Information is also provided on signage at major stops and stations.

- **Signage** at transit infrastructures such as stations and shelters, signs directing motorists to Park & Ride lots, and bus stop signs that indicate the presence of service to people not currently using transit.
- **Audible Announcements** at bus stops, rail stations and on-board vehicles to assist customers with visual impairments and customers unfamiliar with the route or area.
- **Online Information** is available 24 hours to anyone with Internet access such as:
 - Real-time information streamed to many transit information applications, including the Transit App, Metro's official smartphone app, as well as being displayed on Google, Apple and Bing Maps and in use by their trip planners.
 - Metro's own website metro.net:
 - Route maps and timetables, fare information, detour notices, service change information, cancelled service alerts, special event detours, and other service-related information
 - Metro's blogs, "The Source" and "El Pasajero"
 - Specialized guides (Bikes, Riders with Disabilities, Safety & Security)
 - Commuter program information (carpools, vanpools, employer programs, etc.)
 - News and media information
 - Latest information on Metro projects and programs

- Contact information
 - Metro’s social media accounts including Facebook, Twitter, and Instagram
- **Bus and Train Real-Time Information:** Accurate, timely, relevant, and readily available trip information is useful for reassuring customers when the next transit vehicle will arrive or how long the expected delay time is if there has been a service disruption. It should provide enough information to help them decide whether to continue to wait for the next transit vehicle, consider alternate routes, or take another mode of transportation to complete their trip. Real-time information is provided within selected transit shelters across the Metro network. Metro is testing e-paper real time information signs at a limited number of bus stops and plans to roll out this amenity in a larger pilot in FY23.
- **Printed and Distributed Information** such as timetables, maps, service change notices, customer newsletters, etc., are made available at multiple locations such as Metro’s own Customer Service Centers, regional libraries, and recreation and community centers.
- **Posted Information** such as system maps, bus cubes posted at stops, stations, and on board transit vehicles.
- **Route Signage Convention** at stops and on transit vehicle head signs assist customers to quickly identify what stops to wait at and what transit vehicle to board as well as direction of travel and location the lines terminate at, as well as names of major corridors served.
- **Wayfinding** is the process of communicating information to support the ability to navigate using signage, system/route maps, kiosks, bus cubes, directions, etc. so that customers can easily determine where they are, where they want to go, and how to get there.
- **Visual Displays** to assist customers with hearing impairments and to supplement on-board announcements that may be muffled by other noise.
- **Customer Information Panels (CIPs)** are interactive touch screen panels that display vehicle arrivals, service alerts, system and local maps, Metro Arts programming, advertising, and Agency public service announcements.

4.2 Customer Amenities

Customer amenities are those elements provided at a transit stops, transit centers, and stations to enhance comfort, convenience, and security. Amenities include items such as shelters, benches, trash receptacles, lighting, restrooms, vending machines, and emergency telephones. In some instances, Metro coordinates with municipalities to provide appropriate amenities.

- **Benches** provide seating for waiting customers, help identify the stop or station, and provide an affordable alternative to shelters. Benches are provided by the local jurisdiction in coordination with Metro.
- **Elevator/Escalators** provide accessibility for those who otherwise cannot use stairs to elevated or lowered station stops.
- **Lighting** increases visibility and security, and discourages misuse of bus stops when transit operations are not in service.

- **Public Restrooms** may be provided at major transit centers and maintained for public safety and convenience.
- **Shelters** provide waiting customers with protection from climate conditions and help identify the stop or station. Metro does not own or install shelters but coordinates with local jurisdictions on placement where appropriate. The NextGen Bus Plan includes an initiative to fund additional shelters across the Metro bus network in partnership with local jurisdictions.
- **Telephones/Intercoms** provide access to transit information and emergency services.
- **Trash receptacles** provide a place to discard trash and contribute to keeping bus stops and surroundings clean. Trash receptacles are placed at bus stop locations and maintained by individual municipalities.

Table 4.1 *Customer Information and Amenities*

Amenity	Service Type	Allocation
Shelters:	Heavy Rail:	n/a
	Light Rail:	At least 80 linear ft. per bay
	Bus Facilities:	At least 6 linear ft. per bay
Seating:	Heavy Rail:	At least 12 seats
	Light Rail:	At least 10 seats
	Bus Facilities:	At least 3 seats per bay
Information Displays:	Heavy Rail:	At least 12
	Light Rail:	At least 10
	Bus Facilities:	At least 3
LED Displays:	Heavy Rail:	At least 8 arrival/departure screens
	Light Rail:	n/a
	Bus Facilities:	n/a
TVMs:	Heavy Rail:	At least 2
	Light Rail:	At least 2
	Bus Facilities:	n/a
Elevators:	Heavy Rail:	At least 2
	Light Rail:	At least 2 for elevated/underground
	Bus Facilities:	At least 2 for multi-level terminals
Escalators:	Heavy Rail:	At least 4 (2 Up/2 Down)
	Light Rail:	At least 2 for multi-level terminals
	Bus Facilities:	At least 2 for multi-level terminals
Trash receptacles:	Heavy Rail:	At least 6
	Light Rail:	At least 2
	Bus Facilities:	At least 1 per 3 bays/2 per facility

Metro provides a minimum set of customer amenities at all rail stations and major Metro-owned, off-street bus facilities that allow for boarding as summarized in Table 4.1.

4.3 Rail Stations and Bus/Multi-Modal Transit Center-Facilities

When transit service is not available near one's trip origin, driving to a Park & Ride lot or utilizing another first-last mile option such as a bicycle or scooter to transit may be a viable alternative. Park & Ride lots, bicycle storage, and micro-mobility parking areas are important amenities for transit customers.

- **Park & Ride/Station Parking Facilities** provide parking for transit customers who use cars to access a bus or train. Park & Ride facilities are usually provided at rail stations or bus transit centers such as the Metro El Monte Station and Harbor Gateway Transit Center. Park & Ride lots in suburbs serve as a staging area for commuter customers. Parking may be provided for transit riders at no cost or for a nominal fee, based on demand.
- **Bicycle Storage** may be provided at transit stations where demand exists and space allows, and on transit vehicles. Bicycle racks, lockers, and hubs may be provided at transit center and stations. On transit vehicles, bicycles may be transported on bus-mounted racks located in front of a bus or on board a rail car in designated spaces. Bike racks provide a simple, relatively low-cost approach and can hold many bicycles in a relatively small space, but bicycles are subject to potential damage and theft. Enclosed bicycle lockers and hubs provide added protection from theft and from weather but cost more to install and operate, and require more space.
- **Micro Mobility Vehicle Parking** is being tested at key Metro system locations as a pilot program. At their July 25, 2019 meeting, the Metro Board adopted a parking ordinance to regulate parking of micro mobility devices such as electric scooters. As part of the pilot, Metro has designated parking areas at selected stations and transit hubs for parking of micro mobility devices; the private firms seeking to park their vehicles at Metro sites must pay a fee for use of the parking facilities.¹⁰

4.4 Bus Stop Amenities

Transit services are supported by bus stop and transit center facilities. These locations are often the first and last points of contact with the customer. These facilities are an essential component of transit infrastructure that direct customers to existing transit services, provide a safe and comfortable environment in which to wait for service, and facilitate safe and efficient transfers between services. Given their importance, which was confirmed in the NextGen Bus Study, it is vital that transit routes and schedules are developed in consideration of the quality, appropriateness, and availability of facilities.

Bus stops are locations along the route of a bus line where customers safely wait to board or alight from a bus in service. Bus stops consist of a pole with a sign that includes line number, destination and service qualification signage, and curb markings or parking restriction signage. Select bus stops also include a bus information cube affixed to the pole. Tests are underway for new e-paper real time information signs for bus stops. Most bus stops are located along the

¹⁰ Planning and Programming Committee File #2019-0085; LACMTA Administrative Code Title 8: Metro Parking Ordinance

curb of a street; others are located at offsite facilities such as transit centers or rail stations that are owned and maintained by Metro, or in some cases by the local municipality..

Metro has no jurisdiction over a bus stop beyond a bus stop sign post; amenities are installed by the municipality where the stop is located. This function is sometimes contracted to third parties who support installation and maintenance, usually funded by advertising revenues. The NextGen Bus Plan noted the importance of bus stop amenities such as seating and shelter, and Metro will work with municipalities to maximize the number of Metro bus stops with such amenities available.

Transit stations are stops along a fixed guideway and have features such as loading platforms, TVMs for pre-loading of TAP cards, shelters, benches, lighting, information displays, trash receptacles, bike racks and/or lockers, public announcement systems, security cameras, and emergency call boxes. Many are located adjacent to Park & Ride lots and customer pick-up/drop off areas.

Transit centers are high-volume transfer points for multiple transit services and layover spaces for end-of-line bus storage and turn around. Features include customer loading and alighting areas, benches, shelters, lighting, information displays, bicycle racks and lockers, trash receptacles, and bus layover bays.

On-street bus layover zones are designated stopover points for buses at or near the end of the line. They may or may not allow for customer boarding and alighting. Bus layover terminals are major offsite layover areas for multiple bus lines and may or may not allow for customer boarding and alighting.

Locating bus layover facilities (other than on-street stops) in heavily congested or urbanized areas increases the burden on the transit operator to find layover spaces for buses and operator restrooms. The extension of a line to a specific terminal may prove uneconomical and at the very least adds costs to an already budget constrained operation. Metro continues to include such facilities in joint development projects where feasible to maximize the efficiency of bus terminal operations.

Cost and minimization of customer disruptions are significant concerns when locating facilities for bus operations. Metro Operations staff continue to evaluate routes and layovers to reduce costs and improve efficiency as well as maintain required access to restrooms for operators. As a key internal stakeholder in the environmental planning process, the Service Development Department should be involved early in the analysis of alternatives to and the development of mitigation measures to ensure adequate accommodations are incorporated to foster connectivity of future joint development or private projects.

Capital costs of new support facilities are an important determinant; but more significant is the added operating cost that may be incurred due to inadequate facilities resulting in expanded line operations to reach suitable alternative layovers.

4.5 Bus Stop/Station Location, Design and Guidelines

Bus stops and station stops allow for boarding and alighting of customers; their locations should balance safe, convenient access with pedestrian safety as well as other community curb space needs. Locations should support efficient transit operations, convenient rider transfers, minimize walking distances and unnecessary crosswalk movements, and should be located at a signalized or signed crosswalk to disincentive/minimize potential jaywalking. Bus stops are generally located adjacent to a bus/rail station or within a short walk to medical facilities, schools, shopping centers, office buildings, multi-unit apartments, or other activity centers to provide access for uses that generally attract transit customers. Medical centers, senior centers, and schools have high priority when considering new bus stop locations and/or when relocating existing bus stops.

BRT/Rail station locations are determined during the design phase of a fixed guideway/right-of-way. There are criteria associated with station location, including connectivity and centrality to catchments and major arterials, but also technical feasibility which is beyond the scope of this TSP. Generally, stations are located at major transfer points with bus or rail and provide access to major activity centers and arterials. No standard type of stop can be recommended for all locations, as each intersection has its own unique characteristics. An inventory of land uses that serve as major trip producers and attractors within a 0.25-mile corridor of the road under consideration should be taken prior to establishment. The location of a transit stop requires concurrence of the municipality in which the stop is located in.

In general, far-side stops are preferable, particularly at signalized intersections; however, near side or mid-block stops may be justified in certain situations. When two or more bus routes operate along the same corridor, stops should be consolidated to facilitate ease of transfer, a single location for all transit activity, avoid unnecessary crosswalk movements and minimize confusion as to which stop customers should wait to catch their bus wherever possible. However, for a group of bus lines operating along the same street, in the same direction, serving the same intersection (such as in the downtown environment), it may be necessary to implement two stop locations (e.g. nearside and farside) to minimize congestion and allow for required turn movements, under the following circumstances:

- Some bus lines will queue up to make a right turn while other lines continue through the intersection (unsafe right turn movements)
- Lack of space availability and no room to lengthen zone due to business owner objection, jurisdiction refusal to extend, a loading zone being located behind the current stop, etc.)

Bus Stop/Station Accessibility

All stops and stations should be fully accessible in accordance with the 1990 Americans with Disabilities Act. This includes ensuring there are no obstructions preventing the boarding and alighting of customers who use a wheelchair or other assistive mobility devices, and that pathways to and from a stop or station are unobstructed. If obstructions do exist, every effort must be made to mitigate the issue(s) with the respective municipalities. In the case of bus stops, they can either be moved to a new location on a permanent basis or temporary basis

depending on situations, such as during construction. A summary of advantages and disadvantages to each location are provided in Table 4.2.

Table 4.2 *Comparative Analysis of Bus Stop Locations*

Stop Type	Advantages	Disadvantages
Near-Side	<ul style="list-style-type: none"> – Minimizes interference when traffic is heavy on the far side of the intersection – Customers access buses closest to crosswalk – Intersection available to assist in pulling away from curb – Buses can service customers while stopped at a red light – Provides driver with opportunity to look for oncoming traffic including other buses with potential customers 	<ul style="list-style-type: none"> – Conflicts with right turning vehicles are increased – Stopped buses may obscure curbside traffic control devices and crossing pedestrians – Sight distance is obscured for crossing vehicles stopped to the right of the bus. – The through lane may be blocked during peak periods by queuing buses – Increases sight distance problems for crossing pedestrians
Far-Side	<ul style="list-style-type: none"> – Minimizes conflicts between right turning vehicles – Provides additional right turn capacity by making curb lane available for traffic – Minimizes sight distance problems on approaches to intersection – Encourages pedestrians to cross behind the bus – Requires shorter deceleration distances for buses – Gaps in traffic flow are created for buses re-entering the flow of traffic at signalized intersections – Allows bus routes that operate with signal priority to reap benefits of the technology at signalized intersections. 	<ul style="list-style-type: none"> – Intersections may be blocked during peak periods by queuing buses – Sight distance may be obscured for crossing vehicles – Increases sight distance problems for crossing pedestrians – May increase number of rear-end accidents since drivers do not expect buses to stop again after stopping at a red light
Mid-Block	<ul style="list-style-type: none"> – Minimizes sight distance problems for vehicles and pedestrians – Passenger waiting areas experience less pedestrian congestion 	<ul style="list-style-type: none"> – Requires additional distance for no-parking restrictions – Encourages customers to cross street at mid-block (jaywalking) – Increases walking distance for customers crossing at intersections and for transferring customers

Source: FTA webpage (http://www.fta.dot.gov/12351_4361.html)

The following renderings (Figures 4.1-4.4) illustrate a typical bus stop/zone design and offers guideline for near-side, far-side, and mid-block locations. Transit Cooperative Research Program (TCRP) Report 19 “Guidelines for the Location and Design of Bus Stops” (1996) provides a more detailed discussion. Metro also adopted its own Transfers Design Guide in 2018 – see Section 2, page 15 for more information.

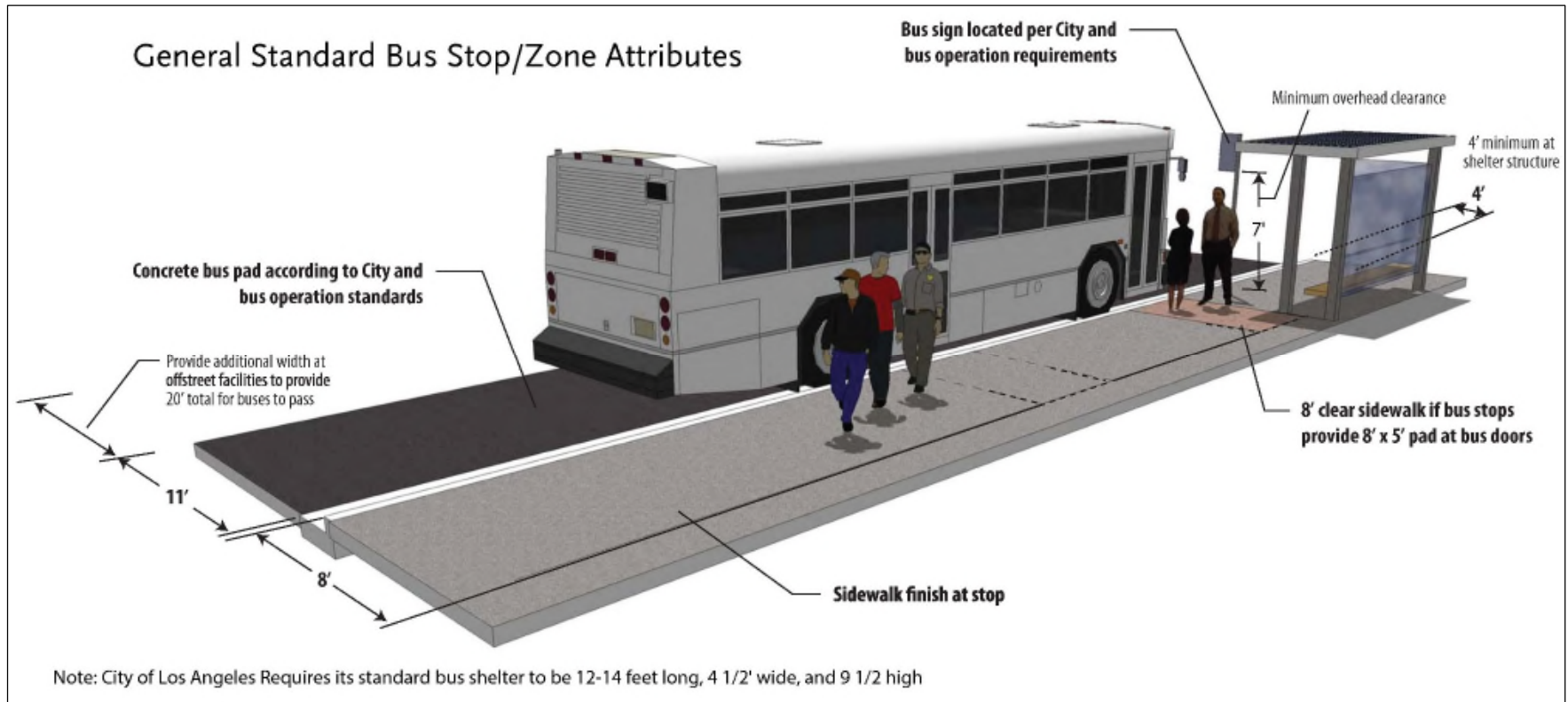


Figure 4.1 General Standard Bus Stop/Zone Attributes

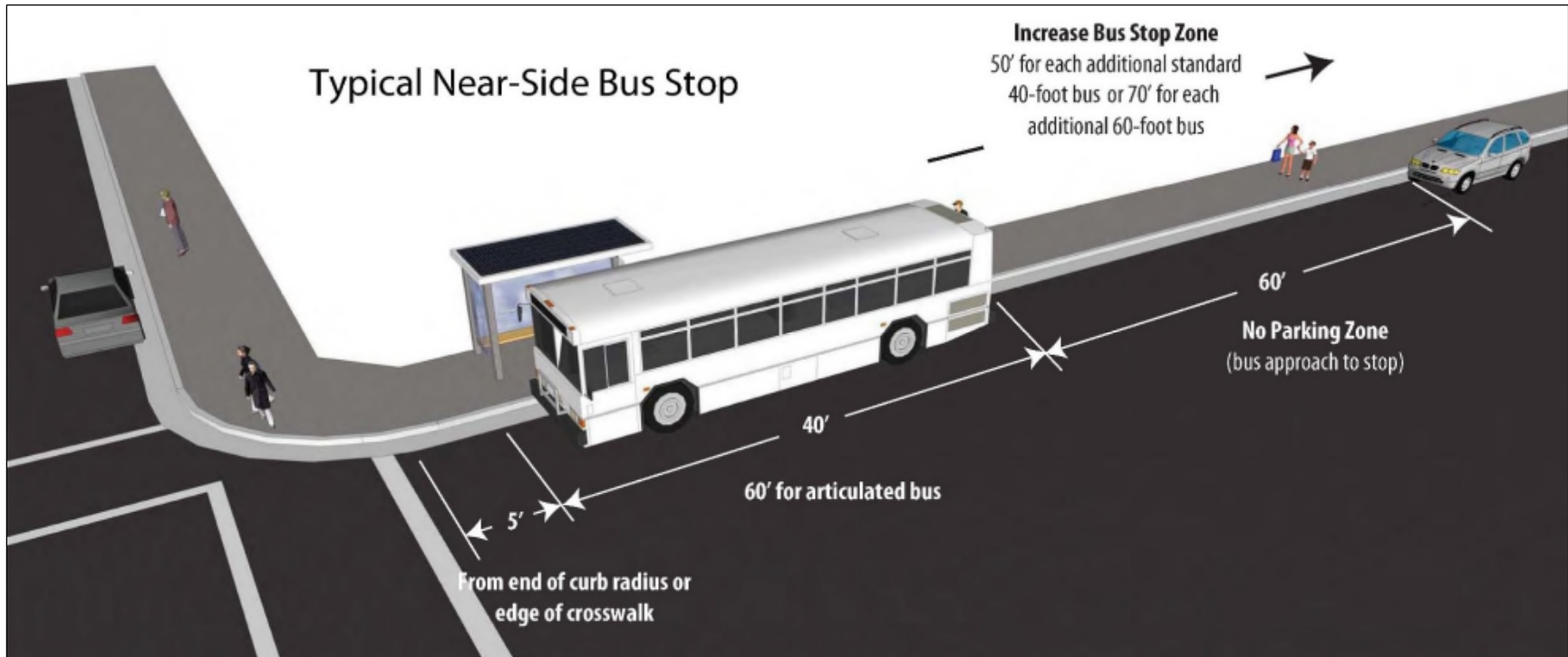


Figure 4.2 Typical Near-Side Bus Stop

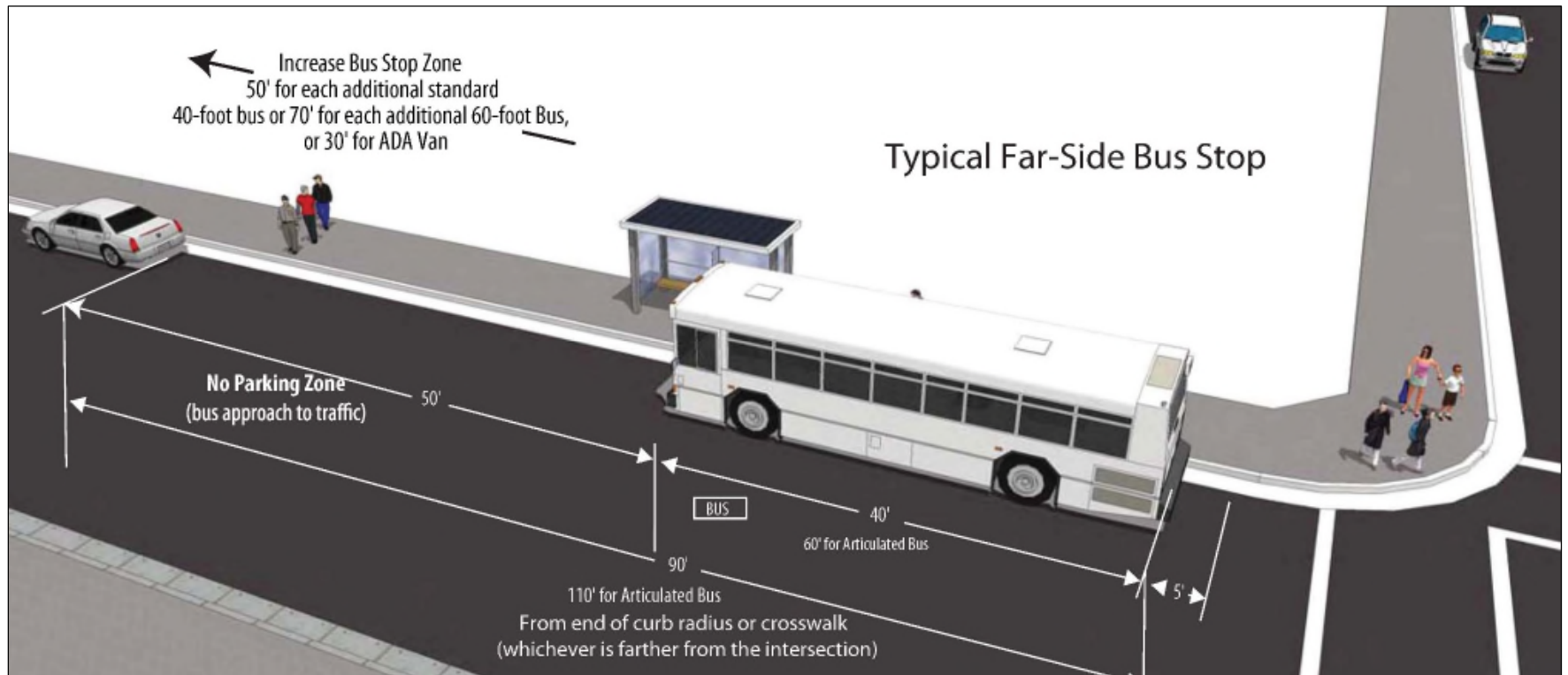


Figure 4.3 Typical Far-Side Bus Stop

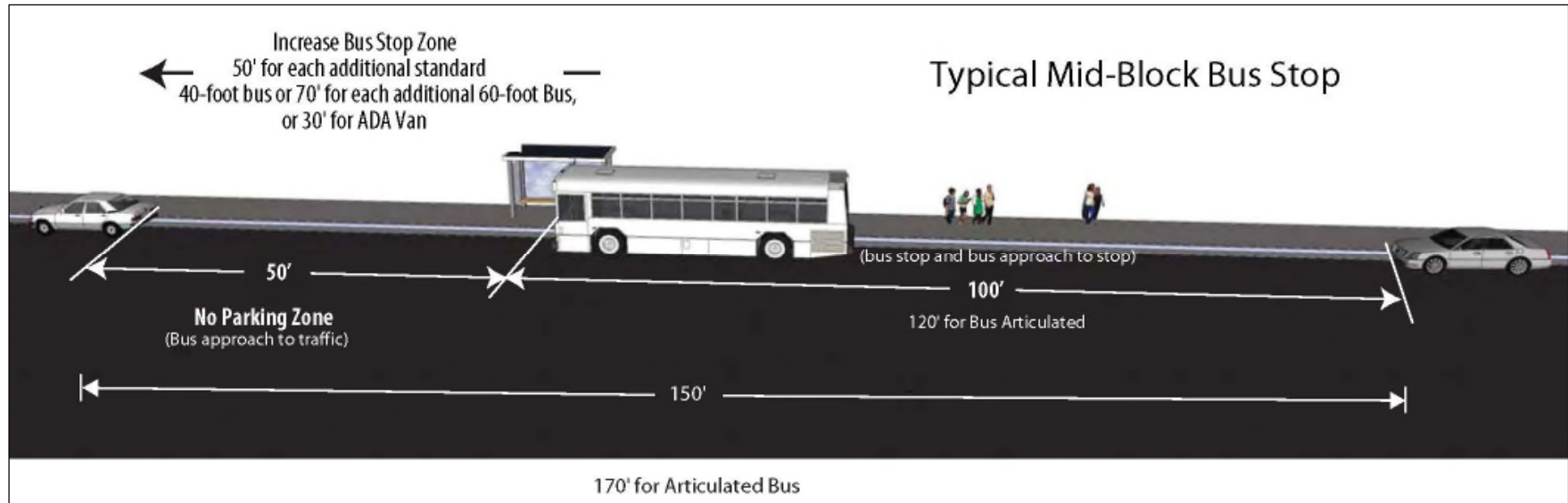


Figure 4.4 Typical Mid-Block Bus Stop

SECTION 5: SERVICE PERFORMANCE EVALUATION

This Metro TSP establishes a set of performance criteria and standards that balances optimization for efficiency and productivity with customer experience measures of success. Optimization of key performance indicators ensures that the services being provided generate the maximum benefit in terms of ridership at the lowest cost. Customer experience criteria measure how well the transit system can attract customers to use the system more often and for new trip purposes.

5.1 Route Performance Index

The Route Performance Index (RPI) is a conventional industry measure used to ensure transit services are effective and provide a reasonable return on investment. Metro's RPI is designed to provide an objective measure of bus route performance relative to system performance. The index is based on system ridership and financial targets from the current fiscal year Metro Budget.

This measure is applied to all Metro bus lines that have been in operation for more than one year, allowing time for new lines to reach a level of maturity where riders have adapted to their availability. The RPI is used to identify under-performing lines. Specific corrective actions are taken during the service change process. Corrective actions may include marketing, service restructuring, implementing an alternative service, or discontinuation of service.

Defining RPI Variables

The RPI considers the following three variables in creating the index. No weight is given to an individual measure; rather the selected statistics represent all facets of the operation in terms of cost efficiency, service effectiveness, and customer use.

- **Utilization of Resources:** Passenger Boardings per Revenue Service Hour (RSH) are used as a measure to determine how effectively resources are used on a given line. This measure is determined by dividing the total number of boardings by the RSHs operated. A route having a higher number of boardings per RSH represents a better utilization of the service provided.
- **Utilization of Capacity:** Passenger Miles per Seat Mile is the measure used to evaluate how the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per customer by the number of customers using the service. Seat miles are calculated by determining the number of seats per vehicle by the number of service miles operated. A higher resulting number indicates greater utilization of service capacity.
- **Fiscal Responsibility:** Subsidy per Passenger is the measure for fiscal responsibility. Subsidy refers to the amount of public funding required to cover the difference between the cost of operation and the customer fare revenues collected. Higher subsidy services require more public funding support per passenger boarding.

The formula for calculation of the RPI for each Metro Bus line is as follows:

$$\text{RPI} = ((\text{Passengers/RSH/System Avg.}) + (\text{Passengers Miles per Seat Mile/System Avg.}) + (\text{Subsidy per Passenger / System Avg.}))/3$$

Lines with an index of 1.0 perform at the system average, while lines with an index of less than 1.0 perform below the average. Lines with an RPI lower than 0.6 are defined as performing poorly and targeted for corrective action. Lines that have been subjected to corrective actions and do not meet the 0.60 productivity index after six additional months of operation may be discontinued, subject to the Title VI, Metro Service Council, and Board approval processes.

The RPI is calculated and reported quarterly by Metro's Service Planning staff for use in developing revised service plans to improve route performance. .

5.2 Customer Experience

Providing high quality mobility options that enable people to spend less time traveling on the transit network requires that service be available when and where customers want to travel, that service be competitive enough to have customers be willing to try transit over other options, and that service be attractive enough to ensure riders return for the same trip and ideally for more trips. Therefore, the recommended measures of success are aimed at evaluating the bus network implemented under the NextGen Bus Plan within these three elements, referred to as Find, Try, and Rely. These customer-focused measures help to balance the traditional metrics of productivity and efficiency (e.g. ridership, boardings per hour, subsidy per boarding). Several of these measures (italicized below) will be used to evaluate the network through the lens of equity.

Find - How well do people understand how effectively transit can serve their needs? Is the system easy to understand and use? Proposed measures include:

- Services and information are readily available
 - Percentage of trip ends within ¼ mile of transit stop
 - Trip planning apps and website usage rates
 - *Percent of public considering transit (survey-based)*
- Bus system is easy to understand and use
 - Percentage of out-of-direction travel
 - Percentage of route miles with all-day frequent service (<=15 min headways)
 - *Percent of public that understands how to use system (survey-based)*

Try - How can we encourage customers to try the regional transit system? (Metro and Municipal Bus Operators) Proposed measures include:

- Bus goes where/when customers want
 - *Percentage of trips compatible with transit by time of day and day of week*

- *Number of jobs and activity centers accessible within a 15-minute and 30-minute transit ride*
- Number of unique transit users
- Bus system is competitive
 - *Door-to-door travel times*
 - *Competitiveness of transit time to drive time*
 - System-wide boardings
- Coverage is adequate
 - *Population within ¼-mile of transit stops by frequency of service*
- Transit journeys are simple
 - Average number of transfers
 - Percent of trips that are one-seat rides

Rely - How can we provide services that customers can rely on for their travel needs? Proposed measures include:

- Bus system is effective and productive
 - *Competitive transit paths for short, evening, midday, and weekend trips*
 - Number of frequent customers
 - Boardings by time of day and day of week
 - Boardings per revenue hours and miles
 - Cost per passenger mile
- Buses are reliable
 - Headway regularity on frequent routes
 - On-time performance
 - Real time arrival accuracy
- Customers are satisfied
 - Rides per week for frequent and infrequent users
 - *Percentage of customers satisfied with Metro services (survey-based)*

5.3 Service Evaluation Process

Services are evaluated monthly, quarterly, and biannually based on the network, lines and segments (geographic, time of day, and day of week). Services that are inconsistent with demand or do not meet system standards are identified for restructuring, reduction, or

discontinuation. Services that have potential for exceeding existing performance will be identified for possible enhancements as should markets that are currently not well served. The following priorities will be considered when restructuring the Metro system:

- **Priority 1** – Restructure services to increase system speed, on-time performance, service frequencies consistent with NextGen Bus Plan, productivity, and balance loads.
- **Priority 2** – Restructure services that are duplicative with Metro Rail, other Metro Bus lines, and Municipal and Local Return operator services. Such services will be identified for discontinuation, consolidation, reduction and/or reallocation to achieve greater productivity and cost efficiency.
- **Priority 3** – Restructure remaining services (constrained by existing budget) based on the service concept and to address major gaps and deficiencies. Prioritize these service adjustments.
- **Priority 4** – Develop new services (unconstrained) to address all gaps and deficiencies. Prioritize these new services.

Significant changes to municipal operator services are incorporated into the evaluation of existing and new services as possible enhancements to address identified gaps or deficiencies in service.

Service Change Performance Evaluation

Schedule adjustments to bus or rail should be evaluated shortly after implementation to determine if there are any obvious issues. This should include line rides and visits to the operating divisions to receive comments and recommendations from customers, operators and supervisors. Appropriate adjustments should be made as required. After three months of operations, the schedules should be evaluated in detail to begin the process of schedule adjustments for the next service change cycle.

Route modifications to bus service should also be evaluated after implementation based on the evaluation outlined above. The overall goals of the service changes such as reducing costs, improving connections, increasing bus speeds, and increasing ridership, among others, should have near term goals that are established prior to the service change process. At about 6 months after service implementation, the performance of the changes should be evaluated relative to the established goals. Remedial actions, if necessary, should be developed and considered for the next service change cycle.

SECTION 6: SERVICE CHANGE PROCESS

In 2003, Metro created five localized service areas (Figure 6.1), each to be overseen by a Governance Council. In 2011, Metro restructured and re-established a centrally managed bus operation to include the service planning and scheduling functions, while maintaining the authority and responsibility of the five Regional Service Councils to help locally coordinate service changes. Metro restructured the roles and responsibilities of these five Regional Service Councils.

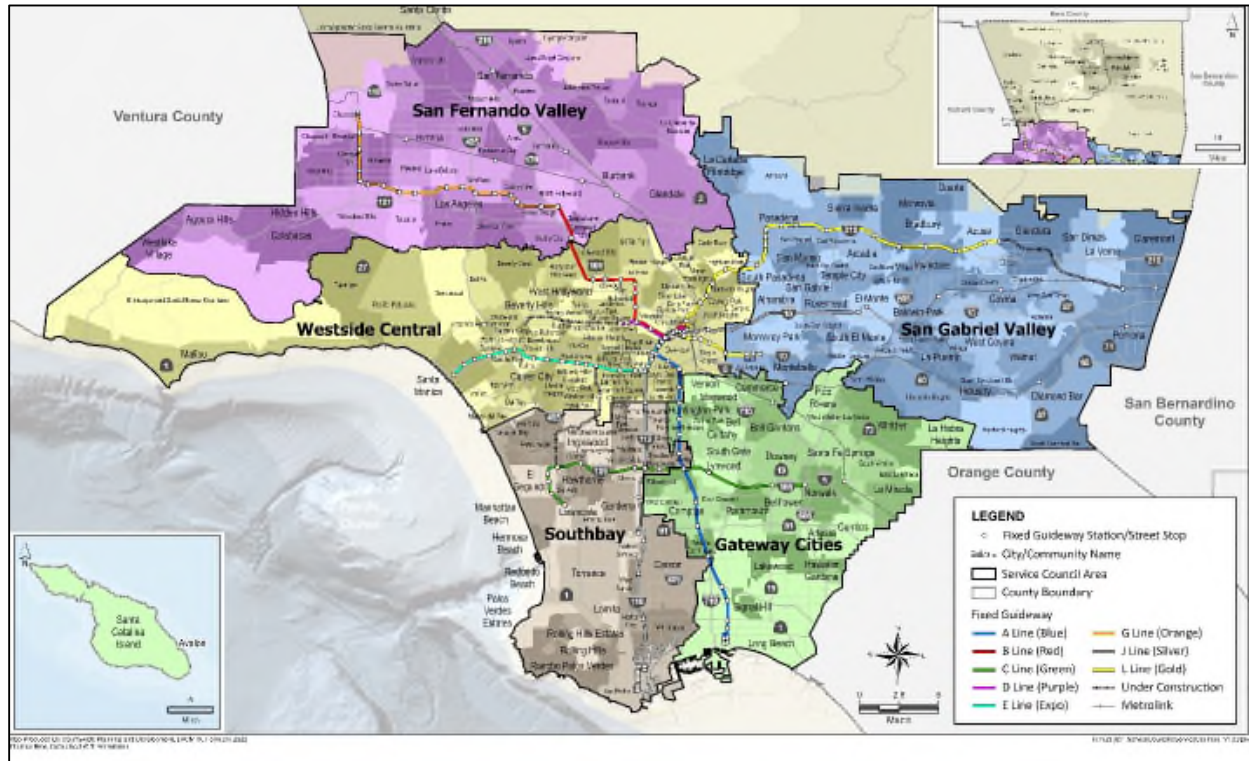


Figure 6.1 Metro Service Council Regions

Metro’s five Regional Service Councils provide locally accessible public forums for community members, transit users, and local municipal operators to voice concerns, suggestions, and questions on how Metro can best serve customers. Through these forums, Service Council members can:

- better understand customer needs and make recommendations;
- evaluate opportunities and service coordination issues;
- advise and approve the planning and implementation of service changes within their areas.

As stated in the 2011 update to the Service Council bylaws, one of the Service Council’s primary responsibilities is to render decisions on proposed bus route changes considering staff’s recommendations and public comments. Metro Service Councils (MSC) will be responsible for

approving all proposed permanent major service changes, excluding turnaround and out of service route modifications. All major service changes that require public hearings will be brought to the MSCs who will conduct public hearings then vote to approve, modify, or deny the service change proposals. Any significant temporary service change should be brought to the Council for their information but not approval.

Each Regional Service Council is responsible for holding public hearings that relate to major service changes (as defined in Title VI Section 6.3 below) to Metro bus and rail lines that provide significant service within their region, consistent with State and Federal laws and with Metro policies pertaining to public hearings. Following receipt of public input, the Council is responsible for approving all major service changes that are to be implemented that modify, add or delete Metro bus routes within the Service Council’s jurisdiction in conformance with Metro service standards, collective bargaining agreements and Metro policies. When a major service change program requires three or more Councils to hold public hearings, an additional hearing is held at a central location, normally at the Metro headquarters building, on an appropriate Saturday.

Table 6.1 *Major Service Change Timeline*

Key Activities	Required Lead Time (Months Prior to Implementation)
Initiate Planning Process	12
Develop Preliminary Recommendations	7-8
Impact Analysis for Proposed Changes	6-7
Title VI Equity Analysis on Major Service Change and Fare Change Proposals	5-7
Service Council Review and Input	6-7
Confer with Labor Relation and Union Representatives	6-7
Public Review and Input	5
Finalize Service Change Program	4-5
Program Approval	3-4
Develop New Service Schedules	2-4
Print Public Timetables and Operator Assignments	1-2
Fabricate Decals for Bus Blades	1-2
Take Ones/Rider Alerts on Buses	0.5-1

All route and major service changes that are approved by the Regional Service Councils will be brought to the Metro Board of Directors as an information item. Should the Metro Board decide to move a Service Council approved service change to an Action Item, the Service Council will be notified of this change, prior to the next Service Council monthly meeting. Table 6.1 provides the established service change timeline.

6.1 Service Change Programs

Service change programs are developed based on input generated by a wide variety of sources including rider, community, and employee input, service restructuring studies, coordination with major Metro capital projects such as new rail alignments or joint developments, requests from other local operators, and performance monitoring results such as load levels and on-time performance. The service change process includes public review of the proposals, a technical evaluation of ridership impact, and Title VI equity analysis.

In accordance with contractual agreements with the Sheet Metal Air, Rail and Transit Union (SMART)¹¹, bi-annual service changes will be implemented each year in June and December. Metro service changes are conducted to modify service based on ridership and load factors, on-time performance, other performance monitoring results, rider and community input, and budget considerations. A service change process workflow is provided in Figure 6.2.

As part of the evaluation process, resource impacts to in-service hours and required vehicles are also tracked to ensure compliance with budget parameters. In summary, the purpose of an evaluation on proposed service changes is to:

- Define and evaluate the impact on customers;
- Determine whether a proposed major service change or fare increase will have disparate impact on minorities or a disproportionate burden on low-income individuals by performing a Title VI Equity Analysis;
- Consider alternatives if a disparate adverse impact to minorities or disproportionate burden on low-income individuals are identified;
- Develop appropriate mitigation measures if needed; and
- Conduct required public hearing for all major service changes (see definition in Section 6.3 Title VI Equity Analysis).

Changes to the rail system occur less frequently. They generally relate to the opening of a new line or adjustments to the frequency or hours of operation for existing service. Changes in rail and bus service follow the same planning and implementation process.

6.2 Title VI Equity Analysis and Metro's Equity Platform

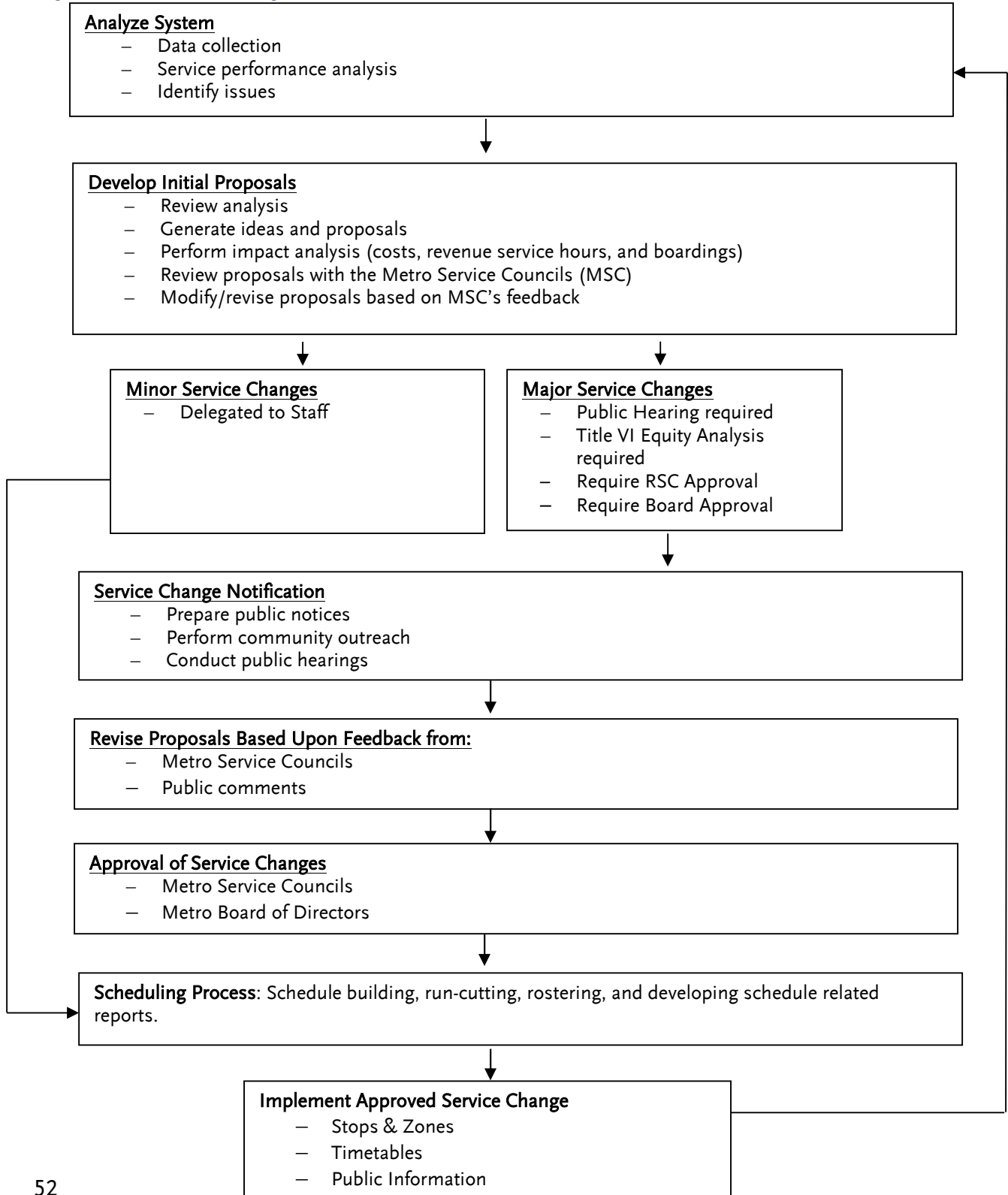
~~Metro's Equity Platform was adopted in February 2018¹².~~ The framework for equity begins with Title VI of the Civil Rights Act of 1964 which protects minority communities from disparate and disproportionate negative impacts as a result of major transit service changes. Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and

¹¹ The United Transportation Union (UTU) merged with the Sheet Metal Workers Union in 2014 to form SMART.

¹² <http://metro.legistar.com/metro/attachments/dabba808-fdf7-4f71-8869-66f2f60d40e7.pdf>¹³ HASTUS (Horaires et Assignments pour Systems de Transport Urban et Semi-Urban) refers to the software used to create schedules. ATMS (Advanced Transportation Management System)

Low-Income Populations provides further protection of low-income communities from disparate and disproportionate negative impacts.

Figure 6.2 Service Change Process



6.3 — Title VI Equity Analysis Metro must ensure a Title VI Equity Analysis is performed on all major service change proposals and any fare change proposals to determine if these proposals will have a disparate adverse impact on minorities or disproportionate burden on low-income individuals prior to a public hearing. If it is determined that these proposed changes will have a disparate adverse impact on minorities or a disproportionate burden on low-income individuals, Metro will make a good-faith effort to mitigate or reduce the adverse impacts by looking for alternatives that can meet legitimate program goals with a lesser impact to protected groups.

In accordance with FTA's Title VI Circular 4702.1B "Title VI Requirements and Guidelines for Federal Transit Administration Recipients" (Effective October 1, 2012), Metro's Administrative Code was revised to incorporate FTA's requirements under Title VI. The Metro Board adopted the updated Administrative Code in January 2013. Based on this Circular, Metro is required to perform a Title VI Equity Analysis on all proposed major service changes or fare changes prior to implementation. The goal is to ensure there is no *disparate adverse impact* to minorities or *disproportionate burden* on low-income individuals created by a major service or fare change.

The following definitions and criteria were updated and adopted by the Board in September 2019. The FTA is considering developing an updated circular in 2022. The Administrative Code now contains a reference to these definitions so that it need not be amended every time there is a need to modify the definitions:

Disparate Impact Policy:

Disparate impact refers to a facially neutral policy or practice that disproportionately affects members of a group identified by race, color or national origin and the policy lacks a substantial legitimate justification, including one or more alternatives that would serve the same legitimate objectives but with less disproportionate effects on the basis of race, color or national origin. This policy defines the threshold Metro will utilize when analyzing the impacts to minority populations and/or minority customers.

- a. For major service changes, a disparate impact will be deemed to have occurred if the absolute difference between the percentage of minority adversely affected and the overall percentage of minorities is at least five percent (5%).
- b. For any applicable fare changes, a disparate impact will be deemed to have occurred if the absolute difference between the percentage of minority adversely affected and the overall percentage of minorities is at least five percent (5%)

Disproportionate Burden Policy:

Disproportionate burden refers to a facially neutral policy or practice that disproportionately affects low-income populations more than those populations that are not low-income. A finding of disproportionate burden for major service and fare changes requires Metro to evaluate alternatives and mitigate burdens where practicable.

1. For major service changes, a disproportionate burden will be deemed to exist if an absolute difference between percentage of low-income adversely affected by the service change and the overall percentage of low-income persons is at least five percent (5%).

2. For fare changes, a disproportionate burden will be deemed to exist if an absolute difference between the percentage of low-income adversely affected and the overall percentage of low-income is at least five percent (5%)

Discretion of the Metro Board of Directors

A *major service change* or *fare increase* may be implemented even if the Title VI Equity Analysis determines a *disparate adverse impact* to minorities was created by the change. However, the Metro Board of Directors must first ensure these changes meet two tests:

- There is a substantial legitimate justification for adopting the proposed major service change or fare increase, meaning the selected service change or fare increase meets a goal that is integral to the mission of Metro; and
- The selected alternative would have a less severe adverse effect on Title VI protected populations than other alternatives that were studied.

Major Service Change

Major service changes are defined in Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-010 as any service change that meets at least one of the following criteria:

1. A revision to an existing transit route that increases or decreases the route miles and/or the revenue miles operated by 25% or more at one time or cumulatively in any period within 36 consecutive months since the last major service change;
2. A revision to an existing transit service that increases or decreases the scheduled trips operated by at least 25% at one time or cumulatively in any period within 36 consecutive months since the last major service change;
3. An increase or decrease to the span of service of a transit line of at least 25% at any one time or cumulatively in any period within 36 consecutive months since the last major service change;
4. The implementation of a new transit route that provides at least 50% of its route miles without duplicating other routes;
5. Six months prior to the opening of any new fixed guideway project (e.g. BRT line or rail line) regardless of whether or not the amount of service being changed meets the requirements in the subsections 1-5 above to be inclusive of any bus/rail interface changes.
6. Experimental, demonstration or emergency service changes may be instituted for one year or less without a Title VI Equity Analysis being completed and considered by the Board of Directors. If the service is required to be operated beyond one year the Title VI Equity Analysis must be completed and considered by the Board of Directors before the end of the one year experimental, demonstration or emergency.
7. A Title VI Equity Analysis shall not be required if a Metro transit service is replaced by a different route, mode, or operator providing a service with the same headways, fare, transfer options, span of service and stops.

Fare Changes

Any fare change requires an equity evaluation consistent with the following guidance:

1. A Fare Equity Analysis shall be prepared for any fare change (increase or decrease). This includes but is not limited to permanent fare changes, temporary changes, promotional fare changes, and pilot fare programs. The analysis will evaluate the effects of fare changes on Title VI protected populations and low-income populations. The analysis will be done for fares not available to the general public such as special discount programs for students, groups or employers.
2. If fare changes are planned due to the opening of a new fixed guideway project, an equity analysis shall be completed six months prior to opening of the service.
3. Each Title VI Fare Equity Analysis shall be completed and presented for consideration of the Board of Directors in advance of the approval of the proposed fare or fare media change by the Board of Directors. The Equity Analysis will then be forwarded to the FTA with a record of action taken by the Board.
4. A Title VI analysis is not required when:
 - a) A change is instituted that provides free fares for all customers;
 - b) Temporary fare reductions are provided to mitigate for other actions taken by Metro;
 - c) Promotional fare reductions are less than six months in duration. An equity analysis must be conducted prior to making any temporary fare change into a permanent part of the fare system.

6.4-3 Metro's Equity Platform

The NextGen Bus Study aimed to go above and beyond Title VI requirements to analyze disparate impacts and disproportionate burden on minority and low-income populations to identify communities with the greatest mobility needs. but to further improve service for communities with the greatest mobility needs to be served by transit. To do this, Metro's Equity Platform was integrated into the NextGen Bus Study planning and public engagement process. The Platform provides a framework that guides how the agency works to address inequities and create more equitable access to opportunity.

Metro's Equity Platform builds upon Title VI in two distinct ways. First, it goes beyond the Title VI Equity Analysis of disparate impacts and disproportionate burden on minority and low income populations ethnicity and income to identify determine communities with the greatest mobility needs. The NextGen process started with analysis of Equity Focus Communities (EFCs) is used to help identify where Metro's community designation that defines areas where transportation needs are greatest. EFCs consider where there are higher concentrations of resident and household demographics associated with mobility barriers (low-income households earning less than \$60,000 per year; Black, Indigenous, or People of Color (BIPOC) populations; and households that do not have a car). Additionally, the NextGen sought to capture other metrics to identify transit propensity to ensure investment in transit targeted area populations with the most need to use transit. Through market research, surveys, and public

input, other groups determined to be most reliant on transit include non-English speaking new immigrants, youth and seniors, persons without access to an automobile either by choice or necessity, persons with disabilities, and women, who tend to make more transit trips than men.

~~The Four Pillars of the Equity Platform were integrated into the NextGen Bus Study as follows do this, the Four Pillars of the Equity Platform were integrated into the NextGen Bus Study planning and public engagement process.~~

- I. **Define and Measure** – Use EFCs Title VI as a baseline for identifying communities with the greatest needs, and supplement those with market research to identify the segments of population and trips with the highest propensity for transit use. Evaluate bus network changes based on customer-focused performance metrics established within this Transit Service Policy document with particular focus on Equity Focus Communities with the greatest mobility needs as identified above.
- II. **Listen & Learn** –The technical work of the NextGen Bus Study identified important information about Metro’s current and potential customers. This data was validated by a robust countywide public engagement effort that included engaging customers on board buses, at outreach sessions at community events, stakeholder briefings, interactive public workshops, digital engagement, and print advertising. Comments received were incorporated into the systemwide service design as well as individual route changes.
- III. **Focus & Deliver** – Service design concepts established within this Transit Service Policy document are intended to address the recurring themes identified from the public outreach and market research, including faster and more frequent service, better reliability and accessibility to key destinations, better connectivity particularly with the municipal operators, and improved perception of safetysecurity on board buses and at bus stops. These concepts, ~~described below,~~ were used to redesign the routes and schedules for the NextGen Bus Plan.

In addition, a Transit Propensity Index score was developed and assigned to every Census Tract in Los Angeles County. This index score considers the various market segments likelihood to use transit, the transit orientation of the environment being served, and the travel demand within the area. Areas with high scores should be prioritized for high quality transit service.

Lastly, other customer experience enhancements such as improved safetysecurity, accurate real time arrival information, cleanliness, and improved first/last mile service are critical to attracting customers to use transit.

The Board-adopted Transit Service Policy will be updated to reflect the Regional Service Concept as adopted by the Board, including the goals and objectives of the bus network, measures of success, route and network design concepts based on public input and data analysis, and the framework referenced for balancing tradeoffs in consideration of Metro’s Equity Platform.

IV. **Train & Grow** –~~The Board adopted Transit Service Policy will be updated to reflect the Regional Service Concept as adopted by the Board, including the goals and objectives of the bus network, measures of success, route and network design concepts based on public input and data analysis, and the framework referenced for balancing tradeoffs in consideration of Metro’s Equity Platform. Service Planning has adopted new tools to analyze the potential impacts of service changes on EFCs. Atn addition, an annual monitoring program will be established to track the progress of achievement towards the goals and objectives, and to inform on necessary adjustments.~~

6.54 Public Outreach

Prior to a public hearing, public outreach is conducted so that the greatest number of customers may respond to the changes at either a public hearing or by submitting written comments at a hearing, or via email, mail, or fax. The distribution of information will include line number, line name, route change information, and/or fare change proposals. Other public outreach occurs at key transportation centers, bus stops, and bus and rail stations 30 days prior to the public hearing date. These efforts are made to reach and engage customers who may not have time to attend a public hearing and to inform them of alternative communication methods available to file public comments. Public participation in the public hearing process is an important step in assisting staff and Metro Service Councils in developing and approving final service change proposals. Table 6.2 provides a timeline for public notification activities.

Table 6.2 *Timeline for Public Notification Activities*

Activity	Months Prior to Service Change
Service Planning staff reviews preliminary proposals.	7
Metro Service Councils set dates of public meetings, publish hearing notices in local newspapers and send LEP and minority communities written notification to elected officials, other operators and key stakeholder groups. Confer with Labor Relations and Union representatives.	5-6
Service Planning staff provides information on proposed changes to the Metro Bus Operators Subcommittee and at quarterly meetings held with the region’s municipal and local operators.	3
Communication Department posts information proposed changes on Metro’s website.	5
Operations staff distributes meeting notices on board vehicles. Public outreach at key transportation centers, bus stops, and on-board customer interface occurs as well.	Minimum one month prior to public hearings
Metro Service Councils conduct public hearings.	4
Metro Service Councils approve final service change program.	3
Metro Board receives the Service Councils’ approved service change program as a Receive and File item.	2
Communication Department prepares press releases on final program and program brochures are distributed on-board Metro vehicles and other outlets.	1

These procedures are in accordance with Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-025:

- A. Any public hearing required by Section 2-20-020 shall be conducted as set forth in this section.
- B. Notice of the hearing shall be published in at least one English language and Spanish language newspaper of general circulation and at least thirty (30) days prior to the date of the hearing. Notice at least thirty (30) days prior to the date of the hearing shall also be published in the neighborhood and foreign language and ethnic newspapers as appropriate to provide notice to the members of the public most likely to be impacted by the proposed action.
- C. Notice of the public hearing shall also be announced by brochures in English, Spanish and other appropriate languages on transit vehicles serving the areas to be impacted and at customer service centers.
- D. To ensure that the views and comments expressed by the public are taken into consideration, MTA staff shall prepare a written response to the issues raised at the public hearing. That response should also include a general assessment of the social, economic and environmental impacts of the proposed change, including any impact on energy conservation.
- E. The public hearing related to a recommendation to increase transit fares charged the public shall be held before the Board of Directors and any action taken to increase the fares charged the general public must be approved by a two-thirds vote of the members of the Board of Directors. The Board of Directors may delegate to another body or a hearing officer appointed by the Chief Executive Officer the authority to hold the public hearing related to a change in transit service.

6.56 Public Hearing Process

Once a Service Change Program has been developed by Metro Service Planning Staff, the Metro Service Councils are asked to set a date, time and place for their public hearings. During the period between publication of the hearing notices and public hearings, each Service Council is provided a detailed presentation on service change proposals and given an opportunity to discuss the changes that will be the subject of public comment. After each hearing, each Service Council will meet to consider and approve, modify, or deny all proposed service changes. These actions will then be summarized and presented in an informational report to the Metro Board of Directors.

Under Metro's Service Council bylaws, all service changes must be reviewed and approved by their respective Service Council(s). Public hearings are usually held at the same location where the Service Councils hold their meetings but may be held at other locations in order to be more accessible to those customers who would be affected by the proposed service changes. When a major service change program requiring the associated Councils to hold public hearings affects three or more service regions, thus, an additional hearing will be held at a central

location, normally at the Metro headquarters building, on an appropriate Saturday. In accordance with Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-020, Metro will hold a public hearing on all major service change or fare change proposals that are subject to a Title VI Equity Analysis. These proposals are subject to Metro Regional Service Council and Metro Board approval.

6.67 Implementing Minor Changes on an Interim Basis

Minor service changes are generally route modifications that can be accommodated without impacting the vehicle or operator requirements of the service. Minor service changes do not require a public hearing but are shared with the relevant Service Councils as a courtesy and can be implemented at the discretion of staff.

APPENDICES

APPENDIX A: Metro Line Identification

The purpose of establishing transit service line identification standards is to create a simple way for customers to identify, locate, and reference Metro services, and thereby make the services easier for customers to use.

The line identification standards shall be adhered to when identifying Metro Bus and Metro Rail lines by name. The standards shall be implemented across all internal and external mediums including but not limited to, rail station signs, bus stop signs, bus station signs, vehicle head signs, vehicle destination signs, timetables, HASTUS and ATMS¹³. The descriptions and chart below help explain the standards, and how and when they should be implemented.

General Standards

- Transit lines will be identified using a combination of line number, destinations (both terminals) and the corridor(s) the line travels along. Metro Rail and Metro BRT service which previously used the established operational names (e.g., Metro Red Line, Metro Purple Line, Metro Orange Line) are being transitioned to a letter-based designation. To ensure consistent usage of transitional naming for Rail and BRT lines, updates to customer information should be referred to the Communications Department.
- Acceptable destination names include a city, community, major landmark, transit center or rail station. Street intersections are no longer to be used as a destination, unless the intersection is required to identify short-line service.
- The destination points will be listed in a West to East or North to South order, consistent with how the line would be read on a map. Destinations on head signs, destination signs, timetables, and physical signage must always be consistent.
- Lines that have Downtown LA as one of the line's end points will list its first, as Downtown LA.
- The name of the line will also list at least one major corridor on which it travels.
- Name abbreviations, street extensions and other topics will be dictated by the Metro Signage Guidelines.

Printed Materials and Electronic Customer Information

- The line will be presented using the full name, listing both the destinations and major corridor(s).
- Printed materials include, but are not limited to, timetables, service change announcements, brochures, system maps, and service reports.
- Electronic customer information includes the line information presented on metro.net and underlying electronic databases such as HASTUS and ATMS.

¹³ HASTUS (Horaires et Assignments pour Systems de Transport Urban et Semi-Urban) refers to the software used to create schedules. ATMS (Advanced Transportation Management System)

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- Trip Planners and mobile applications providing real-time data to riders will present the line name similarly to what will be shown on the vehicle head sign and bus stop sign, so customers can easily locate the appropriate line at the stop.

Rail Station Signage

- The line will be presented using the line letter designation, and destination point that the vehicle is traveling to in each direction.

Bus Stop Signage

- The line will be presented using the line number, service brand, color and destination point that the vehicle is traveling to in each direction.
- The main corridor(s) will also be listed as well as special service qualifiers including, but not limited to, rush-hour service and weekday-only service.
- Short-line trip destinations will not be shown on bus stop signs.

Bus Route Numbering Convention

Bus line numbers are assigned to indicate the type of service provided and where the line travels.

Line Numbers	Type of Service
1-99	Travel into downtown Los Angeles, referencing general corridors consecutively in a counterclockwise rotation
100s	Operate from east to west and travel outside of downtown Los Angeles
200s	Operate from north to south and travel outside of downtown Los Angeles
300s	Metro Local buses with limited stop service
400s	Arterial express bus services to/from downtown Los Angeles
500s	Freeway express bus services outside of downtown Los Angeles
600s	Operate local shuttle bus service
700s	Metro Rapid bus service
800s	Bus bridges for the rail network
900s	Metro Liner bus service

Vehicle Head Signs

- Head signs will list the destination in which the vehicle is traveling towards in one frame.
- Head signs on Rail and BRT vehicles will list the line letter designation in one frame.
- For short-line trips, the line number and destination shown will be the destination of that trip and not of the entire line.
- When the line is not in service, the sign will read “Not in Service” and display the route number per Operations Notice #09-18.
- Name abbreviations, street extensions and other topics will be dictated by the Metro Signage Guidelines.

Automatic Voice Announcements

- External On-Board Announcements:
 - The line will be identified in automatic external voice announcements using the line number and destination point that the vehicle is traveling to in each direction.
 - For short-line trips, the destination noted will be the destination of that trip and not of the entire line.
- Internal On-Board Announcements:
 - When the automatic voice announcement system identifies a stop, the end destination of that line will follow.
 - The stops and stations announced onboard should be consistent with names used on maps, timetables and other printed materials.

Assigning Line Identifiers

It is expected that the standards will be easily applied to the majority of lines; however, it is also understood that exceptions will have to be made for some lines due to unfamiliar end points or corridors, or where temporary solutions are necessary due to construction, temporary service changes, or pilot program deployment. In these limited cases, Service Planning staff and Communications must be in consensus regarding these changes before deciding to deviate from the standards. The Stop and Zones Department may also deploy temporary signage at bus and rail facilities as needed when emergency closures or other service changes impact scheduled service. For detailed guidance on using Metro signage standards, Metro Signage and Environmental Graphic Design Standards documents may be obtained from the Communications Department.

Metro’s Rail Line Identification, Naming, and Color Conventions

Rail and BRT lines previously denoted by a color transitioned to a letter/color combination beginning in November 2019. The letters assigned to each rail line generally conform to the order in which each line went into operation. The current planned designations are depicted in the adjacent chart.

The Gold Line has been assigned the letter L for clarity and consistency systemwide. The service plan for the Regional Connector Project will result in the L designation being phased out and the relevant sections of the Gold Line will become the A Line to Azusa or the E Line to East LA. The Crenshaw Line will be known as the K Line with a pink color.

Prior Designation	Updated Designation	Updated Line Badge
Blue Line	A Line	
Red Line	B Line	
Green Line	C Line	
Purple Line	D Line	
Expo Line	E Line	
Orange Line	G Line	
Silver Line	J Line	
Gold Line	L Line	

APPENDIX B: Los Angeles County Local Fixed and Demand Response
Route Transit Operators

	Municipal	Local Return	General Dial a Ride	Special Purpose Dial a Ride
Agoura Hills		X		X
Alhambra		X	X	
Antelope Valley Transit Authority (AVTA) serves: <ul style="list-style-type: none"> Palmdale Lancaster Portions of Unincorporated Los Angeles County 	X	X		
Arcadia				X
Artesia		X		
Avalon		X		
Azusa		X		
Baldwin Park		X		
Beach Cities Transit serves: <ul style="list-style-type: none"> Redondo Beach Manhattan Beach Hermosa Beach El Segundo 	X	X		
Bell		X		
Bell Gardens		X		
Bellflower		X		
Beverly Hills		X		
Burbank		X		
Calabasas		X		
Carson		X		
Cerritos		X		
Commerce	X	X		
Compton		X		
Covina		X		
Cudahy		X		
Culver City	X	X		
Diamond Bar				X
Downey		X		
Duarte		X		
El Monte		X		
El Segundo		X		
Foothill Transit serves member cities of <ul style="list-style-type: none"> Arcadia Azusa Baldwin Park 	X	X		

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	Municipal	Local Return	General Dial a Ride	Special Purpose Dial a Ride
Member cities served by Foothill Transit continued				
<ul style="list-style-type: none"> • Bradbury • Claremont • Covina • Diamond Bar • Duarte • Glendora • Industry • Irwindale • La Puente • La Verne • Monrovia • Pasadena • Pomona • San Dimas • South El Monte • Temple City • Walnut • West Covina 				
Gardena	X	X		
Glendale		X		
Glendora		X		
Hawaiian Gardens		X	X	
Hawthorne		X		
Hermosa Beach		X		
Huntington Park		X		
Inglewood		X		
La Cañada Flintridge		X	X	X
La Habra Heights			X	X
La Mirada				X
La Puente		X	X	
La Verne			X	
Lakewood			X	
Lawndale		X		
Lomita				X
Long Beach	X	X		
Los Angeles	X	X		
Los Angeles County		X		
Lynwood		X		
Manhattan Beach		X		
Malibu		X		
Maywood		X		
Monrovia		X		

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	Municipal	Local Return	General Dial a Ride	Special Purpose Dial a Ride
Montebello	X	X		
Monterey Park		X		
Norwalk	X	X		
Palos Verdes Estates		X		
Paramount		X		
Pasadena		X		
Pico Rivera		X		
Pomona		X		
Redondo Beach		X		
Rolling Hills Estates		X		
Rosemead		X		
San Dimas			X	
San Fernando		X		
San Gabriel			X	
San Marino				X
Santa Clarita Valley Transit (SCVT) serves <ul style="list-style-type: none"> • Santa Clarita • Portions of Unincorporated Los Angeles County 	X	X		
Santa Fe Springs		X		
Santa Monica	X	X		
Sierra Madre		X		
Signal Hill		X		X
South El Monte			X	
South Gate		X		
South Pasadena		X		X
Temple City			X	X
Torrance	X	X		
Walnut				X
West Covina		X		
West Hollywood		X		
Westlake Village		X		
Whittier		X		
Total	13	69		

Many of the Local Return systems listed above do not provide fixed route service but instead provide Demand Response services: Hawthorne, Malibu, and Manhattan Beach are examples.

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Transit Service Policy

December 2022



Metro[®]

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EXECUTIVE SUMMARY

Los Angeles County Metropolitan Transportation Authority (Metro) serves as transportation planner ~~and~~, coordinator, designer, builder and operator for Los Angeles County. More than ~~8.6~~10.3 million people live, work, and play within its 1,469-square-mile service area.¹

Metro's Transit Service Policy (TSP) establishes criteria and guidelines to ensure that the transit system is developed and managed consistent with policy guidance approved by the Metro Board of Directors, including a formal process for evaluating services, service design guidelines, and a process for implementing service changes.

In 2018, the Board adopted Metro Vision 2028 as the agency's strategic plan. The ~~plan~~Plan outlines five goals to guide the development of transportation in LA County. These goals will help Metro ~~must~~-ensure that: our customers feel safe when riding, that they do so in clean equipment, service is reliable and on-time, and our staff provides service in a courteous manner.

Goal 1: Provide high-quality mobility options that enable people to spend less time traveling

Goal 2: Deliver outstanding trip experiences for all users of the transportation system

Goal 3: Enhance communities and lives through mobility and access to opportunity

Goal 4: Transform LA County through regional collaboration and national leadership

Goal 5: Provide responsive, accountable, and trustworthy governance within the Metro organization

Also in 2018, Metro began the NextGen Bus Study to review and update the Metro bus system to ensure it provides a competitive transit service to meet the travel needs of LA County residents and visitors. The NextGen Bus Study included a comprehensive look at both Metro bus service performance and the overall travel market in LA County to determine where Metro bus service could be more useful. The study included significant input from riders and stakeholders to help develop a framework of guiding principles for positioning Metro's bus services to be more competitive in the overall travel market and to serve Equity Focus Communities most effectively, where the need for high quality transit is greatest.

In early 2020, the Metro Board approved the release of a draft NextGen Bus Plan for public review. Significant public input gathered in the first half of 2020 resulted in a revised draft NextGen Bus Plan being released ahead of public hearings, Service Council approvals, and Board adoption of this plan in October 2020. Phased implementation of the NextGen Bus Plan occurred beginning in December 2020, with additional phases in June and September/December-2021. Key elements of the NextGen Bus Plan, including a set of

¹FY19 National Transit Database- Represents all people living in the Census Tracts covered by Metro's service area per the 2020 Census Data. Service area is calculated from taking 0.75 mile buffer around all Metro bus line and rail stations.

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frequency tiers and bus speed and reliability tools, are reflected in this update of the Transit Service Policy.

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~~Metro's Transit Service Policy (TSP) establishes criteria and guidelines to ensure that the transit system is developed and managed consistent with policy guidance approved by the Metro Board of Directors, including a formal process for evaluating services, service design guidelines, and a process for implementing service changes.~~

SECTION 1: INTRODUCTION, PURPOSE & BACKGROUND

Metro first adopted a Transit Service Policy (TSP) in 1986. The TSP is reviewed on at least a triannual basis and updated as needed to better reflect agency goals and objectives, major initiatives, and changes in local, state, and federal regulations and funding. It is a required component of Metro’s Title VI Plan. This document updates the most recent version adopted by the Board as part of the NextGen Bus Plan adoption in October 2020². This document sets forth the policies, principles, and service guidelines that are used by Metro staff in the design or modification of the bus network to better serve customers and make more beneficial use of available operating resources. The TSP outlines the service change process that provides the quantitative tools to evaluate the system, identifies the process required to seek public input on and approvals for major service changes to the system, and ensures the regional transit system is adjusted according to the service goals and objectives approved by the Metro Board.

Metro operates a comprehensive bus and rail network that complements ~~Metro Rail~~Metrolink regional rail and municipal operator services across LA County. Determining the most appropriate transit service in on a corridor depends on several factors such as level of demand, resource availability, site ~~or~~and corridor characteristics, environmental considerations, and community acceptance. The characteristics that determine which type of service is most appropriate are summarized in Table 1.1.

Table 1.1 ~~Service Type Determination~~²

Service Type	Corridor	Optimal Characteristics
Heavy Rail (Subway)	Operate 100% within an exclusive right of way.	–2,500 boardings per route mile or more than 50,000 boardings per day. –Ability to construct a fully grade-separated facility.
Light Rail	Operate in mixed flow traffic or an exclusive right of way.	–1,000 boardings per route mile or more than 25,000 boardings per day. –Ability to construct a guideway within or adjacent to the corridor.
Commuter Routes	Operate in mixed flow traffic in along either an HOV or HOT Lane and may operate a segment of their route on local streets.	300 or more boardings during peak hour and in peak direction of travel.

² boardagendas.metro.net/board-report/2020-0617/

³Capacity limits adapted from TCRP, Research Results Digest, November 1999—Number 35, Highlight of Large Transit Capacity and Quality of Service Manual, Figure 1 Achievable Capacity (Peak direction passengers/hour)

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BRT and Rapid	Operated using 40', 45' or 60' buses. – Metro G Line (Orange) (BRT) operates on a fixed guideway. – Metro Rapid and Hybrid Lines operate in exclusive bus lanes or mixed flow traffic on local streets with signal priority.	– 300 or more boardings during peak hour and in peak direction of travel. – Daily average of more than 500 boardings per route mile or more than 10,000 daily boardings. – Ability to implement operating speed improvements in the corridor.
Core, Convenience, Connectivity and Community Routes	Operate in mixed flow traffic on local streets by 32', 40', 45', or 60' buses.	– The median bus route carries about 4,500 daily boardings. – Core and Convenience services are expected to carry more than the daily median, while Connectivity and Community are anticipated to carry less.

Metro Bus

As of December 2021, Metro ~~currently~~ operates ~~165~~119 bus routes, ~~of which 18~~. Metro's bus operations consist of directly operated and contract operated services: 103 routes are ~~contracted out~~ directly operated by Metro, and 16 routes are operated by contractors. Metro serves ~~nearly 14,000~~over 12,200 bus stops, including station stops on the G Line (Orange) and J Line (Silver) BRT systems. On weekdays, Metro operates a fleet of over ~~2,300~~1,600 buses. ~~Metro's bus operations consist of both directly operated and contract operated services during peak service hours.~~ Metro operates the largest ~~share~~portion of all bus services provided in the region. Municipal and Local Return operators provide additional public bus and paratransit services in areas of the region where Metro provides limited ~~service or no service at all or no service.~~ Metro relies on Access Services for provision of ADA paratransit service in the Metro service area.

As developed in the NextGen Bus Study, Metro classifies its bus services into tiers stratified by the frequency of service. The tiers are assigned to individual routes in accordance with demand and propensity for future growth. Table 1.2 describes the features of each of Metro's bus service types. Tier definitions are:

- **Core (Tier 1):** weekday all day headways of ~~7-5~~10 minutes or better
- **Convenience (Tier 2):** ~~7-5~~12 to ~~10~~15 minutes
- **Connectivity (Tier 3):** ~~10~~20 to ~~15~~30 minutes
- **Community (Tier 4):** ~~15~~40 to ~~30~~+60 minutes
- **Commuter (Tier 5):** Varies ~~by Line~~

Table 1.1 *Service Type Determination⁴*

<u>Service Type</u>	<u>Corridor</u>	<u>Optimal Characteristics</u>
---------------------	-----------------	--------------------------------

⁴Capacity limits adapted from TCRP, Research Results Digest, November 1999—Number 35, Highlight of Large Transit Capacity and Quality of Service Manual, Figure 1 Achievable Capacity (Peak direction passengers/hour)

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<p>Heavy Rail (Subway)</p>	<p>Operate 100% within an exclusive right of way.</p>	<ul style="list-style-type: none"> - 2,500 boardings per route mile or more than 50,000 boardings per day. - Ability to construct a fully grade-separated facility.
<p>Light Rail</p>	<p>Operate in mixed flow traffic, semi-exclusive or a fully- exclusive right of way.</p>	<ul style="list-style-type: none"> - 1,000 boardings per route mile or more than 25,000 boardings per day. - Ability to construct a guideway within or adjacent to the corridor.
<p>Commuter Routes (Tier 5)</p>	<p>Operate in mixed-flow traffic in either a High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane. May operate segments of the route on local streets. Operated using 40', 45', or 60' buses.</p>	<ul style="list-style-type: none"> - 300 or more boardings during peak-hour and in peak direction of travel.
<p>Metro Liner and Metro Rapid</p>	<p>Operated using 40', 45' or 60' buses.</p> <ul style="list-style-type: none"> - Metro G Line BRT and J Line (Metro Liner) operate entirely or partially on a fixed guideway dedicated to transit buses. - Metro Rapid Lines operate in exclusive peak period or all day bus lanes or mixed flow traffic on local streets with signal priority. 	<ul style="list-style-type: none"> - 300 or more boardings during peak-hour and in peak direction of travel. - Daily average of more than 500 boardings per route mile or more than 10,000 daily boardings. - Ability to implement operating speed improvements in the corridor.
<p>Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), and Community (Tier 4) Local Routes</p>	<p>Operate in mixed flow traffic on local streets by 32', 40', 45', or 60' buses.</p> <ul style="list-style-type: none"> - Core lines to be supported by exclusive peak period or all day bus lanes and signal priority on existing and former Metro Rapid corridors. - Lines are also defined in terms of the frequency of service offered, with Core lines being the most frequent and Community lines having a minimum frequency of at least hourly, with all tiers intended to run all days of the week. 	<ul style="list-style-type: none"> - The median bus route carries about 4,500 average weekday boardings (pre-COVID, 2019). - Core and Convenience services are expected to carry more than the daily median, while Connectivity and Community are anticipated to carry less.

These frequency tiers are especially important to ensure high frequency service is provided on key corridors serving Equity Focus Communities⁵ where the need for high-quality transit is greatest.

⁵ In 2018, Metro's Board adopted the Equity Platform, a framework that guides how the agency works to address

Table 1.2 Metro Bus Service Types and Features

Feature	Bus Service Type			
	BRT and Liner	Rapid	Commuter (Tier 5)	Core, (Tier 1), Convenience, (Tier 2), Connectivity, (Tier 3), Community (Tier 4) Local Bus Services
Right of Way	Dedicated Segregated right-of-way	Major arterials; peak hour or all-day bus lanes	Major arterials and freeways.	Major arterials and local streets; peak hour or all-day bus lanes for Core Tier 1 lines, with bus bulbs as alternative to bus lanes for Tier 1 and 2 lines
Minimum Target Average Stop Spacing	1.25 miles	0.75 mile	1.25 miles	0.2–0.3025 mile
Target Travel Market	Inter-community, regional	Inter-community	Inter-community, regional	Inter-community, neighborhood
Vehicle Type	40/45/60-foot buses	40/45/60-foot buses	40/45/60-foot busbuses	32/40/45/60-foot buses
Communities Served	Multiple	Multiple	Multiple	Multiple
Signal Priority	Yes	Yes	No	Yes for Core and Convenience (Tiers 1 and 2)
Fare Collection	On board J Line (Silver) / Off-board pre-pay G Line (Orange)	On Boardboard	On Boardboard	On Board On board, with all-door boarding a goal for Core and Convenience (Tier 1 and 2)
Passenger Amenities	Shelters and stations	Shelters and stations	Shelters and stations	Benches and shelters
Real-time Passenger Info	Yes	Yes	Yes	At some stops and via smart phone applications

Note: ~~Proposed stop spacing standards provide for the average stop spacing in miles by type of service and spacing should fall within 0.1 mile of the specified average at least 90% of the time.~~

inequities and create more equitable access to opportunity. In 2019, under the Equity Platform, the Board adopted a community designation called Equity Focus Communities (EFCs) to help identify where transportation needs are greatest. The definition of EFCs, as of 2022, consists of areas where there are higher concentrations of resident and household demographics associated with mobility barriers (low-income households earning less than \$60,000 per year; Black, Indigenous, or People of Color (BIPOC) populations; and households that do not have a car).

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Metro Bus RapidLiner Transit (BRT)

~~To support BRT, Metro incorporates a series of design features to reduce delays, increase reliability and improve customer comfort. Metro operates two high capacity vehicle types: 45-foot buses with 46 seats and articulated 60-foot buses with 57 seats. Ideally, high capacity vehicles should primarily be operated on high-volume trunk service routes with more than 10,000 total daily boardings. Metro BRT services operate on an exclusive right-of-way, major arterials, or in HOV/HOT lanes.~~

~~Metro operates two such routes: the Metro Liner transit provides regional, high-speed line haul service in high-volume corridors. These lines are designed to operate like rail service, complete with separated right-of-way, wide stop spacing, bus stations, pre-paid and/or all door boarding, real time customer information, and transit signal priority. Currently, Metro operates two Metro Liner services:~~

- ~~– **G Line (Orange)** which operates on its own semi-exclusive right-of-way, and ~~the~~ meets the Federal Transit Administration (FTA) definition of Bus Rapid Transit (BRT)~~
- ~~– **J Line (Silver)** which operates on the I-10 and I-110 ExpressLanes (freeway toll lanes) as well as surface streets through downtown. ~~These are considered Tier 1 services. BRT services charge a premium fare~~ Los Angeles, so it does not fully meet the FTA definition of BRT. J Line charges a premium fare (coordinated with Foothill Transit service fares on same corridor) since it operates on the freeway.~~

~~— **Dedicated Bus Lanes:** A bus lane is an exclusive lane used by transit on urban streets along a roadway through widening or dedication of one or more existing general traffic or parking lanes for transit use. These lanes can be designated for transit use during peak periods only or all day. Bus lanes typically allow use by general traffic for right turn movements, bicycles, parking, and local access to and from driveway, and are most effective in those areas where there are very high bus or customer volumes and where operational efficiencies can be achieved. Bus lanes should be a minimum of 17 feet wide. This right of way provides fewer traffic conflicts and obstructions and reduces delays and travel time. Metro is currently studying the feasibility of adding bus lanes on several major corridors to further improve travel times.~~

~~— **High Capacity Vehicles:** State of the art high capacity vehicles are used to meet high demand and provide greater customer comfort.~~

~~Attributes supporting the Metro Liner services and other Metro bus services as part of the NextGen Bus Speed and Reliability focus are:~~

- ~~– **Separated Bus Lanes:** There are three types of segregated bus lanes that Metro Liner service can use:
 - ~~• Fully segregated transit bus right-of-way: segregated bus lanes reserved exclusively for transit service on a full-time basis such as the right-of-way built for the G Line (Orange) or the I-10 transitway for the J Line (Silver) other transit services. These lanes can either be spaced apart from streets and freeways or be physically separated with either physical barriers or painted lines.~~~~

- Exclusive bus lanes operating on existing arterial roads and local streets on a part-time basis (e.g. peak period weekday, daytime weekday, etc.). These lanes are also being implemented to support the NextGen Core (Tier 1) Local bus lines and Metro Rapid lines.
- HOV travel lanes reserved not only for transit but also for high occupancy vehicles and sometimes vehicles paying a toll. Separation is achieved with either physical barriers or painted lines. J Line (Silver) and Metro Commuter (Tier 5) services use this third type of lane on parts of the I-10 and I-110 freeways.

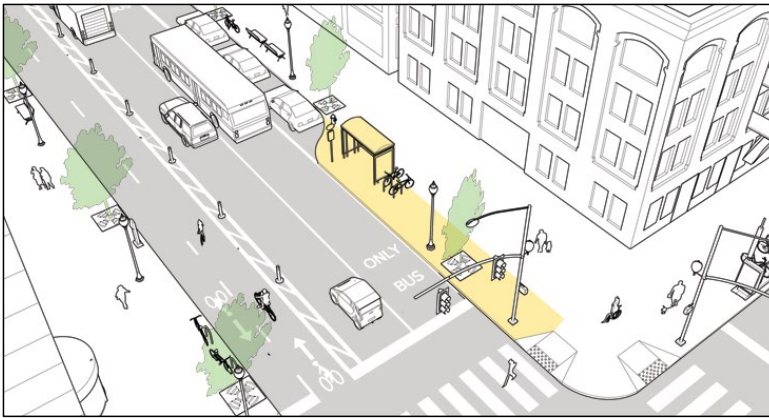


Figure 1.1 Bus bulb

Bus Bulb Outs: On NextGen Core (Tier 1) and Convenience (Tier 2) corridors where dedicated bus lanes are unable to be accommodated due to the need to maintain traffic and parking capacity, or where the frequency of service (less than 7.5 minute headway) does not warrant dedicated lanes, bus bulb-outs can support transit service by minimizing stop delay. Bulb-outs are extensions of the bus zone, typically across the first parking lane, that enable buses to serve the bus stop from the second traffic lane. This reduces delays for buses merging in and out of traffic and creates additional space for transit stop amenities. Figure 1.1 provides an illustration.⁶

- **Transit-Signal Priority:** An operational strategy that facilitates the movements of in-service transit vehicles through signalized intersections to improve transit performance by extending the green phase or shortening the red phase of traffic signals. (advancing the green phase) of traffic signals when a transit bus is detected at an intersection. This technology already exists on former and existing Metro Rapid corridors in City of LA, selected other cities, and LA County unincorporated areas, or is being added to NextGen Core (Tier 1) and Convenience (Tier 2) routes. Metro is working with LADOT to adapt LADOT's existing Transit Signal Priority system to better

⁶ Illustration from National Association of City Transportation Officials Urban Design Guide: nacto.org/publication/urban-street-design-guide/street-design-elements/curb-extensions/bus-bulbs/

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serve Metro's NextGen service model. The work underway will adapt LADOT's system to provide signal priority to all Metro buses. Certain constraints of the old system such as only serving buses that arrived late and requiring individual buses to be associated with a single corridor will also be removed. This project will provide improved signal priority operation for all Metro buses operating on equipped corridors. Work on this project is anticipated to be complete by fall 2022.

- **Bus Stations**~~Headway-Based Service Management~~: Operating the most frequent and ~~Shelters~~ highest usage bus lines on a system based on managing headways (or intervals) between trips rather than operating based on timepoints to regulate service offers the chance to keep service moving while minimizing wait times and travel times for riders. This approach will be piloted as part of the NextGen Bus Speed and Reliability initiatives using a mix of staff- and technology-based line management techniques.
- **Bus Transit Centers and Stop Amenities**: Stations and shelters provide customers with enhanced comfort and safety. As part of the NextGen Bus Plan, Metro will continue to work with municipalities to maximize the number of bus stops with seating and shelter, as this function is led by municipalities. An emphasis will be made on allocating many of these amenities to Equity Focus Communities where the need for high quality transit is greatest.
- **Streetscape**: Streetscape and other design features such as landscaping, pedestrian ~~count-down~~~~countdown~~ signals, bicycle racks, and well-designed crosswalks make it easier for pedestrians and bicyclists to access the stations.
- **Improved Fare Collection Amenities**: For ~~convenience and~~ faster service ~~and convenience~~, major stations have ticket vending machines (TVMs) which allow ~~customer s~~~~customers~~ to preload their TAP cards. For the G Line (Orange), all fare collection is completed at the stations and the fleet does not have on-board fare boxes. The J Line (Silver) has TAP validators at both the front and back doors to facilitate all-door boarding to speed up boarding and reduce rider travel times. Metro Rapid Lines 720 (Wilshire) and 754 (Vermont) operate on two of Metro's busiest bus service corridors and have also piloted this option. All-door boarding will be extended to all Core (Tier 1) and Convenience (Tier 2) lines by mid-decade to help reduce travel times for most riders.
- **Park & Ride Facilities**: Provided in close proximity to major stops and stations. Adjacent development and joint use parking are encouraged.
- **Advanced Transportation Management Systems**: ATMS provide an array of technologies to improve service reliability and customer ~~travel~~~~experience including on-board stop~~ announcements.

Articulated Buses

The G Line (Orange) operates with a dedicated fleet of 60' higher capacity articulated buses. The advantage of ~~thei~~~~r~~ the deployment of articulated buses is the opportunity to reduce vehicle requirements and service hours while maintaining high ridership capacity; however, deployment should not increase service intervals to the point where service quality is degraded. For this reason, bus lines with a peak headway of five minutes or ~~less~~better are ideal candidates

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for this type of ~~vehicle~~bus. In evaluating services for higher capacity ~~vehicles~~articulated buses, other factors must be considered including facility compatibility, street design, and ~~potential impacts~~operational factors such as buses that operate on a mix of lines during their operating day. The deployment of articulated buses must also be coordinated with the efforts to ~~services where schedules have been interlined~~convert the Metro fleet to fully zero-emission buses.

Metro Rail

As of May 2022, Metro operates two heavy rail and four light rail lines serving a total of 96 stations across approximately 101 route miles, with a fleet of ~~406~~102 heavy rail and 293 light rail cars.

Metro Rail operates in heavily congested, high-demand travel corridors and provides connections to key multi-modal transportation hubs. Metro operates two types of rail service to better match the transit mode with specific customer demand and needs. Metro Rail heavy rail is high-capacity, two line rapid transit ~~services~~services operating along a dedicated subway right-of-way, serving full-scale transit stations, ~~and powered by electricity~~ in some of the most densely populated areas of LA County. Metro's existing light rail system consists of four lines with segments of mixed flow, street running, or grade separated right of way, with full-scale transit stations. The rail system ~~supports~~is a critical public transportation asset in the greater Los Angeles region, linking many key multi-modal transportation centers and destinations together.

~~Rail service operates in high-demand travel corridors and is offered in two forms— heavy rail and light rail.~~ Metro's heavy rail is the subway system served by the B and D Lines (Red, Purple) powered by a third rail, ~~and operated with 4- or 6-car train sets.~~ Metro's four light rail lines – A (Blue), C (Green), E Line (Expo), and L Line (Gold) ~~and E (Expo)~~—are powered by overhead catenary wires, generally use shorter ~~trains~~2- or 3-car train sets, and operate at slower speeds than heavy rail. ~~Unlike heavy rail, light rail lines run along a right-of-way ranging from complete grade separation to at-grade in mixed flow traffic.~~

Transit Service Policy (TSP)

~~The TSP was originally adopted in 1986 and is reviewed on an annual basis. This document sets forth the policies, principles, and service guidelines that are used by Metro staff in the design or modification of the bus network to better serve customers and make more beneficial use of available operating resources. This document outlines the service change process that provides the quantitative tools to evaluate the system, identifies opportunities for service improvements, and ensures the regional transit system is adjusted according to the service goals and objectives approved by the Metro Board.~~

~~The TSP is updated as needed to better reflect agency goals and objectives, major initiatives, and changes in local, state, and federal regulations and funding.~~

~~This document updates the most recent version adopted by the Board in FY2016.~~

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The first segment of the new 8.5 mile, 8-station Crenshaw/LAX K Line is expected to open in late 2022. A ninth new station, the Airport Metro Connector (AMC) Station, should open by the end of 2024. The new 1.9 mile Regional Connector light rail alignment through downtown LA will also open around the same time as the K Line, which will see the L Line (Gold) rail line realigned into the A Line (Blue) and E Line (Expo) services, creating direct links from Long Beach to Azusa (A Line) and Santa Monica to East LA (E Line). This alignment includes two new stations and one replacement station.

SECTION 2: DESIGNING A WORLD CLASS BUS SYSTEM

As outlined in the Executive Summary, in 2018, the Board adopted Metro Vision 2028 as the agency's strategic plan. The plan outlines five goals to guide the development of transportation in LA County. The NextGen Bus Study was also initiated in 2018 to reimagine the Metro bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. The NextGen addresses Bus Plan and Study were completed to address Goal #1: Provide high quality mobility options that enable people to spend less time traveling. The study also encompasses two sub-goals: 1) Target infrastructure and service investments towards those with the greatest mobility needs; and 2) Invest in a world class bus system that is reliable, convenient, safe, and attractive to more users for more trips.

In addition to the Vision 2028 strategic plan, the Board adopted Motion 38.1 (June 2018), endorsing travel speed, service frequency, and system reliability as the highest priority service design objectives for the NextGen Bus Study. Finally, regardless of the level of resources expended on the bus network, optimizing system performance should always be an objective in network design to maximize benefit to the public from available resources.

These goals and objectives drove the development of the NextGen Service Bus Plan, including guiding principles for routing, stop spacing, frequency, span of service, and coordination with municipal operators. In addition, a set of performance measures have been defined below to ensure the bus network continues to evolve consistent with the goals and objectives defined by the Board.

intent of NextGen Service to create a competitive bus service for LA County.

NextGen Bus Plan

Metro Vision 2028 envisions building a World Class Transportation System in which a World Class Bus System is a cornerstone to its success. Building a World Class Bus System requires improving the attractiveness and competitiveness of the bus network. Attractiveness includes addressing issues such as safety and security, cleanliness, comfort, real-time arrival information, easy fare payment, wayfinding and signage, and first/last mile access. Competitiveness requires developing a bus network that minimizes the overall travel time to complete a trip compared to the driving alternative. This travel time considers directness of route, access to and from the bus stop, waiting time, and onboard travel time.

As mentioned in the Executive Summary, NextGen's primary purpose is to improve the competitiveness of the bus network. However, through this process, improvements to certain aspects of attractiveness can also be achieved. The following outlines the strategy for how the NextGen will set Bus Plan's design as the foundation for building a fast, frequent, and reliable World Class Bus System.

Step 1: Reconnect Scenario: Metro currently provides roughly 7 million revenue service hours (RSH) of bus service per year. The first step in creating a World Class Bus System is to redesign the routes and schedules to attract trips where and when there is the greatest market potential. The lessons learned in Phase 1 of the bus study present a path forward for reinventing

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the bus network through restructuring the bus lines consistent with service usage and travel patterns using the following guiding principles identified in the NextGen Bus Study:

- **85% of LA County residents have used transit at least once in the past year, THEREFORE, ~~we should attempt~~ the NextGen Bus Plan attempts** to maintain coverage throughout the County by minimizing discontinued segments.
- **Fast/~~Frequent~~ frequent/reliable service is key; THEREFORE, ~~we need~~ the NextGen Bus Plan is designed** to create a competitive transit network that reduces overall travel time by optimizing all components of the trip, including walking, waiting, and riding.
- **Metro's ~~current~~ pre-NextGen bus system ~~is~~ was not always competitive to get people where they want to go, THEREFORE ~~routing should be~~ NextGen Bus Plan has adjusted routing** to reflect the key origins and destinations identified in ~~the~~ cell phone location data ~~and ridership patterns.~~
- **The greatest opportunity to grow ridership is between midday & evening when many trips are short distance, THEREFORE service levels ~~should be~~ under the NextGen Bus Plan have been** improved for off-peak periods, especially midday, ~~evenings~~ weekday and weekends, with more improvements planned, especially for evenings. New overnight Owl services have been added or are planned.
- **Need to integrate Metro's Equity Framework into the planning process, THEREFORE the NextGen Bus Plan service improvements ~~should be prioritized for~~ prioritize** equity-focused ~~focus~~ areas where the need for high-quality transit service is greatest.

These lessons learned to “reconnect” routes and schedules with where and when people travel today were incorporated into the Plan's Service Design Guidelines outlined in Section 3 to develop the NextGen “reconnect” routes and schedules with where and when people travel today as the NextGen Bus Plan Reconnect ~~service plan~~ scenario implemented across the December 2020, June 2021, and September/December 2021 service change cycles. Reconnect ~~is~~ was estimated to increase ridership by 5% with no additional increase in revenue service hours. It will also help Metro recover from the impacts of the COVID-19 pandemic on ridership.

Step 2: Transit First Scenario: Once the Building upon the Reconnect scenario of NextGen Bus Plan that provides a bus network ~~is reestablished to reflect~~ that better reflects the travel patterns of today, the next step in building a World Class Bus System is to: 1) invest in speed and reliability infrastructure, 2) create safe and comfortable waiting environments, 3) improve the boarding and riding experience, and 4) establish facilities to optimize layovers. These capital improvements create a more competitive and attractive bus network while saving resources to be reinvested into more frequent service.

- **Speed and Reliability Improvements** – As bus system speeds ~~continue~~ have continued to decline over the last decade, Metro ~~must~~ has had to allocate an additional \$10 million cumulatively every year on an annual basis to provide the same amount of service. Not only does this reduce the opportunity to increase service, it degrades ~~our~~ the competitiveness and attractiveness of bus service and is not sustainable. Therefore, investing to improve the speed and reliability of the bus system is critical to the success

of NextGen. Some improvements can be implemented within METRO's Metro's control, such as optimizing stop spacing, implementing all-door boarding, and piloting headway-based service management. However, other improvements can only be implemented through collaboration with local jurisdictions, including such as transit priorities, signal priority system upgrades and expansion, new bus bulb-outs, and bus-only or bus priority lanes. Under the NextGen Transit First scenario, \$750 million in a major 5-year program of capital improvements are proposed was approved to support speed and reliability improvements for the regional bus network. This investment is anticipated to save 25% - 34% in system speed if fully implemented. - 34% in system speed if fully implemented, and to allow for more frequent service to be delivered without adding additional operating costs. New bus lanes have already been rolled out in 2020 and 2021 on 5th and 6th Sts, Grand Av, Olive St, and Aliso St in downtown LA, and on Alvarado St between 7th St and the 101 freeway. These are just the beginning of a program to add over 80 miles of dedicated bus lanes through partnerships with City of LA and other municipalities.

- **Customer Wait Environment** – Through the significant public outreach conducted in Phase 1 of the NextGen Bus Study, as well as other Metro efforts/initiatives such as the How Women Travel Study⁷, we learned that an uncomfortable and unsecured wait environment is a significant barrier for customers in using the bus network. This is particularly concerning for women who account for over half of our customers and often travel with young children. Metro completed the Metro Transfers Design Guideline Guide in March 2018⁸. Under the Transit First scenario, we plan the NextGen Bus Plan is intended to begin implementing the recommendations from this policy document at our busiest wait and transfer locations. This investment is anticipated to cost \$150 million and address several of the safety and comfort issues identified through the NextGen outreach and the How Women Travel Study. Implementation will be completed in partnership with local authorities responsible for the provision of bus stop amenities throughout the Metro transit network.
- **Boarding and Riding Experience** – Metro has implemented All-Door Boarding on several lines, including all-door boarding on the G Line (Orange), J Line (Silver), Line and Rapid Lines 720 (Wilshire), and Line 754 (Vermont). Experience on the J Line (Silver) showed that dwell times were reduced by up to 15% on average, on-time performance improved, and cash payment declined with more TAP penetration, and significant customer and operator satisfaction. Surveys confirmed that both customers and operators were significantly satisfied with the implementation of all-door boarding. In early 2022, the Metro Board approved the purchase of rear door validators and other equipment to allow for implementation of all-door boarding across the higher frequency Core and Convenience (Tiers 1 and 2) local bus lines. Other strategies to improve the boarding and on-board riding experience include level boarding at key stops and have focused on improved on-board real-time information. These improvements are estimated at \$100 million systemwide. accuracy.

⁷ libraryarchives.metro.net/DB_Attachments/2019-0294/UnderstandingHowWomenTravel_FullReport_FINAL.pdf

⁸ dropbox.com/s/iv6ruaxdw5g945b/Metro_Transfers_Design_Guide_2018-0312.pdf?dl=0

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- **Layover Optimization** – Due to limited curb space, many routes are extended purely to access a suitable layover location. These ~~unnecessary~~ route extensions are not required for riders and cost several million dollars in operating ~~costs~~ per year ~~with little to no benefit to the customer~~. By investing in off-street layover terminals to optimize layover locations, weMetro can reallocate wasted resources ~~and reallocate it~~ to more productive ~~uses~~. In addition, these locations ~~would~~can provide facilities for better regional mobility coordination, ~~a~~ better wait and rest ~~environment~~environments for customers and operators, ~~improve~~improved bus service reliability, and opportunities for new en-route Zero ~~Emissions~~Emission Bus (ZEB) charging infrastructure.

This estimated \$1 billion capital program, planned for implementation over a five-year period, is expected to achieve resource savings by generating more revenue service miles/trips ~~within~~with the same number of revenue service hours. These savings would be reinvested into Transit First service improvements, including:

- ~~Ensure~~Ensuring that all bus lines operate seven days per week;
- ~~Ensure no wider than 30 minute headways on any line between 6:00 am and 7:00 pm;~~
- ~~Expand owl (overnight) service on an additional eight lines;~~
- ~~Increase~~Increased weekday midday and evening service levels;
- ~~Increase weekday evening~~Increased weekend service levels ~~and;~~
- Expanded owl (overnight) service.

Investing “one time” capital dollars into transit supportive infrastructure ~~would~~will increase the attractiveness and competitiveness of the bus network, while freeing resources to reinvest into service enhancements. Under the Transit First scenario, these benefits are expected to generate a 15-20% increase in ridership (10-15% over and above what Reconnect can achieve) without additional increases in revenue service hours.

Step 3: Future Funding Scenario: Should future funding be secured through efforts such as ~~de~~ congestion pricing, additional resources can be added to the NextGen Transit First network. However, without disincentives for driving, there will be diminishing returns on benefits since most customers would already have been served within the Transit First Scenario. Therefore, a 34% increase in revenue service hours to provide even more frequent service, as planned under a Future Funding Scenario, would only be expected to yield a 10% increase in ridership over Transit First.

SECTION 3: SERVICE DESIGN GUIDELINES

Key Principles of Network Design

Three key elements ~~are were~~ taken into consideration during the ~~Network Development Process~~ ~~NextGen Bus Study and NextGen Bus Plan~~ to identify when and where transit can be ~~competitive and~~ successful.

- **Transit Propensity** – Areas where the propensity to use transit is the greatest embody three main characteristics. ~~First: first~~, there is a significantly large population of transit market segments, including people who rely on transit ~~(especially those identified in Metro's Equity Focus Communities)~~ for most of their travel, ~~such as~~ commuters ~~and~~ students who use transit for work and school trips, and discretionary customers who choose transit for some or all their trips. ~~Second, The second characteristic~~ is the intensity of travel demand to and from areas based on population and employment densities, retail and entertainment, colleges and universities, and other trip generators. ~~A third, a pedestrian-oriented street environment is also critical, including that includes~~ safe and well lighted pathways, sidewalks and curb-cuts, grid street network, and level topography ~~is critical~~.
- **Existing Service Performance** – It is important to identify the most productive segments of the existing bus network which ~~articulates articulate~~ current transit demand. These corridors and routes ~~should behave been~~ optimized through the ~~network development process~~ ~~NextGen Bus Plan~~, and lessons learned ~~should will~~ be applied to other areas with similar demand and service characteristics.
- **Service Environment** – A transit-oriented service environment is also critical to the success of transit, ~~including not just to facilitate fast, frequent, and reliable transit operations, but also to support to~~ the ability of transit to thrive as a viable option. ~~The importance of environmental elements such as~~ pedestrian orientation of the streets ~~and~~ land use, barriers to other modes such as limited and costly parking supply, and transit supportive infrastructure ~~including such as~~ bus-only lanes and other transit ~~priorities-prioritization design~~ are critical. ~~The NextGen Bus Speed and Reliability program is working to address this key element.~~

Once these key elements are taken into consideration in the ~~Network Development Process~~ ~~NextGen Bus Plan's focus on fast, frequent, and reliable service~~, this transit orientation can then be translated into design considerations, including elements explained in the following sub-sections.

3.1 Service Design Concepts

Service design concepts, ~~were~~ developed as part of the NextGen Bus Study, ~~are guidelines established and incorporated into the NextGen Bus Plan~~ based on the feedback received through the study's stakeholder and public outreach sessions ~~and established as guidelines~~. Network characteristics most important to the public include:

- Faster service
- More reliable service
- Frequent service throughout the day
- Better network connectivity

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- Accessibility to key destinations
- Improved security

Based on these ~~service~~ themes, the following service design concepts ~~will guide~~ were incorporated into the ~~design of the NextGen Bus Plan~~ implemented to deliver an improved Metro bus network:

Hybrid Local/Rapid Stop Spacing – ~~Currently~~ Past practice was that stop spacing ~~is~~ was determined by route classification. For example, ~~local~~ Local lines ~~are~~ were planned with ¼ mile stop spacing while Rapid lines ~~have~~ had ¾ to 1 mile stop spacing. As a result, customers travelling on ~~local~~ Local lines ~~go slower between communities~~ travelled more slowly but ~~have~~ had closer access to origins and destinations. Conversely, Rapid customers ~~travel~~ travelled faster along a corridor, but may ~~behave been~~ picked up or dropped off much further from their origin or destination. In addition, resources ~~are~~ were split between the ~~local~~ Local and Rapid lines resulting in ~~wider headways~~ less frequency for each service. ~~Therefore, Thus~~ overall end-to-end travel time including walking/rolling to ~~the stop~~ from stops, waiting for the bus, and ~~finally the~~ in-vehicle run time may result in longer ~~overall~~ travel times on the Rapid, especially for shorter distance trips.

Consolidating ~~local~~ Local and Rapid resources along ~~a corridor will provide much better headways~~, 18 major transit corridors was implemented in 2020/2021 as part of the initial roll out of the NextGen Bus Plan. The single hybrid service retained on these key corridors provides more frequent service at all stops and ~~customizing~~, when matched with optimized ¼ mile average stop spacing ~~along the corridor based on changing land use densities along a corridor~~ adopted as part of NextGen Bus Plan and new bus lanes, results in shorter wait times, faster on-board travel times compared to the ~~local~~ previous Local service, and shorter walk/roll compared to Rapid service. In addition, this standardizes the ~~service~~ frequency along the entire corridor, ~~vs as compared to providing~~ inconsistent frequencies between ~~local~~ Local and Rapid services that have different speeds. ~~Stop spacing can be adjusted to reflect local conditions with the needs of key destinations such as schools, medical centers, and senior centers being taken into account while balancing the impact each stop has not just for those that use the stop, but for those on board that are delayed by buses stopping.~~

Shorter Route Lengths and Subarea Transit Hubs – ~~The~~ Location-based cell phone ~~location~~ based data indicates that almost half of all ~~travel~~ trips made in Los Angeles County are within 1 to 5 miles. In addition, the origin-destination travel patterns indicate that many people travel locally and not necessarily ~~regionally~~ across the region. Creating shorter, ~~core~~ route lengths ~~with maximized service frequency and bus speed improvements such as new bus lanes~~ will improve schedule reliability. Being able to tie the lines to subarea transit hubs will improve network efficiencies and provide ~~a~~ safer and more convenient ~~location~~ locations for transfers.

Municipal Operator Coordination – Metro serves as LA County's regional coordinator of transit services. Improved coordination between all operators and modes is vital to establishing an integrated regional transit network. Metro operates within a hierarchy of services, in which Metrolink provides the region's commuter rail to serve high volume, longer distance trips. Metro Rail, Metro ~~BRT~~ Liner [G Line (Orange) and J Line (Silver)], and Metro Bus ~~serve~~ serve

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as the backbone of the urban transit network, ~~which is within much of LA County, and are~~ augmented by municipal operators. Municipal and local return operators complement the system with community and shuttle buses that serve specific neighborhood needs.

~~Roughly~~It is imperative that Metro bus service be closely coordinated with municipal transit service as roughly one-third of transit service in LA County is provided by municipal bus operators and Metrolink. Their coverage is especially strong in Santa Monica, Culver City, South Bay, Gateway Cities, and eastern San Gabriel Valley. ~~Therefore, it is imperative that Metro bus service is closely coordinated with municipal transit service, as well as Santa Clarita and the Antelope Valleys.~~ Given that several ~~of the~~ municipal operators are currently undergoing their own system redesigns, there ~~is an opportunity~~are opportunities to work together to develop service change ideas between Metro and municipal services to improve overall coordination for customers. ~~The NextGen Bus Plan included four transfers of Metro bus service to municipal operators, two of which were implemented in 2021 in cases where the line was more appropriate as part of the municipal operator’s network.~~

MicroTransit and Other On-Demand Services – Some areas of the County are difficult to serve with fixed-route transit due to terrain, narrow streets, ~~and~~ dispersed lower density destinations. ~~In addition, and relatively low travel activity in some areas are low during certain times of day or days of week.~~ To address this, Metro is currently ~~piloting Mobility on Demand and will be implementing~~conducting a three-year microtransit pilot program for MicroTransit. ~~These, an on-demand, van-based rideshare service modes may be more appropriate for areas branded as Metro Micro.~~ The service launched in December 2020 and the final eighth zone was implemented in December 2021. The zones are: Watts/Compton, LAX/Inglewood, North Hollywood/Burbank, El Monte, Highland Park/Glendale/Eagle Rock, Pasadena/Altadena/Sierra Madre, Northwest San Fernando Valley, and ~~times of day~~ Westwood/UCLA. The service is designed to provide short trips within a zone ~~where fixed route cannot be competitive~~each rider would have to wait no more than 15 minutes from the time a reservation is made to when they are picked up at a designated pickup location. Reservations can be made the same day ~~and will be considered for up to a week in advance.~~ Riders can reserve rides by calling Metro’s Call Center, through an online reservation system, or via the service’s dedicated smart phone application ~~in lieu of.~~ All pickup and drop-off locations are located within the zone and must be ADA accessible, but are not limited to bus stops. The pilot program will operate for three years, after which Metro will determine whether to make the service permanent or not. A number of lower ridership fixed-route services have been discontinued within the new Metro Micro zones as part of the NextGen Bus Plan implementation, to determine if microtransit can be an effective and efficient replacement for Metro fixed route ~~if warranted~~bus service in these hard-to serve areas.

Table 3.1 *Minimum Rail and NextGen Bus Plan Frequency by Service Type*

Service Type	Peak	Midday Weekday	Weekend	Evening
Heavy Rail	10	12	12	20
Light Rail	10	12-15	15	20

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Core Network (Tier 1) Metro Liner and Metro Rapid	5-10	5-10	15	7.5
Convenience Network (Tier 2)	12-15	12-15	30	10
Connectivity Network (Tier 3)	20-30	20-30	60	15
Community Network (Tier 4)	40-60	40-60	60	30
Commuter Network (Tier 5)	varies	varies	varies	varies

Standardize Frequencies by Service Tiers – ~~Currently~~ Prior to the implementation of the NextGen Bus Plan, schedules ~~are~~ were written based on the Board-adopted load standard for frequent services (15 min or better) and ~~based~~ on policy service levels for ~~in-frequent~~ low frequency services (~~wider~~ less than 15 min). To ensure the core network has consistent frequencies and span of service, ~~corridors will be~~ the NextGen Bus Plan categorized transit lines into tiers based on transit propensity, current ridership, ~~the nature of the service~~, and overall travel demand. Each tier ~~will be~~ has been assigned a frequency ~~designation (e.g. 10 min peak/12 min base)~~ range for each time period to ensure that all services within the tier provide consistent service levels for ease of transfer ~~along~~ across the network ~~if a~~, with minimal adjustment from year to year. These frequency levels are defined in Table 3.1. A line ~~requires better frequencies than the tier designation, it will be set based on the~~ may see frequency improved at a selected time of day in response to high demand, consistent with the Board-adopted load standard- being met on all trips operating on the line.

Routing to Reflect Current Travel Patterns and Transit Propensity – ~~Currently corridors~~ Corridors are ~~currently~~ being evaluated by segments ~~Based~~ based on the origin—destination travel patterns identified using the cell phone location-based data ~~as well as~~ and regional TAP data, ~~the~~. The segments will be connected together to create lines ~~Better aligning that~~ better align the routing with travel patterns. This is expected to reduce the number of transfers required to make a trip, and ~~to~~ increase the distance travelable and access to opportunities along the network within ~~15 min, 30 min, etc~~ a given time frame. While resources will be focused in areas with high transit propensity, there will be a concerted effort to maintain service in areas of low demand but with the greatest mobility needs.

Transit Supportive Infrastructure – Service design will identify transit supportive infrastructure that either improves overall travel time and reliability, or reduces inefficiencies in the network. Speed and reliability improvements include bus-only lanes, queue jumpers, bus bulb-outs, traffic signal retiming, transit signal priority, all door-boarding, fare payment technology, and other technologies and infrastructure that improve the attractiveness and competitiveness of transit while reducing revenue hours so that they can be reapplied to provide more frequent service. Infrastructure that optimizes terminals and layover locations, reduces out of direction movements, and improves transfer movements will reduce non-revenue miles and hours that can also be reallocated to more frequent service.

Table 3.12 Service Design Concepts

	Faster service	Frequent service throughout the day	More reliable service	Better network connectivity	Access to key destinations	Improved security
Routing to reflect current travel patterns and transit propensity				X	X	X
Standardize Frequencies by Service-Tiers	X	X				
Subarea transit hubs				X		X
Shorter route lengths			X			
Optimize stop spacing	X		X			
Municipal operator coordination				X	X	
MicroTransit and other on-demand		X			X	
Transit-supportive infrastructure	X		X			X

~~Transit Supportive Infrastructure — The service design will identify transit supportive infrastructure that either improves overall travel time and reliability or reduces inefficiencies in the network. Speed and reliability improvements include bus only lanes, queue jumpers, bus bulb-outs, signal retiming, All Door Boarding, fare payment technology, etc. improves the attractiveness and competitiveness of transit while reducing revenue hours that can be reapplied to better use. Infrastructure that optimizes terminals and layover locations, reduce out-of direction movements, and improves transfer movements will reduce non revenue miles and hours that can be reallocated to revenue service.~~

Table 3.12 illustrates how each service concept will address the various themes expressed by the public and stakeholders.

3.2 Service Standards

~~Service Board-adopted service standards are established to ensure that service levels are maintained based to meet a minimum standard of rider experience. These focus on board adopted standards such items as maximum average loads on trips and on time performance and are discussed below.~~

Headways

The headway standard provides for the maximum scheduled gap (in minutes) between trips in the peak direction of travel at the maximum load point of a line by time of day, and it should not be exceeded for at least 90% of all hourly periods as summarized in Table 3.23. The

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frequencies below are the minimum service levels versus the target frequencies established under NextGen Bus Plan shown in Table 3.1 above.

Table 3.2 ~~Maximum~~ ³ *Minimum Headway by Service Type*

Service Type	Peak (Weekday)	Off-Peak (Weekday-Weekend)
Heavy Rail	10	20
Light Rail	12	20
Liner	12	30
Rapid	20	30
Core Network (Tier 1)	7-10	7-10-15
Convenience Network (Tier 2)	10-15	10-15-30
Connectivity Network (Tier 3)	15-30	15-30-60
Community Network (Tier 4)	30-60	30-60
Commuter Network (Tier 5)	varies	Varies
Micro-Transit	varies	varies

Passenger Loads

Passenger ~~loading~~ ^{load} standards have been developed to ensure there is sufficient ~~service~~ capacity on Metro Bus and Rail service. The loading standard for bus is based on the maximum average ratio of ~~customer~~ ^{customers} to available seating per vehicle size (i.e. 40-foot, 45-foot, and 60-foot buses). The loading standard for rail is based on the maximum average ratio of ~~customer~~ ^{customers} per seat by service type (i.e. Heavy Rail and Light Rail). Current loading standards are shown in Table 3.34.

- **Bus Passenger Loading Standard** expresses the maximum average ratio of ~~customer~~ ^{customers} to vehicle size and frequency by direction for a one-hour period that should not be exceeded for at least 95% of all hourly periods. This TSP sets the current loading standard for Metro bus to 1.3 as recommended by the 2016 APTA Peer Review Committee. Vehicles used for MicroTransit ~~or Mobility on Demand~~ will have a load standard of 1.0.
- **Rail Passenger Loading Standard** expresses the maximum average ratio of ~~customer~~ ^{customers} to seats by service type and by direction for one-hour period by time of day and should not be exceeded for at least 95% of all hourly periods.

Table 3.34 *Passenger Loading Standards by Vehicle Type*

Service Type	Seats per Vehicle	Peak Passengers per Seat	Off-Peak Passengers per Seat	Maximum Passengers Onboard
Heavy Rail	5-52	2.30	1-2.30	120
Light rail	60-76	1.75	1.75	105-133
Bus – 40 foot	38	1.30	1.30	49
Bus – 45 foot	46	1.30	1.30	60
Bus – 60 foot	57	1.30	1.30	74

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Van - MicroTransit	10	1.0	1.0	10
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Wheelchair Boardings and Pass ups.

Ideally, in a floating 6-month period, regular operating bus service will average ~~of no more than~~ 6% ~~in~~ pass-ups of customers who use wheelchairs or other mobility devices. Should the average increase to over the ~~6% threshold of 6%~~, Service Planning will adjust service to better serve the ridership patterns of the route in such a way so as to minimize pass-ups.

Network Route Spacing

Network Route Spacing refers to the average distance between two or more parallel bus and/or rail lines. It is generally accepted that customers are willing to walk up to 0.25 mile to a bus stop. Generally, bus routes operating parallel to each other in an urban area should be spaced 0.5 mile apart from one another, and bus routes operating parallel to rail should be spaced 0.5 mile apart on either side of a rail route. Bus routes operating parallel in a suburban area should be spaced no more than one mile apart from each other, and bus routes operating in low density or underdeveloped areas should be operated where needed in a cost-effective manner. Where possible, alternate delivery methods should be considered.

Bus-Stop/Station Spacing

Stop/Station spacing refers to the average distance between consecutive stops/stations along an entire bus/rail route. The standard is expressed as the maximum average stop/station spacing in miles by type of service and is not to be exceeded by at least 90% of all routes operated. Stop/~~Station~~ station spacing is established based on the goals and guidelines each service type is designed to achieve as discussed below. Metro's maximum average stop/station spacing by mode is summarized in Table ~~3.4.3~~.

- **Heavy/Light Rail Line** station spacing is greater than bus stop/station spacing to achieve ~~the highest~~ a higher operating speed, recognizing that riders are willing to access such service from a greater distance and to ensure this mode is competitive for longer distance travel, while ensuring stations serve key activity nodes and transit connection points. Rail station location is determined during the design phase. Ideal average rail station spacing should be no greater than 1.50 miles.
- **BRT Metro Liner and Commuter Rapid Bus Routes** achieve the highest bus speeds through even greater stop spacing than ~~Rapid, Local Core, (Tier 1), Convenience, (Tier 2), Connectivity, and (Tier 3), Community routes (Tier 4), and Commuter (Tier 5) lines.~~ To ensure these services provide access to major activity centers and transfer points, average stop/station spacing should be no greater than 1.25 miles, ~~though~~ though there may be exceptions due to geography or existing facility design, ~~such as freeway HOT or HOV lanes.~~ See Table 3.45 for further details.
- **Core, Convenience, Connectivity, and Community Bus Routes** primarily operate on city streets and secondary streets respectively. These route types are designed to provide service closer to a ~~customer's~~ customer's destination and reduce walking times. Therefore, average stop spacing should be no greater than 0.25 mile for convenient walk access.

Decisions regarding bus stop spacing and location call for analysis of ridership density, customer service requirements, ~~the such as balancing access to key destinations and impact to on board riders, rider and operational safety of customers, operators,~~ equipment size, the service type provided, interaction of stopped buses with general traffic flow, ~~and coordination with other curbside space allocations such as parking and driveways.~~ Stops should be closer together in major commercial districts and farther apart in outlying areas. ~~In general, bus stop spacing should not exceed 0.3 miles for local bus service except in areas where local conditions and/or lack of ridership generators may result in a wider gap between stops. Care should be taken to avoid low usage stops in areas where the buses are closest to the maximum load on board the bus. Special consideration may be given to stops near schools, senior centers, and medical centers where there is reasonable ridership (>= 15 boardings or alightings on average per weekday).~~

Table 3.4 ~~Maximum Avg.5~~ *Target Average Stop/Station Spacing*

Service Type	Average Stop/Station Spacing (miles)
Heavy Rail	1.50
Light Rail	1.50
BRT	1.25
Rapid	0.75
Commuter (Tier 5)	1.25
Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community (Tier 4)	0.3025

On-Time Performance

A key element of high quality transit service, as confirmed in the NextGen Bus Study, is reliability. This element is measured firstly in terms of on time performance. Managing this metric is intended to provide a high standard of service reliability. On-time performance for buses is defined as a range from no more than one minute early to no more than five minutes late, which is measured at all timepoints along its route. For rail lines, on-time performance is measured based on end terminal arrival. This standard varies between heavy rail and light rail. The on-time performance standard is summarized in the Table 3.6.

As part of the NextGen Bus Plan speed and reliability improvements, a pilot of headway-based service management will be conducted. This involves the operation of high- frequency bus lines without intermediate timepoints along the line. The reliability of this type of service will be based on the intervals between buses remaining within a range. More information will be added and standards developed for this mode of operation once the pilot has been completed.

Table 3.6 *Target Standard for On-Time Performance*

Service Type	On-Time Performance
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<u>Heavy Rail</u>	<u>95%</u>
<u>Light Rail</u>	<u>90%</u>
<u>BRT</u>	<u>85%</u>
<u>Rapid</u>	<u>85%</u>
<u>Commuter (Tier 5)</u>	<u>85%</u>
<u>Core (Tier 1), Convenience (Tier 2), Connectivity (Tier 3), Community Bus (Tier 4)</u>	<u>85%</u>

Service Cancellations:

In recent years, both pre-pandemic and during times of significant impacts from the COVID-19 pandemic on the Metro operator workforce, cancelled service due to lack of available operators has had a significant impact on service reliability. Metro should not enter into service level changes unless sufficient operators are available to provide the required extraboard operator as required (OAR) ratio of 1.2 for bus and 1.25 for rail at each operating division. Cancelled service should ideally be zero each day in support of the best customer experience. As of March 2022, a target of 2% or less cancelled service has been set as part of service restoration preconditions.

3.2 Bus/Rail Interface Planning

As the Metro Rail system expands, ~~adjustments are made to the~~ surrounding bus system ~~within a half mile of each station is assessed for adjustments that would~~ improve access to rail stations, take advantage of new transfer facilities, and reduce bus and rail service duplication. The following guidelines provide direction ~~for~~ routing and scheduling changes that will be necessary as the Metro Rail system is expanded:

Discontinuation of Parallel Limited and Express Service

Competing Community and Commuter (Tiers 4 and 5) bus services that parallel the rail corridor will be discontinued ~~when~~ where duplication exists. Revenue services should be reinvested to improve service on lines that feed the new rail service where possible.

Bus Route Deviation

Bus routes that run parallel to a rail line may be diverted to a station when:

- Walk time from the nearest station is greater than 3 minutes;
- Diversion time in one direction is 5 minutes or less; ~~and;~~
- Net travel time benefit for connecting ~~customer s exceeds~~ customers is positive i.e. the transfer to rail does not result in overall increased travel ~~for through travel time.~~

Intersecting bus lines or ones that travel in a perpendicular direction to a rail line will be diverted to serve the closest rail station when:

- Diversion time in one direction is 5 minutes or less
- Net travel time benefit for connections and through travel

Extend Terminating Lines

Bus routes that end within one mile of a rail station will be extended to terminate at the station. Routes that terminate at distances greater than one mile may be extended if the rerouting will create a valuable link to the rail system consistent with area travel patterns or will result in a reduction in travel time for a significant number of customers.

New Bus Routes

New rail feeder service will be considered as part of the service change process if a need is demonstrated based on significant area travel patterns and if funding is available.

Scheduling Rail/Bus Interface

Bus arrival and departure times should be governed by the rail arrival and departure times when predominant movement is from bus to rail. Bus routes with frequencies of 20 minutes or greater ending at a rail station should be scheduled to arrive 5 minutes before the rail departure time- (plus walk time between the modes). When the predominant movement is from rail to bus, terminal buses should be scheduled to depart 5 minutes after the scheduled rail arrival time- (plus walk time between the modes).

3.3 Metro Bus Routing Guidelines

An easy-to-understand-and-use transit system relies on simple network and route design. Consolidating duplicative services on the same or parallel corridors within a quarter-mile to a half-mile distance provides an opportunity to simplify the network for ease of use ~~and~~, reduce ~~unused~~underutilized capacity, and invest those resources into other areas of the network. This concept requires better coordination of schedules and transfer points and will result in an easier-to-use and more convenient system while reducing wait time and overall travel time.

Metro's directly--operated service primarily operates three types of buses: a standard 40-foot bus, a 45-foot bus, and a 60-foot "articulated" bus. To ensure that buses can adequately navigate route alignments and serve bus stops, Metro established the following standards:

– Transit Centers /Bus Terminals

- Layover zones should be designed to accommodate various sizes of buses.
- Layover zones should utilize sawtooth bay configurations where possible to ensure curb space is more efficiently and reliably utilized, and accommodating 60' buses where needed.
- Re-striping of layover zones should be completed as needed based on the needs of the service and bus sizes scheduled.
- Routes should be scheduled so that the amount of layover space needed is available. Layover zones should be placed as close as possible to the route terminal. Where not accommodated by the design, the added operating cost to serve the location will be computed and made part of the decision-making process for bus/rail interface.

- Minimum turning radius clearance required for each type size bus movement
 - 50 feet for 40-foot buses (Figure 3.1)
 - 47.5 feet for 45-foot buses (Figure 3.3)
 - 44 feet for 60-foot articulated buses (Figure 3.2)

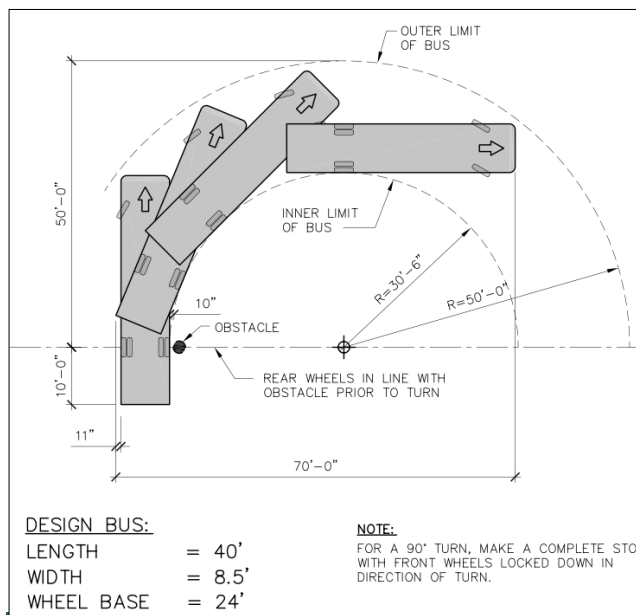


Figure 3.1 40-foot bus turning radius

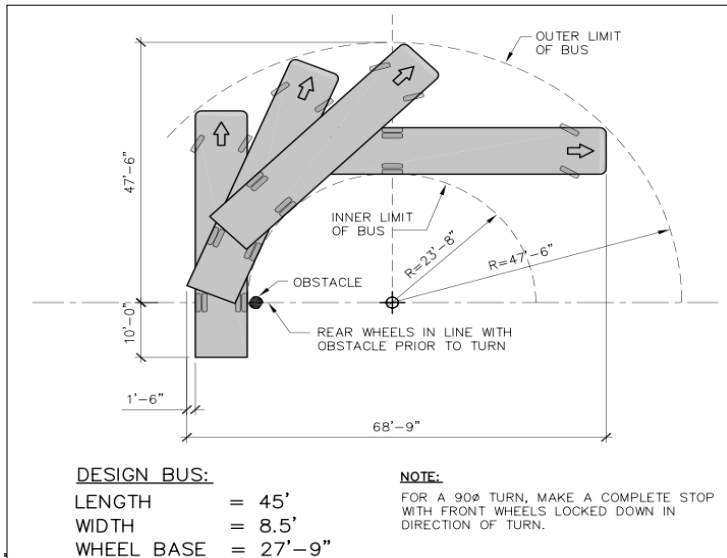


Figure 3.2 45-foot bus turning radius

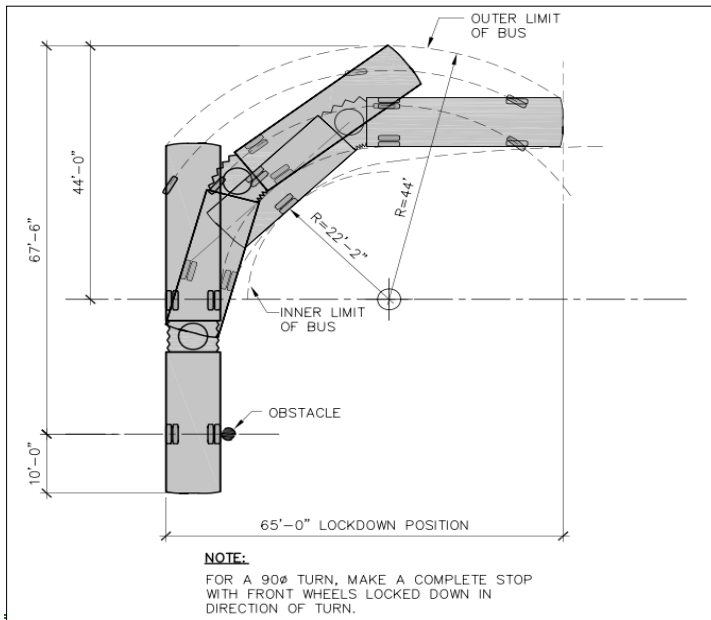


Figure 3.3 Articulated 60-foot bus turning radius

- Desired street lane widths for bus operations should be 12 feet or more.
- **Optimal Bus Stop Curb Lengths and Zone** - 40-foot buses should at minimum:
40-foot buses should at minimum:
 - Far-side – 90 feet
 - Near-side – 100 feet
 - Mid-block –150 feet

For two 40-foot buses servicing a stop simultaneously, add 50 feet. Additional bus stop curb length may be needed for 45-foot buses.

- **60-foot bus should at a minimum:**
 - Far-side and mid-block – 120 feet
 - Near-side – 170 feet

For two 60-foot buses servicing a stop simultaneously, add 70 feet.

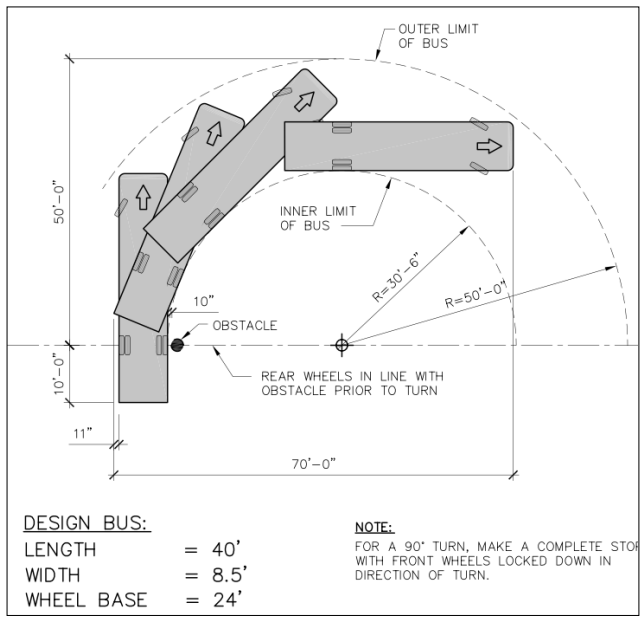


Figure 3.1 40-foot bus turning radius

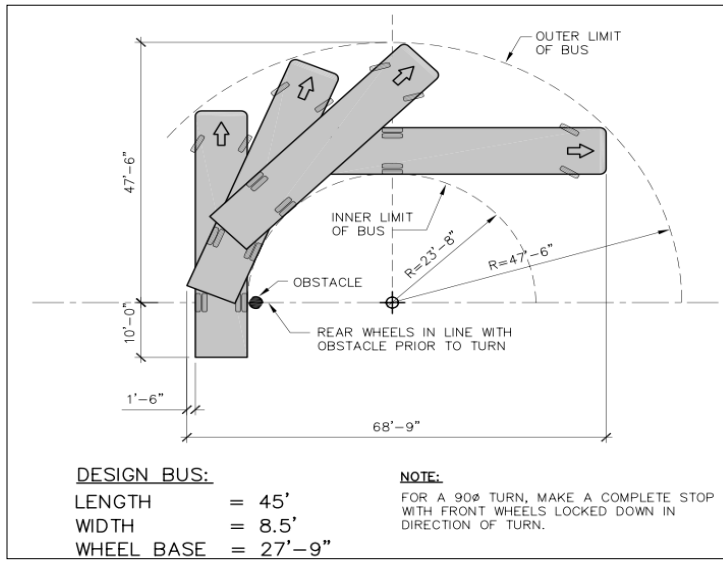


Figure 3.2 45-foot bus turning radius

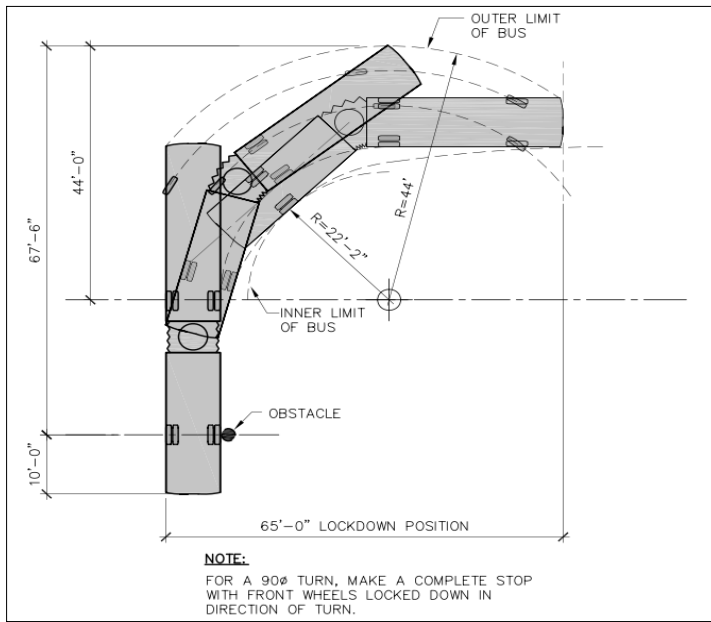


Figure 3.3 Articulated 60-foot bus turning radius

- **Bus Layover Zone** general space requirements based on frequency between scheduled trips:
 - One space – ~~15 minutes~~ 20 minute service or less frequent
 - Two spaces – ~~12 minutes to 15 minute frequency~~
 - Three spaces – 7.5 to 10 minute frequency
 - Four spaces – 5 to 6 minutes minute frequency

3.4 Vehicle Assignment

Metro's goal is to ensure a consistent basis for assigning vehicles to facilities to meet operating needs ~~at a minimal cost and improve~~ provide equitable access to the newest vehicles across the Metro network to enhance quality of service. ~~This policy ensures that operating needs are met at a minimal cost and improve quality of service.~~

Metro's transit system consists of light rail, heavy rail, and bus operations. ⁹~~On any given As of October 2019 (pre-COVID), for an average~~ weekday, Metro ~~servesserved~~ approximately 925,000 bus boardings and 297,000 rail boardings.¹⁰

- **Buses:** Buses will be assigned to individual facilities based on vehicle size requirements for lines supported by each facility. ~~The fleet is also distributed to ensure the average age of fleet is consistent across each division for each bus type, so that all areas may have some service delivered using the newest buses.~~
- **Light Rail:** Light Rail cars will be assigned to individual lines based on a variety of factors including facility compatibility ~~of vehicle controllers with each line's signal system, the deposition of the feet during mid-life modernization programs and age so that no single light rail line must solely rely on the oldest rail fleet.~~ Ideally, the number of vehicle types/manufacturers will be kept to no more than two at any facility to minimize parts storage and maximize maintenance expertise training for mechanics on the different fleets. There is also a weight restriction that precludes the P2550 light rail cars from being assigned to the C Line along the I-105 freeway.
- **Heavy Rail:** Assignment policy is not applicable to Heavy Rail. The Metro B Line (Red) and D Line (Purple) operate out of the same division ~~and both are operated by, with~~ the same vehicle type.

3.5 School Trippers

School trippers are extra service operated to protect against overcrowding on bus ~~routes~~ lines serving schools. Metro's policy on school trippers is based on FTA regulations (49 CFR Part

⁹ Source: lacmta.sharepoint.com/sites/MyMetro/Operations/Pages/Home.aspx

¹⁰ Figures taken from October 2019 data; selected for seasonal average and adjusted for BlueA Line (Blue) closure.

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605). These regulations are directed at protecting the private sector against unfair competition and ensuring that FTA funding is focused on providing services that meet the needs of the general public. School tripper service may be operated if ~~it meets~~ the following criteria are met:

- There is sufficient demand to warrant the operation of a tripper that cannot on average be accommodated within the load factor applicable to the regular service available;
- There are sufficient resources to operate a tripper;
- The school tripper will not result in a significant increase in travel time (no more than 5 minutes extra) for regular customers if the service is to be deviated via a school; and
- The school tripper is operated as part of the regularly-scheduled public transportation service and is included in such schedules and available for any person to ride.

School tripper service must meet the following requirements:

- All school trippers must fully comply with established policies and procedures;
- All regularly scheduled school trippers must be published on public timetables;
- All locations where trippers board or alight customers, including the bus stops at deviated routes, must be marked with Metro signage including the bus line numbers servicing the stop;
- School tripper changes must be provided to the public by a service change notice or on the Metro website at www.metro.net;metro.net; and
- Requests for new school trippers or modifications to existing school trippers (bell time changes, etc.) will be considered when a notice is given at least ~~two weeks~~30-days in advance providing ample time to complete an appropriate analysis of the request and to allow appropriate notification of changes to the public.

School tripper services changes must comply with the following procedures

- Service Development Managers (SDM) in the Service Planning & Scheduling Department are responsible for ~~certifying~~ensuring that all school trippers in their respective service area fully comply with Metro's School Tripper Policy as discussed herein. ~~Each SDM will submit a report prior to each major service change program that details all existing and proposed school tripper service.~~
- ~~School tripper "pink letters" require notification to the public through use of a service change notice or on Metro's webpage.~~
- Uniform standards for the documentation of daily school tripper ~~pink letters~~arrangements must be employed. This includes standardizing the ~~pink letter~~documentation form and oversight of the ~~pink letter~~documented information being input into the ~~SLS 2000~~scheduling system to ensure accuracy. All requests for new school trippers and modifications to existing school trippers must be logged into the ~~SLS2000~~scheduling system regardless ~~if~~of whether the requested new or modified school tripper is implemented.

- SDMs are responsible for working with school districts in their service area which use school tripper service. ~~For example, a specific protocol has been established with LAUSD in which their monthly Operations Coordinators' Meeting has a standing agenda item, "Metro Coordination," where special events and bell-time changes are disseminated to Metro through communication with district staff and the meeting's minutes.~~
- ~~The information fed to transit apps and trip planners, such as Transit App and Google Transit, is made available via a General Transit Feed Specification (GTFS) compatible feed which is updated weekly to reflect school tripper service changes captured in the transit service scheduling software calendar utilized by Metro.~~

3.5 Charter Service

As a grantee of Federal funds, Metro is prohibited from using its federally-funded equipment and facilities to provide charter service except on an incidental basis and when one or more of the applicable exceptions below apply:

- Charter service shall be incidental to the mass transportation service and shall be provided only during times of the day when vehicles are not needed for regularly scheduled service.
- Charter service will only be considered when one of the following exceptions apply:
 - There are no willing or able private charter operators;
 - For special events the private operators are not capable of providing the service;
 - When there is a formal agreement regarding the provision of charter services between the recipient and all private charter operators who have been identified to be willing and able; and
 - For government or certain non-profit organizations, if the trip involves a significant number of handicapped persons, or if the organization is a qualified social service agency, or if it receives public welfare assistance funds whose implementation may require transportation services.
- All requests for ~~Charter Service~~charter service must be approved by the Chief Executive Officer and may require a waiver from the ~~Federal Transit Administration~~FTA. Petition for a waiver should be requested in writing 90 days in advance of the event whenever possible.
- The rates for charter service shall equal or exceed the annual fully allocated cost, including depreciation, of providing charter bus operations, and Metro shall deduct the mileage and hours from the useful life of the buses.
- The operation of charter service also must comply with relevant state laws, including Section 30630.5 of the California Public Utilities Code.

Charter service is the use of buses, vans or facilities (rail system) to provide a group of persons under a single contract, at a fixed charge, with the exclusive use of the vehicle or service to travel

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together under an itinerary either specified in advance or modified after having left the place of origin. Generally, for service not to be considered charter, it must meet the following tests:

- Be available to the public;
- Operate within the system’s normal scope (existing routings, fit within normal hours of operation and established fare structure);
- Provide a published timetable; and
- Customers must pay their own fare.

3.6 Special Event Service

Special event services are bus routes designed to take ~~customer~~ customers to a specific venue and are not part of regularly scheduled operations. Metro will provide service under contract to other entities only if the provision of these services does not interfere with Metro’s ability to meet regularly scheduled service obligations and fits within the scope of the agency’s regular operation in terms of route structure, fares, and span of service. Special event services will be provided on a full cost recovery basis and in conformance with the agency’s charter bus policy which is consistent with FTA Charter Bus regulations.

3.7 Service Transfer Guideline

The regional public transit network in LA County consists of 17 “Included or Eligible” fixed route operators (including Metro). Included operators (and routes) are those that were operating within LA County in 1971 at the time of adoption of the ~~TDA/STA statute~~ State of California Transit Development Act/State Transit Assistance statute. Eligible operators (and routes) are those added to the Formula Allocation Procedure (FAP) since that time.

Much of the funding for operation of “Included or Eligible” fixed route public transit service in LA County is distributed according to an adopted FAP. The FAP allocates sales tax receipts for public transit each fiscal year in support of public transit throughout the region. Many of the “Included and Eligible” systems operate under the guidelines of the “reserve service areas” established in 1971. Municipal operators have also grown, providing an expanded route network that has improved connections to Metro’s regional lines. In addition, there are numerous Local Return fixed route transit providers who are not eligible for FAP funding, but instead are funded through Propositions A and C (1990 sales tax initiative), Measure R (2008 sales tax initiative), and Measure M (2016 sales tax initiative). These Operators are funded as “Local Return” operators (see Appendix B for a list of operators funded as Local Return and/or Included/Eligible Municipal operators).

Policy guidance states that the network should be well integrated, coordinated, reduce service duplication, and simplify service. Therefore, the evaluation of transit corridors for consideration to be operated in the future by another operator should include:

- Existing performance relative to the system average;
- Value to the customer through integration into an established nearby transit provider;

- Net cost to each operator and the region;
- Completion of another operator's route network;
- Provide improved connections to a Municipal Operator's established network;
- Impacts to exiting and projected ridership;
- Generation of a net cost ~~savings~~saving to Metro based on Metro's calculation of the FAP impacts for all service realignment proposals.

Any transfer of directly operated Metro services to a municipal or contract operator must adhere to the terms and conditions governing such transfers as agreed to within the adopted collective bargaining and other superseding agreements between the affected labor unions and Metro.

If a proposed service change is adopted that results in a reduction of service, Metro should reinvest at least half of the net savings (operating cost less customer and FAP reduction) to improve service on Metro's core network of regionally significant lines in the service area from which the savings were drawn.

Any significant service modifications will be subject to review under ~~the latest FTA procedures~~ for adherence to Title VI of the Civil Rights Act of 1964, as amended, the approval of the appropriate Metro Service Council(s), and the local transit provider's Board of Governance, and must be in compliance with local, regional, and labor legislation or agreements. Finally, the agency that assumes service will be required to maintain or improve the days, ~~spread~~span, and frequency of the ~~existing~~existing Metro service for at least a ~~one~~two-year period (two-year lag) for which Metro will include such operation through the FAP. In addition, the assuming agency must be a participant in the regional TAP program to minimize fare change impacts.

3.8 Alternative Service Delivery Options

Alternative service delivery options generally refers to services not directly operated by Metro, such as contract services, Municipal and Local Return Operators, taxis, and other flexible destination operations. These alternatives can complement traditional transit service. In addition, Access Services provides mandatory ADA ~~complimentary~~complementary paratransit services for functionally disabled individuals in Los Angeles County, as required by federal ADA law. Access Services transportation service is available for any ADA paratransit-eligible individual to any location within $\frac{3}{4}$ of a mile of any fixed route bus operated by the Los Angeles County public fixed route bus operators and within $\frac{3}{4}$ of a mile around Metro Rail stations during the hours that the systems are operational. Complementary paratransit service is not required to complement commuter rail and commuter bus services, since the federal ADA law does not require that these services provide complementary paratransit service.¹¹

¹¹ https://accessla.org/riding_access/overview.html accessla.org/about_us/overview.html

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Metro has launched two pilot programs to leverage demand-responsive technology to improve mobility, customer experience, and system performance by providing additional first-mile and last-mile service options: Mobility on Demand and MicroTransit.

The Mobility on Demand pilot launched in January 2019 and ~~will operate~~operated for 12 months. Metro ~~has~~ partnered with Via, a provider of on-demand ~~shared rides~~ride sourcing services, to develop on-demand technology to increase access to Metro's transit system by offering service to and from three of Metro's transit stations: North Hollywood, Artesia, and El Monte. This pilot program ~~is was~~ funded in part by a \$1.35-million Mobility on Demand (MOD) Sandbox Demonstrations grant from the ~~Federal Transit Administration (FTA)~~. The system was operated utilizing private cars. The Mobility on Demand pilot concluded in January 2021 and the three Mobility on Demand zones were transitioned to become part of the Metro Micro microtransit pilot program.

~~The MicroTransit Pilot Project~~Metro's microtransit program, Metro Micro, ~~is anticipated~~a three year pilot of on demand ride-source service operated with passenger vans within eight designated zones, intended to launch in late 2019-test a range of use cases including areas where fixed route service has not been effective or is unable to access parts of a community. Metro is partnering with ~~RideCo, NoMad/Via, and Transdev to develop on-demand~~a third-party vendor for the technology to increase access to Metro's transit system. ~~MicroTransit~~support this pilot program, while Metro staff operate and manage the service. The pilot zones were coordinated with the NextGen Bus Plan to replace some lower usage fixed route lines or route segments where Metro Micro service could better serve such areas, though this is only one of a range of use cases being tested by Metro Micro.

The first two zones were launched in December 2020 (LAX/Inglewood and Watts/Willowbrook). The three Mobility on Demand zones were added to the Metro Micro program in January 2021. Two additional Metro Micro zones launched in June 2021 (Highland Park/Eagle Rock/Glendale and Altadena/Pasadena/Sierra Madre). The Northwest San Fernando Valley zone was launched in September 2021, and the final pilot zone at UCLA/Westwood launched in December 2021, for a total of eight pilot zones.

Based on experience to date, Metro Micro generally serves short trips ~~will be of~~ approximately 20 ~~mins~~minutes in vehicle time and ~~run~~ one to five miles in distance on average. These short trips ~~may connect customers~~are intended to serve as connections to other transit options such as Metro-operated bus and rail services and ~~to~~ municipal operators. The target maximum size for each zone was originally set at no greater than 20 square miles to ensure the goal of no more than an average 15-minute wait time for pick up could be consistently achieved. However, a number of zones were expanded to help better replace some low performing fixed route services during NextGen Bus Plan implementation, and the overlapping Artesia and Watts/Willowbrook zones were also combined into a 35 square mile mega zone (Watts/Compton) in December 2021.

SECTION 4: CUSTOMER INFORMATION AND AMENITIES

Customer information instructs both regular customers and infrequent customers on how to use transit as a viable mode of transportation to and from their destinations. Clear, accurate, and timely information is an important adjunct to service quality, particularly when bus and rail services are not operating as planned. Amenities aid in the comfort and security of customers.

4.1 Customer Information

Customers need to know how to use transit: where to go to access it, where to alight to access their destination, whether transfers are required, when transit services are scheduled to depart and arrive, and how planned and unplanned service changes or disruptions impact travel. Both regular and infrequent users require specific route information when they need to travel to a location they rarely visit or that is new to them. Information must be provided in accessible formats. Metro provides customer trip planning ~~and help~~ information via telephone, ~~through~~ customer service representatives, ~~on-board announcements, mobile~~ Metro buses, railcars, and stations also include announcement systems for stops and stations as well as other general service information. Mobile device applications and text/SMS messaging, ~~have expanded significantly as smart phones have become a common part of life for many people. Published schedules, maps, and other information are also available through Metro Customer Service Centers and by mail.~~ Significant information is also provided online at the ~~metro.net~~metro.net website, and ~~by~~via email alerts for customers who sign up to receive them. Information is also provided on signage at major stops and stations.

- **Signage** at transit infrastructures such as stations and shelters, signs directing motorists to Park & Ride lots, and bus stop signs that indicate the presence of service to people not currently using transit.
- **Audible Announcements** at bus stops, rail stations and on-board vehicles to assist customers with visual impairments and customers unfamiliar with the route or area.
- **Online Information** is available 24-hours to anyone with Internet access such as:
 - ~~Nextrip's next bus arrival (detour notices should be posted on this service, Metro's website, as well as other~~Real-time information streamed to many transit ~~information applications)~~
 - ~~, including the Transit App, Metro's official smartphone app, as well as being displayed on Google, Apple, and Bing Maps and in use by their trip planners.~~
 - Metro's own website metro.net:
 - Route maps and timetables, fare information, ~~and Trip Planner~~detour notices, ~~service change information, cancelled service alerts, special event detours, and other service-related information~~
 - Metro's blogs, "The Source" and "El Pasajero"
 - Specialized guides (Bikes, Riders with Disabilities, Safety & Security)
 - Commuter program information (carpools, vanpools, employer programs, etc.)

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- News and media information
- Latest information on Metro projects and programs
- Contact information
- ~~Special event information~~
- ~~Social~~ Metro's social media accounts including Facebook, Twitter, and Instagram
- **Bus and Train Real-Time Information:** Accurate, timely, relevant, and readily available trip information is useful for reassuring customers when the next transit vehicle will arrive or how long the expected delay time is if there has been a service disruption. It should provide ~~them with~~ enough information to help them decide whether to continue to wait for the next transit vehicle, consider alternate routes, or take another mode of transportation to complete their trip. Real-time information is provided within selected transit shelters across the Metro network. Metro is testing e-paper real time information signs at a limited number of bus stops and plans to roll out this amenity in a larger pilot in FY23.
- **Printed and Distributed Information:** such as timetables, maps, service change notices, customer newsletters, etc., preferably are made available at multiple locations such as Metro's own Customer Service Centers, regional libraries, and recreation and community centers.
- **Posted Information:** such as system maps, bus cubes posted at stops, stations, and on board transit vehicles.
- **Route Numbering Signage Convention** at stops and on transit vehicle head signs assist customers to quickly identify what stops to wait at and what transit vehicle to board ~~related to printed and posted information. See Appendix A~~ as well as direction of travel and location the lines terminate at, as well as names of major corridors served.
- **Wayfinding** is the process of communicating information to support the ability to navigate using signage, system/route maps, kiosks, bus cubes, directions, etc. so that customers can easily determine where they are, where they want to go, and how to get there.
- **Visual Displays** to assist customers with hearing impairments and to supplement on-board announcements that may be muffled by other noise.
- **Customer Information Panels (CIPs)** are interactive touch screen panels that display vehicle arrivals, service alerts, system and local maps, Metro Arts programming, advertising, and Agency PSAs public service announcements.

4.2 Customer Amenities

Customer amenities are those elements provided at a transit stops, transit centers, and ~~station stops~~ stations to enhance comfort, convenience, and security. Amenities include items such as shelters, benches, ~~vending machines~~, trash receptacles, lighting, restrooms, vending machines, and emergency telephones. In some instances, Metro coordinates with municipalities to provide appropriate amenities. ~~Metro is provides a minimum set of customer amenities at all~~

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~~rail stations and major Metro-owned off-street bus facilities that allow for boarding at summarized in Table 4.1.~~

- **Benches** provide ~~comfort~~seating for waiting customers, help identify the stop or station, and provide an affordable alternative to shelters. Benches are provided by the local jurisdiction in coordination with Metro.
- **Elevator/Escalators** provide accessibility for those who otherwise cannot use stairs to elevated or lowered station stops.
- **Lighting** increases visibility, and security, and discourages misuse of bus stops when transit operations are not in service.
- **Public Restrooms** may be provided at major transit centers and maintained for public safety and convenience.
- **Shelters** provide ~~comfort for~~waiting customers, with protection from climate conditions, and help identify the stop or station. Metro does not own or install ~~benches and~~shelters but will coordinate~~coordinates~~ with local jurisdictions on ~~their~~placement where appropriate. The NextGen Bus Plan includes an initiative to fund additional shelters across the Metro bus network in partnership with local jurisdictions.
- **Telephones/Intercoms** provide access to transit information and emergency services.
- **Trash receptacles** provide a place to discard trash and contribute to keeping bus stops and surroundings clean. Trash receptacles are placed at bus stop locations and maintained by individual municipalities ~~at bus stop locations.~~

Table 4.1 *Customer Information and Amenities*

Amenity	Service Type	Allocation
Shelters:	Heavy Rail:	n/a
	Light Rail:	At least 80 linear ft. per bay
	Bus Facilities:	At least 6 linear ft. per bay
Seating:	Heavy Rail:	At least 12 seats
	Light Rail:	At least 10 seats
	Bus Facilities:	At least 3 seats per bay
Info Information Displays:	Heavy Rail:	At least 12
	Light Rail:	At least 10
	Bus Facilities:	At least 3
LED Displays:	Heavy Rail:	At least 8 arrival/departure screens
	Light Rail:	n/a
	Bus Facilities:	n/a
TVMs:	Heavy Rail:	At least 2
	Light Rail:	At least 2
	Bus Facilities:	n/a

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Elevators:	Heavy Rail:	At least 2
	Light Rail:	At least 1 <u>2</u> for elevated/underground
	Bus Facilities:	At least 1 <u>2</u> for multi-level terminals
Escalators:	Heavy Rail:	At least 4 (2 Up/2 Down)
	Light Rail:	n/a <u>At least 2 for multi-level terminals</u>
	Bus Facilities:	n/a <u>At least 2 for multi-level terminals</u>
Trash receptacles:	Heavy Rail:	At least 6
	Light Rail:	At least 2
	Bus Facilities:	At least 1 per 3 bays/2 per facility

Metro provides a minimum set of customer amenities at all rail stations and major Metro-owned, off-street bus facilities that allow for boarding as summarized in Table 4.1.

4.3 Rail Stations and ~~Major Off-Street-Bus-/Multi-Modal Transit Center-Facilities~~

When transit service is not ~~provided~~available near one’s trip origin, driving to a Park & Ride lot or utilizing another first-last mile option such as a bicycle or scooter to transit may be a viable alternatives~~alternative~~. Park & Ride lots, bicycle storage, and micro-mobility parking areas are important amenities for transit customers.

- **Park & Ride/Station Parking Facilities** provide parking for transit customers who use their cars to access a bus or train. Park & Ride facilities are usually provided at ~~station stops~~rail stations or bus transit centers such as the Metro El Monte Station, ~~and Harbor Gateway Transit Center, and at various rail stations.~~ Park & Ride lots ~~also can be found~~ in suburbs ~~to~~ serve as a staging area for commuter customers. Parking may be provided for transit riders at no cost or for a nominal fee, based on demand.
- **Bicycle Storage** may be provided at transit stations where demand exists and space allows, and on transit vehicles. Bicycle racks, lockers, and hubs may be provided at transit center and stations. On transit vehicles, bicycles may be transported on bus-mounted racks located in front of a bus or on board a rail car in designated spaces. Bike racks provide a simple, relatively low-cost approach and can hold many bicycles in a relatively small space, but bicycles are subject to potential damage and theft. Enclosed bicycle lockers and hubs provide added protection from theft and from weather but cost more to install and operate, and require more space.
- **Micro Mobility Vehicle Parking** is being tested at key Metro system locations as a pilot program. At their July 25, 2019 meeting, the Metro Board adopted a parking ordinance to regulate parking of micro mobility devices such as electric scooters ~~and other similar devices.~~ As part of the pilot, Metro has designated parking areas at ~~selects~~selected stations and transit hubs for parking of micro mobility devices; the private firms seeking to park their vehicles at Metro sites must pay a fee for use of the parking facilities.¹²

¹² Planning and Programming Committee File #2019-0085; LACMTA Administrative Code Title 8: Metro Parking Ordinance

4.4 Bus Stop Amenities

~~There are no standards for bus stop amenities because apart from painting the curb red and erecting bus stop signage, Metro has no jurisdiction over street sitting fixtures or other appurtenances; those are installed by the municipality where the stop is located and often contracted to third parties who support installation and maintenance through advertising revenues.~~

Transit services are supported by bus stop, and transit center and stations facilities. These locations are often the first and last points of contact with the customer. These facilities are an essential component of transit infrastructure that direct customers to existing transit services, provide a safe and comfortable environment in which to wait for service, and facilitate safe and efficient transfers between services. Given their importance, which was confirmed in the [NextGen Bus Study](#), it is vital that transit routes and schedules are developed in consideration of the quality, appropriateness, and availability of facilities.

Bus stops are locations along the route of a bus line where customers safely wait to board or alight from a bus in service. Bus stops consist of a pole with a sign that includes route-line number, destination and service qualification signage, and curb markings or parking restriction signage. Select bus stops also include a bus information cube affixed to the pole. [Tests are underway for new e-paper real time information signs for bus stops.](#) Most bus stops are located along the curb of a street; others are located at offsite facilities such as transit centers or rail stations that are owned and maintained by Metro, or in some cases by the local municipality or by Metro..

~~Metro has no jurisdiction over a bus stop beyond a bus stop sign post; amenities are installed by the municipality where the stop is located. This function is sometimes contracted to third parties who support installation and maintenance, usually funded by advertising revenues. The NextGen Bus Plan noted the importance of bus stop amenities such as seating and shelter, and Metro will work with municipalities to maximize the number of Metro bus stops with such amenities available.~~

Transit stations are stops along a fixed guideway and have features such as loading platforms, TVMs for fare pre-payment, loading of TAP cards, shelters, benches, lighting, information displays, trash receptacles, bike racks and/or lockers, public announcement systems, security cameras, and emergency call boxes. Many are located adjacent to Park & Ride lots and customer pick-up/drop off areas.

Transit centers are high-volume transfer points for multiple transit services and layover spaces for end-of-line bus storage and turn around. Features include customer loading and alighting areas, benches, shelters, lighting, information displays, bicycle racks and lockers, trash receptacles, and bus layover bays.

On-street bus layover zones are designated stopover points for buses at or near the end of the line. They may or may not allow for customer boarding and alighting. Bus layover terminals are

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major offsite layover areas for multiple bus lines and may or may not allow for customer boarding and alighting.

Locating bus layover facilities (other than on-street stops) in heavily congested or urbanized areas increases the burden on the transit operator to find layover spaces for buses and operator restrooms. The extension of a line to a specific terminal may prove uneconomical and at the very least adds costs to an already budget constrained operation. Metro continues to include such facilities in joint development projects where feasible to maximize the efficiency of bus terminal operations.

Cost and minimization of customer disruptions are significant concerns when locating facilities for bus operations. Metro Operations continues staff continue to evaluate routes and layovers to reduce costs and improve efficiency as well as maintain required access to restrooms for operators. As a key internal stakeholder in the environmental planning process, the Service Development Department should be involved early in the analysis of alternatives to and the development of mitigation measures to ensure adequate accommodations are incorporated to foster connectivity of future joint development or private projects.

Capital costs of new support facilities are an important determinant; but more significant is the added operating cost that may be incurred due to inadequate facilities- resulting in expanded line operations to reach suitable alternative layovers.

4.5 Bus Stop/Station Location, Design and Guidelines

Bus stops and station stops allow for boarding and alighting of customers; their locations should balance safe, convenient access with pedestrian safety- as well as other community curb space needs. Locations should support efficient transit operations, convenient rider transfers, minimize walking distances and unnecessary crosswalk movements, and preferably should be located at a signalized or signed crosswalk to prevent disincentive/minimize potential jaywalking. Bus stops are generally located adjacent to a bus/rail station or within a short walk to medical facilities, schools, shopping centers, office buildings, multi-unit apartments, or other major activity centers to provide access for uses that generally attract transit customers. Hospitals Medical centers, senior centers, and schools have high priority when considering new bus stop locations and/or when relocating existing bus stops.

BRT/Rail station locations are determined during the design phase of a fixed guideway/right-of-way. There are criteria associated with station location, but this including connectivity and centrality to catchments and major arterials, but also technical feasibility which is beyond the scope of this TSP. Generally, stations are located at major transfer points with bus or rail and provide access to major activity centers- and arterials. No standard type of stop can be recommended for all locations, as each intersection has its own unique characteristics. An inventory of land uses that serve as major trip producers and attractors within a 0.25-mile corridor of the road under consideration should be taken prior to establishment. The location of a transit stop requires concurrence of the municipality in which the stop is located in.

In general, far-side stops are preferable, particularly at signalized intersections; however, near side or mid-block stops may be justified in certain situations. A summary of advantages and disadvantages to each location are provided in Table 4.2. TCRP Report 19 “Guidelines for the Location and Design of Bus Stops” (1996) provides a more detailed discussion.

Table 4.2 Comparative Analysis of Bus Stop Locations

Stop Type	Advantages	Disadvantages
Near-Side	<ul style="list-style-type: none"> Minimizes interference when traffic is heavy on the far side of the intersection customers access buses closest to crosswalk Intersection available to assist in pulling away from curb Buses can service customers while stopped at a red light Provides driver with opportunity to look for oncoming traffic including other buses with potential customers 	<ul style="list-style-type: none"> Conflicts with right turning vehicles are increased Stopped buses may obscure curbside traffic control devices and crossing pedestrians Sight distance is obscured for crossing vehicles stopped to the right of the bus The through lane may be blocked during peak periods by queuing buses Increases sight distance problems for crossing pedestrians
Far-Side	<ul style="list-style-type: none"> Minimizes conflicts between right turning vehicles Provides additional right turn capacity by making curb lane available for traffic Minimizes sight distance problems on approaches to intersection Encourages pedestrians to cross behind the bus Requires shorter deceleration distances for buses Caps in traffic flow are created for buses re-entering the flow of traffic at signalized intersections Allows bus routes that operate signal priority to take advantage this technology at signalized intersections. 	<ul style="list-style-type: none"> Intersections may be blocked during peak periods by queuing buses Sight distance may be obscured for crossing vehicles Increases sight distance problems for crossing pedestrians May increase number of rear end accidents since drivers do not expect buses to stop again after stopping at red light
Mid-Block	<ul style="list-style-type: none"> Minimizes sight distance problems for vehicles and pedestrians Passenger waiting areas experience less pedestrian congestion 	<ul style="list-style-type: none"> Requires additional distance for no-parking restrictions Encourages customers to cross street at mid-block (jaywalking) Increases walking distance for customers crossing at intersections and for transferring customers

Source: FTA webpage (http://www.fta.dot.gov/12351_4361.html)

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When two or more bus routes operate along the same corridor, stops should be consolidated to facilitate ease of transfer, a single location for all transit activity, avoid unnecessary crosswalk movements and minimize confusion as to which stop customers should wait to catch their bus wherever possible. However, ~~for~~ a group of bus lines operating along the same street, in the

same direction, serving the same intersection (such as in the downtown environment), it may be necessary to implement two stop locations (e.g. nearside and farside) to minimize congestion and ~~negatively impact bus operations~~ allow for required turn movements, under the following circumstances:

- Some bus lines will queue up to make a right turn while other lines continue through the intersection (unsafe right turn movements)
- Lack of space availability and no room to lengthen zone due to business owner objection, jurisdiction refusal to extend, a loading zone being located behind the current stop, etc.)

Bus Stop/Station Accessibility:

All stops and stations should be fully accessible in accordance with the 1990 Americans with Disabilities Act. This includes ensuring there are no obstructions preventing the boarding and alighting of customers who use a wheelchair or other assistive mobility devices, and that pathways to and from a stop or station are unobstructed. If obstructions do exist, every effort must be made to mitigate the issue(s) with the respective municipalities. In the case of bus stops, they can either be moved to a new location on a permanent basis or temporary basis depending on situations, such as during construction. A summary of advantages and disadvantages to each location are provided in Table 4.2.

Table 4.2 *Comparative Analysis of Bus Stop Locations*

Stop Type	Advantages	Disadvantages
Near-Side	<ul style="list-style-type: none"> - <u>Minimizes interference when traffic is heavy on the far side of the intersection</u> - <u>Customers access buses closest to crosswalk</u> - <u>Intersection available to assist in pulling away from curb</u> - <u>Buses can service customers while stopped at a red light</u> - <u>Provides driver with opportunity to look for oncoming traffic including other buses with potential customers</u> 	<ul style="list-style-type: none"> - <u>Conflicts with right turning vehicles are increased</u> - <u>Stopped buses may obscure curbside traffic control devices and crossing pedestrians</u> - <u>Sight distance is obscured for crossing vehicles stopped to the right of the bus.</u> - <u>The through lane may be blocked during peak periods by queuing buses</u> - <u>Increases sight distance problems for crossing pedestrians</u>
Far-Side	<ul style="list-style-type: none"> - <u>Minimizes conflicts between right turning vehicles</u> - <u>Provides additional right turn capacity by making curb lane available for traffic</u> - <u>Minimizes sight distance problems on approaches to intersection</u> - <u>Encourages pedestrians to cross behind the bus</u> - <u>Requires shorter deceleration distances for buses</u> - <u>Gaps in traffic flow are created for buses re-entering the flow of traffic at signalized intersections</u> 	<ul style="list-style-type: none"> - <u>Intersections may be blocked during peak periods by queuing buses</u> - <u>Sight distance may be obscured for crossing vehicles</u> - <u>Increases sight distance problems for crossing pedestrians</u> - <u>May increase number of rear-end accidents since drivers do not expect buses to stop again after stopping at a red light</u>

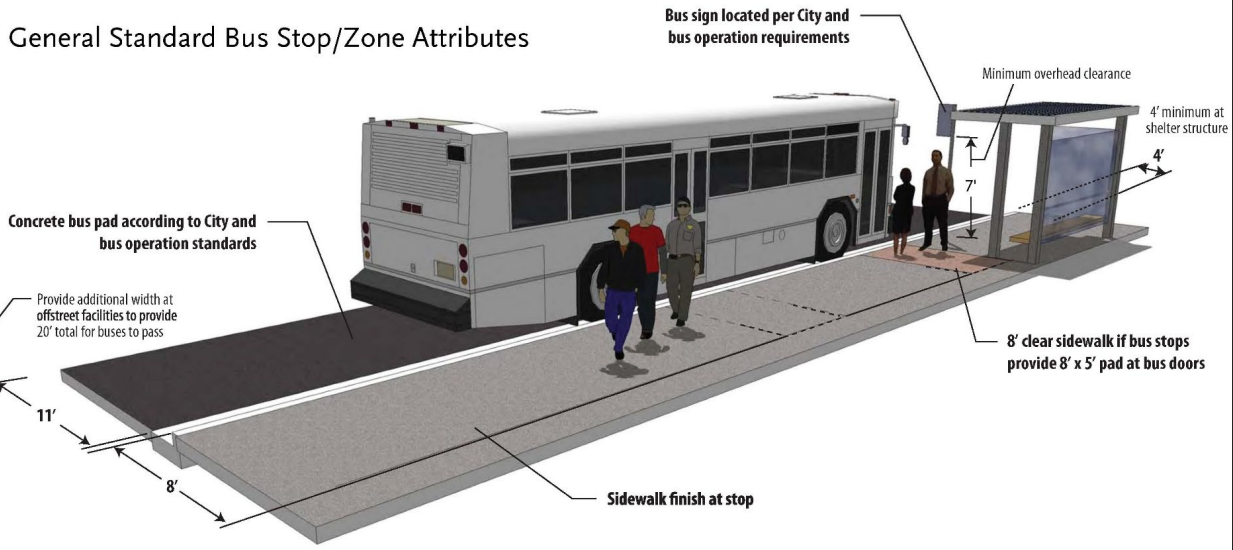
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	<ul style="list-style-type: none"> - <u>Allows bus routes that operate with signal priority to reap benefits of the technology at signalized intersections.</u> 	
Mid-Block	<ul style="list-style-type: none"> - <u>Minimizes sight distance problems for vehicles and pedestrians</u> - <u>Passenger waiting areas experience less pedestrian congestion</u> 	<ul style="list-style-type: none"> - <u>Requires additional distance for no-parking restrictions</u> - <u>Encourages customers to cross street at mid-block (jaywalking)</u> - <u>Increases walking distance for customers crossing at intersections and for transferring customers</u>

Source: FTA webpage (http://www.fta.dot.gov/12351_4361.html)

The following renderings (Figures 4.1—4.4) illustrate a typical bus stop/zone design and offers guideline for near-side, far-side, and mid-block locations. TCRP Transit Cooperative Research Program (TCRP) Report 19 “Guidelines for the Location and Design of Bus Stops” (1996) provides a more detailed discussion. Metro also adopted its own Transfers Design Guide in 2018 – see Section 2, page 15 for more information.

General Standard Bus Stop/Zone Attributes



Note: City of Los Angeles Requires its standard bus shelter to be 12-14 feet long, 4 1/2' wide, and 9 1/2 high

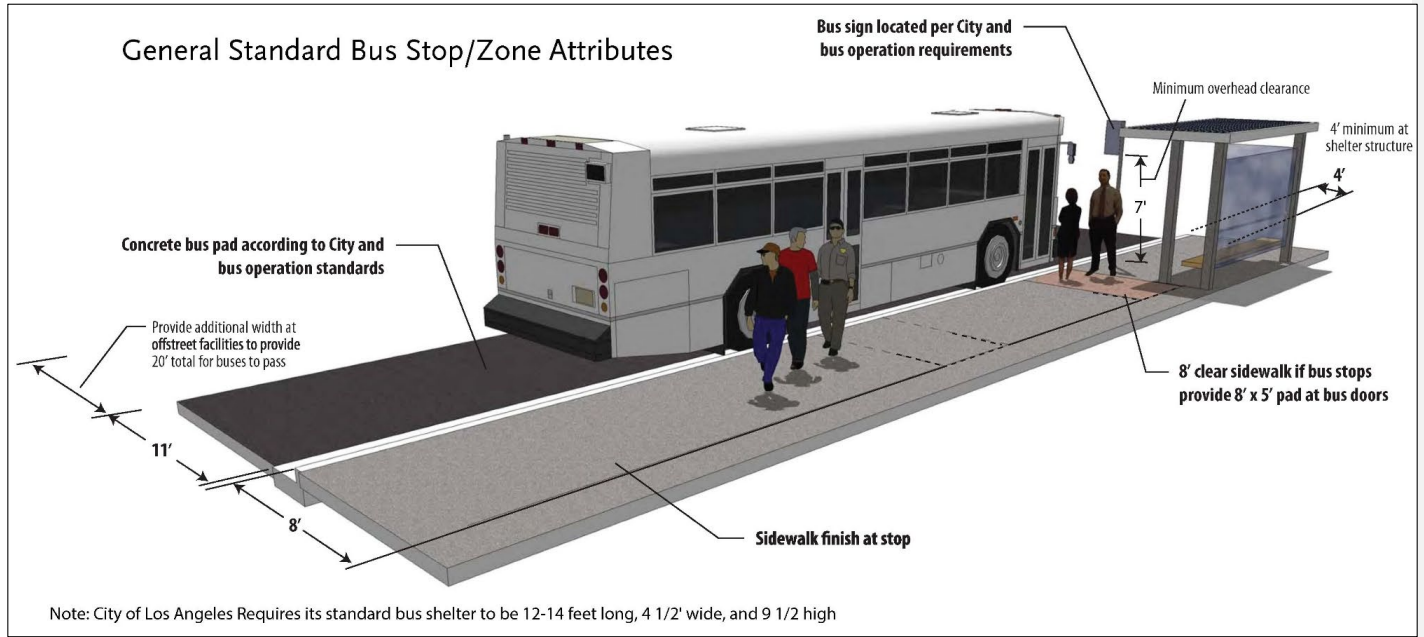


Figure 4.1 General Standard Bus Stop/Zone Attributes

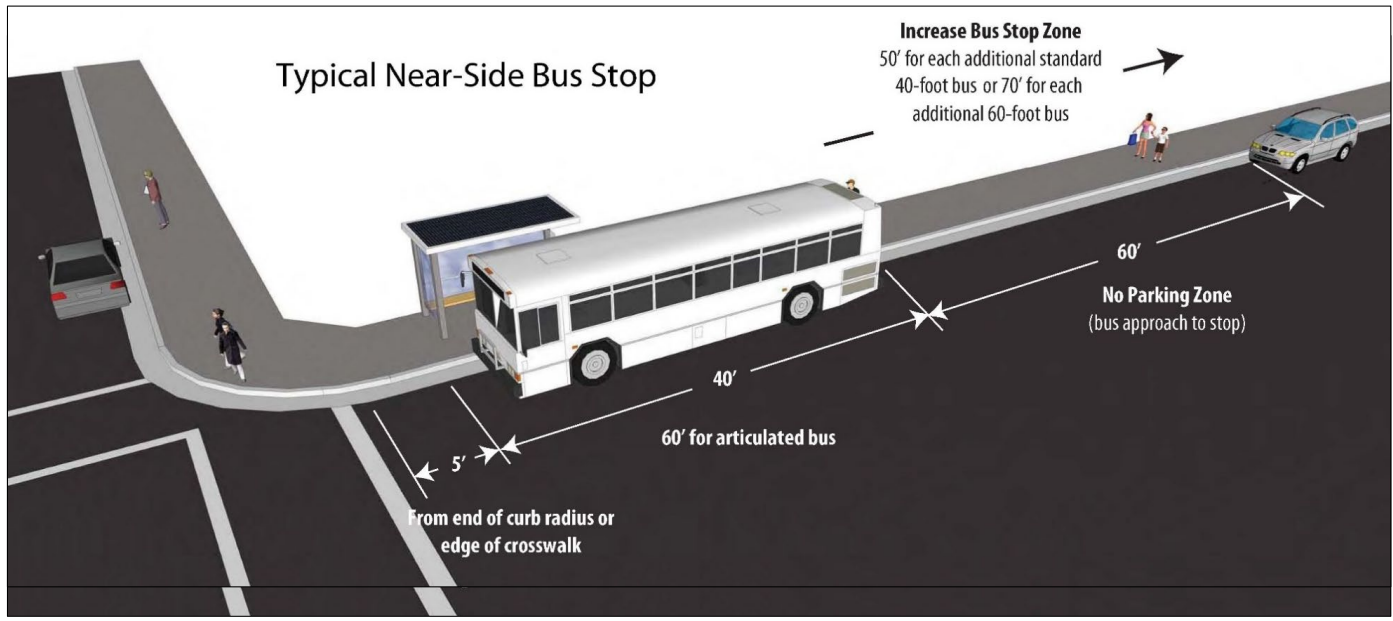


Figure 4.2 Typical Near-Side Bus Stop

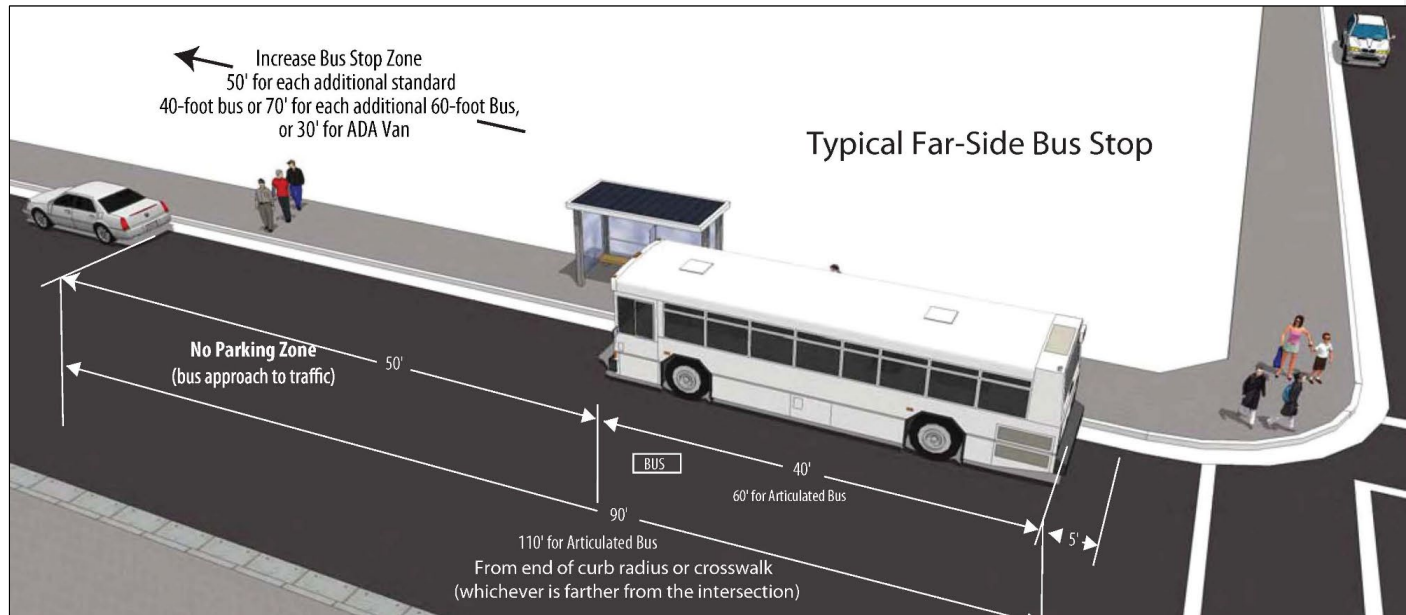


Figure 4.3 Typical Far-Side Bus Stop

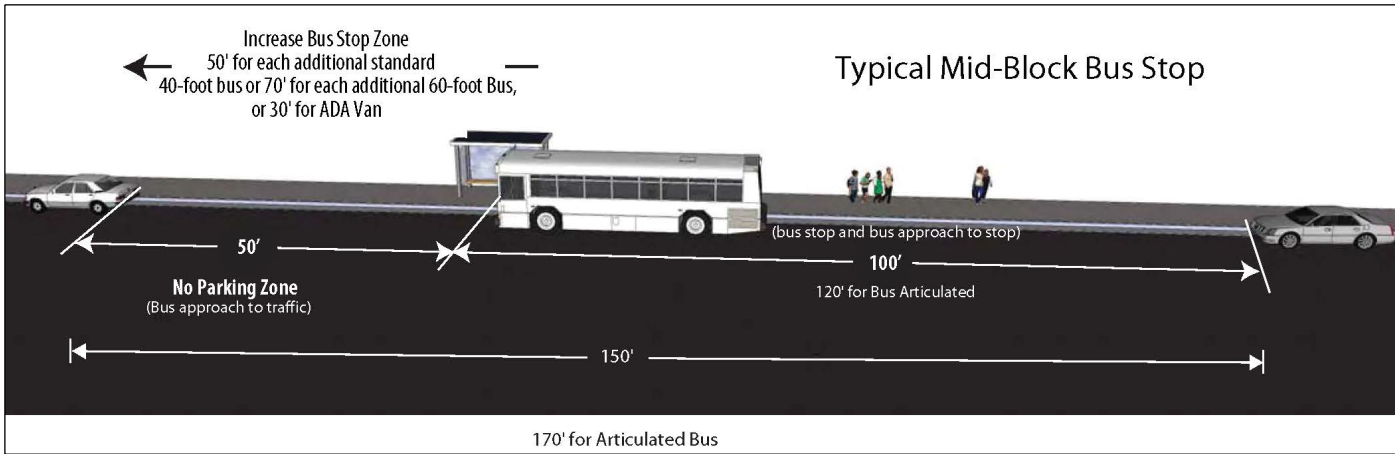


Figure 4.4 Typical Mid-Block Bus Stop

SECTION 5: SERVICE PERFORMANCE EVALUATION

~~The 2019~~This Metro TSP establishes a set of performance criteria and standards that balance optimization for efficiency and productivity with customer experience measures of success. Optimization of key performance indicators ensures that the services being provided generate the maximum benefit in terms of ridership at the lowest cost. Customer experience ~~criteria~~criteria measure how well the transit system can attract customers to use the system more often and for new trip purposes.

5.1 Route Performance Index

The Route Performance Index (RPI) is a conventional industry measure used to ensure ~~Metro~~transit services are effective and provide a reasonable return on investment. ~~The Metro's~~ RPI is designed to provide an objective measure of bus route performance relative to system performance. The index is based on system ridership and financial targets from the current fiscal year Metro Budget.

This measure is applied to all Metro bus lines that have been in operation for more than one year, allowing time for new lines to reach a level of maturity where riders have adapted to their availability. The RPI is used to identify under-performing lines. Specific corrective actions are taken during the service change process. Corrective actions may include marketing, service restructuring, implementing an alternative service, or discontinuation of service.

Defining RPI Variables

The RPI considers the following three variables in creating the index. No weight is given to an individual measure; rather the selected statistics represent all facets of the operation in terms of cost efficiency, service effectiveness, and customer use.

- **Utilization of Resources:** Passenger Boardings per Revenue Service Hour (RSH) ~~is a~~is used as a measure to determine how effectively resources are used on a given line. This measure is determined by dividing the total number of boardings by the RSHs operated. A route having a higher number of boardings per RSH represents a better utilization of ~~resources such as buses, operators and fuel~~the service provided.
- **Utilization of Capacity:** Passenger Miles per Seat Mile is the measure used to evaluate how the seating capacity of the system is being used. Passenger miles are calculated by multiplying the average distance traveled per customer by the number of customers using the service. Seat miles are calculated by determining the number of seats per vehicle by the number of service miles operated. A higher resulting number indicates greater utilization of ~~system~~service capacity.
- **Fiscal Responsibility:** Subsidy per Passenger is the measure for fiscal responsibility. Subsidy refers to the amount of public funding required to cover the difference between the cost of operation and the customer fare revenues collected. Higher subsidy services require more public funding support per passenger boarding.

The formula for calculation of the RPI for each Metro Bus line is as follows:

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$$\text{RPI} = ((\text{Passengers/RSH/System Avg.}) + (\text{Passengers Miles per Seat Mile/System Avg.}) + (\text{Subsidy per Passenger / System Avg.}))/3$$

Lines with an index of 1.0 perform at the system average, while lines with an index of less than 1.0 perform below the average. Lines with an RPI lower than 0.6 are defined as performing poorly and targeted for corrective action. Lines that have been subjected to corrective actions and do not meet the 0.60 productivity index after six additional months of operation may be discontinued, subject to [the Title VI, Metro Service Council, and Board approval processes.](#)

The RPI is calculated and reported quarterly by Metro's Service Planning & Scheduling Department. ~~The performance measurement standards staff for each use in developing revised service plans to improve route are set annually relative to the percentage improvement of overall system performance relative to the previous year's performance. This percentage improvement will be based on the performance objectives outlined in the Metro Annual Operating Budget performance.~~

5.2 Customer Experience

Providing high quality mobility options that enable people to spend less time traveling on the transit network requires that ~~we are~~ service be available when and where ~~our~~ customers want to travel, ~~we are~~ that service be competitive enough to have ~~them~~ customers be willing to try ~~us~~ transit over other options, and ~~we are~~ that service be attractive enough to ensure ~~they~~ riders return for the same trip and ideally for more trips. Therefore, ~~our~~ the recommended measures of success are aimed at evaluating the bus network implemented under the NextGen Bus Plan within these three ~~stages of~~ elements, referred to as Find, Try, and Rely. These customer-focused measures help to balance ~~our~~ the traditional metrics of productivity and efficiency (e.g. ridership, boardings per hour, subsidy per boarding). Several of these measures (italicized below) will be used to evaluate the network through the lens of equity.

Find - How well do people understand how effectively transit can serve their needs? Is the system easy to understand and use? Proposed measures include:

- Services and information ~~is Readily Available~~ are readily available
 - Percentage of trip ends within ¼ mile of transit stop
 - Trip ~~planner, app, planning apps~~ and website usage rates
 - *Percent of public considering transit (survey-based)*
- ~~The Bus System~~ system is ~~Easy~~ easy to ~~Understand~~ understand and ~~Use~~ use
 - Percentage of out-~~of~~ direction travel
 - Percentage of route miles with all-day frequent service ~~(≤15 min headways)~~
 - *Percent of public ~~understand~~ that understands how to use system (survey-based)*

Try - How can we encourage customers to try the regional transit system? (Metro and Municipal Bus Operators) Proposed measures include:

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~~Bus Goes Where/When Customers Want~~

~~Bus goes where/when customers want~~

- *Percentage of trips compatible with transit by time of day and day of week*
- *Number of jobs and activity centers accessible within a 15-minute and 30-minute transit ride*
- Number of unique transit users
- Bus system is ~~Competitive~~competitive
 - *Door-to-door travel times*
 - *Competitiveness of transit time to drive time*
 - System-wide boardings
- Coverage is ~~Adequate~~adequate
 - *Population within ¼-mile of transit stops by frequency of service*
- Transit ~~Journeys~~journeys are ~~Simple~~simple
 - Average number of transfers
 - Percent of trips that are one-seat rides

Rely - How can we provide services that customers can rely on for their travel needs? Proposed measures include:

- Bus ~~System~~system is ~~Effective~~effective and ~~Productive~~productive
 - *Competitive transit paths for short, evening, midday, and weekend trips*
 - Number of frequent customers
 - Boardings by time of day and day of week
 - Boardings per revenue hours and miles
 - Cost per passenger mile
- Buses are ~~Reliable~~reliable
 - Headway regularity on frequent routes
 - On-time performance
 - Real time arrival accuracy
- Customers are ~~Satisfied~~satisfied
 - Rides per week for frequent and infrequent users
 - *Percentage of customers satisfied with Metro services (survey-based)*

5.3 Service Evaluation Process

Services are evaluated monthly, quarterly, and biannually based on the network, lines and segments (geographic, time of day, and day of week). Services that are inconsistent with demand or do not meet system standards are identified for restructuring, reduction, or discontinuation. Services that have potential for exceeding existing performance will be identified for possible enhancements as should markets that are currently not well served. The following priorities will be considered when restructuring the Metro system:

- **Priority 1** – Restructure services to increase system speed, on-time performance, service frequencies consistent with NextGen Bus Plan, productivity, and balance loads.
- **Priority 2** – Restructure services that are duplicative with Metro Rail, other Metro Bus routes lines, and Municipal and Local Return operator services. Such services will be identified for discontinuation, consolidation, reduction and/or reallocation to achieve greater productivity and cost efficiency.
- **Priority 3** – Restructure remaining services (constrained by existing budget) based on the service concept and to address major gaps and deficiencies. Prioritize these service adjustments.
- **Priority 4** – Develop new services (unconstrained) to address all gaps and deficiencies. Prioritize these new services.

Significant changes to municipal operator services are incorporated into the evaluation of existing and new services as possible enhancements to address identified gaps or deficiencies in service.

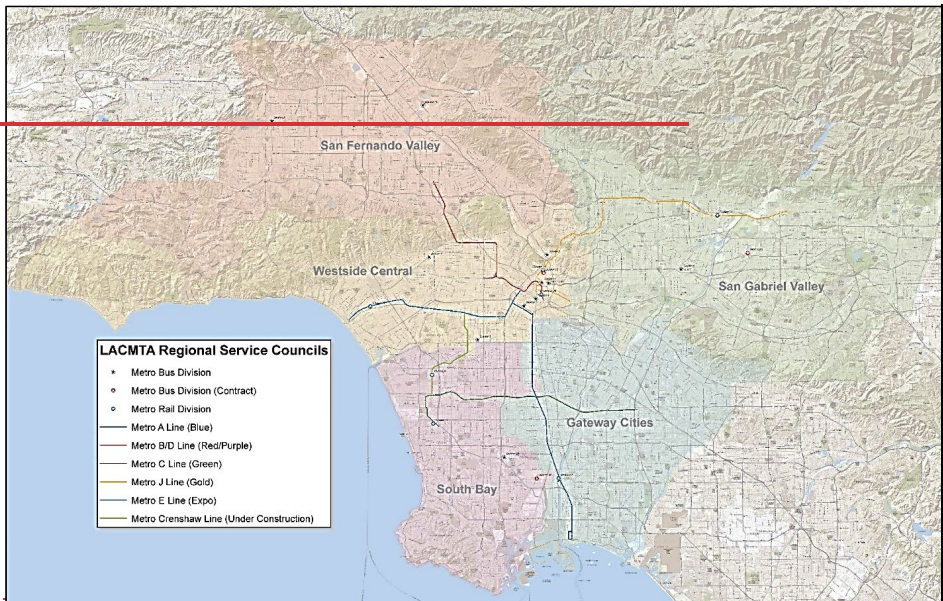
Service Change Performance Evaluation

Schedule adjustments to bus or rail should be evaluated shortly after implementation to determine if there are any obvious issues. This should include line rides and visits to the operating divisions to receive comments and recommendations from customers, operators and supervisors. Appropriate adjustments should be made as required. After three months of operations, the schedules should be evaluated in detail to begin the process of schedule adjustments for the next service change cycle.

Route modifications to bus service should also be evaluated shortly after implementation like based on the schedule evaluation outlined above. The overall goals of the service changes such as reducing costs, improving connections, increasing bus speeds, and increasing ridership, among others, should have near term goals that are established prior to the service change process. At about 6 months after service implementation, the performance of the changes should be evaluated relative to the established goals. Remedial actions, if necessary, should be developed and considered for the next service change cycle.

SECTION 6: SERVICE CHANGE PROCESS

In 2003, Metro created five localized service areas (Figure 6.1), each to be overseen by a Governance Council. In 2011, Metro restructured and re-established a ~~centralized~~ centrally managed bus-controlled operation to include the service planning and scheduling ~~function~~ functions, while maintaining the authority and responsibility of the five Regional Service Councils to help locally coordinate service changes. Metro restructured the roles and responsibilities of ~~the Governance Councils, now referred to as~~ these five Regional Service Councils.



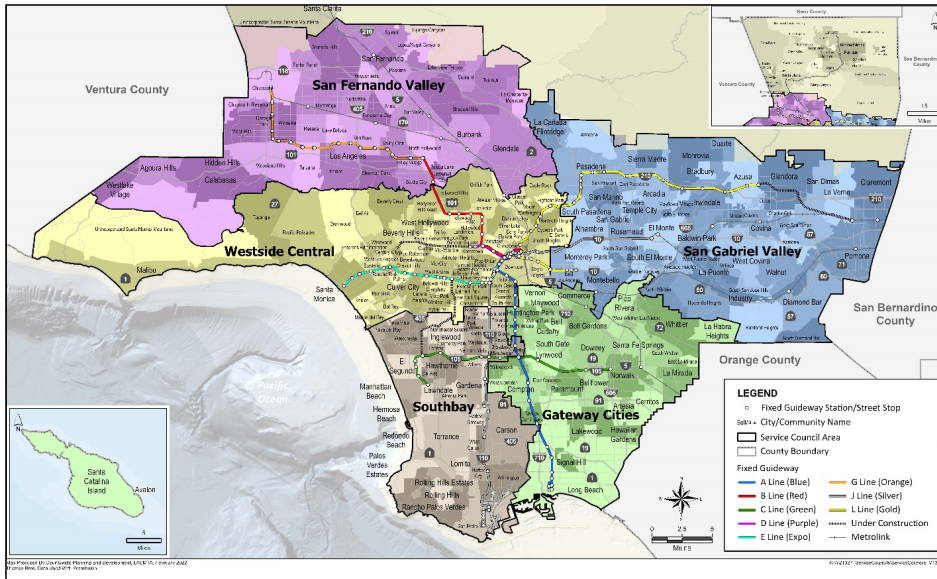


Figure 6.1 Metro Service Council Areas/Regions

~~Metro~~Metro's five Regional Service Councils provide locally accessible public forums for community members, transit users, and local municipal operators to voice concerns, suggestions, and questions on how Metro can best serve customers. Through these forums, Service Council members can:

- better understand customer needs and make recommendations;
- evaluate opportunities and service coordination issues;
- advise and approve the planning and implementation of service changes within their areas.

As stated in the 2011 update to the Service Council bylaws, one of the Service Council's primary responsibilities is to render decisions on proposed bus route changes considering staff's recommendations and public comments. Metro Service Councils (MSC) will be responsible for approving all proposed permanent ~~route~~major service changes, excluding turnaround and out of service route modifications, ~~which exceed a cumulative \$100,000 annual operating cost change.~~ All major service-level changes that require public hearings will be brought to the MSCs who will conduct public hearings then vote to approve, modify, or deny the service change proposals. Any significant temporary service change should be brought to the Council for their information but not approval.

Each ~~MSC will be~~Regional Service Council is responsible for holding public hearings that relate to major service changes (as defined in Title VI Section 6.3 below) to Metro bus and rail lines

that provide significant service within their ~~Region~~region, consistent with State and Federal law~~s~~ and with Metro policies pertaining to public hearings. Following receipt of public input, the ~~Councils~~Council is responsible for approving all major service changes that are to be implemented that modify, add or delete Metro bus routes within the Service Council's jurisdiction in conformance with Metro service standards, collective bargaining agreements and Metro policies. When a major service change program requires three or more Councils to hold public hearings, an additional hearing ~~will be~~is held at a central location, normally at the Metro headquarters building, on an appropriate Saturday.

Table 6.1 *Major Service Change Timeline*

Key Activities	Required Lead Time (Months Prior to Implementation)
Initiate Planning Process	12
Develop Preliminary Recommendations	7-8
Impact Analysis for Proposed Changes	6-7
Title VI Equity Analysis on Major Service Change and Fare Change Proposals	5-7
Service Council Review and Input	6-7
Confer with Labor Relation and Union Representatives	6-7
Public Review and Input	5
Finalize Service Change Program	4-5
Program Approval	3-4
Develop New Service Schedules	2-4
Print Public Timetables and Operator Assignments	1-2
Fabricate Decals for Bus Blades	1-2
Take Ones/Rider Alerts on Buses	0.5-1

All route and major service changes that are approved by the ~~MSC~~Regional Service Council~~s~~ will be brought to the Metro Board of Directors as an information item. Should the Metro Board decide to move a Service Council approved service change to an Action Item, the Service Council will be notified of this change, prior to the next Service Council monthly meeting. Table 6.1 provides the established service change timeline.

6.1 Service Change Programs

Service change programs are developed based on input generated by a wide variety of sources including ~~customer~~rider, ~~community~~, and employee input, service restructuring studies, ~~coordination with major Metro capital projects such as new rail alignments or joint developments~~, requests from other local operators, and performance monitoring results ~~such~~

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as load levels and on-time performance. The service change process includes public review of the proposals, a technical evaluation of ridership impact, and Title VI equity analysis.

In accordance with contractual agreements with the Sheet Metal Air, Rail and Transit Union (SMART)¹³, bi-annual service changes will be implemented each year in June and December. Metro service changes are conducted to modify service based on customer demand, running ridership and load factors, on-time adjustments, performance, other performance monitoring results, rider and community input, and budget considerations. A service change process workflow is provided in Figure 6.2.

~~Other factors considered are service performance, availability of alternatives, and mitigation strategies.~~ As part of the evaluation process, resource impacts to in-service hours and required vehicles are also tracked to ensure compliance with budget parameters. In summary, the purpose of an evaluation on proposed service changes is to:

- Define and evaluate the impact on customers;
- Determine whether a proposed major service change or fare increase will have disparate adverse impact on minorities or a disproportionate burden on low-income individuals by performing a Title VI Equity Analysis;
- Consider alternatives if a disparate adverse impact to minorities or disproportionate burden on low-income individuals are identified;
- Develop appropriate mitigation measures if needed; and
- ~~– Determine whether a public hearing is required~~
- Conduct required public hearing for all major service changes (see definition in Section 6.3 Title VI Equity Analysis).

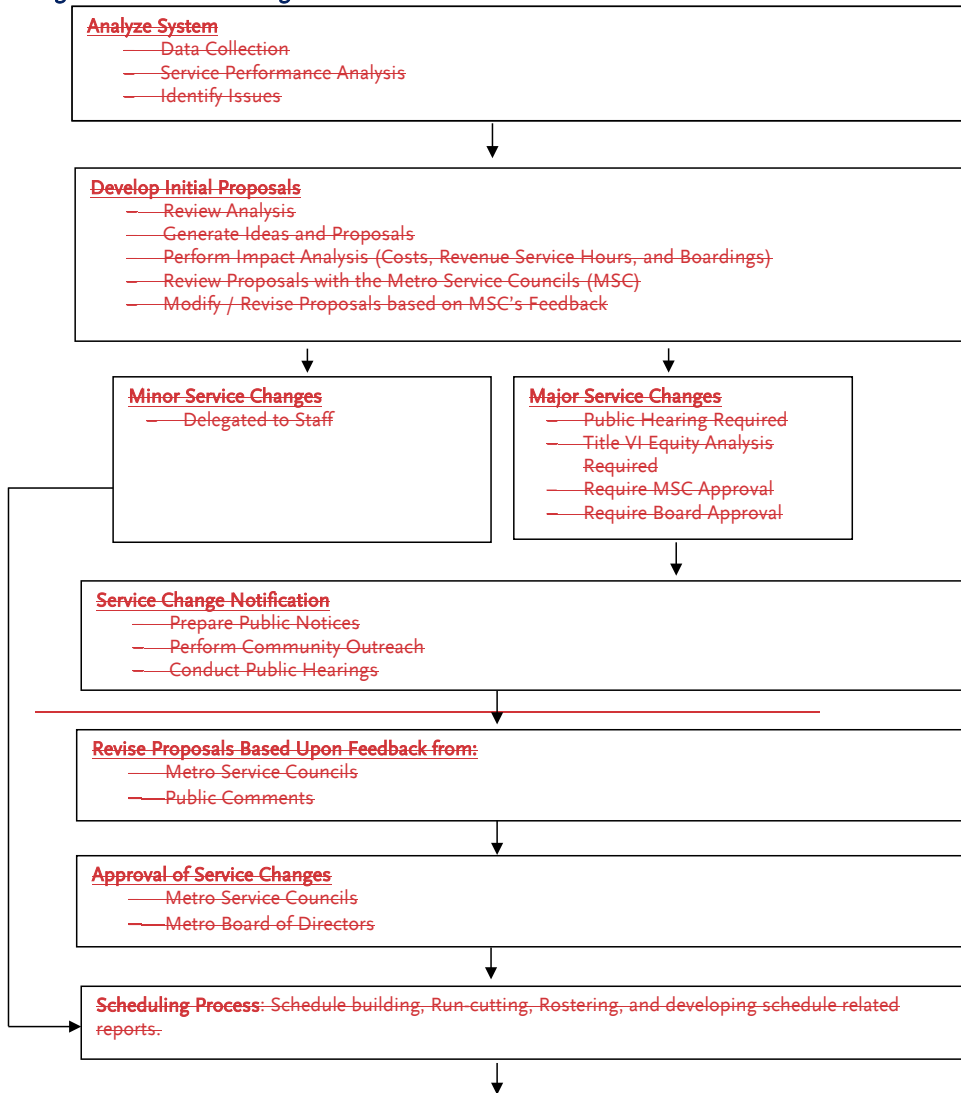
Changes to the rail system occur less frequently. They generally relate to the opening of a new line or adjustments to the frequency or hours of operation for existing service. Changes in rail and bus service follow the same planning and implementation process.

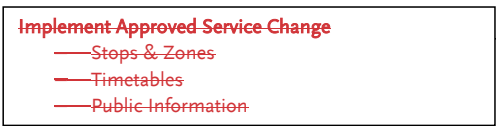
6.2 Title VI ~~and Metro's Equity Platform~~ Analysis

~~Metro's Equity Platform was adopted in February 2017.~~ The framework for equity begins with Title VI of the Civil Rights Act of 1964 which protects minority and low income communities from disparate and disproportionate negative impacts as a result of major transit service changes. Executive Order 12898 - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations provides further protection of low-income communities from disparate and disproportionate negative impacts.

¹³ The United Transportation Union (UTU) merged with the Sheet Metal Workers Union in 2014 to form SMART.

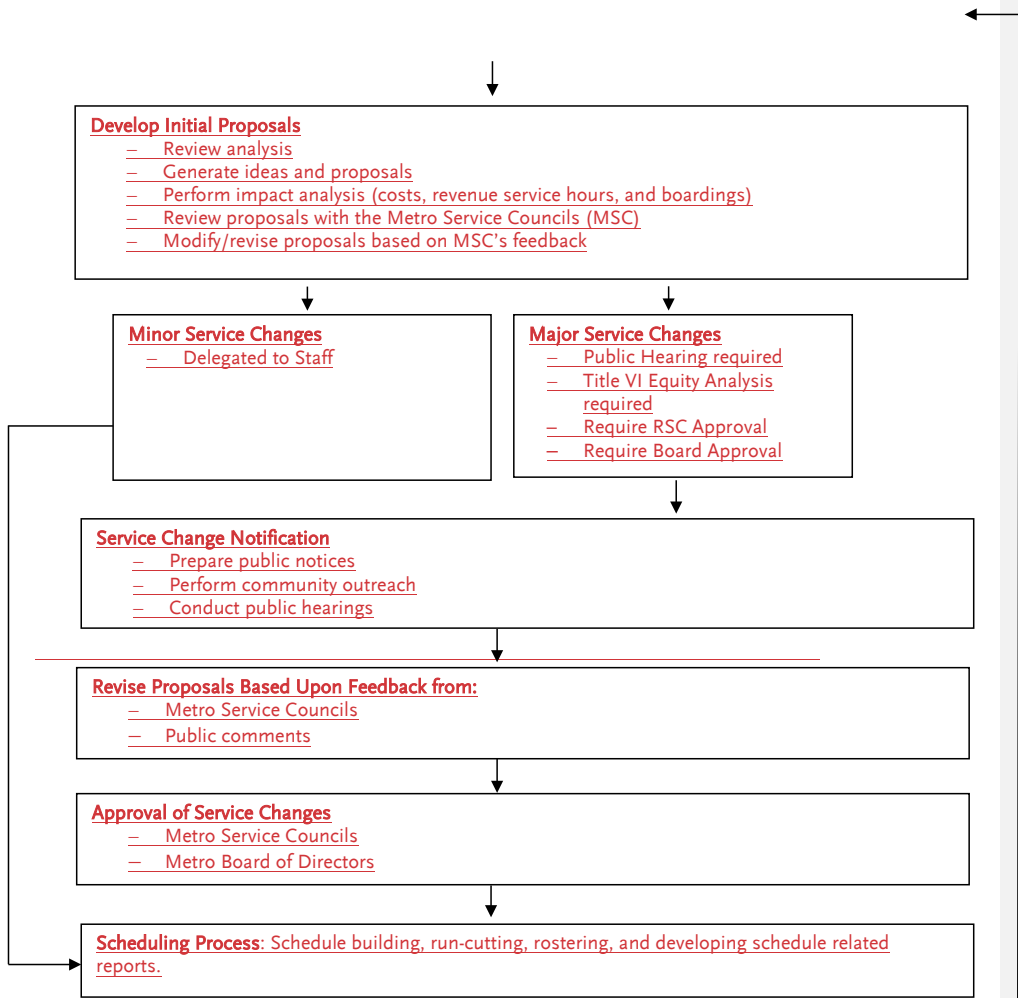
Figure 6.2 - Service Change Process

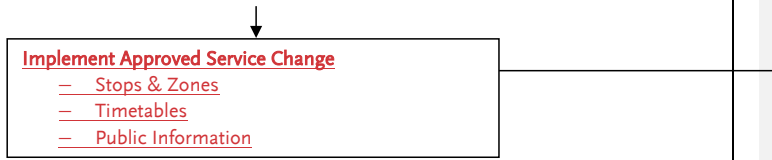




6.3 Title VI Equity Analysis

In addition,





Metro ~~will~~must ensure a Title VI Equity Analysis is performed on all major service change proposals and any fare change proposals to determine if these proposals will have a disparate adverse impact on minorities or disproportionate burden on low-income individuals prior to a public hearing. If it is determined that these proposed changes will have a disparate adverse impact on minorities or a disproportionate burden on low-income individuals, Metro will make a good-faith effort to mitigate or reduce the adverse impacts by looking for alternatives that can meet legitimate program goals with a lesser impact to protected groups.

~~The framework for equity begins with Title VI of the Civil Rights Act of 1964 which protects people from discrimination based on race, color, or national origin. Impacts on minority and low-income communities must be analyzed to identify disparate and disproportionate negative impacts resulting from a fare change or major transit service changes.~~

In accordance with FTA’s Title VI Circular 4702.1B “Title VI Requirements and Guidelines for Federal Transit Administration Recipients” (Effective October 1, 2012), Metro’s Administrative Code was revised to incorporate FTA’s requirements under Title VI. The Metro Board adopted the updated Administrative Code in January 2013. Based on this Circular, Metro is required to perform a Title VI Equity Analysis on all proposed major service changes or fare changes prior to implementation. The goal is to ensure there is no *disparate adverse impact* to minorities or *disproportionate burden* on low-income individuals created by a major service or fare change.

The following definitions and criteria were updated and adopted by the Board in September 2019. The FTA is considering developing an updated circular in 2022. The Administrative Code now contains a reference to these definitions so that it need not be amended every time there is a need to modify the definitions:

Disparate Impact Policy:

Disparate impact refers to a facially neutral policy or practice that disproportionately affects members of a group identified by race, color or national origin and the policy lacks a substantial legitimate justification, including one or more alternatives that would serve the same legitimate objectives but with less disproportionate effects on the basis of race, color or national origin. This policy defines the threshold Metro will utilize when analyzing the impacts to minority populations and/or minority customers.

- a. For major service changes, a disparate impact will be deemed to have occurred if the absolute difference between the percentage of minority adversely affected and the overall percentage of minorities is at least five percent (5%).

- b. For any applicable fare changes, a disparate impact will be deemed to have occurred if the absolute difference between the percentage of minority adversely affected and the overall percentage of minorities is at least five percent (5%)

Disproportionate Burden Policy:

Disproportionate burden refers to a facially neutral policy or practice that disproportionately affects low-income populations more than those populations that are not low-income. A finding of disproportionate burden for major service and fare changes requires Metro to evaluate alternatives and mitigate burdens where practicable.

1. For major service changes, a disproportionate burden will be deemed to exist if an absolute difference between percentage of low-income adversely affected by the service change and the overall percentage of low-income persons is at least five percent (5%).
2. For fare changes, a disproportionate burden will be deemed to exist if an absolute difference between the percentage of low-income adversely affected and the overall percentage of low-income is at least five percent (5%)

Discretion of the Metro Board of Directors

A *major service change* or *fare increase* may be implemented even if the Title VI Equity Analysis determines a *disparate adverse impact* to minorities was created by the change. However, the Metro Board of Directors must first ensure these changes meet two tests:

- There is a substantial legitimate justification for adopting the proposed major service change or fare increase, meaning the selected service change or fare increase meets a goal that is integral to the mission of Metro; and
- The selected alternative would have a less severe adverse effect on Title VI protected populations than other alternatives that were studied.

Major Service Change

Major service changes are defined in Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-010 as any service change that meets at least one of the following criteria:

1. A revision to an existing transit route that increases or decreases the route miles and/or the revenue miles operated by 25% or more at one time or cumulatively in any period within 36 consecutive months since the last major service change;
2. A revision to an existing transit service that increases or decreases the scheduled trips operated by at least 25% at one time or cumulatively in any period within 36 consecutive months since the last major service change;
3. An increase or decrease to the span of service of a transit line of at least 25% at any one time or cumulatively in any period within 36 consecutive months since the last major service change;
4. The implementation of a new transit route that provides at least 50% of its route miles without duplicating other routes;

5. Six months prior to the opening of any new fixed guideway project (e.g. BRT line or rail line) regardless of whether or not the amount of service being changed meets the requirements in the subsections 1-5 above to be inclusive of any bus/rail interface changes.
6. Experimental, demonstration or emergency service changes may be instituted for one year or less without a Title VI Equity Analysis being completed and considered by the Board of Directors. If the service is required to be operated beyond one year the Title VI Equity Analysis must be completed and considered by the Board of Directors before the end of the one year experimental, demonstration or emergency.
7. A Title VI Equity Analysis shall not be required if a Metro transit service is replaced by a different route, mode, or operator providing a service with the same headways, fare, transfer options, span of service and stops.

Fare Changes

Any fare change requires an equity evaluation consistent with the following guidance:

1. A Fare Equity Analysis shall be prepared for any fare change (increase or decrease). This includes but is not limited to permanent fare changes, temporary changes, promotional fare changes, and pilot fare programs. The analysis will evaluate the effects of fare changes on Title VI protected populations and low-income populations. The analysis will be done for fares not available to the general public such as special discount programs for students, groups or employers.
2. If fare changes are planned due to the opening of a new fixed guideway project, an equity analysis shall be completed six months prior to opening of the service.
3. Each Title VI Fare Equity Analysis shall be completed and presented for consideration of the Board of Directors in advance of the approval of the proposed fare or fare media change by the Board of Directors. The Equity Analysis will then be forwarded to the FTA with a record of action taken by the Board.
4. A Title VI analysis is not required when:
 - a) A change is instituted that provides free fares for all customers;
 - b) Temporary fare reductions are provided to mitigate for other actions taken by Metro;
 - c) Promotional fare reductions are less than six months in duration. An equity analysis must be conducted prior to making any temporary fare change into a permanent part of the fare system.

6.43 Metro's Equity Platform

~~Metro's Equity Platform builds upon The NextGen Bus Study aimed to go above and beyond Title VI in two distinct ways. First, it goes beyond ethnicity and requirements to analyze disparate impacts and disproportionate burden on minority and low-income populations to determine identify communities with the greatest mobility needs. To do this, Metro's Equity Platform was integrated into the NextGen Bus Study planning and public engagement process.~~

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The Platform provides a framework that guides how the agency works to address inequities and create more equitable access to opportunity.

The NextGen process started with analysis of Equity Focus Communities (EFCs) Metro's community designation that defines areas where transportation needs are greatest. EFCs consider where there are higher concentrations of resident and household demographics associated with mobility barriers (low-income households earning less than \$60,000 per year; Black, Indigenous, or People of Color (BIPOC) populations; and households that do not have a car). Additionally, the NextGen sought to capture other metrics in a Transit Equity Index to identify transit propensity to ensure investment in transit targeted area populations with the most need to use transit. Through market research, surveys, and public input, other groups determined to be most reliant on transit include non-English speaking new immigrants, youth and seniors, persons without access to an automobile either by choice or necessity, persons with disabilities, and women, who tend to make more transit trips than men. Data available for these groups was used in the calculation of the Transit Equity Index.

Second, NextGen Bus Study aims to go above and beyond Title VI, to not only protect against negative impacts, but to further improve service for communities with the greatest mobility needs. To do this, the The Four Pillars of the Equity Platform have been were integrated into the NextGen Bus Study planning and public engagement process as follows

- I. **Define and Measure** – Use Title VI EFCs as a baseline for identifying communities with the greatest needs, and supplement those with market research to identify the segments of population and trips with the highest propensity for transit use. Evaluate bus network changes based on the customer-focused performance metrics established within this report Transit Service Policy document with particular focus on communities Equity Focus Communities with the greatest mobility needs as identified above.
- II. **Listen & Learn** –The technical work of the NextGen Bus Study identified important information about Metro's current and potential customers. This data was validated by thea robust countywide public engagement effort, including that included engaging customers onboard on board buses, at outreach sessions at community events, stakeholder briefings, interactive public workshops, digital engagement, and print advertising. Comments received will be were incorporated into the systemwide service design as well as individual route changes.
- III. **Focus & Deliver** – Service design concepts (discussed above) have been established within this Transit Service Policy document are intended to address the recurring themes identified from the public outreach and market research, including faster and more frequent service, better reliability and accessibility to key destinations, better connectivity particularly with the municipal operators, and improved perception of security safety on board buses and at bus stops. These concepts, described below, will be were used to redesign the routes and schedules for the NextGen Bus Plan.

In addition, a Transit Propensity Index score has been was developed and assigned to every Census Tract in Los Angeles County. This index score considers the various market segments likelihood to use transit, the transit orientation of the environment being

served, and the travel demand within the area. Areas with high scores should be prioritized for high quality transit service.

Lastly, other customer experience enhancements such as improved ~~security~~safety, accurate real time arrival information, cleanliness, and improved first/last mile service are critical to attracting customers to use transit.

~~Train & Grow~~—The Board-adopted Transit Service Policy will be updated to reflect the Regional Service Concept as adopted by the Board, including the goals and objectives of the bus network, measures of success, route and network design concepts based on public input and data analysis, and ~~the~~ framework ~~referenced~~ for balancing tradeoffs in consideration of Metro’s Equity Platform. ~~In addition, an~~

- IV. ~~Train & Grow~~—Service Planning has adopted new tools to analyze the potential impacts of service changes on EFCs. An annual monitoring program will be established to track the progress of achievement towards the goals and objectives, and to inform on necessary adjustments.

6.4 Public Outreach

Prior to a public hearing, ~~several~~ public outreach ~~efforts are made~~is conducted so that the greatest number of customers may respond to the changes at either a public hearing or by submitting written comments at a hearing, or via email, mail, or fax. The distribution of information will include line number, line name, route change information, and/or fare change proposals. Other public outreach occurs at key transportation centers, bus stops, and bus and rail stations 30 days prior to the public hearing date. These efforts are made to reach and engage customers who may not have time to attend a public hearing and to inform them of alternative communication methods available to file public comments. Public participation in the public hearing process is an important step in assisting staff and Metro Service Councils in developing and approving final service change proposals. Table 6.2 provides a timeline for public notification activities.

Table 6.2 *Timeline for Public Notification Activities*

<u>Activity</u>	<u>Months Prior to Service Change</u>
<u>Service Planning staff reviews preliminary proposals.</u>	<u>7</u>
<u>Metro Service Councils set dates of public meetings, publish hearing notices in local newspapers and send LEP and minority communities written notification to elected officials, other operators and key stakeholder groups. Confer with Labor Relations and Union representatives.</u>	<u>5-6</u>
<u>Service Planning staff provides information on proposed changes to the Metro Bus Operators Subcommittee and at quarterly meetings held with the region’s municipal and local operators.</u>	<u>3</u>
<u>Communication Department posts information proposed changes on Metro’s website.</u>	<u>5</u>

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<u>Operations staff distributes meeting notices on board vehicles. Public outreach at key transportation centers, bus stops, and on-board customer interface occurs as well.</u>	<u>Minimum one month prior to public hearings</u>
<u>Metro Service Councils conduct public hearings.</u>	<u>4</u>
<u>Metro Service Councils approve final service change program.</u>	<u>3</u>
<u>Metro Board receives the Service Councils' approved service change program as a Receive and File item.</u>	<u>2</u>
<u>Communication Department prepares press releases on final program and program brochures are distributed on-board Metro vehicles and other outlets.</u>	<u>1</u>

These procedures are in accordance with Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-025:

- A. Any public hearing required by Section 2-20-020 shall be conducted as set forth in this section.
- B. Notice of the hearing shall be published in at least one English language and Spanish language newspaper of general circulation and at least thirty (30) days prior to the date of the hearing. Notice at least thirty (30) days prior to the date of the hearing shall also be published in the neighborhood and foreign language and ethnic newspapers as appropriate to provide notice to the members of the public most likely to be impacted by the proposed action.
- C. Notice of the public hearing shall also be announced by brochures in English, Spanish and other appropriate languages on transit vehicles serving the areas to be impacted and at customer service centers.
- D. To ensure that the views and comments expressed by the public are taken into consideration, MTA staff shall prepare a written response to the issues raised at the public hearing. That response should also include a general assessment of the social, economic and environmental impacts of the proposed change, including any impact on energy conservation.
- E. The public hearing related to a recommendation to increase transit fares charged the public shall be held before the Board of Directors and any action taken to increase the fares charged the general public must be approved by a two-thirds vote of the members of the Board of Directors. The Board of Directors may delegate to another body or a hearing officer appointed by the Chief Executive Officer the authority to hold the public hearing related to a change in transit service.

Table 6.2 — *Timeline for Public Notification Activities*

Activity	Months Prior to Service Change
Service Planning staff reviews preliminary proposals.	7

Metro Service Councils set dates of public meetings, publish hearing notices in local newspapers and send LEP and minority communities written notification to elected officials, other operators and key stakeholder groups. Confer with Labor Relations and Union representatives.	5.6
Service Planning staff provides information on proposed changes to the Metro Bus Operators Subcommittee and at quarterly meetings held with the region's municipal and local operators.	3
Communication Department posts information proposed changes on Metro's website.	5
Operations staff distributes meeting notices on board vehicles. Public outreach at key transportation centers, bus stops, and on board customer interface occurs as well.	Minimum one month prior to public hearings
Metro Service Councils conduct public hearings.	4
Metro Service Councils approve final service change program.	3
Metro Board receives the Service Councils' approved service change program as a Receive and File item.	2
Communication Department prepares press releases on final program and program brochures are distributed on board Metro vehicles and other outlets.	1

~~The distribution of information will include line number, line name, route change information, and/or fare change proposals. Other public outreach occurs at key transportation centers, bus stops, and bus and rail stations 30 days prior to the public hearing date. These efforts are made to reach and engage customers who may not have time to attend a public hearing and to inform them of alternative communication methods available to file public comments. Public participation in the public hearing process is an important step in assisting staff and Metro Service Councils in developing and approving final service change proposals. Table 6.2 provides a timeline for public notification activities.~~

6.5 Public Hearing Process

Once a Service Change Program has been developed by Metro Service Planning Staff, the Metro Service Councils are asked to set a date, time and place for their public hearings. During the period between publication of the hearing notices and public hearings, each Service Council is provided a detailed presentation on service change proposals and given an opportunity to discuss the changes that will be the subject of public comment. After each hearing, each Service Council will meet to consider and approve, modify, or deny all proposed service changes. These actions will then be summarized and presented in an informational report to the Metro Board of Directors.

Under Metro's Service Council ~~by laws~~ bylaws, all service changes must be reviewed and approved by their respective Service Council(s). Public hearings are usually held at the same location where the Service Councils hold their meetings but may be held at other locations ~~at their discretion in order to be more accessible to those customers who would be affected by the proposed service changes.~~ When a major service change program ~~requires three or more requiring the associated~~ Councils to hold public hearings ~~affects three or more service regions.~~

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thus, an additional hearing will be held at a central location, normally at the Metro headquarters building, on an appropriate Saturday. In accordance with Metro's Administrative Code in Chapter 2-50 Public Hearings Subsection 2-50-020, Metro will hold a public hearing on all major service change or fare change proposals that are subject to a Title VI Equity Analysis. These proposals are subject to Metro Regional Service Council and Metro Board approval.

6.6 Implementing Minor Changes on an Interim Basis

Minor service changes are generally route modifications that can be accommodated without impacting the vehicle or operator requirements of the service. Minor service changes do not require a public hearing but are shared with the relevant Service Councils as a courtesy and can be implemented at the discretion of staff.

APPENDICES

APPENDIX A: Metro Line Identification

The purpose of establishing transit service line identification standards is to create a simple way for customers to identify, locate, and reference Metro services, and thereby make the services easier for customers to use.

The line identification standards shall be adhered to when identifying Metro Bus and Metro Rail lines by name. The standards shall be implemented across all internal and external mediums including but not limited to, rail station signs, bus stop signs, bus station signs, vehicle head signs, vehicle destination signs, timetables, ~~the Metro Transit Trip Planner,~~ HASTUS and ATMS¹⁴. The descriptions and chart below help explain the standards, and how and when they should be implemented.

General Standards

- Transit ~~service~~ lines will be identified using a combination of line number, destinations (both terminals) and the corridor(s) the line travels along. Metro Rail and Metro BRT service which previously used the established operational names (e.g., Metro Red Line, Metro Purple Line, Metro Orange Line) are being transitioned to ~~names based on~~ a letter-based designation. To ensure consistent usage of transitional naming for Rail and BRT lines, updates to customer information should be referred to the Communications Department.
- Acceptable destination names include a city, community, major landmark, transit center or rail station. Street intersections are no longer to be used as a destination; unless the intersection is required to identify short-line service.
- The destination points will be listed in a West to East or North to South order, consistent with how the line would be read on a map. Destinations on head signs, destination signs, timetables, and physical signage must always be consistent.
- Lines that have Downtown LA as one of the line's end points will list its first, as Downtown LA.
- The name of the line will also list at least one major corridor on which it travels.
- Name abbreviations, street extensions and other topics will be dictated by the Metro Signage Guidelines.

Printed Materials and Electronic Customer Information

- The line will be presented using the full name, listing both the destinations and major corridor(s).
- Printed materials include, but are not limited to, timetables, service change announcements, brochures, system maps, and service reports.

¹⁴ HASTUS (Horaires et Assignments pour Systems de Transport Urban et Semi-Urban) refers to the software used to create schedules. ATMS (Advanced Transportation Management System)

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- Electronic customer information includes the line information presented on ~~metro.net~~metro.net and underlying electronic databases such as HASTUS and ATMS.
- ~~The Metro Transit Trip Planner~~Trip Planners and mobile applications providing real-time data to riders will present the line name similarly to what will be shown on the vehicle head sign and bus stop sign, so customers can easily locate the appropriate line at the stop.

Rail Station Signage

- The line will be presented using the line letter designation, and destination point that the vehicle is traveling to in each direction.

Bus Stop Signage

- The line will be presented using the line number, service brand, color and destination point that the vehicle is traveling to in each direction.
- The main corridor(s) will also be listed as well as special service qualifiers including, but not limited to, rush-hour service and weekday-only service.
- Short-line trip destinations will not be shown on bus stop signs.

Bus Route Numbering Convention

Bus line numbers are assigned to indicate the type of service provided and where the line travels.

<u>Line Numbers</u>	<u>Type of Service</u>
<u>1-99</u>	<u>Travel into downtown Los Angeles, referencing general corridors consecutively in a counterclockwise rotation</u>
<u>100s</u>	<u>Operate from east to west and travel outside of downtown Los Angeles</u>
<u>200s</u>	<u>Operate from north to south and travel outside of downtown Los Angeles</u>
<u>300s</u>	<u>Metro Local buses with limited stop service</u>
<u>400s</u>	<u>Arterial express bus services to/from downtown Los Angeles</u>
<u>500s</u>	<u>Freeway express bus services outside of downtown Los Angeles</u>
<u>600s</u>	<u>Operate local shuttle bus service</u>
<u>700s</u>	<u>Metro Rapid bus service</u>
<u>800s</u>	<u>Bus bridges for the rail network</u>
<u>900s</u>	<u>Metro Liner bus service</u>

Vehicle Head Signs

- Head signs will list the destination in which the vehicle is traveling towards in one frame.
- Head signs on Rail and BRT vehicles will list the line letter designation in one frame.
- For short-line trips, the line number and destination shown will be the destination of that trip and not of the entire line.
- When the line is not in service, the sign will read “Not in Service” and display the route number per Operations Notice #09-18.

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- Name abbreviations, street extensions and other topics will be dictated by the Metro Signage Guidelines.

Automatic Voice Announcements

- External On-Board Announcements:
 - The line will be identified in automatic external voice announcements using the line number and destination point that the vehicle is traveling to in each direction.
 - For short-line trips, the destination noted will be the destination of that trip and not of the entire line.
- Internal On-Board Announcements:
 - When the automatic voice announcement system identifies a stop, the end destination of that line will follow.
 - The stops and stations announced onboard should be consistent with names used on maps, timetables and other printed materials.

Assigning Line Identifiers









It is expected that the standards will be easily applied to the majority of lines; however, it is also understood that exceptions will have to be made for some lines due to unfamiliar end points or corridors, or where temporary solutions are necessary due to construction, temporary service changes, or pilot program deployment. In these limited cases, Service Planning staff and Communications must be in consensus regarding these changes before deciding to deviate from the standards. The Stop and Zones Department may also deploy temporary signage at bus and rail facilities as needed when emergency closures or other service changes impact scheduled service. For detailed guidance on using Metro signage standards, Metro Signage and Environmental Graphic Design Standards documents may be obtained from the Communications Department.

Prior Designation	Updated Designation	Updated Line Badge
Blue Line	A Line	
Red Line	B Line	
Green Line	C Line	
Purple Line	D Line	
Expo Line	E Line	
Orange Line	G Line	
Silver Line	J Line	
Gold Line	L Line	

Metro's Rail Line Identification, Naming, and Color Conventions

Rail and BRT lines previously denoted by a color ~~will transition~~transitioned to a letter/color combination beginning in November 2019 ~~when the Metro Blue Line reopens after an extended upgrade. Metro's BRT lines will also transition to this naming convention.~~ The letters assigned to each rail line generally conform to the order in which each line went into operation. ~~The current planned designations are depicted in the adjacent chart.~~

~~The current planned designations follow:~~

Prior Designation	Updated Designation	Updated Line Badge
Blue Line	A Line	
Red Line	B Line	
Green Line	C Line	
Purple Line	D Line	
Expo Line	E Line	
Orange Line	G Line	
Silver Line	J Line	
Gold Line	L Line	

The Gold Line has been assigned the letter L for clarity and consistency systemwide ~~while. The service plans are being developed~~plan for the Regional Connector Project. ~~When will result in the Regional Connector is completed, L designation being phased out and the appropriate~~relevant sections of the Gold Line will become the A Line ~~to Azuza~~ or the E Line.

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to East LA. The Crenshaw Line will be known as the K Line with a pink color.

APPENDIX B: Los Angeles County Local Fixed and Demand Response Route Transit Operators

Operator	Municipal	Local Return	General Dial a Ride	Special Purpose Dial a Ride	Municipal	Local Return	General Dial a Ride
		• Baldwin Park		X			
Orange Valley Transit Authority (AVTA)		Member cities served by Foothill Transit continued					
		• Bradbury					
		• Claremont					
		• Covina	X				
		• Diamond Bar	X				
		• Duarte					
		• Glendora					
		• Industry		X			
		• Irwindale	X				
		• La Puente	X				
		• La Verne	X				
		• Monrovia	X				
		• Pasadena					
		• Pomona					
		• San Dimas	X				
		• South El Monte					
		• Temple City					
		• Walnut	X				
		• West Covina	X				
		Gardena	X		X	X	
		Glendale	X			X	
		Glendora	X			X	
		Hawaiian Gardens				X	X
		Hawthorne	X			X	
		Hermosa Beach				X	
		Huntington Park				X	
		Inglewood	X			X	
		La Cañada Flintridge	X			X	X
		La Habra Heights	X			X	X
		La Mirada	X				X
		La Puente		X		X	
		La Verne	X				
		Lakewood	X				
		Lawndale	X			X	
		Lomita	X				
		Long Beach			X	X	
		Los Angeles	X		X	X	
		Los Angeles County				X	

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Operator	Municipal	Local Return	General Dial a Ride	Special Purpose Dial a Ride	Municipal	Local Return	Gen Dial a	Inserter Cells
Beach	Santa Clarita Valley Transit (SCVT) serves							Inserter Cells
	• Santa Clarita	X			X	X		Inserter Cells
	• Portions of Unincorporated Los Angeles County	X						Inserter Cells
Mark	Santa Fe Springs					X		Inserter Cells
	Santa Monica	X			X	X		Inserter Cells
s Estates	Sierra Madre	X				X		
	Signal Hill	X					X	X
	South El Monte	X					X	
	South Gate	X				X		Inserter Cells
ach	South Pasadena	X				X		Inserter Cells
	Temple City	X					X	X
	Torrance	X			X	X		Inserter Cells
s Estates	Walnut	X						Inserter Cells
	West Covina	X				X		Inserter Cells
do	West Hollywood					X		Inserter Cells
	Westlake Village		X			X		Inserter Cells
Gabriel	Whittier	X				X		Inserter Cells
	Total	X	X		1213	6269		Inserter Cells
				X				Inserter Cells

Many of the Local Return systems listed above do not provide fixed route service but instead provide Demand Response services: Hawthorne, Malibu, and Manhattan Beach are examples.

Los Angeles County
Metropolitan Transportation Authority

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**Board Report**

File #: 2022-0760, **File Type:** Policy**Agenda Number:** 36.

**OPERATIONS, SAFETY AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022****SUBJECT: MANUFACTURING CAREERS POLICY****ACTION: APPROVE RECOMMENDATION****RECOMMENDATION**

ADOPT the Manufacturing Careers Policy (MCP), to administer the United States Employment Program (USEP) for federally funded Rolling Stock contracts and the Local Employment Program (LEP) for non-federally funded Rolling Stock Contracts (Attachment A).

ISSUE

This Board Action is required to combine Metro's USEP and LEP program into the new Manufacturing Careers Policy for rolling stock (refer to Attachment A) and to provide for necessary modifications based upon lessons learned. Recognizing the growth in Metro's transit operations, capital infrastructure program, and associated procurements for manufactured transit equipment, Metro's MCP objectives are: to increase quality job creation and career development for low-income residents facing barriers to employment, to maximize equitable outcomes and economic resiliency in disadvantaged communities, and to maximize career investments in new or existing manufacturing/assembly facilities in the United States and Los Angeles County.

BACKGROUND

Metro was the first agency in the United States to utilize the USEP and the LEP. Both programs stipulate a minimum of 10% disadvantaged workers on Rolling Stock procurements. In addition, the USEP requires the workers to be located within the United States, while the LEP requires the workers to be within the State of California. As a result of the USEP and LEP provisions being included in previous Contracts, over \$20 million of wages & benefits have been allocated to new jobs to date. In addition, implementing the USEP and LEP has led to over \$14 million in local facility investments by transit vehicle manufacturers.

Throughout its inception, the USEP and LEP programs have elevated job creation for a broad range of careers in Rolling Stock design, manufacturing, and maintenance. The USEP and LEP demonstrate Metro's commitment to creating good local jobs and training programs and generating unprecedented opportunities for historically underserved communities.

The Federal Transit Administration (FTA) first authorized Metro to utilize the United States Employment Program (USEP) on federally funded Rolling Stock procurements for light and heavy rail vehicles and transit buses in 2011. Metro subsequently established the Local Employment Plan (LEP) for non-federally funded Rolling Stock contracts in 2017.

DISCUSSION

Staff has created a Manufacturing Careers Policy (MCP) to combine and establish the internal guidelines for the US Employment Program (USEP) and Local Employment Program (LEP). The objective of the MCP is to maximize the economic co-benefits from investments in transit equipment, infrastructure, and related services. Staff recommends the adoption of the MCP as a mechanism for Metro to leverage investments in the manufacturing of Rolling Stock.

The combination of the USEP and LEP into the MCP will result in:

- Lowering the dollar threshold of the procurement size for USEP and LEP applicability (lowered from \$100 million to \$50 million), thereby potentially covering more contracts and providing the defined workforce benefits to a larger population pool;
- Requiring the implementation of the USEP or LEP as a contractual requirement on applicable contracts, as opposed to offering bonus evaluation points to proposers that commit to the USEP or LEP as an optional element;
- Adding remedies for contractual non-compliance with the USEP or LEP (as allowed by law and as approved by the Federal Transit Administration, to potentially include liquidated damages, withholding of progress payments, and performance bond applicability);
- Adding a retained workers category (workers employed by the proposer before the Metro contract award) to provide long-term career opportunities for new hires under the USEP and LEP (to facilitate the career movement of new hires on one contract to other contracts);
- Clearly defining terms of the MCP, among other updates.

Recognizing the growth in Metro's transit operations, capital infrastructure program, and associated procurements for manufactured transit equipment, Metro's MCP objectives are: to increase quality job creation and career development for low-income residents facing barriers to employment, to maximize equitable outcomes and economic resiliency in disadvantaged communities, and to maximize career investments in new or existing manufacturing/assembly facilities in the United States and Los Angeles County.

The Manufacturing Careers Policy will be applied to all Rolling Stock procurements and related contracts with a minimum contract value of \$50 million (reduced from the current threshold of \$100

million) and at Metro's discretion to related pilot technology contracts. Furthermore, solicitation and contract provisions will be in-line with the MCP, including but not limited to: weighted USEP or LEP evaluation factors that represent 5% of the overall possible points in a Best Value RFP and contractual provisions allowing Metro to withhold milestone payments and/or apply other remedies allowed by law.

Adopting the MCP is in-line with the Metro Board's approval of a Project Labor Agreement and Construction Careers Policy for its construction contracting program. The MCP, combined with the PLA and the CCP, ensure that Metro creates opportunities for disadvantaged workers in sectors it is heavily investing in: construction contracting and rolling stock manufacturing.

DETERMINATION OF SAFETY IMPACT

Approval of the Manufacturing Careers Policy will not impact the safety of Metro manufacturing workers and patrons. Metro Operations and Safety will carefully review any future developments resulting from the MCP policy.

FINANCIAL IMPACT

No Financial Impact.

EQUITY PLATFORM

Metro's USEP and LEP enhance equity for marginalized and vulnerable community members by creating employment opportunities in the manufacturing industry for individuals with historical barriers to employment, such as those experiencing homelessness, single custodial parents, receiving public assistance, lacking GED or high school diploma, criminal record or history with criminal justice system, chronically unemployed, emancipated from foster care and/or veterans. To date, USEP/LEP applicable Rolling Stock Contracts have generated over \$20 million dollars in wages & benefits to new hire workers, with over \$2 million dollars in wages and benefits paid to disadvantaged workers. The USEP and LEP mandate a minimum of 10% disadvantaged hiring requirements. In addition, the implementation of the USEP and LEP has led to over \$14 million in local facility investments by transportation vehicle manufacturers.

Approval of the MCP will lower the threshold for the Rolling Stock contract's applicability to the USEP and LEP from \$100 million to \$50 million. A lower threshold will potentially lead to a higher volume of Rolling Stock contracts that will be subject to the USEP and LEP and directly impact the level of increased opportunity for individuals who have faced historical barriers to employment and are considered disadvantaged.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Metro's MCP supports strategic plan goal #3 to enhance communities and lives through mobility and access to opportunity. Metro's MCP provides employment opportunities for individuals from disadvantaged and socially barriered backgrounds and also enhances the economic stability within the United States through new job creation and local facility investments.

NEXT STEPS

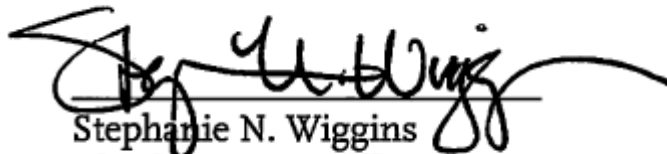
Staff will monitor contractor compliance with the requirements of the MCP and ensure that corresponding solicitation and contractor language match the Policy.

ATTACHMENTS

Attachment A - Manufacturing Careers Policy

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Stephanie N. Wiggins
Chief Executive Officer

MANUFACTURING CAREERS POLICY

(Combining Policy for US Employment Program and Local Employment Program)

POLICY STATEMENT

This Manufacturing Careers Policy (MCP) describes the Los Angeles County Metropolitan Transportation Authority's jobs, equity, and training programs in its procurements for Rolling Stock.

The Los Angeles County Metropolitan Transportation Authority ("Metro") Board of Directors' policy objective is to maximize the economic co-benefits from investments in transit equipment, infrastructure, and related services. Metro can leverage its investments in transit projects to support the creation of new, high-quality jobs. Recognizing the growth in Metro's transit operations, capital infrastructure program, and associated procurement for manufactured transit equipment, Metro's objectives are to maximize:

- Quality job creation and career development for low-income residents and those facing barriers to employment.
- Equity outcomes and economic resiliency in disadvantaged communities; and
- Investments in new or existing manufacturing/assembly facilities in the United States and Los Angeles County.

Metro can achieve these critical objectives by incorporating a US Employment Plan (USEP) (for projects using federal funds) or Local Employment Plan (LEP) (for projects using local funds) into Metro's source selection process for awarding new contracts for Rolling Stock.

Under Metro's MCP, proposers' commitments to create and retain quality jobs, to invest in design, manufacturing, commissioning and maintenance facilities in the U.S. and Los Angeles County, to implement robust workforce training programs, and to promote career development for low-income residents and those facing barriers to employment will be factored into Request for Proposal ("RFP") scoring, including on Best Value RFPs, and will become contractual requirements for the selected vendor.

Metro will apply the USEP or LEP (depending on the funding source) to all Metro Rolling Stock Requests for Proposals ("RFPs") and contracts with an Independent Cost Estimate of at least \$50 million and above with the potential of an MCP waiver for pilot technology procurements to be approved at Metro's discretion by Metro's Chief of Strategic Financial Management.

PURPOSE

To combine the USEP and LEP under the MCP, under which prospective Contractors propose minimum commitments on job quality, training, and employment opportunities on covered Metro Rolling Stock procurements.

APPLICATION

This Policy applies to Metro Rolling Stock RFPs and Contracts with an Independent Cost Estimate of at least \$50 million and above with the potential of an MCP waiver for Pilot Technology Procurements to be approved at Metro's discretion by Metro's Chief of Strategic Financial Management.

1.0 GENERAL

1.1 The Diversity and Economic Opportunity (DEOD) and Rolling Stock Units of the Vendor Contract Management ("VCM") Department shall jointly administer this Policy, in coordination with all relevant and responsible departments as assigned under the MCP.

1.2 The following sections describe Metro's procedures for application of the USEP or LEP Policy to competitively negotiated Rolling Stock procurements subject to the MCP. These procedures shall be interpreted and implemented in a manner that is consistent with Metro's Acquisition Procedures for Competitively Negotiated Contracts.

2.0 COVERAGE OF PROJECTS

2.1 Except as provided otherwise herein, this Policy applies to all Rolling Stock RFPs and Contracts with an Independent Cost Estimate of at least \$50 million and above with the potential of an MCP waiver for Pilot Technology Procurements to be approved at Metro's discretion by Metro's Chief of Strategic Financial Management. Such RFPs and Contracts are described in this Policy as "Covered Contracts." Any Rolling Stock RFP containing an MCP waiver for Pilot Technology Procurement shall state prominently that the RFP is exempt from the MCP pursuant to such waiver.

2.2 This Policy's USEP requirements shall apply when a Covered Contract is funded in whole or in part from federal sources. The USEP may not include evaluation criteria that establish geographical preferences in the location of a contract awardee's operations or in the location of the jobs created, absent any new guidance from federal agencies permitting such geographical preferences.

2.3 This Policy's LEP requirements shall apply when a Covered Contract is funded solely from non-federal sources. The RFP and source selection process for a Covered Contract subject to an LEP shall include geographical preferences for New Hires and Retained Workers.

2.4 RFP Development

2.4.1 The Contracting Officer shall apply either the USEP or LEP on each Covered Contract, depending on funding source. Covered Contract

procurements shall be performed in accordance with Metro's Acquisition Procedures for Best Value Selection Process. The Contracting Officer shall develop evaluation factors and sub-factors that identify and promote Metro's Rolling Stock product preferences and the goals of this Policy by establishing the relative weight of evaluation factors, including the weight of the evaluation factors for USEP or LEP commitments. The relative evaluation factor weighting for USEP or LEP commitments shall be set in proportion to other technical and price factors, in coordination with the Project Manager, and as described in Section 2.4.2.

2.4.2 The relative weighting of all RFP factors, including the USEP and LEP commitments shall be documented in the source selection plan created by the Contracting Officer. The weight of the USEP or LEP evaluation factor shall represent 5% of the overall possible points in a Best Value RFP.

2.4.2.1 The USEP or LEP evaluation factor shall be among the totality of factors that equal 100% of the available scoring on the RFP and shall not be applied as voluntary bonus points.

2.4.2.2 The Contracting Officer will score the Proposer's USEP or LEP, and assign points based on the USEP or LEP evaluation factor weighting, based on the Total Dollar Commitment in the USEP or LEP, the quality of the USEP or LEP commitments (including but not limited to the total number of FTEs, the Fringe Benefit Amounts for each classification, the Minimum Hourly Wage Rate for each classification, the commitment to hire Disadvantaged Workers, and the Workforce Training commitment), and responsiveness to the USEP or LEP requirement.

2.4.3 Covered Contract RFP specifications will include the requirement of a USEP or LEP. Covered Contract RFPs shall require, in addition to other applicable RFP requirements, that Proposers include each of the following in a responsive Proposal (the "RFP Proposer Submittal Requirements"):

2.4.3.1 For Covered Contracts requiring a USEP, the Proposer shall include, for itself and for any Subcontractor participating in the USEP: (1) the Total Dollar Commitment, (2) number of projected Full Time Equivalent ("FTE") New Hires and number of projected FTE Retained Workers in the United States claimed for purposes of the USEP, including the location and classifications of the New Hires and Retained Workers; (3) the number of Direct Hours proposed for each job classification that will be filled by New Hires and Retained Workers under the Covered Contract; (3) the job classifications to be utilized for USEP commitments under the Covered Contract; (4) the job location of each New Hire and Retained Worker to be utilized for USEP commitments; (5) the proposed Minimum Hourly Wage Rate to be paid for each job classification utilized for USEP commitments; (6) the proposed minimum Fringe Benefits Amount, if any, for each job classification utilized for USEP

commitments, including a description of each type or category of Benefit to be provided, a description of the methodology used to calculate the minimum Fringe Benefits Amount for each category of Benefits, eligibility criteria for each category of Benefit, any projected co-premium or other employee-paid cost for each category of Benefit, and projected utilization rates by New Hires and Retained Workers; (7) the minimum hourly Overtime Pay Rate to be paid for each job classification utilized for USEP commitments.

2.4.3.2 For Covered Contracts requiring an LEP, in addition to the categories of information required under Section 2.4.3.1, the Proposer shall include, for itself and for any Subcontractor participating in the LEP, the location in Los Angeles County of each proposed FTE New Hire and Retained Worker.

2.4.3.3 For all Covered Contracts, the Proposer shall provide the race and gender of Proposer's existing employees (if any exist) as self-identified by the employees in job classifications that will be utilized under the Covered Contract for meeting USEP or LEP commitments. Such information shall not include the names or identifying information of individual employees.

2.4.3.4 For all Covered Contracts, the Proposer and each Subcontractor participating in the USEP or LEP will commit to hire Disadvantaged Workers for a minimum of 10% of the total FTE New Hires and Retained Workers to which the Proposer commits under the USEP or LEP.

2.4.3.5 For all Covered Contracts, the Proposer and each Subcontractor participating in the USEP or LEP shall provide a certification, executed by a corporate officer of the Proposer or Subcontractor under penalty of perjury, affirming that the Proposer or Subcontractor has a Cost Accounting System capable of segregating Direct Hours performed on the Covered Contract from non-Covered Contract hours.

2.4.3.6 For all Covered Contracts, the Proposer shall identify each Subcontractor participating in the USEP or LEP and describe any plan to encourage additional Subcontractors to participate in the USEP or LEP. The RFP shall make clear that Proposers may receive credit toward an USEP or LEP commitment for Subcontractor New Hires and Retained Workers located in the United States (for purposes of a USEP) or Los Angeles County (for purposes of an LEP).

2.4.3.7 For all Covered Contracts, Proposers shall provide a narrative description of the opportunities in skilled and unskilled positions for New Hires and Retained Workers under the Covered Contract, the minimum qualifications necessary for each classification of New Hire and Retained

Worker under the Covered Contract, and a description of whether the USEP or LEP is likely to produce long-term employment in skilled or trade labor for Disadvantaged Workers. Proposers shall include a description of promotion opportunities for New Hires and Retained Workers in entry level and/or semiskilled positions and a description of expected or proposed career ladders for New Hires and Retained Workers.

2.4.3.8 For all Covered Contracts, Proposers shall provide the Total Dollar Commitment for the Covered Contract, the minimum Hourly Wage Rate for each classification, and the minimum Fringe Benefit Amounts for each classification. The RFP shall make clear that payment of at least the minimum Hourly Wage Rate and the minimum Fringe Benefit Amount shall be independent obligations of the Proposer under the Covered Contract.

2.4.3.9 For all Covered Contracts, Proposers and participating Subcontractors shall provide a description of the Workforce Training that will take place under the Covered Contract, including the minimum dollar commitment to be made for Workforce Training in the United States (in the case of a USEP) and in Los Angeles County (in the case of an LEP), including the ways in which Workforce Training provided under the Covered Contract will create transferable, industry-recognized credentials and skills and any proposal to take advantage of publicly or privately funded workforce development programs or registered apprenticeship programs

2.4.3.10 For all Covered Contracts, Proposers and participating Subcontractors shall describe with specificity their proposed outreach, recruitment and retention plan for New Hires and Retained Workers, including proposed strategies for recruiting, training, hiring, and retention of Disadvantaged Workers, any proposed coordination or partnerships with workforce development organizations, community-based organizations, labor organizations, worker centers, faith-based organizations, or other service providers, and any proposed support to ensure the retention of Disadvantaged Workers such as case management services, childcare support, transportation assistance, food insecurity support, access to dental or medical care, or access to mental health resources.

2.4.3.11 For all Covered Contracts, Proposers will provide a USEP (or LEP) project schedule that describes the phasing of Direct Hours by New Hires and Retained Workers. This phasing schedule must coincide with the overall project schedule.

2.4.3.12 For all Covered Contracts, Proposers and participating Subcontractors shall acknowledge that they will be required to submit to Metro and maintain Certified Payroll Records, in a manner requested by Metro, certifying under penalty of perjury the Direct Hours, Wages, and

Benefits paid to New Hires and Retained Workers under the Covered Contract.

2.4.3.13 For all Covered Contracts, Proposers and participating Subcontractors shall describe their proposed means of documenting compliance with the USEP or LEP, including the name, contact information, and credentials of the designated official responsible for overall compliance with the USEP or LEP (the “Plan Administrator”), the name, contact information, and credentials of each participating Subcontractor’s primary official responsible for compliance with the USEP or LEP, and a description of the proposed mechanisms for maintaining and submitting accurate information to Metro and for documenting timely compliance with USEP or LEP commitments.

2.4.4 The RFP shall make clear that only Direct Hours of New Hires and Retained Workers, segregated under a Cost Accounting System, may be counted toward USEP or LEP commitments.

2.4.5 Proposers shall provide responses to each of the RFP requirements set forth in Section 2.4.3 using common forms designated by the Contracting Officer, which shall include a Labor Value Form containing the proposals required in Sections 2.4.3.1 or 2.4.3.2, 2.4.3.8, and 2.4.3.11, and a Narrative Form describing USEP or LEP commitments for the other requirements.

2.4.6 The Contracting Officer shall perform a Proposer Responsiveness and Responsibility determination of all Proposers in accordance with Metro’s Acquisition Procedures for a Best Value Selection Process. The Contracting Officer will use the RFP Proposer Submittal Requirements contained in subsections 2.4.3.1 to 2.4.3.13 to establish a checklist of proposal elements that will aid in determining a Proposer’s Responsiveness to the USEP or LEP requirements.

2.4.7 The Contracting Officer’s Responsiveness determination will ensure that the Proposer has fully responded to each of the RFP Proposal Submittal Requirements.

2.5 Contract Provisions

2.5.1 The Contracting Officer shall develop all terms and conditions for Covered Contracts in accordance with Acquisition Procedures for Negotiated Procurements. In addition to General and Special Conditions developed specifically for Rolling Stock projects, the Contracting Officer shall develop and include Special Conditions in the final executed Covered Contract reflecting the Contractor’s and any Subcontractors’ USEP or LEP commitments, including each of the Special Conditions set forth in this Section 2.5:

2.5.2 A contractual provision requiring achievement of each commitment set forth

in the USEP or LEP, including but not limited to the Total Dollar Commitment, the payment of minimum Hourly Wage Rates and Fringe Benefit Amounts, the commitment on Workforce Training, and the commitment on hiring Disadvantaged Workers.

2.5.3 A contractual provision defining Direct Hours, New Hires, Retained Workers, Hourly Wage Rate, Fringe Benefit Rate, Benefits, Total Dollar Commitment, Workforce Training, Disadvantaged Workers, and all other relevant terms in a manner consistent with this Policy.

2.5.4 A contractual provision committing the Contractor and each Subcontractor to maintain a Cost Accounting System capable of segregating Direct Hours on an individual basis for each New Hire and Retained Worker.

2.5.5 A contractual provision requiring the Contractor and each participating Subcontractor to maintain and submit Certified Payroll Records in a manner consistent with Section 2.6 of this Policy.

2.5.6 A contractual provision requiring the Contractor and each participating Subcontractor to submit compliance reports (the “Quarterly Reports”) on a quarterly basis containing the total Direct Hours, the actual hourly wage rate, the Fringe Benefit Amounts, and the total wages (including overtime wages) for each New Hire and Retained Worker during the reporting period, and describing expenditures on Workforce Training and hiring of Disadvantaged Workers during the reporting period.

2.5.7 A contractual provision prohibiting a Contractor or participating Subcontractor from retaliating against an employee who uses the complaint procedure established under Section 2.6.2.

2.5.8 A contractual provision permitting Metro to exercise all of the rights and remedies under Contract for USEP/LEP non-compliance, including but not limited to the withholding of Milestone Payments and other periodic payments in the event of a Material Violation of the USEP or LEP and the retention of such withheld Milestone Payments or other periodic payments unless and until the Material Violation is corrected, as described in Section 2.6.

2.6 Compliance, Reporting, and Enforcement

2.6.1 Prior to start of work on the Covered Contract, the Contractor shall provide to the responsible person at DEOD the name, contact information, and credentials of a Jobs Coordinator responsible for coordinating compliance with Disadvantaged Worker outreach, recruitment, and retention. The Jobs Coordinator may be the same person as the Plan Administrator. The Jobs Coordinator shall be responsible for the following: (1) developing and marketing specific programs to attract Disadvantaged Workers for Final Assembly and Manufacturing opportunities on the Project; (2) coordinating services for the Contractor and participating Subcontractors to use in the recruitment of Disadvantaged Workers; (3) conducting

orientations, job fairs and community outreach meetings in the local community; (4) screening and certifying the status of individuals as Disadvantaged Workers, while protecting such individuals' privacy; (5) establishing a referral and retention tracking mechanism for placed Disadvantaged Workers; (6) networking with the various workforce development organizations, community-based organizations, labor organizations, worker centers, faith-based organizations, and/or other service providers that provide qualified Disadvantaged Workers; (7) serving as the point of contact to provide information to Disadvantaged Workers about available job opportunities under the Covered Contract; and (8) assisting the Contractor and participating Subcontractors in documenting attainment of Disadvantaged Worker hiring commitments.

2.6.2 DEOD will create and implement an employee complaint program, allowing Contractor and Subcontractor employees to file confidential complaints with DEOD about alleged non-compliance with the MCP, or with a commitment under a USEP or LEP. DEOD shall investigate each such complaint. Such employee complaint program shall include a telephone and e-hotline that employees may utilize.

2.6.3 DEOD shall create and implement an education program designed to inform Contractor and Subcontractor employees about the MCP and the USEP or LEP provisions of the Covered Contract, as well as the complaint procedures implemented under Section 2.6.2, as described in full in the MCP Procedures document.

2.6.4 DEOD shall conduct periodic random inspections of Contractor and participating Subcontractor facilities to assess compliance with USEP and LEP commitments.

2.6.5 If requested by DEOD or the Contract Administrator, Metro's Management Audit Services Department ("MASD") shall perform an Agreed Upon Procedures ("AUP") review of Contractor and participating Subcontractor USEP or LEP compliance. Such AUPs shall occur: (a) on a regular basis, including upon the Contractor reporting the achievement of 50% of the Total Dollar Commitment and upon the Contractor reporting the achievement of the Total Dollar Commitment; and (b) as needed to assess compliance with USEP or LEP commitments including, but not limited to, payment of minimum Hourly Wage Rates and minimum Fringe Benefit Amounts, progress toward the Total Dollar Commitment, and attainment of Disadvantaged Worker hiring commitments. Such MASD AUPs shall not substitute for the other compliance procedures described in this Policy.

2.6.6 In the event that DEOD or the Contracting Officer determines that a Contractor or participating Subcontractor has not complied with a USEP or LEP commitment, Metro will notify the Contractor in writing and provide the Contractor with 30 days to provide evidence that it or the participating Subcontractor has corrected such non-compliance. If such non-compliance constitutes a Material Violation and is not corrected to Metro's satisfaction within such a 30-day period (or longer as Metro may in its discretion allow), Metro may

exercise all remedies available under the Covered Contract, including withholding of Milestone Payments or other progress payments, as set forth in Section 2.6.7.

2.6.7 Metro shall have the contractual right to retain Milestone Payments or other regular payments if it determines a Contractor or participating Subcontractor has committed a Material Violation of the USEP or LEP. In event that a Material Violation is not corrected within the 30-day period described Section 2.6.6 is not corrected, Metro shall withhold an amount from the next Milestone Payment or other regular payment in an amount commensurate with the Material Violation. If the Contractor or participating Subcontractor fails to provide evidence to Metro's satisfaction that it has cured the Material Violation within 60 days following the Contractor's or participating Subcontractor's notification of the Material Violation, Metro may elect to permanently retain the withheld funds. All permanently retained monies representing underpayment of minimum Hourly Wage Rates or minimum Fringe Benefits Amounts shall be remitted to the employees so underpaid.

2.6.8 Metro shall include a contractual provision in each Covered Contract giving it the right to exercise all of its rights and remedies under the Contract in the event of a Material Violation. Metro's rights and remedies shall include, but not be limited to the following:

2.6.8.1 In the event of a Material Violation involving the failure to meet the Total Dollar Commitment in the USEP or LEP, Metro shall withhold an amount equal to the difference between the Total Dollar Commitment and the documented total wages and benefits for Direct Hours multiplied by the documented number of Direct Hours.

2.6.8.2 In the event of a Material Violation involving the failure to pay minimum Hourly Wage Rates or minimum Fringe Benefit Amounts, wage restitution shall be in the amount of such underpayments and shall be remitted to the Contractor's or participating Subcontractor's employees so underpaid.

2.6.8.3 Metro reserves the right, subject to further direction by the Department of Transportation, to assess liquidated damages due to a Material Violation of the Contract.

2.7 Certified Payroll Reports

2.7.1 Each Contractor and each participating Subcontractor shall submit to DEOD, and maintain for the duration of the Covered Contract and for a period of three years following the conclusion of the Covered Contract, Certified Payroll Reports for each bi-weekly pay period. Such Certified Payroll Reports shall comply with the following requirements, and such other requirements as Metro may include in the Covered Contract.

2.7.2 Each Certified Payroll Report shall list the name, address, and social security

number of each New Hire and each Retained Worker who performed Direct Hours on the Covered Contract during the bi-weekly pay period.

2.7.3 Each Certified Payroll Report shall list the Direct Hours, actual wage rate, total Fringe Benefit Amounts paid by type of Benefit, and total wages for the pay period for each New Hire and each Retained Worker who performed Direct Hours on the Covered Contract during the bi-weekly pay period. In the event that the New Hire or Retained Worker performed both Direct Hours and non-Covered-Contract work during the pay period, the Certified Payroll Report shall list both the Direct Hours and the non-Covered-Contract hours, as well as the total wages attributable to Direct Hours and the total wages for all hours.

2.7.4. Certified Payroll Records shall be in a form, and subject to submission procedures, required by Metro.

3.0 DEFINITION OF TERMS

3.1 BENEFITS means health insurance or care, dental insurance or care, additional employee insurance such as disability or life insurance, pension and retirement contributions, and supplemental pay such as vacation and sick leave for employees performing work on the Covered Contract. Government required payments such as workers compensation, unemployment insurance, FICA, Medicare taxes and Social Security may not be counted as Benefits for purposes of the USEP or LEP.

3.2 CHRONICALLY UNEMPLOYED INDIVIDUAL means a person suffering from chronic unemployment who has not had a job for at least 27 consecutive weeks and is currently available for work.

3.3 CONTRACTOR means a party to an executed Covered Contract with Metro.

3.4 COST ACCOUNTING SYSTEM means an internal accounting system that allows Proposers and Contractors to segregate and account for Direct Hours on an individual-worker basis for each .

3.5 DIRECT HOURS means hours of work performed by a New Hire or Retained Worker on a Covered Contract that are segregable under a Cost Accounting System.

3.6 DISADVANTAGED WORKER means an individual who, at the time of hiring, satisfies at least one of the following eight categories: 1) homeless; 2) single custodial parent; 3) receiving public assistance; 4) lacking a GED or high school diploma; 5) criminal record or history with the criminal justice system; 6) chronically unemployed; 7) emancipated from foster care; or 8) veteran.

3.7 FRINGE BENEFITS AMOUNTS means the amounts paid by a Contractor or

participating Subcontractor for Benefits on the Covered Contract for a defined period of time (for example, an hourly rate, a monthly rate, or an annual rate). Contractors or participating Subcontractors that provide self-insured medical or dental benefits shall use the annual amounts calculated by the health care plan broker (or any derivative company) for different benefit levels ('Representative Premiums') for purposes of calculating employee co-premiums. The Contractor or participating Subcontractor should then determine the plan type and level selected by each employee subject to the USEP/LEP. Each employee's Representative Premium should deduct any co-premiums actually paid by the employee from that amount ('Adjusted Representative Premium'). If the employee declined medical or dental benefits, the Contractor shall only count the amount it paid in the form of a declination payment. The resulting Adjusted Representative Premium amounts for employees shall be included in any compliance report to LA Metro. In estimating Fringe Benefit Amounts for a USEP/LEP labor value form and in reporting on Fringe Benefit Amounts paid by a Contractor in a Quarterly Report, a Contractor must deduct any amounts paid in co-premiums by employees from the amounts included. The Fringe Benefit Amounts shall be capable of being represented as an hourly rate using a methodology agreed upon by the Contractor and Metro.

3.8 FTE means full-time equivalent employee, which is the mathematical equivalent of one full-time employee based on 2080 hours worked per year. Two part time employees with a minimum of 20 hours per week may be recognized as one FTE.

3.9 HIRE means a natural person employed by a Contractor or participating Subcontractor to perform work on a Covered Contract who resides in the United States. The term "Hire" does not include: (a) a current employee who does not work on the Covered Contract; (b) a former, furloughed, and/or laid off employees who is separated from employment with a Contractor or Subcontractor on or after the date of Metro's Notice of Intent to Award unless they are rehired to work on the Covered Contract; (c) employees hired by a Contractor or Subcontractor to work on other projects to fill in or replace current employees reassigned to the Covered Contract; (d) an individual whose hours and costs cannot be segregated and audited pursuant to internal Cost Accounting Systems of the Contractor or Subcontractor; (e) work conducted outside of the United States. A Hire must: (i) be a direct, permanent employee; (ii) be paid directly by the Contractor or Subcontractor; (iii) have activities, schedule, and manner of work controlled by the Contractor or Subcontractor; (iv) receive pay and Benefits in the same manner as permanent employees; and (v) be supervised by a manager directly employed by the Contractor or Subcontractor.

3.10 HISTORY WITH THE CRIMINAL JUSTICE SYSTEM means direct involvement through having an arrest record, convictions, sentences, dismissals, or not guilty verdicts.

3.11 HOMELESS INDIVIDUAL

(A) means an individual who lacks a fixed, regular, and adequate

nighttime residence; and
(B) includes—

- (i) an individual who—(I) is sharing the housing of other persons due to loss of housing, economic hardship, or a similar reason; (II) is living in a motel, hotel, temporary RV or trailer park, or campground due to the lack of alternative adequate accommodations; (III) is living in an emergency or transitional shelter; or (IV) is abandoned in a hospital.
- (ii) an individual who has a primary nighttime residence that is a public or private place not designed for or ordinarily used as a regular sleeping accommodation for human beings.

3.12 HOURLY WAGE RATE means the minimum Hourly Wage Rate to each New Hire and/or Retained Worker for the relevant job classification.

3.13 INDEPENDENT COST ESTIMATE is a tool to assist in determining the reasonableness or unreasonableness of a Proposal being evaluated and is required for all procurements receiving federal funding regardless of dollar amount. FTA Circular 4220.1F, Ch. VI, Para. 6, advises grantees to “perform a cost or price analysis in connection with every procurement action, including contract modifications . . . The starting point for these cost/price analyses is an independent cost estimate which is made before receiving bids or proposals.” The Best Practices Procurement Manual (BPPM), Section 5.2 - Cost and Price Analysis, suggests that the independent estimate can range from a simple budgetary estimate to a complex estimate based on inspection of the product itself and review of items like drawings, specifications and prior procurement data.

3.14 LOCAL EMPLOYMENT PLAN (LEP) means the program to include local/geographic based labor hiring preferences and economic-based labor hiring preferences on locally funded Rolling Stock procurements. The LEP must also contain the information and supporting documentation requested in the RFP.

3.15 MANUFACTURING OR MANUFACTURE means all activities relating to the engineering, design, and production of the component parts of the vehicles produced under the Covered Contract in the United States except for the Final Assembly of such vehicles.

3.16 MATERIAL VIOLATION means a material failure to comply with or satisfy a USEP or LEP commitment, including but not limited to the failure to submit any required report or requested documentation related to USEP or LEP compliance within 30 days after the due date specified in the Contract or as requested in writing by Metro; the underpayment of the minimum Hourly Wage Rate or minimum Fringe Benefit Amount; and the submission of substantially false or misleading information in required reports or requested documentation related to USEP or LEP compliance.

Minor irregularities, informalities or apparent clerical mistakes in any report or minor deficiencies in the compliance with USEP or LEP commitments shall not be considered a Material Violation.

- 3.17 MILESTONE PAYMENT** means a mandated payment by Metro to the Contractor at a certain stage of performance of the Contract.
- 3.18 NEW HIRE** means a Hire whose first day of employment will be on or after the date the Covered Contract begins.
- 3.19 NEW DISADVANTAGED WORKER** means a New Hires who qualifies as a Disadvantaged Worker.
- 3.20 PILOT TECHNOLOGY PROCUREMENT** means a small-scale preliminary procurement, with an Independent Cost Estimate of not more than \$60 million, conducted to evaluate new technology, feasibility, duration, cost, adverse events, and to improve upon vehicle or equipment design prior to performance of full-scale implementation.
- 3.21 PROJECT** means performance of the Contract, including the engineering, design, production, delivery, assembly, acceptance, testing, maintenance, and warranty coverage requirements for the Contract Base Order and Option quantities.
- 3.22 PROPOSAL** means a submission to Metro in response to an RFP, required in order to be eligible for award of a Contract. A Proposal includes a price Proposal, a Technical Proposal, and other elements.
- 3.23 PROPOSER** means an entity that submits a Proposal and that would serve as the Contractor if awarded the Contract.
- 3.24 RETAINED WORKER** means a natural person who was an employee of the Contractor or Subcontractor prior to the commencement of work on the Covered Contractor and whom the Contractor or Subcontractor retains to perform work on the Covered Contract. A Retained Worker must: (a) be a direct, permanent hire; (b) be paid directly by the Contractor or Subcontractor; (c) have activities, schedule, and manner of work controlled by the Contractor or Subcontractor; (d) receive pay and Benefits in the same manner as other permanent employees; and (e) be supervised by a manager directly employed by the Contractor or Subcontractor (f) be on active payroll for 60 of the previous 100 days.
- 3.25 ROLLING STOCK** means transportation equipment utilizing railways or paved roads, including automotive vehicles, buses, vans, cars, railcars, railroad cars, locomotives, trolley cars and buses, and ferry boats, as well as vehicles used for support services.

- 3.26 SINGLE CUSTODIAL PARENT** means an individual who: (a) is unmarried, widowed, legally separated from a spouse and not remarried or married, spouse absent; and (b)(i) has a minor child or children under age 18 for which the parent has either custody or joint custody; or (ii) is pregnant.
- 3.27 SUBCONTRACTOR** means any entity entering into a contract with the Contractor for the performance of work under the Covered Contract from a facility located in the United States, including suppliers producing or supplying vehicle component parts.
- 3.28 TOTAL DOLLAR COMMITMENT** means the total dollar value of the sum of the minimum Hourly Wage Rate and minimum Fringe Benefit Amounts multiplied by the total Direct Hours for all New Hires and Retained Workers committed to by the Contractor and all participating Subcontractors in the USEP or LEP proposal.
- 3.29 TOTAL HOURLY WAGE** means the minimum Hourly Wage Rate and minimum Fringe Benefit Amount, if any, to each New Hire and Retained Worker for the relevant job classification.
- 3.30 U.S. EMPLOYMENT PLAN (USEP)** means a written description of the number and quality of U.S. jobs to be created and/or retained under a Proposal pursuant to a prospective Contract award. A U.S. Employment Plan will contain the elements and forms set forth herein as requested in the U.S. Employment Plan Forms. The U.S. Employment Plan must also contain the information and supporting documentation requested in the RFP.
- 3.31 U.S. FACILITY** means a physical plant, factory or office located within the 50 states, District of Columbia, or territories of the United States.
- 3.32 VETERAN** means a person who served in the active military, naval, or air service and who was discharged or released under conditions other than dishonorable.
- 3.33 WORKFORCE TRAINING** means a program that will create permanent, industry recognized credentials and/or skills that are stackable, transportable, and/or transferable for New Hires and/or Retained Workers under a Covered Contract, including all activities related to the provision of skills, knowledge and capacity to New Hires and/or Retained Workers working on the Covered Contract. Allowable expenditures for Workforce Training under a USEP or LEP may include: (a) funds spent on teachers, trainers or special equipment to help New Hires and/or Retained Workers build the skills necessary to successfully work on the Covered Contract; (b) wages and Fringe Benefit Amounts spent on experienced Contractor or Subcontractor employees not providing Direct Hours on the Covered Contract for work time during which those experienced employees provide documented on-the-job training to New Hires and/or Retained Workers; (c) sums paid by a Contractor or Subcontractor to an outside workforce development program, so long as the skills acquired in such program is related to

the Manufacture and/or Final Assembly of vehicles under the Covered Contract. Workforce Training may include publicly or privately funded workforce development programs, registered apprenticeship programs, an apprenticeship program registered with the Department of Labor, and/or a federally-recognized State Apprenticeship Agency that complies with the requirements under parts 29 and 30 of title 29, Code of Federal Regulations; and may include pre-apprenticeship commitments to provide training that helps participants in apprenticeship programs prepare for and successfully complete their training.

DRAFT



Manufacturing Careers Policy

Operations, Safety and Customer Service Committee Item #
November 17, 2022



Metro

Metro's Manufacturing Careers Policy

The Manufacturing Careers Policy (MCP) consolidates the administration of the United States Employment Program (USEP) and Local Employment Program (LEP)

USEP: sets-forth specific commitments for creating employment opportunities in the United States in connection with Rolling Stock procurements. USEP is applicable to all of Metro's federally funded rolling stock procurements and related contracts.

LEP: the program to include local/geographic and economic based labor hiring preferences on locally funded Rolling Stock procurements.

Metro's USEP/LEP Program Attainments

7 Active Rolling Stock Contracts include the LEP program

- Over \$20 million of wages & benefit allocated to LEP program on base contracts.
- Additional amount of over \$25 million of wages & benefits on option years (if exercised).
- Over \$14 million investment for local facility investment.
- Disadvantaged Wages Commitments.

2 Closed Rolling Stock Contract include the USEP program

- Over \$180 million of wages & benefits allocated to USEP program.

Metro's Manufacturing Careers Policy

The MCP will include additional stipulations such as:

- Lowering the dollar threshold of the procurement size for USEP and LEP applicability, from \$100 million to \$50 million.
- Adding contractual remedies for contractual non-compliance with the USEP or LEP.
- USEP and LEP evaluation mechanism to score all applicable proposal evaluations.
- Adding a retained workers category to provide long-term career opportunities for new hires under the USEP and LEP.



Metro's Manufacturing Careers Policy

Adoption of the MCP is in-line with the Metro Board's approval of a Project Labor Agreement and Construction Careers Policy for its construction contracting program.

The MCP, combined with the PLA and the CCP, ensure that Metro is creating opportunities for disadvantaged workers in sectors in which it is heavily investing: construction contracting and rolling stock manufacturing.

The background features large, 3D-style letters 'M' and 'A' in a light cream color, set against a dark green circular backdrop. This is further framed by a large, curved orange shape that overlaps a dark grey or black background.

Thank you



Metro®



Board Report

File #: 2022-0730, File Type: Contract

Agenda Number: 37.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: REFURBISH BUS AND RAIL SEAT INSERTS WITH VINYL MATERIAL

ACTION: APPROVE RECOMMENDATIONS FOR CONTRACT AWARDS

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award two indefinite delivery/indefinite quantity (IDIQ) firm fixed unit rate contracts for RFP No MA91724 for the refurbishment of various seat inserts, as follows:

- A. Contract No. MA91724000 to Molina Manufacturing to provide vinyl seat refurbishment for Element A - NABI composite buses and Element C - Contracted Services buses. The contract not-to-exceed amount is \$978,873.26, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.
- B. Contract No. MA91724001 to Louis Sardo Upholstery, Inc. to provide vinyl seat refurbishment for Element B - P3010 light rail vehicles. The contract not-to-exceed amount is \$1,868,836.50, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.

ISSUE

This procurement will provide refurbishment of bus & rail car seat inserts with vinyl material for the remainder of Metro's bus and rail fleets. Fabric covered seat inserts can retain dust, dirt, moisture and germs, and fabric seat inserts are difficult to clean. Vinyl seats are easier to clean, sanitize, and wipe down, and a drain hole at the lowest point of the seat insert prevents moisture build-up from spills when buses are in service. The vinyl seat insert refurbishment procurement will provide Metro's bus and rail divisions with the inventory of vinyl seat inserts to convert remaining fleet from fabric to vinyl covered seat inserts.

Awarding these contracts will ensure that the operating divisions have adequate inventory to convert and maintain the bus & rail seat inserts. The vinyl seat inserts will improve bus and rail cleanliness and improve our customers' experience. Metro is working on the conversion of the entire bus and rail fleet to vinyl material by the end of Fiscal Year 2023, and the award of these contracts is expected to provide the inventory of vinyl seat inserts to achieve this objective. Management will closely monitor the delivery of seat inserts to verify that the contractor's production rate is sufficient to achieve the

goal of transitioning all remaining seat inserts to vinyl by the end of Fiscal Year 2023.

BACKGROUND

Seat inserts are plastic panels that are covered with fabric or vinyl material and are secured to the metal seat frame on bus and rail cars. Seat inserts are replaced when they become damaged, vandalized, soiled, or when spills result in unsanitary conditions.

The current fabric seat inserts retain dust, dirt, and moisture. Vinyl seat inserts do not retain dust, dirt, or moisture and include a drain hole to dissipate spills where a customer's clothing could become soiled. The vinyl seat material allows for improved cleaning and sanitization by providing a smooth surface to wipe and dry. Applying a sanitizing spray and performing a quick wipe down will provide an immediate dry and clean seat. Prior to the vinyl, fabric would have left a damp fabric that could provide a negative customer experience.

Several contracts are currently in place to complete most of the transition to vinyl seat covers. The following lists existing contracts for bus and rail vinyl seat refurbishment:

- Contract MA52153000 was exercised in September 2018 for refurbishment of seat inserts for the A650 Heavy Rail Vehicles.
- Contract MA59807000 was exercised in May 2019 for refurbishment of seat inserts for the P2550, P2000 and P2020 Light Rail Vehicles.
- Contract RR82767000 was exercised in June 2022 for refurbishment of seat inserts for most standard 40-foot buses in the fleet.
- Contracts RR202733000, RR202758000, RR202750000, and RR202759000 were exercised in July 2022 for refurbishment of seat inserts for the 60-foot articulated buses.

The approval of these contracts will provide refurbished vinyl seat inserts for the remainder of Metro's bus and rail fleets.

DISCUSSION

A leading concern heard from our customers is the cleanliness of our bus and rail system. Customers want a clean and odor free environment on Metro's transportation system, and as part of the Cleanliness Plan, Metro has identified several cleanliness initiatives to improve the customer experience. Dirty or damaged seats impact the rider experience, instead of sitting, a rider may choose to stand due to the condition of the seat. Vinyl seat inserts can be quickly cleaned, sanitized, and wiped down to improve customer experience. Vinyl seating can eliminate more dust, dirt, moisture, and germs that currently is being retained in fabric seats. Cleaner seats give customers better service and less to worry about during their commute.

The contracts to be awarded is a "requirements type" agreement in which we commit to order only from the awardee up to the specified quantity for a specific duration of time, but there is no obligation or commitment for Metro to order any specific quantity of the reupholstered seat inserts that may currently be anticipated. The bid quantities are estimates only, with deliveries to be ordered and released as required.

The seat inserts will be reupholstered with vinyl material, maintained in inventory, and managed by Material Management.

DETERMINATION OF SAFETY IMPACT

The award of this contract will ensure that all operating divisions have adequate inventory to convert and maintain the bus fleet according to Metro Maintenance standards. The award of these contracts will provide cleaner and more sanitary buses for revenue service.

FINANCIAL IMPACT

Funding of \$978,873 for Contractual Elements A & C (Bus) for this product has been included in the FY23 budget in various bus maintenance operating cost centers, under project 306002 - Operations Maintenance, under line item 50441 - M/S Parts - Revenue Vehicle.

Funding of \$1,868,837 for Element B (Rail) for this product has been included in the FY23 budget in various bus operating cost centers, under project 300066- Rail Fleet Services, under line item 50441 - M/S Parts - Revenue Vehicle.

Cost center managers and the Chief Operations Officer will be accountable for budgeting the cost of maintaining the vinyl seats in future fiscal years.

Impact to Budget

The current source of funding for this action includes Prop C, TDA, STA and SB1 State of Good Repair. Using these funding sources maximizes the project funding allocations allowed by approved provisions and guidelines.

EQUITY PLATFORM

The benefits of this action are to ensure that the bus and rail fleet that serves Los Angeles County, and disproportionately serves marginalized groups and the vulnerable, provides clean and safe transportation services. Cleanliness is a highly rated issue of importance for Metro riders and the reupholstering of the seat insert enhances Metro's cleaning and sanitation programs to ensure clean, reliable, and safe bus transportation services for these underserved communities.

The Diversity and Economic Opportunity Department (DEOD) established a two percent (2%) DBE goal for these contracts and verified the commitment by both successful bidders of this procurement in achieving this goal. Molina Manufacturing, a DBE Prime, exceeded the goal by making a 100% DBE commitment for Element A and C.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The vinyl seat insert conversion project supports Strategic Goal 2.3: Metro will support a customer-

centric culture where exceptional experiences are created at every opportunity for both internal and external customers. The vinyl seats will provide cleaner, safer, and more sanitary seating for customers.

ALTERNATIVES CONSIDERED

The alternative is to not award the contracts and procure the vinyl seat inserts as needed, using the traditional “min/max” replenishment system method. This strategy is not recommended since it does not provide for a commitment from the supplier to ensure the availability, timely delivery, continued supply, and a guaranteed fixed price for the parts. This alternative strategy could also impact the lead time for securing the material to reupholster the seat inserts, resulting in delays in completing the fleet conversion.

NEXT STEPS

Upon approval of the Board, staff will execute Contract No. MA91724001 with Molina Manufacturing for RFP elements A and C and Contract No. MA91724002 with Louis Sardo Upholstery for RFP element B the refurbishing of various seat inserts using vinyl materials for the combined total amount of \$2,847,709.76.

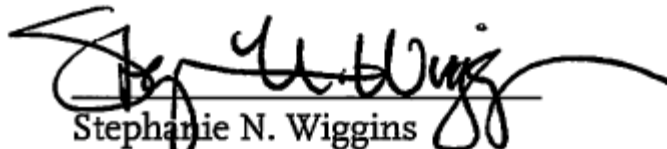
ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - DEOD Summary

Prepared by: James Pachan, Sr. Exec Officer, Bus Maintenance (213) 922-5804
Bob Spadafora, Sr. Exec Officer, Rail Maintenance (213) 922-3144
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Reviewed by: Conan Cheung, Chief Operations Officer (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

**8401-8650 BUS SERVICES, P3010 LRV, AND BUS CONTRACTED SERVICES
VINYL SEAT INSERT MODIFICATION /CONTRACT NUMBER MA91724000
~~MA91724001~~ AND MA91724001 ~~MA91724002~~**

1.	Contract Number: A. Element A – Contract No. MA91724000 – 8401-8650 Bus Series B. Element B – Contract No. MA91724001 – P3010 LRVs C. Element C – Contract No. MA91724000 – Contracted Bus Services	
2.	Recommended Vendor: A. Element A and C – Molina Manufacturing B. Element B – Louis Sardo Upholstery, Inc.	
3.	Type of Procurement (check one) : <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP–A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates :	
	A. Issued : 08.11.22	
	B. Advertised/Publicized: 08.11.22	
	C. Pre-Proposal Conference: 08.31.22	
	D. Proposals Due: 10.06.22	
	E. Pre-Qualification Completed: 10.22.22	
	F. Conflict of Interest Form Submitted to Ethics: 10.19.22	
	G. Protest Period End Date: 12.01.22	
5.	Solicitations Picked up/Downloaded: 9	Proposals Received: Element A – 2 proposals Element B – 1 proposal Element C – 2 proposals
6.	Contract Administrator: Nicole Banayan	Telephone Number: 213-922-7438
7.	Project Manager: Richard Lozano	Telephone Number: 323-224-4042

A. Procurement Background

This Board Action is to approve award of:

- Contract No. MA91724000 to Molina Manufacturing to provide vinyl seat refurbishment for Element A – NABI composite buses and Element C – Contracted Bus Services . The contract not-to-exceed amount is \$978,873.26, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.
- Contract No. MA91724001 to Louis Sardo Upholstery, Inc. to provide vinyl seat refurbishment for Element B – P3010 light rail vehicles. The contract not-to-exceed amount is \$1,868,836.50, effective December 1, 2022, through November 30, 2025, subject to resolution of protest(s), if any.

This solicitation was a competitively negotiated procurement issued in accordance with Metro's Acquisition Policy and the contract type is an indefinite delivery/indefinite quantity (IDIQ). To better coordinate the vinyl seat refurbishment project between bus, rail and contracted bus services and maximize efficiencies, the Scope of Services was divided into three (3) elements. Element A is for the NABI Composite buses, Element B is for the P3010 light rail vehicles fleet, and Element C is for Contracted Bus Services . The services also included a post-production support period through the end of the Contract term whereby the contractor is responsible for repairing/replacing inserts damaged or worn in service. Proposers were allowed to propose on one, two or all three elements. All three elements were assigned a Disadvantage Business Enterprise (DBE) goal of 2% for this procurement.

On August 11, 2022, Request for Proposals No. MA91724 was issued as a competitive procurement. Six (6) amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on August 30, 2022, revised Element B Scope of Work.
- Amendment No. 2, issued on September 8, 2022, Revised Element B project schedule, lowered the DBE goal from 30% to 2%, and revised Element B Schedule of Quantities and Prices form.
- Amendment No. 3, issued on September 13, 2022, added Element C, revised the evaluation criteria of Element A and B and extended the proposal due date to September 28, 2022, from September 21, 2022.
- Amendment No. 4 issued on September 21, 2022, revised the scope of services for Element A and C and reduced the Period of Performance from 5 years to 3 years.
- Amendment No. 5 issued on September 28, 2022, extended the proposal due date to October 6, 2022, from September 28, 2022.
- Amendment No. 6 issued on September 29, 2022, reduced Element B warranty from 2 years to 1 year.

A Pre-Proposal meeting was held on August 31, 2022, a total of 2 firms attended. Metro issued a total of three (3) clarifications answering 24 questions received from potential proposers. On October 6, 2022, Metro received a total of 2 proposals for the following Elements, in alphabetical order:

Element A – 8401-8650 Bus Series

- Molina Manufacturing
- Louis Sardo Upholstery, Inc.

Element B – P3010 Light Rail Vehicles

- Louis Sardo Upholstery, Inc.

Element C- Bus Contracted Services

- Molina Manufacturing
- Louis Sardo Upholstery, Inc.

B. Evaluation of Proposals

A Proposal Evaluation Team (PET) consisting of staff from Metro’s Rail Fleet Services, Equipment Maintenance, and Central Maintenance was convened and conducted a comprehensive technical evaluation of the two proposals received for the three elements. All proposals for all three elements were evaluated based on the following evaluation criteria and weights:

- Technical Capability 15 Points
- Previous Experience on Similar Projects in the U.S. 20 Points
- Work Plan 35 Points
- Cost 30 Points

The evaluation criteria and weights are appropriate and consistent with criteria developed for similar procurements. Several factors were considered when developing these weights, giving the great importance to the work plan.

On October 6, the PET met to take receipt of the two proposals received, signed the Declaration of Confidentiality and Non-Conflict of Interest forms. Evaluations were conducted from October 12 through October 20, 2022. Metro issued two clarifications from both proposers and the responses were determined to be satisfactory.

On October 20, 2022, the PET determined that the proposals submitted by Molina and Sardo were considered responsive and responsible.

Qualifications Summary

Element A – NABI Composite Buses					
1	Proposer	Average Score	Factor Weight	Weighted Average Score	Rank
2	Molina				1
3	Technical Capability	9.125	15.00%	13.50	
4	Previous Experience on Similar Projects in the US	8.50	20.00%	16.80	
5	Work Plan	7.813	35.00%	29.00	
6	Cost	30.00	30.00%	30.00	
7	Total		100.00%	89.30	
8	Sardo				2
9	Technical Capability	8.00	15.00%	12.50	

10	Previous Experience on Similar Projects in the US	8.313	20.00%	16.275	
11	Work Plan	7.25	35.00%	26.375	
12	Cost	14.03	30.00%	14.03	
13	Total		100.00%	69.18	

Element B - P3010 LRVs					
1	Proposer	Average Score	Factor Weight	Weighted Average Score	Rank
2	Sardo				1
3	Technical Capability	8.25	15.00%	13.25	
4	Previous Experience on Similar Projects in the US	8.375	20.00%	16.05	
5	Work Plan	7.375	35.00%	27.375	
6	Cost	30.00	30.00%	30.00	
7	Total		100.00%	86.675	

Element C- Contracted Services Bus					
1	Proposer	Average Score	Factor Weight	Weighted Average Score	Rank
2	Molina				1
3	Technical Capability	9.125	15.00%	13.50	
4	Previous Experience on Similar Projects in the US	9.438	20.00%	18.825	
5	Work Plan	8.188	35.00%	30.625	
6	Cost	30.00	30.00%	30.00	
7	Total		100.00%	92.95	
8	Sardo				2
9	Technical Capability	7.125	15.00%	11.00	
10	Previous Experience on Similar Projects in the US	8.875	20.00%	17.55	
11	Work Plan	7.625	35.00%	28.25	
12	Cost	13.895	30.00%	13.895	
13	Total		100.00%	70.695	

C. Price Analysis

Element A

Molina proposed price of \$664,425.84 has been determined to be fair and reasonable based on adequate price competition, an Independent Cost Estimate (ICE), price analysis, and technical evaluation. The recommended price is 26% lower than Metro’s ICE and Molina proposed 1% lower than their 2021 rates.

Element A – NABI Composite Buses			
Proposer Name	Proposed Amount	Metro ICE	Delta
Molina	\$ 664,425.84	\$ 908,040.00	\$ (243,614.16)
Sardo	\$ 1,420,434.00	\$ 908,040.00	\$ 512,394.00

Element B

Louis Sardo Upholstery, Inc. (Sardo) submitted the only proposal for Element B. Its responsive proposal met the revised production schedule of 14 months as required per Amendment 4. For comparison, Sardo also provided a proposal that met the initial requested production schedule of 60 months. The responsive proposal with the 14 month schedule offered a total not-to-exceed price of \$1,868,836.50. While the comparison price proposal for the 60 month production schedule was offered at a not-to-exceed price of \$1,698,166.50. Sardo required additional labor and freight costs to meet the 14 month production schedule, for an additional premium cost of \$170,670.00. Although Sardo was the only proposer for Element B, the not-to-exceed price of \$1,868,836.50 was competitively proposed with the expectation of competition, therefore staff performed a price analysis. The price analysis consisted of negotiations, market research, and a comparison with the Metro ICE.

The Metro ICE was based on the original production schedule and did not account for the accelerated 14 month schedule implemented in the RFP Amendment 4. Sardo’s proposed price for Element B is \$514,025.54 or 38% higher than the Metro ICE, however when factoring in the premium (\$170,670) for the 14 month production schedule that was not contemplated in the Metro ICE, the difference is reduced to \$343,355.54 or 25%.

Another element that the Metro ICE did not consider is the market risk given the current economic conditions. Sardo’s proposal met the 14 month production schedule but was also required to provide repair support to replace damaged inserts for an additional 2 years. As this is a multi-year contract with a firm fixed unit price, the continued uncertainties in the market and higher inflation forecasts can account

for some measurable portion of the 25% gap between the Metro ICE and the proposed price from Sardo. Based on this price analysis, it was determined that Sardo’s proposed price of \$1,868,836.50 is the best attainable and deemed fair and reasonable.

Element B – P3010 LRVs			
Proposer Name	Proposed Amount	Metro ICE	Delta
Sardo	\$ 1,868,836.50	\$ 1,354,810.96	\$ 514,025.54

Element C

Molina proposed a not-to-exceed price of \$314,447.42 which has been determined to be fair and reasonable based on adequate price competition, ICE, price analysis, and technical evaluation. The recommended price is 27% lower than Metro’s ICE and Molina proposed 2% lower than their 2021 rates.

Element C – Contracted Services Buses			
Proposer Name	Proposed Amount	Metro ICE	Delta
Molina	\$ 314,447.42	\$ 434,000.00	\$ (119,552.58)
Sardo	\$ 678,900.00	\$ 434,000.00	\$ 244,900.00

D. Background on Recommended Contractor

Molina Manufacturing (Elements A and C)

Molina is a Metro certified Disadvantage Business Enterprise (DBE) firm located in Torrance, California. Molina Manufacturing was established in March 2007 and is a full-service company that re-upholsters used or new passenger seats for a wide variety of bus and rail. In addition, to providing reupholstery services, Molina also provides hub gaskets, tank radiator gaskets, valve cover, and pan gaskets and assess panel gaskets. Molina’s performance is satisfactory.

Louis Sardo Upholstery, Inc (Element B)

Sardo is located in Gardena, California. Sardo was established in 1954 as a mobile road crew upholstery company in Massachusetts. Sardo expanded to California in 1954. Sardo currently has locations in California and Florida. Sardo provides passenger seating innovation, transit seat refurbishment and interior modification services. Sardo’s performance is satisfactory.

DEOD SUMMARY

**8401-8650 BUS SERVICES, P3010 LRV, AND BUS CONTRACTED SERVICES
VINYL SEAT INSERT MODIFICATION /CONTRACT NUMBER MA91724001 AND
MA91724002**

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 2% Disadvantaged Business Enterprise (DBE) goal for this contract. Molina Manufacturing, a DBE prime, exceeded the goal by making a 100% DBE commitment for Element A & C.

Small Business Goal	2% DBE	Small Business Commitment	100% DBE
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	DBE Subcontractors	Ethnicity	% Committed
1.	Molina Manufacturing (DBE Prime)	Hispanic American	100%
Total Commitment			100%

B. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) established a 2% Disadvantaged Business Enterprise (DBE) goal for this indefinity delivery/indefinity quantity (IDIQ) contract. Louis Sardo Upholstery, Inc. exceeded the goal by making 2.40% DBE commitment for Element B.

Small Business Goal	2% DBE	Small Business Commitment	2.40% DBE
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	DBE Subcontractors	Ethnicity	% Committed
1.	JWL Supplies	Hispanic American	2.40%
Total Commitment			2.40%

C. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

D. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

E. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. Project Labor Agreement/Construction Careers Policy is applicable only to construction contracts that have a construction contract value in excess of \$2.5 million.



Board Report

File #: 2022-0665, File Type: Contract

Agenda Number: 38.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

**SUBJECT: EXPRESSLANES FASTRAK 6C ELECTRONIC TOLL COLLECTION
TRANSPONDERS**

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a three-year, Firm Fixed Price Contract No. DR84996000 to Neology, Inc., the lowest cost responsive and responsible bidder, to furnish FasTrak 6C Electronic Toll Collection transponders, and supporting accessory materials and services, in the total Contract amount of \$12,380,190, inclusive of all applicable taxes and fees, subject to resolution of any properly submitted protest(s), if any.

ISSUE

The transponders, currently held in inventory by Metro ExpressLanes and distributed to all its accountholders, use an older legacy protocol known as the "Title-21" protocol. This protocol is set to be formally retired from use statewide on January 1, 2024, at which time it will no longer be supported by FasTrak facility operators across the state. Its successor, the new "6C" protocol, has been officially supported by all FasTrak facilities, including the ExpressLanes on I-10 and I-110, since January 1, 2019. Metro must procure 6C-compliant transponders to replace all its existing Title-21 transponders before the Title-21 sunset date and distribute them to new accountholders moving forward.

BACKGROUND

State interoperability requirements outlined in Streets and Highways Code requires that all Expresslane accountholders carry transponders in their vehicles when driving in the ExpressLanes. This enables Metro to identify all vehicles quickly and reliably in the ExpressLanes at freeway speeds across all environmental and operating conditions so that they can be assessed the proper tolls for their trips. Metro ExpressLanes do accommodate Pay as You Go users in the ExpressLanes, but this does not address state interoperability requirements, or toll discounts that are available to ExpressLanes accountholders.

The approval of this contract award will ensure that Metro's accountholders are issued transponders

that comply with the state's regulatory AVI requirements. Replacing the transponders currently in possession of customers is anticipated to have no impact on customers and users of the ExpressLanes system, as there will be a one-for-one replacement of transponders at no additional required expense to customers. Metro will distribute replacement 6C transponders to all existing accountholders without any action required by them other than to mount the transponders properly in their vehicles upon receipt. Customers will be provided with information about proper and safe disposal of their existing transponders through either a local electronic waste recycler or by returning the transponder directly to Metro ExpressLanes

California Streets and Highways Code sections 27564 and 27565 establish requirements for statewide consistency of automatic vehicle identification (AVI) systems, including roadside toll systems that read onboard vehicle transponders for toll collection. As an All-Electronic Open-Road Tolling system (in contrast to conventional toll facilities that rely on toll booths for payment collection), the Metro ExpressLanes are subject to these requirements for AVI standards compliance.

California Code of Regulations Title 21, Division 2, Chapter 16 formally defines these AVI standards, which are branded as "FasTrak" to the public. There are currently two supported protocols specified in the formal definition of FasTrak: the older legacy Title-21 protocol, and the next-generation 6C protocol. The 6C protocol officially became active as part of the FasTrak specification on January 1, 2019, per §1700.2, and has been supported by all FasTrak facilities statewide since then. The Title-21 protocol is currently scheduled to be dropped from the FasTrak specification on January 1, 2024, per §1700.3, at which point only the 6C protocol will remain.

DISCUSSION

The 6C protocol is based on the ISO/IEC 18000-63 standard and offers many technical improvements over the older Title-21 protocol that it replaces. Unlike Title-21 transponders, 6C transponders do not require in-transponder batteries to function. This allows for smaller, lighter transponder form factors that occupy less space on the windshield and improve viewability for drivers as a result. These improvements also reduce the materials required to manufacture the transponders, lower the unit costs of purchase to Metro, and reduce the shipping costs for distribution to customers. While the older Title-21 transponders had a usable life limited by the onboard internal battery, new 6C transponders without batteries are not similarly constrained, which translates into fewer transponder replacements and less associated hassle for Metro ExpressLanes accountholders. Finally, the 6C protocol includes built-in provisions for error checking and customizable onboard memory, enabling more accurate and reliable roadside tolling operations.

This contract has been strategically designed to offer maximum flexibility to Metro with respect to its current and future transponder needs. While the contract allows Metro to purchase up to 1,450,000 6C transponders, Metro is not obligated to order the full amount, and Metro also has the flexibility to specify shipment receipt dates and quantities on an ongoing basis over the contract term. This allows Metro to reduce its recurring inventory storage costs while providing protection against depletion of stock at any given time. Since 2012, has issued more than 1.39 million Title-21 transponders, and issues approximately 10,000 new transponders per month through all its distribution channels, including the customer service centers, website, automated phone system, and retail partners.

It is not possible to upgrade or otherwise modify the existing Title-21 transponders distributed to Metro's accountholders to achieve 6C compatibility. Instead, new 6C transponders must be procured and distributed to accountholders to replace the existing Title-21 transponders currently in their possession.

DETERMINATION OF SAFETY IMPACT

The Board action is not anticipated to have an impact on the safety of Metro's patrons or employees.

FINANCIAL IMPACT

The FY23 budget includes \$15 million in Cost Center 2220 (Shared Mobility) and Projects 307001/307002 for FasTrak 6C Compliant Electronic Toll Collection transponders. Since this is a multi-year contract, the Cost Center Manager, ExpressLanes 6C transponder fulfillment Project Manager and Deputy Chief Operations Officer of Shared Mobility will be responsible for budgeting in future years.

Impact to Budget

The funding for this Contract will come from toll revenues. The toll revenue fund is not eligible for bus and rail operating expenses outside of the ExpressLanes corridors.

EQUITY PLATFORM

As of the latest available data from August 2022, there are 17,060 active Low Income Assistance Plan (LIAP) accounts. An estimated 8,018 (47%) of these accountholders live in Equity Focus Communities (EFCs). Delaying this contract action would jeopardize Metro's ability to perform transponder replacements for all of its active accountholders-including these LIAP accountholders-before the Title-21 sunset date, which would prevent them from being able to continue using the Metro ExpressLanes after that date.

Metro's Diversity and Economic Opportunity Department reviewed this procurement and concluded that no specific Small Business Enterprise or Disabled Veteran Business Enterprise goals were appropriate for this solicitation. However, it satisfied the eligibility criteria for Metro's new Medium-Size Business (MSZ) Enterprise program and was released as an MSZ-II set-aside solicitation accordingly.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This ExpressLanes contract supports Strategic Goal 1, providing high-quality mobility options that enable people to spend less time traveling, by providing customers access to the latest transponder technology necessary to enable uninterrupted collection of toll payments electronically in the ExpressLanes moving forward.

The contract supports Strategic Goal 2, delivering outstanding trip experiences for all users of the transportation system, by providing customers access to improved transponder technology that offers added protection against device failures and extended usable equipment life timeframes, reducing the time burden on customers associated with transponder maintenance, troubleshooting, and replacement.

The contract supports Strategic Goal 4, transforming LA County through regional collaboration and national leadership, by ensuring ExpressLanes customers receive standards-compliant transponders that afford them uninterrupted, seamless access to other FasTrak facilities across the region and state beyond the Title-21 sunset date.

ALTERNATIVES CONSIDERED

The Board may elect not to award and execute the Contract. This alternative is not recommended because state law requires that all toll facilities in the state be compliant with the functional specifications and standards for AVI systems as defined in California Code of Regulations, and failure to award a contract for 6C transponders will prevent Metro ExpressLanes from maintaining such compliance after the Title-21 protocol used by Metro's current transponder inventory is retired on January 1, 2024.

NEXT STEPS

Upon Board approval, staff will execute Contract No. DR84996000 for FasTrak 6C Electronic Toll Collection transponders.

ATTACHMENTS

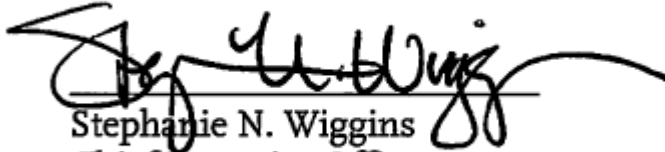
Attachment A - Procurement Summary
Attachment B - DEOD Summary
Attachment C - EFC ExpressLanes Map

Prepared_by

Prepared by: Barkev Tatevosian, Principal Transportation Planner, (213) 922-2452
Mark Linsenmayer, Deputy Executive Officer, (213) 922-7528
Shahrzad Amiri, Deputy Chief Operations Officer, (213) 922-3061
Debra Avila, Deputy Chief Vendor/Contract Management Officer, (213) 418-3051
Lillia Montoya, Deputy Chief Operations Officer, Admin & Development (213) 922-4061

Reviewed_By

Reviewed by: Conan Cheung, Chief Operations Officer (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

EXPRESSLANES FASTRAK 6C ELECTRONIC TOLL COLLECTION TRANSPONDERS

1.	Contract Number: DR84996000	
2.	Recommended Vendor(s): Neology, Inc.	
3.	Type of Procurement (check one): <input checked="" type="checkbox"/> IFB <input type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: 5/25/2022	
	B. Advertised/Publicized: 5/25/22	
	C. Pre-Bid Conference: 6/1/22	
	D. Bids Due: 7/29/22	
	E. Pre-Qualification Completed: 9/12/22	
	F. Conflict of Interest Form Submitted to Ethics: 8/5/22	
	G. Protest Period End Date: 11/18/22	
5.	Solicitations Picked up/Downloaded: 20	Bids Received: 3
6.	Contract Administrator: Loretta Norris	Telephone Number: (213) 922-2632
7.	Project Manager: Barkev Tatevosian	Telephone Number: (213) 922-2452

A. Procurement Background

This Board Action is to approve Contract No. DR84996000 to procure pre-programmed Fastrak Radio Frequency Identification (RFID) tolling transponders, including hand-held readers, retail packaging, and fulfillment services (optional) to support Metro's Shared Mobility, Express Lanes system. Contract award is subject to resolution of any properly submitted protest.

An Invitation for Bid (IFB) No. DR84996000 was issued in accordance with Metro's Acquisition Policy and the contract type is Firm Fixed Price (FFP).

Three (3) amendments were issued during the solicitation phase of this IFB:

- Amendment No. 1, issued on May 26, 2022, to provide Technical Requirements;
- Amendment No. 2, issued on June 27, 2022, to update the Critical Dates;
- Amendment No. 3, issued on July 1, 2022, to update the Schedule of Quantities and Prices.

A total of three (3) bids were received on July 29, 2022.

B. Evaluation of Bids

This procurement was conducted in accordance and complies with Metro’s Acquisition Policy for a competitive sealed bid. The three bids received are listed below in alphabetical order:

1. Kapsch TrafficCom USA, Inc.
2. Neology, Inc.
3. Star Systems America, LLC

All firms were determined to be responsive and responsible to the IFB requirements. The recommended firm, Neology, Inc., the lowest responsive and responsible bidder, was found to be in full compliance in meeting the bid and technical requirements of the IFB.

C. Price Analysis

The recommended bid price from Neology has been determined to be fair and reasonable based upon adequate price competition and selection of the lowest responsive and responsible bidder.

Bidder’s Name	Total Bid Amount	Metro ICE
Neology, Inc.	\$12,380,190	\$31,200,000
Star Systems America, LLC	\$13,451,700	
Kapsch TrafficCom USA, Inc.	\$14,736,819	

The variance between the bid price and Metro’s ICE is attributed to historical and assumption of pricing in the current market, pandemic-related supply chain constraints and inflation that has impacted the entire economy. Metro’s ICE assumed that the 2019 tariffs for transponders had an overall effect of increasing unit prices by roughly 5% that year. Furthermore, pandemic-related supply chain constraints were assumed to result in an additional unit price increase of 10% annually in 2020 and 2021. Finally, high inflation was assumed to result in additional 10% increases in unit costs in 2022 and 2023. Ultimately, our estimate for transponder unit costs in 2023 dollars came to roughly \$18, but the bidders proposed a far lower price per transponder. Given the large volume of our order, this alone translated into a cost difference of over \$16 million between the ICE and the bid price. In addition, the bidders are able to handle such large volumes of transponder-related orders, including services, that economies of scale were achieved beyond what Metro estimated.

D. Background on Recommended Contractor

The recommended firm, Neology, Inc., was founded in 1986, is headquartered in San Diego, California, and has divisions located in Poway, CA, Bryan, TX, United Kingdom, and Mexico. Neology supplies 90% of the 6C transponders used in the U.S. and is providing satisfactory service to its customers that include Washington State Department of Transportation (WSDOT), Transportation Corridor Agency (TCA), Orange County, CA, Express Toll Colorado (E470), Riverside County Transportation Commission (RCTC) Riverside, CA, Bay Area Transportation Authority (BATA), San Francisco, CA, and State Road and Toll Authority (SRTA).

DEOD SUMMARY

EXPRESSLANES FASTRAK 6C ELECTRONIC TOLL COLLECTION
TRANSPONDERS / DR84996000

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Small Business Enterprise (SBE)/Disabled Veteran Business Enterprise (DVBE) participation goal for this Medium-Sized (MSZ-II) procurement due to lack of subcontracting opportunities. It is expected that Neology will provide the services with its own workforce. No bids were received from an MSZ-II firm.

B. Living Wage and Service Contract Worker Retention Policy Applicability

The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

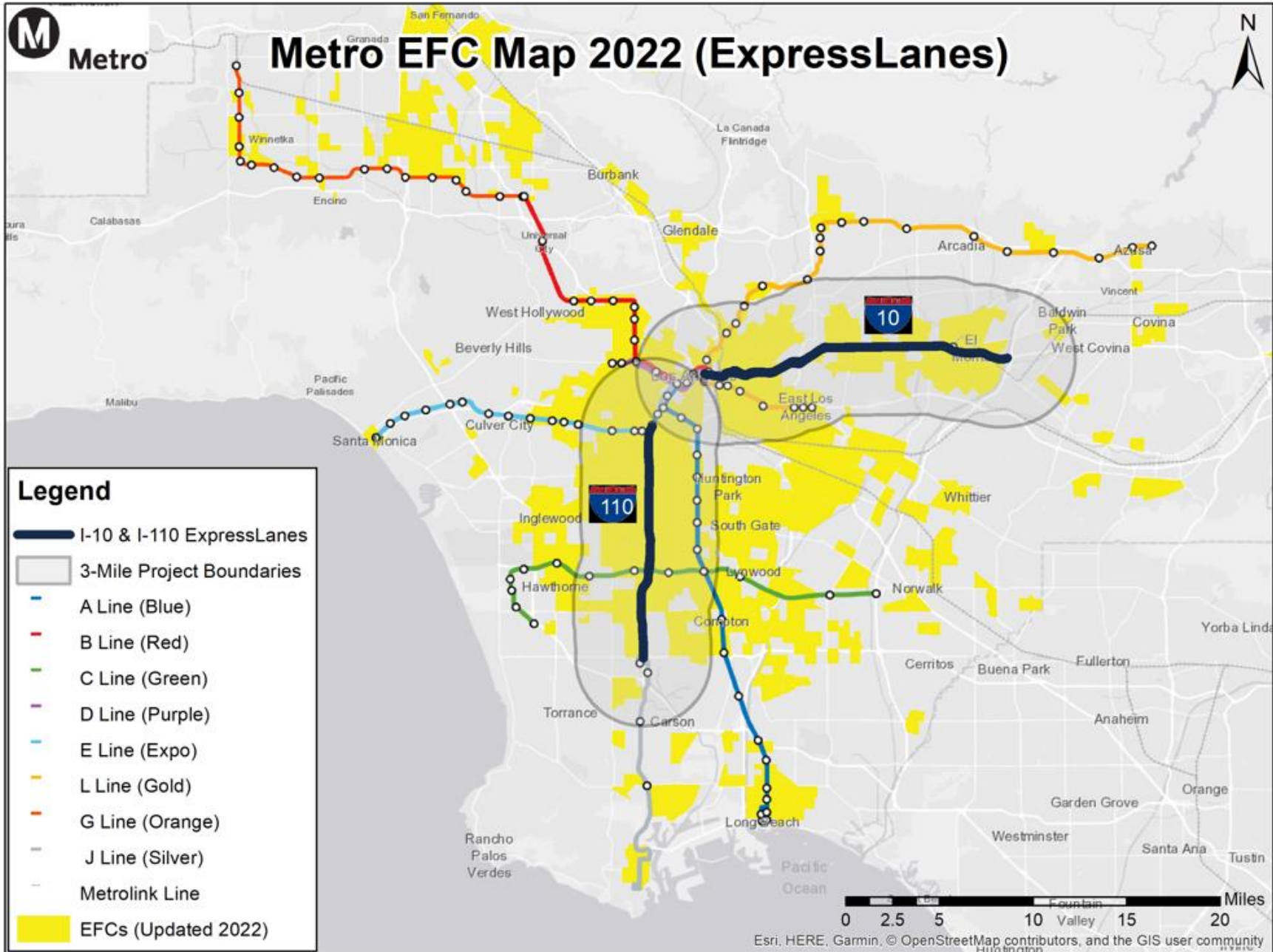
C. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

D. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.

Attachment C



Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community



File #: 2022-0708, File Type: Oral Report / Presentation

Agenda Number: 40.

**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022**

SUBJECT: OPERATIONS EMPLOYEES OF THE MONTH

RECOMMENDATION

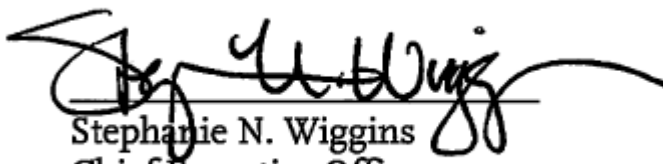
RECOGNIZE Operations Employees of the Month.

Equity Platform

Employee of the Month (EOM) nominations to the Chief Operations Officer must be for frontline employees or field supervisors serving in a customer-facing role. Operations management is encouraged to nominate employees that have achieved excellence and/or gone above and beyond their assigned job role/functions and are diverse in both gender and ethnicity. In addition, a review of the location, job responsibilities, and seniority is considered when making final selections to ensure there is diverse representation among the various groups within the department. Operations also work with Logistics, which nominates employees once a quarter that works in our storerooms.

Prepared by: Lilia Montoya, Deputy Chief Operations Officer, Admin & Development, (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer

November

Operations Employee of the Month & Logistics Employee of the Quarter



Metro

Operations, Safety, and Customer Experience Committee
November 17, 2022

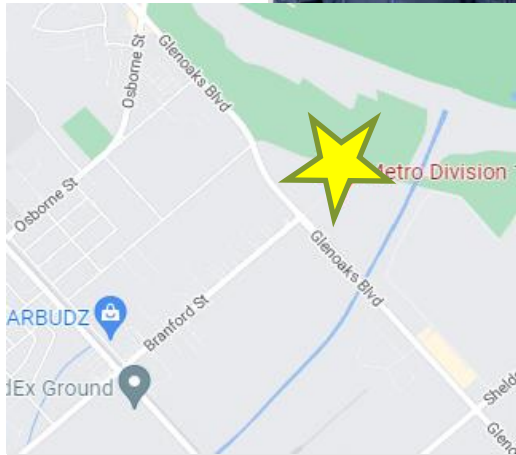
Employee of the Month & Logistics Employee of the Quarter



Transportation

Bus Operator

Carlos Rosal



Division 15 – Sun Valley

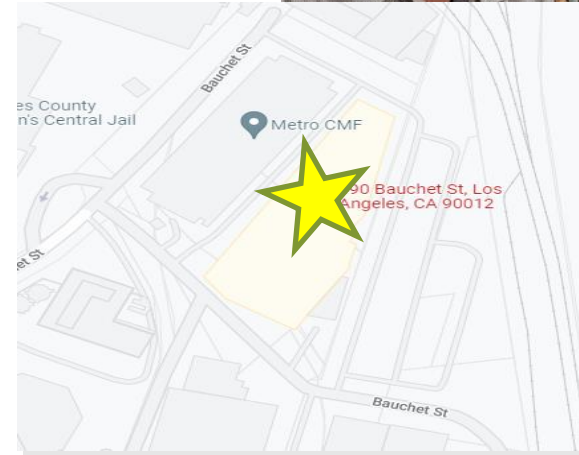
Logistics

Warranty &

Equipment

Mechanic Leader

John Gerhardt



**Central Maintenance Instruction
(CMF)**



Metro



Board Report

File #: 2022-0677, File Type: Contract

Agenda Number: 41.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE NOVEMBER 17, 2022

SUBJECT: NEW HR5000 HEAVY RAIL VEHICLES PROCUREMENT

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

AUTHORIZE the Chief Executive Officer (CEO) to solicit competitive negotiations Request for Proposals (RFPs), pursuant to Public Contract Code (PCC) §20217 and Metro's procurement policies and procedures for the acquisition of new Heavy Rail Vehicles (HRVs).

(REQUIRES TWO-THIRDS VOTE OF THE FULL BOARD)

ISSUE

One hundred eighty-two (182) new HRVs are required to meet the revenue service requirements, including enhanced service capacity for the Westside Purple Line Extensions 2 & 3 and to address the state of good repair issues associated with the existing B/D (Red/Purple) Line fleet.

Staff has determined that the new HRV solicitation constitutes a specialized rail transit equipment purchase. This determination renders it appropriate that the new HR5000 HRVs be procured by a competitively negotiated process in accordance with PCC § 20217. PCC § 20217 states that the Board, upon a finding by two-thirds vote of all members, may find that the competitive low bid procurement method is not adequate for the agency's needs, and direct that the procurement be conducted through competitive negotiation. This competitive negotiation process is the same procurement model Metro used for previous new and midlife modernization rail vehicles procurement projects, including P3010 New LRVs Procurement, HR4000 New HRVs Procurement, P2000 LRV Midlife Modernization, and P2550 LRV Midlife Modernization projects.

BACKGROUND

The existing B/D (Red/Purple) Line fleets (A650) consists of 104 HRVs; a base order of 30 HRVs and an option order of 74 HRVs. Metro accepted the base fleet between 1992 and 1993. The option fleet was accepted between 1997 and 1999. Based on a 30-year useful life, the base order HRVs are scheduled for retirement between 2022 and 2023 and the option order HRVs between 2027 and 2029.

In accordance with the Rail Fleet Management Plan (RFMP) FY2020-FY2040, the rail fleet will need

to be expanded to accommodate anticipated growth in ridership, support future line extensions and service expansions, and replace vehicles reaching the end of their useful revenue service life. These one hundred eighty-two (182) new HRVs not only include services for Purple Line Extensions 2 & 3, they also accommodate the future replacement of the current aging seventy-four (74) A650 Options HRVs, as well as meeting the eventual 4 minute headway service expansion on the system (Purple) Line.

DISCUSSION

It is in the public's interest to utilize competitive negotiation rather than a sealed bid process to consider factors other than price in the award of contracts for rail vehicles as allowed under PCC § 20217. The competitive negotiation process allows consideration of factors other than price that could not be adequately quantified or considered in a strictly low bid procurement.

Staff recommends the use of a competitive negotiation process for the acquisition of the HR5000 HRVs to allow for the consideration of technical and commercial factors, such as past performance related to schedule adherence, quality, reliability, after market support, and vehicle performance, as well as price in the contract award selection process. By establishing explicit factors that identify Metro's priorities, the solicitation can use evaluation criteria important to Metro to augment price considerations.

In addition to the ability to evaluate key technical and schedule factors, the competitive negotiation process permits direct discussions and negotiations with Proposers to clarify requirements and cost prior to an award recommendation. This process minimizes the risks associated with a complex specification and scope of work by allowing the parties to clarify ambiguities and correct deficiencies.

DETERMINATION OF SAFETY IMPACT

The approval of this recommendation will have a direct and positive impact to safety, service quality, system reliability, performance, and overall customer satisfaction as the current HRV fleet is nearing the end of its useful life.

FINANCIAL IMPACT

Once the proposals are evaluated and a qualified contractor is selected, a fully funded requisition shall be initiated to start the solicitation processes as per VCM policies. In the event the award value is greater than planned, project staff shall return to the board with the award amount and LOP approval or adjustment as needed. Funding for this action is included in future revenue projections. Since this project will occur over a multi-year period, the Cost Center Manager, Project Manager and Chief of Operations will be responsible for future fiscal year budgeting.

Impact to Budget

Upon approval, the recommendation shall be funded with a combination of Federal, State and Local funds primarily consisting of Proposition A Sales Tax. Use of these funding sources currently maximizes funding allocations given approved funding provisions and guidelines. With the various

contract options within the solicitation, this recommendation supports the Measure M program under PLE2 and PLE 3 as well as Operations State of Good Repair efforts. Fiscal Year funding may be required to enact this project and shall be funded via a net zero budget transfer from approved FY23 funded projects. To maximize funding eligibility and create the most jobs possible, staff recommends that the HRV procurement remain eligible for federal funding, including following all federal procurement guidelines.

EQUITY PLATFORM

Part of the new HR5000 procurement will be used to replace existing, aged option order HRVs. The remaining HRVs will be used to support service expansions and the opening of Purple Line Extensions 2 & 3. Expansion of ridership is anticipated with service expansions of the HRT system. The new HR5000 HRVs will be equipped with the latest vehicular technologies not only with improvements on vehicle safety, reliability, and maintainability, but as well as improvements on ride comfort and passenger information system (both visual and audio). Approving this recommendation will support the planned service expansions and will encourage a fair, competitive bidding process.

The new HRVs will operate on lines that are currently serving passengers living in majority Equity Focus Communities that rely on public transportation for their daily jobs. Based on the 2019 Customer Survey, the Red and Purple heavy rail lines serve the following ridership:

- 27.7% below the poverty line
- 56.4% had no car available

Ethnicity:

- Latino 38.9%;
- Black 13.1%;
- White 25.8%;
- Asian/Pacific Islander 15.2%;
- Other 6.5%

Please refer to Attachment A for Metro's current rail line map showing the areas of Metro's Equity Focus Communities (EFCs) that will benefit from this board decision.

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Disadvantaged Business Enterprise (DBE) goal for this procurement as it is not applicable. This procurement falls under the Federal Transit Administration's (FTA) Transit Vehicle Manufacturer (TVM) goal in accordance with 49 Code of Federal Regulations (CFR) Part 26.49.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

These recommendations support Metro Strategic Plan Goal No. 5) to "provide responsive, accountable, and trustworthy governance within the Metro organization". This goal strives to position Metro to deliver the best possible mobility outcomes and improve business practices so that Metro can perform more effectively and adapt more nimbly to the changing needs of our customers.

ALTERNATIVES CONSIDERED

The Board of Directors may choose to procure HRVs using a low bid process, but this methodology is not recommended. The sealed bid process does not adequately account for any technical superiority of performance, reliability, or system life cycle costs that one firm's equipment or solution may have over another since the process must award to the lowest responsive and responsible bidder. For these reasons, staff does not recommend this alternative. The competitively negotiated procurement process will provide for the evaluation of critical non-price related factors in the source selection process.

NEXT STEPS

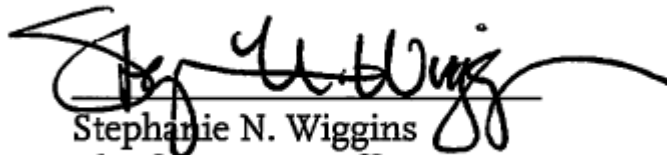
Staff will proceed with a competitively negotiated solicitation for the acquisition of the new HR5000 HRVs.

ATTACHMENTS

Attachment A - Metro EFC Map - 2022

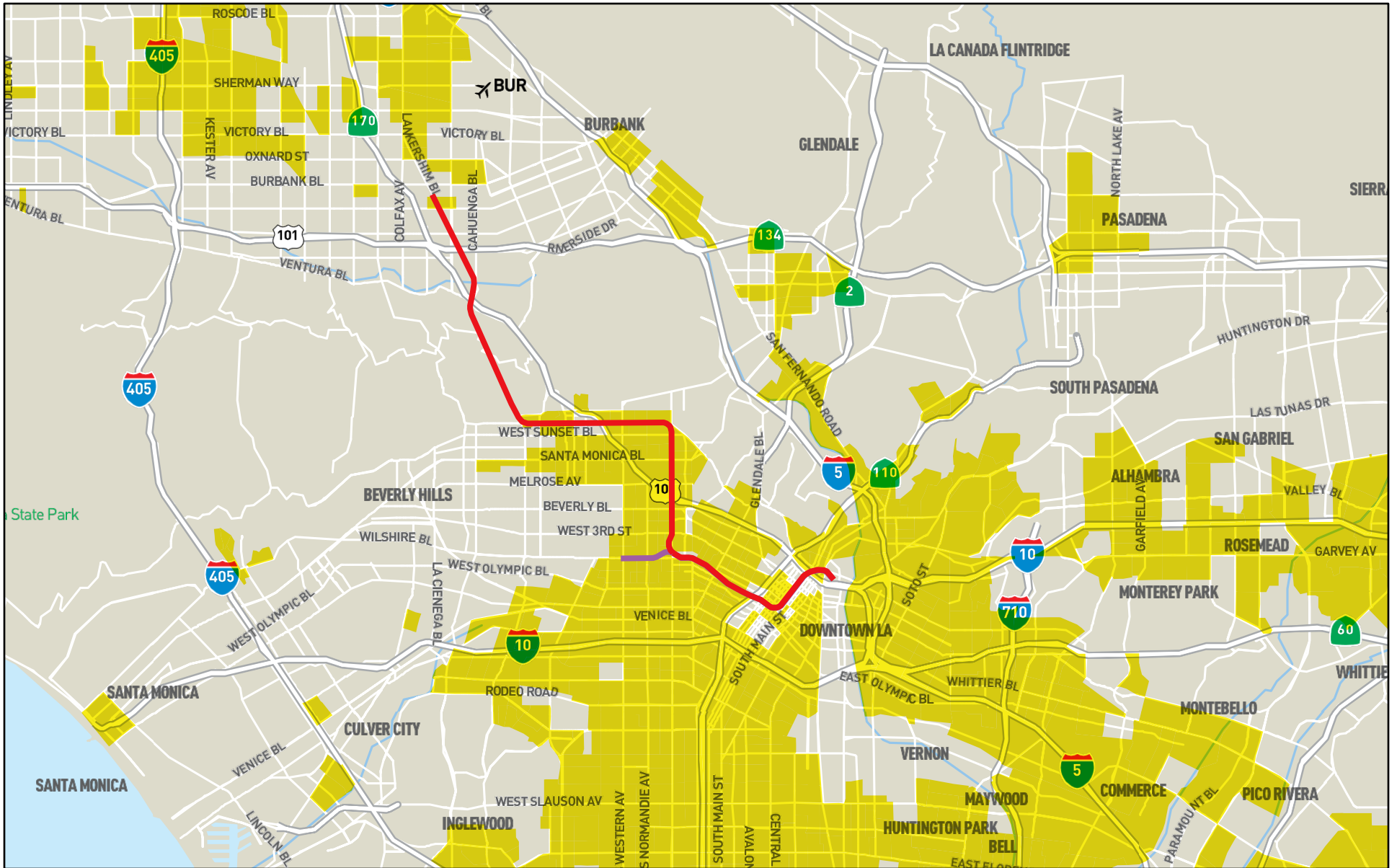
Prepared by: Annie Yang, Sr. Director, Vehicle Engineering & Acquisition, (213) 922-3254
Jesus Montes, Sr. Executive Officer, Vehicle Engineering & Acquisition, Title, (213) 418-3277
Debra Avila, Deputy Chief Vendor/Contract Management Office, (213) 418-3051
Lilia Montoya, Deputy Chief Operations Officer, Admin & Development, (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034



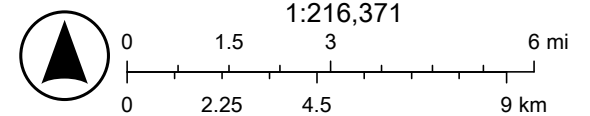
Stephanie N. Wiggins
Chief Executive Officer

Attachment A_Metro EFC Map - 2022



10/27/2022

Metro Rail and Busway (Existing) — D Line (Purple)
— B Line (Red) — EFCs (Updated 2022)





Board Report

File #: 2022-0709, **File Type:** Oral Report / Presentation

Agenda Number: 42.

**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022**

SUBJECT: ORAL REPORT ON OPERATIONS AND SERVICE RESTORATION UPDATE

RECOMMENDATION

RECEIVE oral report on Operations ridership, hiring, and service restoration.

Equity Platform

Operations collaborates with the Office of Equity and Race to identify and mitigate any concerns to ensure equitable outcomes relative to service.

Prepared by: Lilia Montoya, Deputy Chief Operations Officer, Admin & Development, (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer
(213) 418-3034

Stephanie N. Wiggins
Chief Executive Officer



COO Oral Report

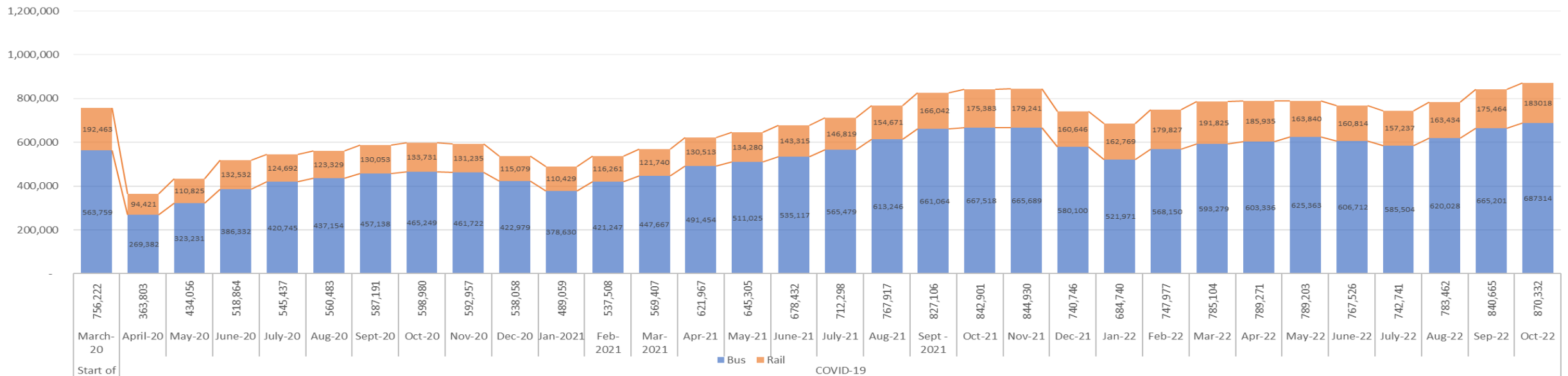
Operations Ridership and Service Restoration Update

Operations, Safety & Customer Experience Committee Meeting
November 17, 2022

Status of Conditions for Service Restoration & Systemwide Average Weekday Ridership

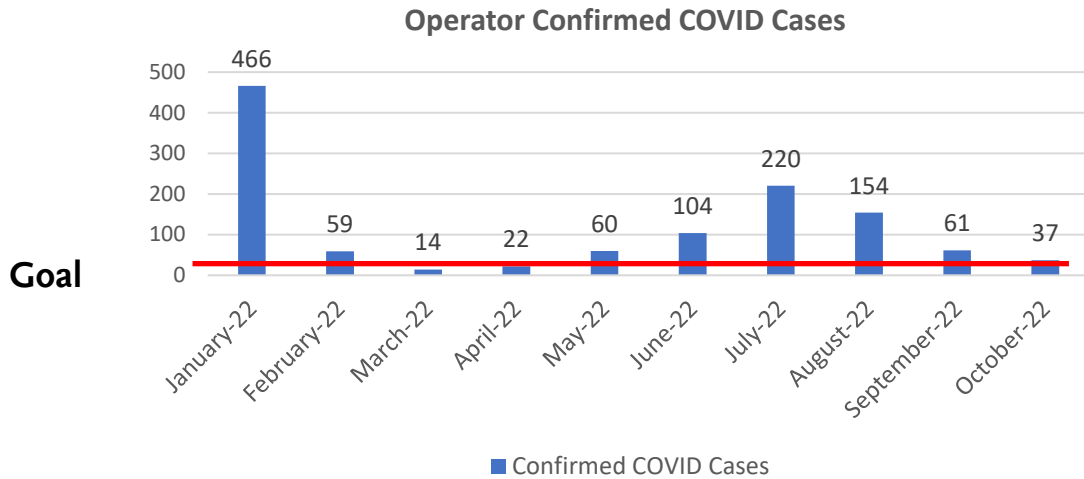
	GOAL	STATUS Feb-22	STATUS Aug-22	STATUS Sep-22	STATUS Oct-22	● ● ●
Operator COVID Cases	30 or less per month	459 Jan 2022 (month)	154 August 2022 (month)	61 Sept 2022 (month)	37 Oct 2022 (month)	● ● ●
Operator Staffing Level	Bus: 3,667 / Rail: 326 Total: 4,003	Bus: 3,095 / Rail: 310 Total: 3,405	Bus: 3,156 / Rail: 317 Total: 3,473	Bus: 3,178 / Rail: 314 Total: 3,492	Bus: 3252 / Rail: 319 Total: 3571	● ● ●
Cancelled Service	2% or less per day	Weekday: 11% Sat: 8% / Sun 20%	Weekday: 4.7% Sat: 4.0% / Sun: 10.5%	Weekday: 3.2% Sat: 3.5% / Sun: 7.2%	Weekday: 3% Sat: 3.5% / Sun: 8.2%	● ● ●
Ordered Call Backs	200 or less per week	766 (per week in Jan 2022)	686	599	666	● ● ●

SYSTEMWIDE AVERAGE WEEKDAY RIDERSHIP



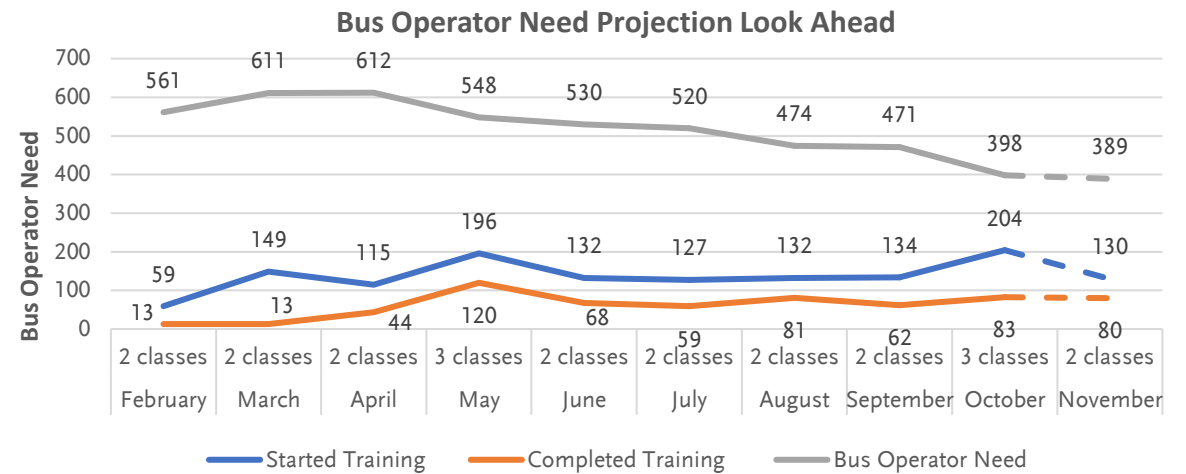
Operator COVID Status

Operator Staffing Levels



Goal

- **Goal: no more than 30 new COVID cases per month for operators**
- **October 2022 total: 37**

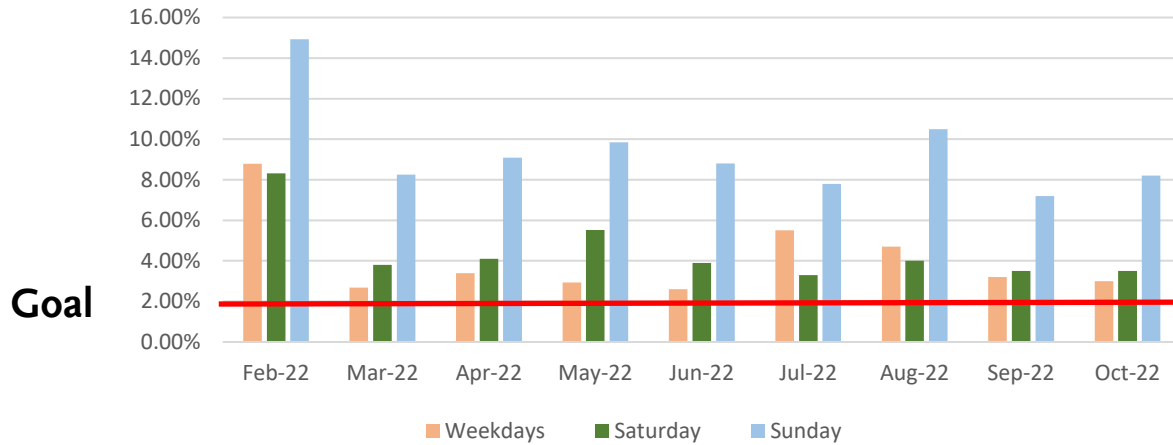


- **Bus Operator 8-week training classes are at a 66% completion rate**
- **October 2022, there were 298 employees in training (204 started and 94 continuing in training), and another 83 completed training**

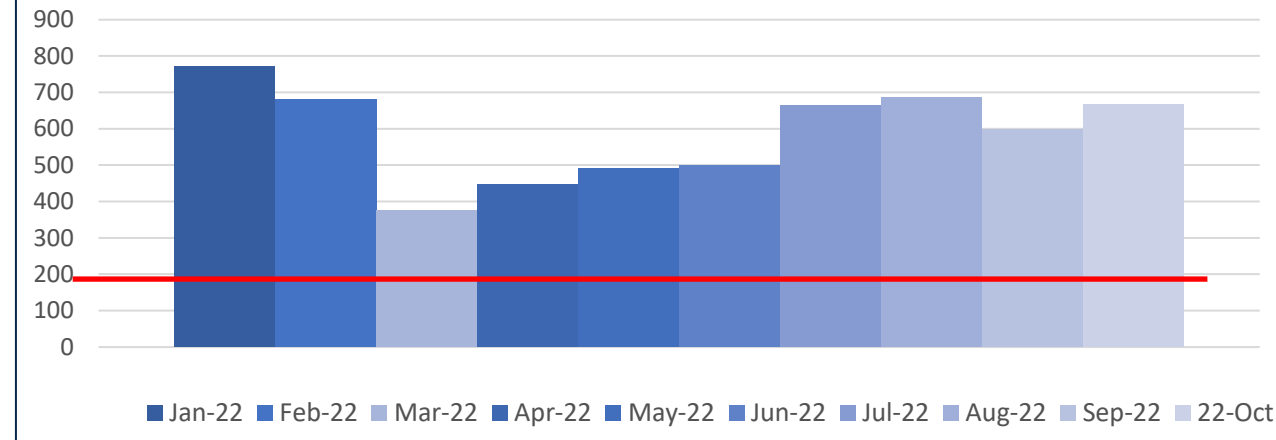
Cancelled Service

Ordered Callbacks

Monthly Cancellations



Ordered Call Backs - Weekly Average



- **Goal: No more than 2.00% systemwide bus service cancellations**
- **October averages compared to 10% in January 2022:**
 - **3.0% Weekday**
 - **3.5% Saturday**
 - **8.2% Sunday**

- **Goal: No more than 200 mandatory (ordered) call backs per week systemwide**
- **February 2022 ordered call back average: 681**
- **October 2022 ordered call back average: 666**

Hiring Initiatives

- Hiring Event on Saturday, October 29th yielded 348 attendees and 315 conditional offers
- Next Hiring Event: Compton Community College (1111 E Artesia Blvd, Compton, CA 90221)
- Date: December 17, 2023
- Time: 8:00am – 1:00pm

Employee Recognition and Events

- We will be having Holiday Luncheons this year. Each Division will plan their own event
- Gateway will be having a Holiday Breakfast

Employee Engagement

Bus Roadeo

- October 22, 2022 (Santa Anita Racetracks)
- 700 Attendees
- Participating departments included: Northrup Grumman Credit Union, ICMA, LAPD, LASD, SMART, EEO, and Communications Department
- Bus Roadeo activities included competitions for Bus Operator, Mechanics, and Service Attendants, as well as car show, face painting, balloon animal, superhero activities and bike raffle for the kids
- **Award Winners:**
 - **Bus Operator**
 - 1st Place: Herman Gavia #28090 (Division 3)
 - **Mechanic**
 - 1st Place: Division 13
 - Alain Gomez #27861
 - Octavio Ortega Ramirez #88889
 - Edward Hinojosa #89753
 - **Service Attendants**
 - 1st Place: Francisco Morales #43165 (Division 7)



Rail Roadeo

- Date: November 5, 2022 (Division 24 – Monrovia)
- 300-350 Attendees
- Competitions include: Uniform/Rulebook, Pre-departure, Roadeo Course, Customer Service, and Safety Test
- Activities to include: Games, Face Painting, Balloon Animals, Bike Raffle, Ice Cream Truck
- **Award Winners:**
 - **Train Operator**
 - 1st Place: Jesse Lopez (E Line)
 - **Maintenance Specialist:**
 - 1st Place: Parker Rounds (L Line)





Board Report

File #: 2022-0728, File Type: Informational Report

Agenda Number: 43.

**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022**

SUBJECT: FULL RESTORATION OF METRO BUS SERVICE (7 MILLION REVENUE SERVICE HOURS) AS PART OF DECEMBER 2022 SERVICE CHANGE

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE a status report on the full restoration of Metro bus scheduled service (7 million revenue service hours) effective December 11, 2022 as part of Metro's December 2022 service change.

ISSUE

Metro will return to a full 7 million revenue service hours (annualized) as part of the bus service change effective Sunday, December 11, 2022. This is the final phase of restoring the full pre-COVID 7 million revenue service hours (annualized) based on the NextGen Bus Plan approved by the Metro Board in October 2020. With these changes, annualized bus revenue service hours will increase from 6.7 million revenue service hours to 7 million revenue service hours, the final phase in restoring full scheduled service following the reduction made in February 2022 due to a shortage of bus operators.

BACKGROUND

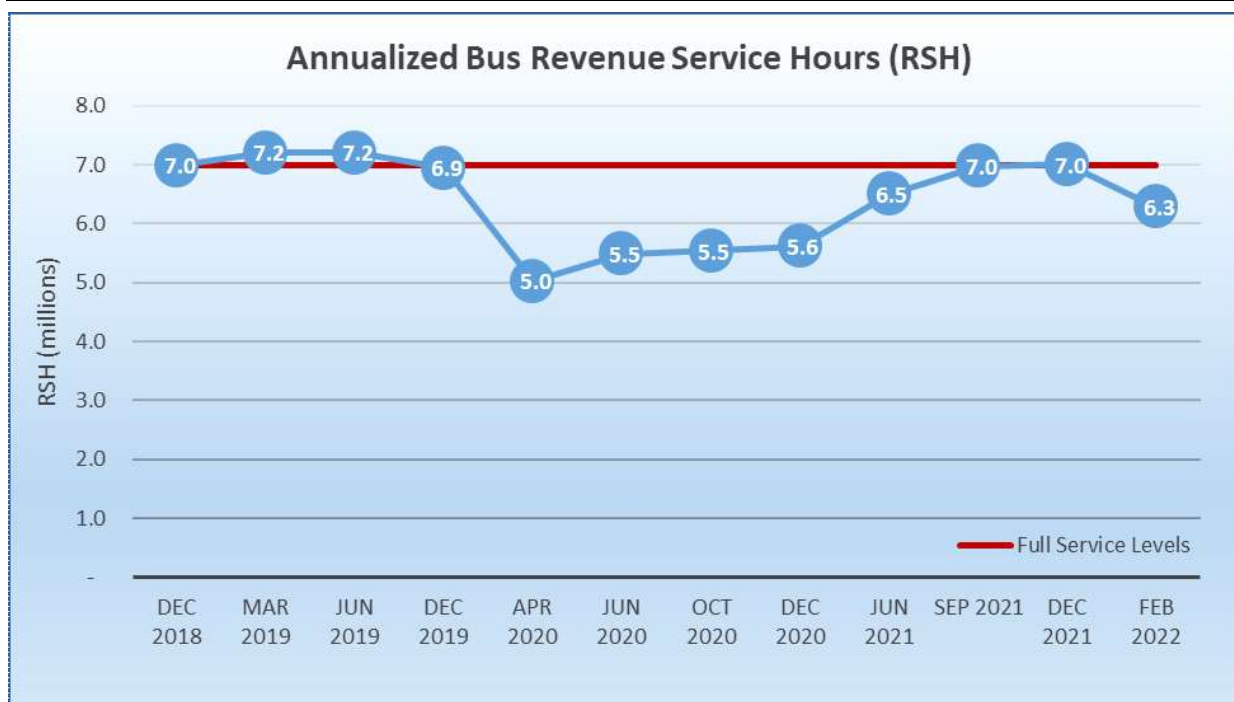
Metro's twice-annual service change program allows Metro to improve the customer experience through revised transit routes and schedules. However, since the onset of the pandemic in early 2020, multiple service changes have been implemented to respond to the impacts on ridership and operator availability:

- At the beginning of the COVID pandemic, service levels were reduced by 30% in **April 2020** from 7.0M annualized Revenue Service Hours (RSH) to 5.0M - representing the deepest cut in service during the pandemic. The reductions were made because of three factors: 1) 70% decline in bus ridership, 2) significant loss of sales tax revenues, 3) high service cancellation rates close to 20% due to operators' COVID infections, taking care of family with the virus, and childcare needs due to the Safer at Home orders.
- As ridership rebounded to about 50% of pre-COVID levels in **June 2020**, service levels were increased to 5.5M annualized RSH to meet additional demand and to ensure social distancing.

- **Motion 10.1 of September 2020** (Attachment A) stated that Metro should prepare an FY21 Operations Recovery Plan that outlined a clear decision-making framework for restoring service and identified the financial and human resources needed at each stage of recovery.

By **June 2021**, ridership rebounded to 65% of pre-COVID levels. As such, and per Board approved Motion 27.1 (Attachment B) by Director Garcetti, service levels were increased to 6.5M annualized RSH.

- Service levels were fully restored to 7.0M annualized RSH in **September 2021** as directed by Motion 27.1.
- Unfortunately, due to the Omicron variant of the COVID virus, Metro experienced a significant increase in operator absences in late 2021/early 2022. This, coupled with the existing operator shortage, consistent with the National labor shortage and higher attrition rates, resulted in a significant shortage of available operators and thus an increase in canceled service (as high as 15%-20%) and ordered call backs of available operators to work. These cancellations disproportionately impacted Equity Focused Communities and contributed to operator fatigue, burnout, and low morale.
- To stabilize the system, a strategic service reduction was made throughout the network, with an equity focus that prioritized higher service levels allocated to Equity Focus Communities with highest propensity to use transit. The changes used a modified version of the NextGen frequency tiers. This temporary service reduction (7.0M RSH reduced by 10% to 6.3M RSH) was implemented in **Feb 2022**.
 - This temporary reduction resulted in a much more reliable and predictable system for our customers, more balanced passenger loads, evened out headways, and demonstrated valuing of our employees by significantly reducing the ordered call backs that were fatiguing our operators resulting in higher attrition.



Conditions for an Equitable and Reliable Service Restoration

At the January 2022 Board meeting, Staff reported that full-service restoration (7.0 M RSH) requires all conditions below to be met:

- No pandemic spike, no more than 30 new COVID cases per month for operators.
- Metro operator numbers (4,003) required to meet the needs of 7.0M RSH.
- No more than 200 mandatory (ordered) call-backs per week systemwide; and
- No more than 2% systemwide bus service cancellations.

The first service restoration was implemented in June 2022, increasing service from 6.3 to 6.5 M RSH (annualized), while a second phase implemented in October 2022 increasing service from 6.5 to 6.7 M RSH (annualized).

Given the shortage of operators, it is anticipated that cancellations and ordered call backs will slightly increase when the December 2022 service change is implemented, as anticipated in previous presentations on service restoration planning. However, as staffing levels increase, cancellations and callbacks are expected to decrease. Similarly, with the June 2022 service changes, cancellations and callbacks increased. However, as of the end of September 2022, the above metrics are each improving:

- New Operator COVID cases per month showed a significant drop from 154 cases in August to 61 cases in September and are likely to meet the target of no more than 30 new cases in the month of October.
- Active bus operator numbers are trending up (3203 as at October 8th). This trend should

continue following a successful hiring fair on September 24th which yielded 230 conditional offers.

- Ordered call backs are also trending down, dropping from 686 in August to 599 in September.
- Bus service cancellations reduced in September compared to August (weekdays 3.2% versus 4.7%; Saturday 3.5% versus 4.0%; Sunday 7.2 versus 10.5%).

Staff will continue to track these metrics closely following the October 2022 service change, the second round of service restoration. There are no changes to rail service levels as part of the December 2022 service change, following the successful launch of the new K Line service on October 7, 2022.

DISCUSSION

The December 2022 service change follows the same service restoration framework used for the June 2022 and October 2022 service changes. This framework focuses on service quality, valuing our employees, and restoring the NextGen Bus Plan service levels. This change restores 300,000 annualized revenue service hours, increasing from 6.7 to 7.0 M RSH (annualized).

An additional 8 weekday, 4 Saturday, and 3 Sunday schedules have been reviewed and adjusted to value our operators by giving them the time needed to operate each trip safely and reliably and obtain rest breaks at the end of trips. Additional long shift lengths will also be reduced. These changes also provide more reliable service for Metro riders.

The changes are consistent with Board approved Motion 43 (Attachment C) by Directors Mitchell, Solis, Bonin, and Garcetti for service restoration and are based on the NextGen Bus Plan. The restoration has 54 weekday, 24 Saturday, and 23 Sunday lines seeing increased service frequencies. The changes are also responsive to customer feedback on the previous service changes, gathered either directly from our riders while promoting service changes at bus stops, through the Metro Customer Service call center, the Metro website, and social media blog (The Source), as well as at the five Metro Regional Service Council meetings each month. A small number of bus route and stop changes are proposed as part of the December 2022 service change, including NextGen Bus Plan changes in San Pedro for Lines 205, 246, and 550 in conjunction with changes to the LADOT San Pedro DASH service. Line 212 will also be adjusted to serve the new Downtown Inglewood K Line rail station. These changes are detailed in Attachment D.

Implementation will include staff attending major stops to inform riders of route changes, as well as printed materials (summary brochure, service change notices, and schedules for each impacted line) available on buses, a special service change section on Metro.net, social media and Source posts, and signage placed at all impacted bus stops informing of the changes.

Metro continues to focus on new operator hiring and retention to continue the full-service restoration of 7 million revenue service hours (annualized) consistent with the NextGen Bus Plan.

EQUITY PLATFORM

The December 2022 service change will improve both the quality and quantity of service provided

across the Metro bus network including in EFCs. 24 of the 63 bus lines seeing added service and 2 of the 8 lines with revised schedules for improved on time performance in the December 2022 service change have greater than 50% of their line miles located in EFCs. Please also refer to Attachment E map and Attachment F service frequency table. The additional service added in the December 2022 service change ensures Metro completes the process of restoring the full 7 million revenue hours of service planned under the NextGen Bus Plan. This plan allocated the highest service levels to EFCs where high quality transit is a key to enhanced mobility for residents. Metro will continue to receive feedback on the changes directly from riders at bus stops, through the Metro Customer Service call center, the Metro website, social media blog (The Source), and at the five Metro Regional Service Council meetings each month.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The service changes support strategic plan goal #1: Provide high quality mobility options that enable people to spend less time traveling. The service changes also respond to the sub-goal of investing in a world class bus system that is reliable, convenient, safe, and attractive to more users for more trips.

NEXT STEPS

Staff will implement the December 2022 service change on Sunday, December 11th, with the marketing of the changes occurring beginning November 28th and continuing up to and beyond the implementation date.

ATTACHMENTS

Attachment A - Motion 10.1
Attachment B - Motion 27.1
Attachment C - Motion 43
Attachment D - Description of December 2022 Service Change
Attachment E - Map of December 2022 Service Improvements
Attachment F - Metro Transit Service Frequencies - December 2022

Prepared by: Joseph Forgiarini, Senior Executive Officer, Service Development (213) 418-3400
Lillia Montoya, Deputy Chief Operations Officer, Admin & Development (213) 922-4061

Reviewed by: Conan Cheung, Chief Operations Officer, (213) 418-3034



Stephanie N. Wiggins
Chief Executive Officer



Metro

Board Report

File #: 2020-0644, **File Type:** Motion / Motion Response

Agenda Number: 10.1.

REGULAR BOARD MEETING SEPTEMBER 24, 2020

Motion by:

DIRECTORS BONIN, GARCETTI, SOLIS, GARCIA, AND KUEHL

Related to Item 10: Fiscal Year 2021 (FY21) Budget

The COVID-19 Crisis has created incredible strain on Metro's operations and finances. An unprecedented drop in sales tax and other revenue has caused a \$1.2 billion decrease in Metro's budget from FY20 to FY21, with additional volatility likely throughout FY21 and beyond. At the same time, COVID-19 health and safety measures and labor agreements have increased operational costs per hour of service. Despite an infusion of federal funding from the CARES Act, Metro still faces an uncertain operations budget that will require continuous updates throughout the fiscal year.

The proposed FY21 budget is an accurate reflection of today's greatly diminished transit service levels. However, maintaining current service levels for the remainder of the fiscal year is not acceptable for riders nor is it consistent with the agency's strategic priorities, including NextGen. At a time when COVID-19 has exposed all of the region's underlying inequities, Metro must plan for and facilitate an equitable recovery that prioritizes the mobility needs of our county's most vulnerable populations, who disproportionately rely on bus service.

Metro should prepare an FY21 Operations Recovery Plan that outlines a clear decision-making framework for restoring service and identifies the financial and human resources needed at each stage of recovery. This Plan should clearly articulate how NextGen parameters are being applied to interim service decisions, in addition to public health and customer experience considerations. Most importantly, this Plan should commit to achieving NextGen's performance outcomes (revenue miles, number of high-frequency lines, number of people with access to frequent service), even if pre-COVID revenue service hours may not be necessary to achieve them.

SUBJECT: FY21 OPERATIONS RECOVERY PLAN

RECOMMENDATION

APPROVE Motion by Directors Bonin, Garcetti, Solis, Garcia, and Kuehl that the Board direct the Chief Executive Officer to:

- A. Report back to the Operations, Safety, and Customer Experience Committee in 60 days, with updates every 60 days thereafter, with an FY21 Operations Recovery Plan that achieves the following outcomes:
1. Aligns bus lines with their respective NextGen service tier standards.
 2. Does not exceed maximum load factors on buses and trains based on industry-accepted health and safety standards.
 3. Sets criteria for adding service in anticipation of future on-street conditions related to economic sector and/or school reopenings and the return of traffic congestion and effect on bus speeds.
 4. Takes full advantage of operational savings from faster bus speeds to achieve performance-based service outcomes.
 5. Restores revenue service hours as appropriate to achieve all of the above outcomes.
- B. Report back to the Finance, Budget, and Audit Committee in 60 days with an amendment to the FY21 Budget, if necessary, to implement the above FY21 Operations Recovery Plan.



Metro

Board Report

File #: 2021-0083, **File Type:** Motion / Motion Response

Agenda Number: 27.1.

**REGULAR BOARD MEETING
FEBRUARY 25, 2021**

Motion by:

DIRECTOR GARCETTI

Related to Item 27: FY22 Revenue Service Hour (RSH) Program Parameters and Motion 11.1 FY21 Service Increase Motion Update

**SUBJECT: AMENDMENT TO FY22 REVENUE SERVICE HOUR (RSH) PROGRAM
PARAMETERS AND MOTION 11.1 FY21 SERVICE INCREASE MOTION UPDATE**

RECOMMENDATION

APPROVE Motion by Director Garcetti that the Board direct the Chief Executive Officer to:

Amend the current timeline to accelerate the implementation of 6.5 million Revenue Service Hours by June 2021 and 7 million by September 2021.



Metro

Board Report

File #: 2022-0050, **File Type:** Motion / Motion Response

Agenda Number: 43.

REGULAR BOARD MEETING JANUARY 27, 2022

Motion by:

DIRECTORS MITCHELL, SOLIS, BONIN, AND GARCETTI

Operations Transparency and Safeguarding Motion

With over 200 separate lines and nearly 80% of total current ridership, bus operations are the backbone of the Metro system. As of the beginning of December, overall ridership has returned to 69% of pre-pandemic levels and bus ridership alone has increased further and returned to over 80% of pre-pandemic levels. Riders both want and need Metro services to reach jobs, school, and essential services.

Providing consistent, reliable bus service is essential for equitable transit. While the system is currently averaging approximately 10 - 15% cancellation rate as of January 2022, cancellation rates are highly concentrated in Equity Focus Communities. According to Metro data, of the top ten lines with the most canceled service, six are in South Los Angeles and all run through Equity Focused Communities.

Metro has not been able to provide its full schedule of service mainly due to a record high operator shortage. If the agency must temporarily decrease scheduled revenue service hours or cancel scheduled service hours to improve service reliability, Metro riders should have greater transparency on how the burden will be more equitably spread throughout the system and how the agency plans to return to full-service levels. Further, while the operator shortage is emblematic of a tight labor market globally, the agency must take substantive steps to urgently attract and retain talent.

SUBJECT: OPERATIONS TRANSPARENCY AND SAFEGUARDING MOTION

RECOMMENDATION

APPROVE Motion by Directors Mitchell, Solis, Bonin, and Garcetti that direct the CEO to:

- A. Set a goal to return to full bus service levels no later than June 2022;
- B. Assume full bus service levels in the FY23 budget;
- C. Report back in 30 days on:

1. Clear metrics for how Metro will determine its readiness to return to 7 million revenue service hours;
 2. Cancellation data by line and division dating back to the September 2021 service update, including geographic trends in cancellations such as, disparities between Equity Focus Communities and non-equity focus communities and division differences;
 3. A methodology for service deployment that prioritizes NextGen Tier 1 lines and lines serving Equity Focus Communities, as well as other emergency service options;
- D. Report back in 60 days with recommendations for improving operator retention and division shortages, including but not limited to:
1. A plan to meet the mental health and wellness needs of current operators and other frontline workers, particularly those who have been victims of assault while on assignment;
 2. Incentives to effectuate the prioritization of NextGen Tier 1 lines and lines serving Equity Focus Communities for bus service;
 3. Recommendations to streamline and retain operators through the training process; and
- E. Report back monthly on scheduled versus actual service during the temporary service reduction period, with detail by line, division, and effect on Equity-Focus Communities; and steps to ensure cancellation data continues to be made publicly available data.

**Attachment D:
December 11, 2022 Metro Bus Service Changes Summary**

Line	Change
10	Improve weekday frequency from every 15 minutes to every 10-15 minutes.
14	Improve weekday frequency from every 10-15 minute to consistently every 10 minutes. Revised schedule weekday, Saturday, Sunday to improve service reliability.
20	Improve weekday peak periods frequency from every 15 minutes to every 10-15 minutes and improve Saturday and Sunday service from every 15 to every 12 minutes. Revised schedule weekday, Saturday, Sunday to improve service reliability.
35	Revised schedule weekday, Saturday, Sunday to improve service reliability.
37	Improve weekday peak frequency from every 10-15 minute to consistently every 10 minutes.
38	Improve weekday peak frequency from every 30-60 minute to every 30-40 minutes.
40	Improve weekday peak frequency from every 10 minute to every 8-10 minutes, improve weekday midday frequency from every 12 minutes to every 10 minutes, and improve Saturday frequency from every 15 minutes to every 12 minutes.
53	Revised schedules weekday, Saturday, Sunday to improve service reliability.
55	Improve weekday peak frequency from every 15 minutes to every 12 -15 minutes and improve Saturday and Sunday frequency from every 23 -30 minutes to every 20 minutes.
60	Improve weekday peak frequency from every 6-8 minutes to every 5-8 minutes. Route now reflects long term detour via Greenleaf Bl at Compton due to closure of Artesia Bl bridge.
62	Improve weekday peak frequency from every 30-60 minute to every 25-60 minutes, improve weekday midday frequency from every 60 minutes to every 25- 45 minutes.
70	Improve Saturday and Sunday frequency from every 12 minutes to every 10 minutes.
76	Improve weekday peak and midday frequency from every 20 minutes to every 15 minutes. Improve Saturday and Sunday frequency from every 22 minutes to every 20 minutes.
78	Improve weekday peak and midday frequency from every 12 minutes to every 10 minutes.
94	Improve weekday peak frequency from every 15 minutes to every 12-15 minutes. Improve Saturday and Sunday frequency from every 30 minutes to every 20-30 minutes.
108	Improve weekday midday frequency from every 15 minute to every 10 minutes.
110	Improve weekday peak and midday frequency from every 20 minutes to every 15 minutes.
115	Improve weekday peak frequency from every 15 minutes to every 12 minutes.
117	Improve weekday peak and midday frequency from every 20 minutes to every 15 minutes.
120	Improve weekday peak and midday frequency from every 50-55 minutes to every 40 minutes.
127	Improve weekday frequency from 45 minute to 20/40 minute. Improve Saturday and Sunday frequency from 60 minute end to end to 30/60 minute.
134	Improve weekday peak frequency from every 30-60 minute to every 20-60 minutes. Improve weekday midday frequency from every 60 minutes to every 40-60 minutes.
150	Improve weekday midday frequency from every 25 minutes to every 20 minutes. Improve Saturday and Sunday evening frequency from every 30-60 minutes to every 20-60 minutes.
152	Improve weekday midday frequency from every 20 minute to every 15 minutes.
161	Improve weekday frequency from every 12 minutes to every 10 minutes.
162	Improve weekday peak frequency from every 15-20 minute to consistently every 15 minutes, improve weekday midday frequency from every 20 to every 15 minutes, and improve Saturday frequency from every 30 minutes to every 20 minutes.
164	Improve weekday peak and midday frequency from every 20 minutes to every 15 minutes.

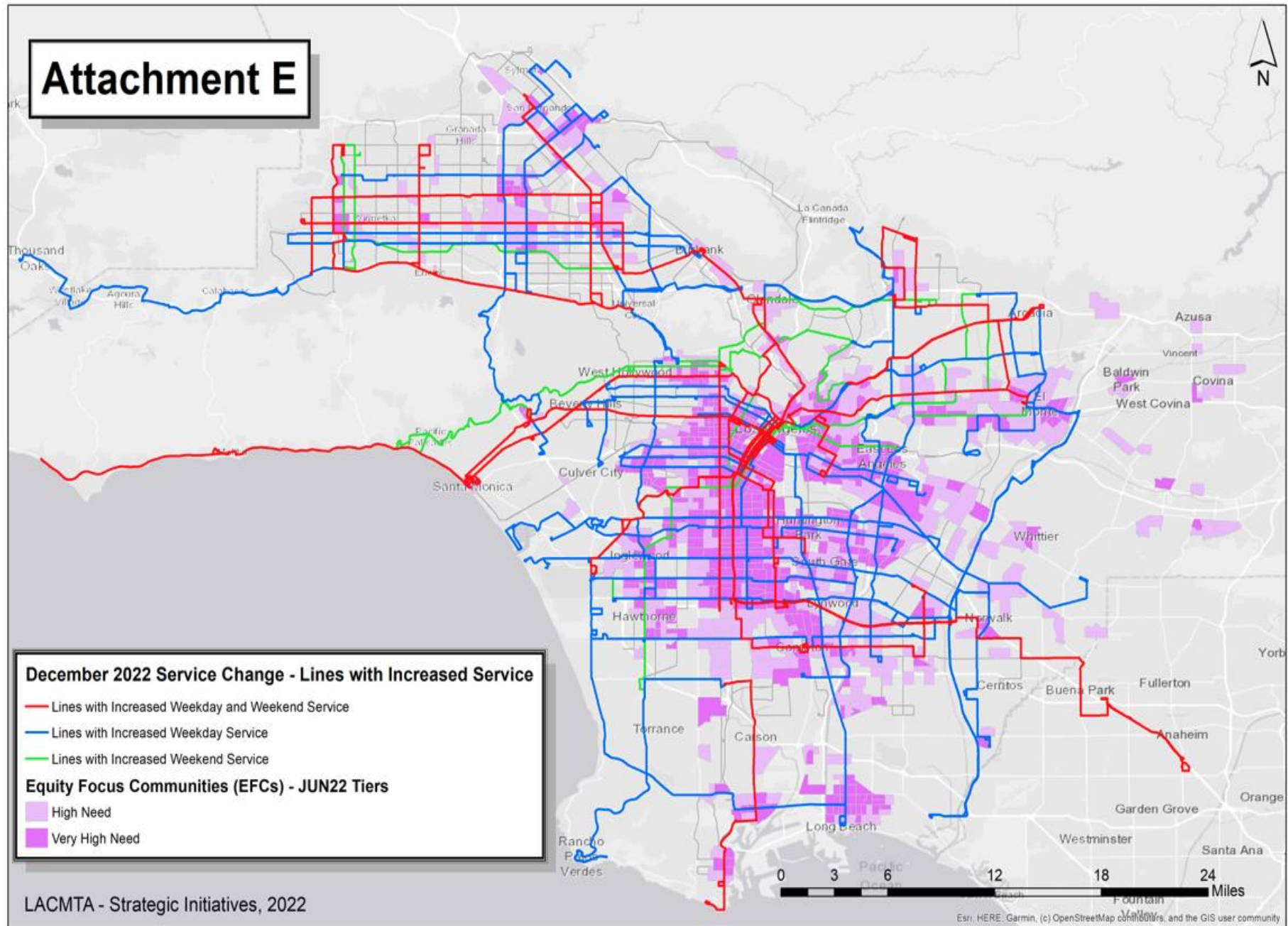
**Attachment D:
December 11, 2022 Metro Bus Service Changes Summary**

165	Improve weekday evening frequency from every 20-60 minutes to every 15-60 minutes.
166	Improve weekday peak frequency from every 15-20 minutes to every 15 minutes. Improve weekday midday frequency from every 20 minutes to every 15 minutes.
177	Improve weekday peak frequency from every 60 minutes to every 30 minutes.
179	Improve weekday peak and midday frequency from every 36 minutes to every 30 minutes.
182	Improve Saturday and Sunday frequency from every 50 minutes to every 30 minutes. Revised schedules weekday, Saturday, Sunday to improve service reliability.
202	Route now reflects long term detour via Greenleaf Bl at Compton due to closure of Artesia Bl bridge.
204	Improve weekday evening frequency from every 12-30 minutes to every 10-30 minutes.
205	As part of the implementation of the NextGen Bus Plan, this line will now travel via Western Av and 7 th St to terminate at Harbor Bl in San Pedro. LADOT San Pedro DASH will serve 1st St and 13th St.
206	Improve weekday midday frequency from every 20 minute to every 15 minutes. Improve Sunday frequency from every 30 minutes to every 20 minutes.
212	Route change. This line will now serve Downtown Inglewood K Line rail station travelling via Florence Av. Improve weekday evening frequency from every 15-35 minutes to every 12-35 minutes.
217	Revised schedule weekday to improve service reliability.
222	Improve weekday frequency north of Universal City/Studio City Station from every 60 minutes to every 30 minutes.
232	Improve weekday peak frequency from every 20 minutes to every 15-20 minutes.
233	Improve weekday midday service from every 12 minutes to every 10 minutes. Improve weekday evening frequency from every 12-60 minutes to every 10-60 minutes.
234	Improve weekday service from every 12 minutes to every 10 minutes. Improve weekday evening frequency from every 12-60 minutes to every 10-60 minutes.
240	Improve weekday midday frequency from every 12 minute to every 10 minutes. Improve Sunday frequency from every 20 minutes to every 15 minutes.
244	Improve Saturday and Sunday frequency from every 45 minutes to every 30 minutes
246	This Line will be altered to travel via Avalaon Bl, Anaheim St, Figueroa St, Pacific Coast Hwy, North Gaffey St., Channel St, John S. Gibson Bl to replace parts of Line 550. Improve weekday frequency from every 40 minutes to every 30 minutes. Improve Saturday and Sunday frequency from every 60 minutes to every 30 minutes.
258	Improve weekday frequency from every 50-60 minutes to every 40 minutes.
260	Route now reflects long term detour via Greenleaf Bl at Compton due to closure of Artesia Bl bridge. Weekday peak frequency increased from every 15 minutes to every 12 minutes.
267	Improve weekday midday frequency from every 60 minutes to every 30 minutes.
268	Improve weekday peak frequency from every 60 minutes to every 30 minutes.
287	Improve weekday peak and midday frequency from every 60 minutes to every 40 minutes.
344	Improve weekday peak frequency from every 40 minutes to every 30 minutes.
460	Improve weekday peak frequency from every 30-40 minutes to every 20-35 minutes. Improve weekday midday frequency from every 30-45 minutes to every 25-35 minutes. Improve Saturday and Sunday frequency from every 45 minutes to every 30 minutes.
487	Improve Saturday and Sunday frequency from every 60 minutes to every 45 minutes.
501	Improve weekday peak frequency from every 30 minutes to every 20 minutes.

**Attachment D:
December 11, 2022 Metro Bus Service Changes Summary**

550	As part of the NextGen Bus Plan, this line will be altered to just operate weekday peak periods every 30 minutes between Harbor Gateway Transit Center and University of Southern California. Lines 205 and 246 are modified in San Pedro on 7 th St and North Gaffey St. respectively.
577	Improve weekday peak frequency from every 45 minutes to every 30 minutes.
602	Improve Saturday and Sunday frequency from every 60 minutes to every 45 minutes.
603	Improve weekday and Saturday frequency from every 15 minutes to every 12 minutes.
605	Improve weekday frequency from every 20 minutes to every 15 minutes. Improve Saturday and Sunday frequency from every 40 minutes to every 20 minutes.
617	Improve weekday frequency from every 60 minutes to every 45 minutes.
662	Improve weekday, Saturday, and Sunday frequency from every 50 minutes to every 30 minutes.
754	Improve weekday frequency from every 12 minutes to every 10 minutes.
761	Improve weekday evening frequency from every 20-30 minutes to every 15-30 minutes.
901	Improve the G Line (Orange) Sunday frequency from every 12 minutes to every 10 minutes.

Attachment E



Attachment F - Metro Transit Service Frequencies effective December 11, 2022

Line(s)	Weekday	Weekday	Weekday	Saturday	Saturday	Sunday	Sunday	Owl Symbol
	6-9am, 3-7 pm	9am-3pm	7pm-12 am	9 am - 7 pm	7pm - 12 am	9 am - 7 pm	7pm - 12 am	
	Peak	Midday	Evening	Daytime	Evening	Daytime	Evening	
2	7.5	10	20-30	10	20-30	10	20-30	Y
4	7.5	7.5	10-15	10	10-15	10	10-15	Y
10	12-15	15	20-60	20	40-60	20	40-60	
14	10	15	20-60	15	20-60	15	20-60	Y
16	5-6	7.5	10-30	7.5-10	10-30	7.5-10	10-30	Y
18	6	7.5	10-35	7.5	20-35	7.5	20-35	Y
20	10-15	12	20-30	12	20-30	12	20-30	Y
28	6-8	10	20-30	12	20-30	12	20-30	
30	7.5	10	20-30	10	20-40	10	20-40	Y
33	7.5	7.5	12-30	10	20-30	10	20-30	Y
35	15	15	40-60	20	40-60	20	40-60	
37	10	15	20-60	15	20-60	15	20-60	Y
38	30-40	30	30-40	40	30-40	40	30-40	
40	8-10	10	15-60	12	15-60	15	15-60	Y
45	6-10	10	10-60	10	20-60	10	20-60	Y
48	30	30	60	40	60	40	60	
51	5	7.5	10-60	7.5	10-60	10	15-60	Y
53	10	10	15-60	15	20-60	15	20-60	
55	12-15	15	20-60	20	30-60	20	30-60	Y
60	5-8	10	10-60	10	15-60	10	20-60	Y
62	25-60	25-45	50-60	45-60	50-60	45-60	50-60	
66	7.5-10	10	10-60	15	20-60	15	20-60	
70	7.5	7.5	15-60	10	15-60	10	15-60	Y
76	15	15	30-60	20	30-60	20	30-60	Y
78	10	10	20-30	15	20-30	15	20-30	
81	15	15	20-60	15-20	20-60	15-20	20-60	Y
90	20	20	30-60	30	30-60	30	30-60	
92	20	20	30-60	30	45-60	30	45-60	Y
94	12-15	15	30-60	20-30	30-60	20-30	30-60	
96	45	45	-	60	-	60	-	
102	60	60	60	60	60	60	60	
105	10	10	15-60	15	15-60	15	15-60	Y
106	20-40	20-40	25-40	40	45	40	45	
108	7.5-10	10	20-60	15	20-60	15	20-60	
110	15	15	25-60	30	45-60	30	45-60	
111	10	10	15-40	15	20-40	15	20-40	
115	12	15	20-60	15-20	20-60	20	20-60	
117	15	15	15-60	30	30-60	30	30-60	
120	40	40	60	60	60	60	60	
125	20	20	30-60	30	30-60	30	30-60	
127	20-40	20-40	30-40	30-60	30-40	30-60	30-40	
128	50-60	50-60	50-60	50-60	50-60	50-60	50-60	
134	20-60	40-60	60	45	-	45	-	
150	20	20	30-60	30	30-60	30	30-60	
152	15	15	20-60	20	20-60	20	20-60	
154	60	60	60	60	60	60	60	
155	60	60	60	60	60	60	60	
158	60	60	60	60	60	60	60	
161	30-60	60	-	60	-	60	-	
162	15	15	15-60	20	25-60	30	30-60	Y
164	15	15	15-60	30	45-60	30	45-60	
165	15	15	15-60	30	40-60	30	40-60	
166	15	15	20-45	30	30-45	30	30-45	
167	50-60	50	55-60	50-60	55-60	50-60	55-60	
169	60	60	60	60	60	60	60	
177	30	-	-	-	-	-	-	
179	30	30	30-60	45	45-60	45	45-60	
180	10	10	10-30	10-12	15-30	10-12	15-30	Y
182	30	30	30-50	30	35-50	30	35-50	
202	60	60	-	-	-	-	-	

204	10	10	10-30	12	20-30	12	20-30	Y
205	30	30	30-60	55	60	55	60	
206	15	15	30-60	20	30-60	20	30-60	
207	6-7.5	7.5	8-25	10	10-25	10	10-25	Y
209	60	60	-	-	-	-	-	
210	10	10	15-55	10	15-60	10	15-60	
211, 215	50-55	-	-	-	-	-	-	
212	10	10	12-35	15	20-35	15	20-35	
217	10	10	15-30	15	15-30	15	15-30	Y
218	55	55	55-60	55	55-60	55	55-60	
222	30-60	30-60	30-60	60	60	60	60	
224	15	15	20-60	20	20-60	20	20-60	Y
230	20-30	30	30-60	35	35-60	35	35-60	
232	15-20	30	30-60	30	40-60	30	40-60	
233	10	10	10-60	12	20-60	12	20-60	Y
234	10	10	10-60	15	20-60	15	20-60	Y
235	60	60	-	-	-	-	-	
236	60	60	60	60	60	60	60	
237	60	60	60	60	60	60	60	
240	10	10	10-30	15	15-30	15	15-30	Y
242, 243	40	40	40	40	40	40	40	
244	30	30	30	30	30	30	30	
246	30	30	30-40	30	30-40	30	30-40	Y
251	7.5	10	15-45	10	20-45	10	20-45	Y
256	50	50	50	50	50	50	50	
258	40	40	40	60	60	60	60	
260	12	15	20-50	20	30-55	20	30-55	
265	60	60	60	60	60	60	60	
266	20	20	20-55	30	30-35	30	30-35	
267	30	30	45-60	60	-	60	-	
268	30	60	60	60	60	60	60	
287	40	40	60	60	60	60	60	
294	30	30	30-60	30	30-60	30	30-60	
344	30	60	45-60	60	60	60	60	
460	20-35	25-35	30-55	30	30-55	30	30-55	
487	40	40	40	45	45	45	45	
489	40	-	-	-	-	-	-	
501	20	30	30	40	40	40	40	
550	30	-	-	-	-	-	-	
577	30	45	45	-	-	-	-	
601	20	20	20	20	20	20	20	
602	45	45	60	45	60	45	60	
603	12	12	15-30	12	15-30	15	20-30	
605	15	15	-	20	20	20	-	
611	60	60	60	60	60	60	60	
617	45	45	60	60	60	60	60	
660	30	30	30	30	30	30	30	
662	30	30	30-60	30	30-60	30	30-60	
665	60	60	60	60	-	60	-	
686	60	60	60	60	60	60	60	
690	30	30	30	40	40	40	40	
720	3-5	7.5	7.5-20	7.5	12-20	7.5	12-20	
754	10	10	20-30	15	30	15	30	
761	15	15	15-30	30	30	30	30	Y (see 233)
854	20	20	20	20	20	20	20	
901	6	10	10-20	10	12-20	10	12-20	Y
910	5	10	12-40	15	15-40	15	15-40	Y
950	15	30	-	30	-	30	-	
A (Blue)	10	12	10-20	12	15-20	12	15-20	
B (Red)	15	15	15-20	15	15-20	15	15-20	
C (Green)	10	15	15-20	15	15-20	15	15-20	
D (Purple)	15	15	15-20	15	15-20	15	15-20	
E (Expo)	10	12	10-20	12	15-20	12	15-20	
K Line	10	12	10-20	12	15-20	12	15-20	

L (Gold)	10	12	10-20	12	15-20	12	15-20	
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December 2022

Full Bus Service

Restoration &

Service Changes

Effective Sunday 12/11/22

Operations, Safety, and Customer
Experience Committee

November 17, 2022



Metro[®]

December 2022 Service Change

Service Quality

- **Service Restoration: Completes Restoration of NextGen Bus Plan Service Level (7M Revenue Service Hours)**
- **Adjust services for improved reliability**



Valuing Our Employees

- **Match schedules to increased traffic conditions**
- **Eliminate longest assignments**
- **More frequent service to spread out loads**



NextGen

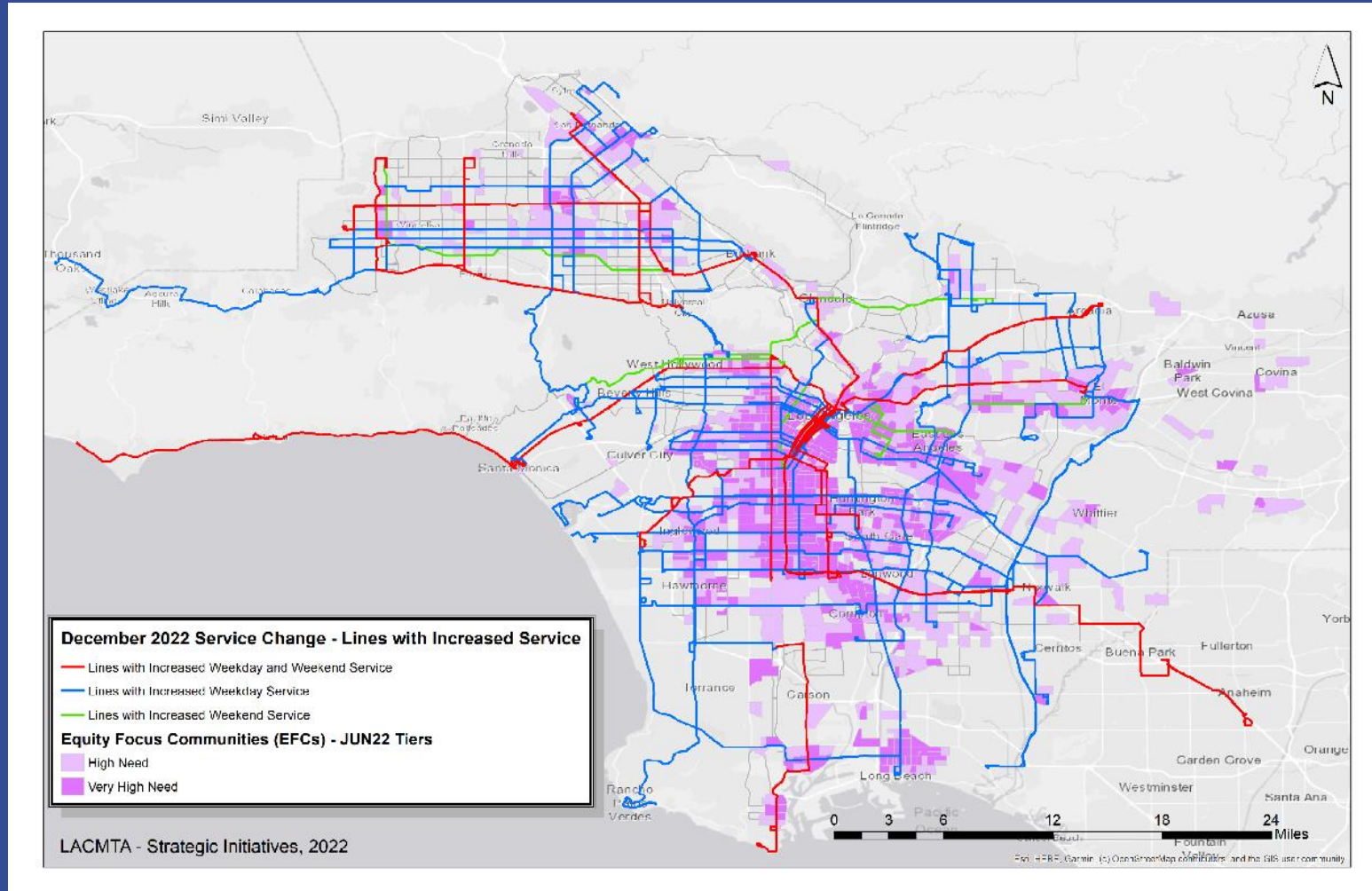
- **NextGen route changes in San Pedro and Wilmington in conjunction with LADOT San Pedro DASH service change.**
- **La Brea Av Line 212 via new Crenshaw K line downtown Inglewood Station.**
- **Other minor changes due to street changes.**



Service Restoration & Reliability

- The December 2022 service change will continue the increase in total revenue service hours from 6.7 million to 7.0 million.
- Service frequency restoration will include 55 Weekday , 24 Saturday, 23 Sunday bus lines having increased service frequency, providing extra capacity for riders
- 8 weekday, 4 Saturday, 4 Sunday bus lines have adjusted schedules to provide more time to improve reliability.

Service Restoration



Service Changes

- NextGen route changes to three Metro bus lines in San Pedro and Wilmington in conjunction with LADOT San Pedro Dash changes.
- La Brea Line 212 rerouted via Crenshaw K Line Downtown Inglewood Station.
- Seven other lines with stop and/or route changes due to street changes.

Implementation

- Internal coordination through implementation team
- Staff will support customers in areas with significant changes
- Informational signs will be installed at all bus stops impacted by route changes.
- Information alert signs, brochures on buses & at customer service centers.
- Updated bus stop blades will be installed by service change date
- Online “MyBus” information portal
- Social media and print media releases
- Printed schedules will be available on buses and at usual outlets



Thank You!



Board Report

File #: 2022-0426, File Type: Informational Report

Agenda Number: 44.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
NOVEMBER 17, 2022

SUBJECT: NEXTGEN BUS PLAN EFFECTIVENESS ASSESSMENT

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE the NextGen Bus Plan Effectiveness Assessment.

ISSUE

In October 2020, the Board adopted the NextGen Bus Plan for the implementation of a fast, frequent, and reliable bus network for riders. Phased implementation of network restructuring began in December 2020, with additional phases implemented in June 2021 and September/December 2021.

This report assesses the potential effectiveness of the NextGen Bus Plan in comparison to the previous service in place in December 2019. A separate report is provided periodically for Motion 22.1 entitled NextGen Bus Speed Engineering Working Group to report on key milestones of progress in the implementation of the NextGen speed and reliability improvements.

BACKGROUND

The NextGen Bus Plan, the first comprehensive review of the Metro bus network in a generation, focused on establishing a fast, frequent, and reliable network that was easy to understand and competitive in the overall market for travel in LA County. This new network would be capable of supporting growth in overall ridership for the bus system through addressing opportunities to be more competitive at off peak-times and for shorter distance trips.

The implementation of the NextGen Bus Plan, with its associated bus line restructuring and the establishment of a set of service frequency tiers, was largely completed in December 2021.

Through the three-phase implementation of the NextGen Bus Plan, as of December 2021, Metro’s 119 bus lines had service schedules within the following frequency tiers as shown in Table 1 below:

Table 1: NextGen Frequency Tiers - as of Dec 2021

Service Type	Peak Weekday	Midday Weekday	Evening	Weekend	Number of Lines
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Core Network (Tier 1)	5-10	5-10	10- 15	7.5-15	31
Convenience Network (Tier 2)	12-15	12-15	20- 30	15 - 30	23
Connectivity Network (Tier 3)	20 - 30	20-30	30 - 60	30 - 60	26
Community Network (Tier 4)	40 - 60	40-60	60	60	39

DISCUSSION

The NextGen Bus Plan established a hierarchy of service frequencies as a key part of the roll out of a frequent, fast and reliable network. This report assesses the effectiveness of the NextGen Bus Plan compared with the December 2019 (pre-NextGen) network in serving actual overall trips (irrespective of travel mode) and transit trips recorded for an average weekday in 2019 (pre-COVID) using Location Based Services (cell phone location) data.

The assessment is based on the following NextGen objectives:

- Convenient Access to High Frequency Service (NextGen Frequent Network)
- Transit Service Competitiveness
- Travel Time Improvements
- Convenient Access to Key Destinations

Convenient Access to High Frequency Service (NextGen Frequent Network):

Access to the NextGen network was reviewed based on assessing the change in access to frequent service for various groups. These included:

- The number and percentage of households, population
- The number of zero or 1+ car households
- The number of essential and non-essential low-income workers.

The assessment was based on residential location, (including populations in Equity Focus Communities (EFCs) or non-EFCs (as defined in 2019). Convenient access was defined by 0.25 mile walk access to frequent service, and frequent service was assessed based on two levels of convenience available at each bus stop by PM peak and off peak:

- Access to 10 minute or better weekday service frequencies (NextGen Tier 1), or
- Access to 15 minute or better weekday service frequencies (NextGen Tier 1 and 2)

A summary of the findings is provided below. More details can be found in Appendix A of this report.

- The most notable result was a 716% increase in total population, and 614% increase in households, with access to the frequent network of 10 minute or better lines in the weekday midday period between December 2019 (pre-NextGen) and December 2021 (with NextGen). Population in EFCs gained slightly more (721%) than in non-EFCs (708%). Zero car households saw a 415% increase. Frequent service to essential jobs and non-essential jobs increased by 369% and 351% respectively.
- Convenient access to the 10 minute or better network during the PM peak period also showed significant gains, up between 28% (non-essential jobs) and 65% for non-EFC population

(EFC population increased by 49%). These results support the objective of allocating more service frequencies of 10 minute or better during the weekday midday time period in the NextGen Bus Plan.

- Through the NextGen Bus Plan, over 2.2 million more people have convenient access to 10 minute or better service midday weekdays, with 1.3 million of these people residing in EFCs. Over 1.1 million more jobs were also accessible through the 10 minute or better service under the NextGen Bus Plan.
- The NextGen Bus Plan also increased peak period weekday access to 10 minute or better service, with over 900,000 more people overall having convenient access to this network, with just under 500,000 more people in EFCs gaining this access.
- The same assessment for access to 15 minute or better service saw smaller gains, with midday weekday gains ranging from 38% to 69%, and peak period gains ranging from zero to a high of 4% for the population in EFCs.
- These results reflect the reality that a greater proportion of lines had 15 minute or better service pre-NextGen, especially during peak periods, though NextGen Bus Plan still provides improved access to the frequent (15 minute or better) network, especially in the midday period.
- Through the NextGen Bus Plan, over 1.4 million more people have convenient access to 15 minute or better service midday weekdays, with 720,000 of these people residing in EFCs. Over 550,000 million more jobs were also accessible through the 15 minute or better service under the NextGen Bus Plan.

Overall population with access to 15 minute or better peak hour service under the NextGen Bus Plan grew by 65,000 more and almost 72,000 more people in EFCs gaining this access, and 9,000 more jobs being accessible to this frequent network. These smaller numbers reflect the pre-NextGen network having many lines with 15-minute or better peak frequency.

For more data for these groups, please see Tables 2 and 3 in Appendix A.

Transit Service Competitiveness

A key measure of the potential for success in attracting new ridership was the Transit Competitiveness Ratio. Trips were considered competitive if the transit travel time was less than 2.5 times the duration of auto travel time.

Based on (LBS) data, or cell phone location data, for all trips (including transit), the number of trips with transit competitive travel times < 2.5 times the private auto increased by 2.4% (from 22.1% to 24.5% of all trips) under the NextGen Service Plan. The analysis was also completed for the trips of residents of EFCs where transit competitive trips increased by + 3.3% (from 26.2% to 29.3% of all trips).

This equates to over 580,000 extra trips that were transit competitive using the NextGen Bus Plan network, with 240,000 of these trips being for residents of EFCs. More details can be seen in Tables

4, 5, and 6 in Appendix A.

A similar analysis was conducted for transit trips based on TAP card data, comparing transit competitiveness between the pre pre and post NextGen Bus Plan networks.

The results of this analysis showed the NextGen network had 4.7% more transit competitive trips (47.3% versus 42.6%, or +45,000 trips), suggesting the NextGen network should retain more existing riders as well as generate more rides than the pre-NextGen network could have.

The percent of competitive transit trips grew for residents of EFCs by (5.1% (from 44.0% to 49.1% or + over 29,000 trips), greater than for trips of residents in non-EFCs which grew by 4.1% (40.6% to 44.7%, or + over 16,000 trips). For more details, please see Tables 7, 8, and 9 in Appendix A.

The data on transit competitiveness clearly shows the NextGen Bus Plan as capable of generating over 45,000 more competitive trips than the pre-NextGen network, with 29,000 of these for residents of EFCs.

Travel Time Comparison:

A travel time comparison was also conducted in terms of transit travel times in intervals of 15 minutes for all trips and for transit trips between the December 2019 service plan and the NextGen Bus Plan. Results show a 13% gain (+ over 500,000 trips) for all trips irrespective of travel mode and a 20% gain (+ over 27,000 trips) for transit trips now taking 30 minutes or less. These results show the ability of the NextGen network to allow more trips to be completed in these shorter (30 minute or less) travel times, which is particularly important for the NextGen network to be competitive for shorter distance travel. As a result, the number of trips taking longer (45 to 120 min. range) diminished under the NextGen Bus Plan.

The travel time comparison also looked at the percentage of all trips and transit trips for residents in EFCs versus residents in non-EFCs. Comparable gains are shown for both groups for both all trips and transit trips, but the percent gain for trips moving to the 30 minute or less travel time is much larger for transit trips (20%) compared to all trips (12-13%). For more details on these travel time comparisons, please see Tables 10, 11, 12, and 13 in Appendix A.

The travel time comparisons provided show the NextGen Bus Plan having over 500,000 extra trips with shorter (30 minute or less) travel times compared to the pre-NextGen network. Over 27,000 extra transit trips were also 30 minutes or less with the NextGen Bus Plan, helping this new network compete more successfully for new ridership, especially for shorter distance trips noted as a potential growth market for transit.

Destinations on High Frequency Network

This section analyzes the number of key facilities in various groups such as higher education institutions, health care, grocery stores, and parks. These are examined for access (within 0.25 miles) to both the 10-minute or better and 15-minute or better NextGen networks. Gains are substantial for the 10-minute network for midday service, ranging from +142% (Education) to +392% (Parks). Gain for the midday 15-minute network were between 35% (Education) and 73% (Parks). PM peak gains were less, between +10% (Health Care) to +24% (Parks) under the 10-minute or better network, with gains of between 3% (Education) and 7% (Grocery Stores and Parks) for the 15-minute network.

This analysis shows the benefit of the NextGen Bus Plan for access to key destinations, especially by the 10 minute or better NextGen network during midday, which is exactly what the NextGen Bus Plan was intended to achieve through significant investment in off peak service.

For more details, please see Tables 14 and 15 in Appendix A.

Ridership Benefitting from the High Frequency Network

A review of the percentage of transit trips in the 2019 transit trips data set that would use the 10 minute or better or 15-minute or better networks was completed.

This data shows significant gains for usage of the NextGen Bus Plan frequent network (60.6% for 10 minute or better service, 82.8% for 15-minute or better service), compared to around 48% of riders for the pre-NextGen network having access to 10-minute or better service.

Implementation:

In implementing the NextGen Bus Plan, key public comments included riders concerned with the need to make more transfers to complete their trips, as well as some concerns about reduction in bus stops (balance between service speed and access).

As a result of feedback from the public, there have been a small number of stops added back to assist groups such as seniors and those with disabilities in having easier access to the system, or where network simplicity was achieved at the expense of convenience (such as Oliver View Medical Center Lines 224 and 690).

This process of review and refinement will continue to ensure the NextGen Bus Plan achieves the maximum possible ridership benefits.

Conclusion

In summary, the results of this analysis suggest the NextGen Bus Plan as designed has delivered a more accessible and competitive service compared with the pre-NextGen network.

Additional speed improvements and associated service frequencies together with the full delivery of planned service with more bus operators hired by 2023, should continue to improve these metrics. This will allow NextGen Bus Plan to maximize the increase in bus system ridership as intended.

DETERMINATION OF SAFETY IMPACT

This item has no direct impact on safety.

FINANCIAL IMPACT

There are no financial impacts to the receipt of this item.

EQUITY PLATFORM

The NextGen Bus Plan was developed with an equity lens, placing service in Equity Focus Communities where transit was more likely to provide a key mobility option for residents. The above analysis shows solid gains in transit competitiveness through improved transit travel times. This is for EFC residents, for all trips and even more so for trips made on transit. This report suggests the gains from NextGen have flowed primarily to EFC residents who rely most on transit. These gains should continue to improve as bus speed and reliability improvements will increase the competitiveness of the NextGen Bus Plan.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The results presented here demonstrate support of strategic plan goals 1-4 as follows:

- **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, Caltrans, City and County of Los Angeles are necessary to ensure these speed and reliability improvements are successfully implemented.

NEXT STEPS

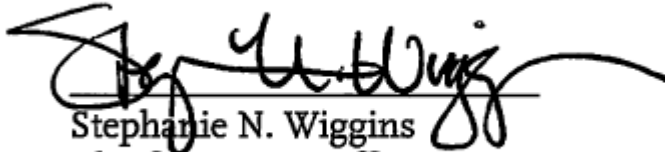
The full restoration and reliable delivery of the NextGen Bus Plan's 7 million revenue service hours included in FY23 Budget remains the highest priority for the agency, together with delivering the NextGen Bus Speed and Reliability initiatives to complete the implementation of NextGen Bus Plan and deliver its intended benefits to existing and potential future riders.

ATTACHMENTS

Appendix A NextGen Bus Plan Effectiveness Details

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Stephanie N. Wiggins
Chief Executive Officer

Appendix A – NextGen Bus Plan Status Update

Through the implementation of the NextGen Bus Plan, largely completed as of December 2021, Metro’s 119 bus lines had service schedules within the following frequency tiers as shown in Table 1 below:

Table 1: NextGen Frequency Tiers – as at Dec 2021

Service Type	Peak Weekday	Midday Weekday	Evening	Weekend	Number of Lines
Core Network (Tier 1)	5-10	5-10	10- 15	7.5-15	31
Convenience Network (Tier 2)	12-15	12-15	20- 30	15 – 30	23
Connectivity Network (Tier 3)	20 - 30	20-30	30 - 60	30 – 60	26
Community Network (Tier 4)	40 - 60	40-60	60	60	39

This appendix contains data that allows an assessment of the effectiveness of the NextGen Bus Plan, in terms of accessibility to and usability of this new network as implemented by December 2021.

Convenient Access to High Frequency Service (NextGen Frequent Network):

Access to the NextGen network was reviewed based on assessing the change in access to frequent service for various groups. These included the number and percentage of households, population (including populations in Equity Focus Communities (EFCs) or non-EFCs (as defined in 2019), zero or 1+ car households, based on residential location, with convenient 0.25 mile walk access to frequent service. Also assessed was convenient access to essential and non-essential low income workers. Frequent service was assessed based on two levels of convenience:

- Access to 10 minute or better weekday service frequencies (known as Tier 1), or
- Access to 15 minute or better weekday service frequencies (Tier 1 and 2)

These assessments are presented in Tables 1 and 2 below.

Table 2: 0.25 Mile Access to 10 Minute or Better Frequency

Comparison of 0.25 Mile Access to 0-10 min Network	Midday Dec 2019	Midday Dec 2021	2021 vs 2019 Change	PM Peak Dec 2019	PM Peak Dec 2021	2021 vs 2019 Change
Total Households	124,155	886,488	614%	584,904	894,466	53%
Total Population	313,329	2,555,872	716%	1,656,417	2,572,188	55%
Population in EFCs	184,744	1,516,628	721%	1,017,812	1,515,866	49%
Population in non-EFCs	128,585	1,039,244	708%	638,606	1,056,321	65%
No Vehicle Households	26,823	138,087	415%	100,204	138,741	38%
1+ Vehicles Households	97,332	748,401	669%	484,700	755,725	56%
Essential Jobs (< \$1250 per month)	63,335	296,811	369%	212,849	298,946	40%
Non-Essential Jobs (> \$1250 per month)	264,705	1,194,292	351%	945,922	1,206,860	28%

Table 3: 0.25 Mile Access to 15 Minute or Better Frequency

Comparison of 0.25 Mile Access to Frequent (15 min. or better) Network	Midday Dec 2019	Midday Dec 2021	2021 vs 2019 Change	PM Peak Dec 2019	PM Peak Dec 2021	2021 vs 2019 Change
Total Households	781,162	1,241,143	59%	1,206,228	1,224,785	2%
Total Population	2,229,233	3,675,208	65%	3,554,138	3,618,480	2%
Population in EFCs	1,312,666	2,036,097	55%	1,950,258	2,022,040	4%
Population in non-EFCs	916,568	1,639,111	79%	1,603,880	1,596,440	0%
No Vehicle Households	122,008	172,818	42%	166,893	171,382	3%
1+ Vehicle Households	659,154	1,068,325	62%	1,039,335	1,053,403	1%
Essential Workers (< \$1250 per month)	271,957	408,761	50%	406,308	401,429	-1%
Non-Essential Workers (> \$1250 per month)	1,095,933	1,513,389	38%	1,480,110	1,493,916	1%

Transit Competitiveness Comparisons

Research conducted as part of the NextGen Bus Study identified that trips were transit competitive, meaning transit was able to attract a higher mode share, if the transit travel time was less than 2.5 times the duration of auto travel time.

Data represented in Tables 4, 5, and 6 below are from analysis of all trips made, irrespective of travel mode. These were obtained from millions of Location Based Services (LBS) records (cell phone location data) and can be considered to represent the pool of “potential transit trips” that the NextGen Bus Plan can attract to transit usage. All of these millions of trip records were assessed for travel time on transit and travel in a car.

Overall travel was captured using LOCUS data from 2019 Q3 and Q4, which involved translating terabytes of location-based services data collected from millions of smartphone devices from across the nation into carefully calibrated and extensively validated estimates of travel in the region. Transit estimates for 2019 were generated using the 2017 expanded TAP Card data (applied for NextGen Bus Study) adjusted based on Metro’s 2019 Automatic Passenger Counter (APC) data and 2019 ridership data from the larger LA County municipal operators. All transit data (TAP Card, APC, and ridership data) came from a four month period (July-Oct) of their respective years.

The comparison of travel times for these two trip modes was used to assess the competitiveness of transit for use for each trip, with trips with transit travel time 2.5 or less times auto travel time considered competitive. Table 4 summarized all trips while Table 5 looked at trips by residents of EFCs and Table 6 looked at trips by residents of non-EFCs.

Table 4: Transit Competitiveness Comparison (All Trips) Dec 2021 vs Dec 2019

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 - 1.0	162,760	171,872	0.7%	0.7%
1.0 - 1.5	612,744	709,145	2.6%	3.0%
1.5 - 2.0	1,697,031	1,911,198	7.1%	8.0%
2.0 - 2.5	2,786,781	3,052,534	11.7%	12.8%
2.5 - 3.0	3,379,811	3,543,726	14.2%	14.9%
3.0 - 3.5	3,225,281	3,261,400	13.5%	13.7%
3.5 - 4.0	2,739,788	2,691,209	11.5%	11.3%
4.0 - 4.5	2,125,311	2,016,779	8.9%	8.5%
4.5 - 5.0	1,586,936	1,478,176	6.7%	6.2%
5.0 +	5,504,315	5,002,162	23.1%	21.0%
Grand Total	23,820,759	23,838,200	100%	100%
Competitive Trips (TTR < 2.5)			5,259,317	5,844,748
% of Competitive Trips (TTR < 2.5)			22.1%	24.5%

**Table 5: Transit Competitiveness Comparison (All Trips) Dec 2021 vs Dec 2019
Residents in Equity Focus Communities**

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 - 1.0	47,756	51,511	0.6%	0.7%
1.0 - 1.5	229,826	274,357	3.0%	3.6%
1.5 - 2.0	660,251	754,855	8.7%	9.9%
2.0 - 2.5	1,045,231	1,145,120	13.8%	15.1%
2.5 - 3.0	1,200,959	1,252,282	15.8%	16.5%
3.0 - 3.5	1,063,355	1,060,776	14.0%	14.0%
3.5 - 4.0	851,028	821,015	11.2%	10.8%
4.0 - 4.5	629,097	582,626	8.3%	7.7%
4.5 - 5.0	449,113	406,980	5.9%	5.4%
5.0 +	1,405,125	1,245,999	18.5%	16.4%
Grand Total	7,581,741	7,595,521	100%	100%
Competitive Trips (TTR < 2.5)			1,983,064	2,225,843
% of Competitive Trips (TTR < 2.5)			26.2%	29.3%

**Table 6: Transit Competitiveness Comparison (All Trips) Dec 2021 vs Dec 2019
Residents in Non-Equity Focus Communities**

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 - 1.0	115,005	120,360	0.7%	0.7%
1.0 - 1.5	382,918	434,788	2.4%	2.7%
1.5 - 2.0	1,036,780	1,156,343	6.4%	7.1%
2.0 - 2.5	1,741,550	1,907,415	10.7%	11.7%
2.5 - 3.0	2,178,852	2,291,443	13.4%	14.1%
3.0 - 3.5	2,161,925	2,200,625	13.3%	13.5%
3.5 - 4.0	1,888,760	1,870,194	11.6%	11.5%
4.0 - 4.5	1,496,214	1,434,154	9.2%	8.8%
4.5 - 5.0	1,137,823	1,071,196	7.0%	6.6%
5.0 +	4,099,191	3,756,162	25.2%	23.1%
Grand Total	16,239,018	16,242,679	100%	100%
Competitive Trips (TTR < 2.5)			3,276,253	3,618,906
% of Competitive Trips (TTR < 2.5)			20.2%	22.3%

While Tables 4, 5, and 6 above looked at all trips, Tables 7, 8, and 9 below examined whether riding transit had become more competitive under the NextGen Bus Plan for those already riding transit. This assessment was based on transit rider TAP data. Again, Table 7 looked at all transit trips while Tables 8 and 9 looked at those trips of residents of EFCs and non-EFCs respectively.

Table 7: Transit Competitiveness Comparison (Transit Trips) Dec 2021 vs Dec 2019

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 – 1.0	5,114	6,009	0.5%	0.6%
1.0 – 1.5	54,456	67,588	5.7%	7.1%
1.5 – 2.0	150,064	169,751	15.7%	17.7%
2.0 – 2.5	197,944	209,428	20.7%	21.9%
2.5 – 3.0	179,291	176,625	18.7%	18.5%
3.0 – 3.5	128,202	120,088	13.4%	12.5%
3.5 – 4.0	83,534	75,100	8.7%	7.8%
4.0 – 4.5	52,062	45,025	5.4%	4.7%
4.5 - 5.0	32,572	27,421	3.4%	2.9%
5.0 +	73,039	60,177	7.6%	6.3%
Grand Total	956,277	957,211	100%	100%
Competitive Trips (TTR < 2.5)			407,578	452,776
% of Competitive Trips (TTR < 2.5)			42.6%	47.3%

**Table 8: Transit Competitiveness Comparison (Transit Trips) Dec 2021 vs Dec 2019
Residents in Equity Focus Communities**

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 - 1.0	2,690	3,271	0.5%	0.6%
1.0 - 1.5	31,933	40,683	5.6%	7.1%
1.5 - 2.0	92,358	105,446	16.2%	18.5%
2.0 - 2.5	123,497	130,264	21.7%	22.9%
2.5 - 3.0	109,987	106,814	19.3%	18.8%
3.0 - 3.5	76,161	70,019	13.4%	12.3%
3.5 - 4.0	47,595	42,129	8.4%	7.4%
4.0 - 4.5	28,999	24,877	5.1%	4.4%
4.5 - 5.0	17,844	14,844	3.1%	2.6%
5.0 +	38,022	31,249	6.7%	5.5%
Grand Total	569,086	569,595	100%	100%
Competitive Trips (TTR < 2.5)			250,478	279,664
% of Competitive Trips (TTR < 2.5)			44.0%	49.1%

**Table 9: Transit Competitiveness Comparison (Transit Trips) Dec 2021 vs Dec 2019
Residents in Non-Equity Focus Communities**

Transit Competitiveness Ratio	Dec 2019 Transit System	Dec 2021 NextGen Transit System	% Dec 2019 Transit System	% Dec 2021 NextGen Transit System
0.0 - 1.0	2,424	2,739	0.6%	0.7%
1.0 - 1.5	22,523	26,904	5.8%	6.9%
1.5 - 2.0	57,706	64,305	14.9%	16.6%
2.0 - 2.5	74,447	79,164	19.2%	20.4%
2.5 - 3.0	69,304	69,812	17.9%	18.0%
3.0 - 3.5	52,042	50,070	13.4%	12.9%
3.5 - 4.0	35,939	32,970	9.3%	8.5%
4.0 - 4.5	23,062	20,148	6.0%	5.2%
4.5 - 5.0	14,728	12,578	3.8%	3.2%
5.0 +	35,017	28,928	9.0%	7.5%
Grand Total	387,193	387,617	100%	100%
Competitive Trips (TTR < 2.5)			157,100	173,112
% of Competitive Trips (TTR < 2.5)			40.6%	44.7%

Travel Time Comparison:

An additional review was made to show travel time comparisons of all trips (Table 10) and transit trips (Table 11) using the NextGen Bus Plan as at December 2021 compared to travel times with the pre-NextGen December 2019 bus services.

Table 10: Travel Time Comparison (All Trips) Dec 2021 vs 2019

Transit Travel Times	Dec 2019 Transit System	Dec 2021 NextGen Transit System	Change	% Change
0 - 15 mins	2,214,181	2,347,665	133,484	6%
15 - 30 mins	5,391,656	5,764,411	372,755	7%
30 - 45 mins	5,450,224	5,529,225	79,001	1%
45 - 60 mins	4,008,422	3,857,123	-151,299	-4%
60 - 90 mins	4,576,419	4,324,622	-251,798	-6%
90 + mins	2,179,857	2,015,154	-164,703	-8%
Grand Total	23,820,759	23,838,200	17,441	0%

Table 11: Travel Time Comparison (Transit Trips) Dec 2021 vs 2019

Transit Travel Times	Dec 2019 Transit System	Dec 2021 NextGen Transit System	Change	% Change
0 - 15 mins	56,460	62,289	5,830	10%
15 - 30 mins	218,174	239,500	21,326	10%
30 - 45 mins	211,881	217,107	5,226	2%
45 - 60 mins	178,126	174,596	-3,529	-2%
60 - 90 mins	219,214	201,311	-17,903	-8%
90 + mins	72,425	62,407	-10,016	-14%
Grand Total	956,279	957,212	933	0%

Tables 12 and 13 compare changes in percentage of trips in each travel time and for all trips (Table 12) and transit trips (Table 13), with each table broken up by residents in EFCs versus residents in non-EFCs.

Table 12: Travel Time Comparison (All Trips) Dec 2021 vs 2019 EFC Resident Trips

Transit Travel Times	Residents in EFCs	Residents in Non-EFCs
0 - 15 mins	7%	5%
15 - 30 mins	6%	7%
30 - 45 mins	0%	2%
45 - 60 mins	-4%	-4%
60 - 90 mins	-6%	-5%
90 + mins	-10%	-7%

Table 13: Travel Time Comparison (Transit Trips) Dec 2021 vs 2019 Non-EFC Resident Trips

Transit Travel Times	Residents in EFCs	Residents in Non-EFCs
0 - 15 mins	11%	9%
15 - 30 mins	9%	11%
30 - 45 mins	2%	4%
45 - 60 mins	-3%	0%
60 - 90 mins	-9%	-7%
90 + mins	-15%	-13%

Destinations on High Frequency Network

This section analyzes the number of facilities in various groups such as higher education institutions, health care, grocery stores, and parks. These are examined for access (within 0.25 miles) to both the 15-minute or better (Table 14) and 10-minute or better (Table 15) NextGen networks.

Table 14: 0.25 Mile Access to Frequent (15 min. or better) Network

Destination Category	Midday	Midday	2021 vs 2019	PM Peak	PM Peak	2021 vs 2019
	Dec-19	Dec-21	Change	Dec-19	Dec-21	Change
Education	102	138	35%	128	132	3%
Grocery Store	1,466	2,169	48%	2,015	2,148	7%
Health Care	147	208	41%	199	207	4%
Parks	270	467	73%	433	465	7%
Total	1,985	2,982	50%	2,775	2,952	6%

Table 15: 0.25 Mile Access to Frequent (10 min. or better) Network

Destination Category	Midday	Midday	2021 vs 2019	PM Peak	PM Peak	2021 vs 2019
	Dec-19	Dec-21	Change	Dec-19	Dec-21	Change
Education	48	116	142%	100	116	16%
Grocery Store	459	1,771	286%	1,498	1,788	19%
Health Care	71	177	149%	163	179	10%
Parks	73	359	392%	296	367	24%
Total	651	2,423	272%	2,057	2,450	19%

Usage of High Frequency Network

Table 16 on the next page summarizes actual ridership activity (boardings + alightings) on the high frequency NextGen network implemented in December 2021 with 10 minute or better and 15 minute or better service frequencies, as a percentage of total ridership for weekdays. With full build out of NextGen Bus Plan the goal is to increase ridership on the 10 minute or better network to 80% of all ridership.

Table 16 – Ridership Activity (Boardings + Alightings) on High Frequency Network

Service Day	% Activity 10 Minute or Better Service Frequency	% Activity 15 Minute or Better Service Frequency
December 2021 Weekday Service Levels	60.6%	82.8%

TransitCenter Equity Analysis:

TransitCenter, a foundation working to improve public transit in cities across the U.S. conducted an equity analysis of transit systems including that of the LA area. The analysis looked at such items as jobs accessible within a 45-minute transit trip and average travel time to essential destinations, including hospitals and grocery stores. The analysis looked at such access for different races, single mothers, essential workers, and those living in poverty.

The TransitCenter analysis was based on all potential trip origin-destination pairs that could be made across all areas of LA County (not just Metro service area), regardless of whether such trips would actually be made. By comparison, Metro’s own analysis presented here is more realistic as it considered how actual trips observed in 2019 could be made on the NextGen network compared to the pre-NextGen network. The Metro analysis also gave more significance to trips of residents in Equity Focus Communities where characteristics of the population were more supportive of the need to use transit and that showed the greatest actual usage of transit.

The TransitCenter analysis was conducted for the period from February 2020 and September 2021. The analysis showed many metrics improving, compared to just before the pandemic and as recovery from the pandemic was occurring, but even before the NextGen Bus Plan was fully implemented in December 2021.



NextGen Bus Plan Effectiveness Review

Operations, Safety, and Customer
Experience Committee

November 17, 2022

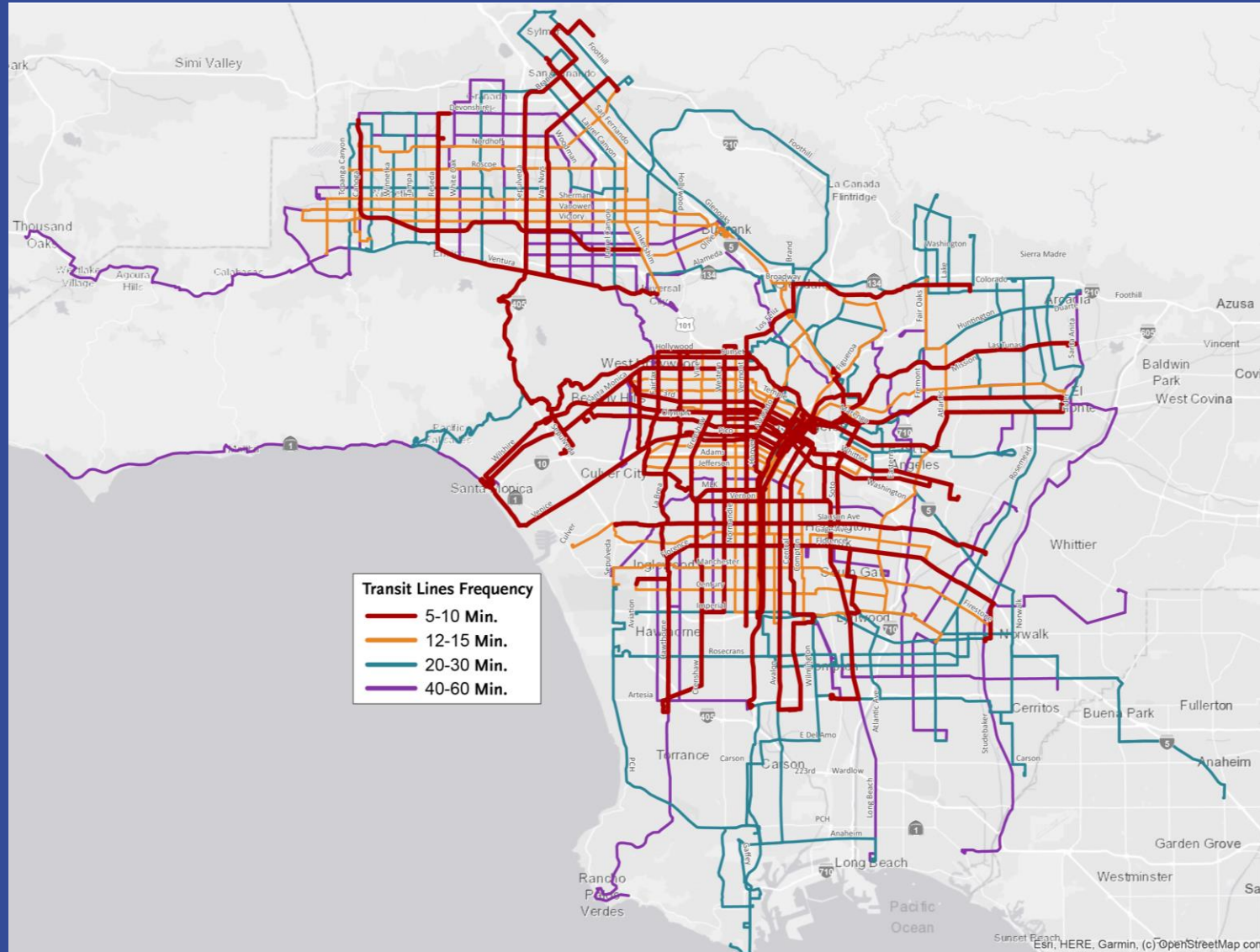


Metro

Background

- NextGen Bus Plan set out to create a fast frequency reliable network capable of competing successfully to increase ridership.
- By December 2021, phased roll out of many NextGen route changes and frequency improvements was completed.
- This effectiveness review analyzed how trips (all trips and transit trips) made in 2019 would be completed using the NextGen Bus Plan network as implemented in December 2021.

NextGen Frequent Network



Metro

Key Findings - Access

- Through the NextGen Bus Plan, 2.2 million more people (+716%) have convenient 0.25 mile access to 10 minute or better service midday weekdays. 1.3 million of these reside in EFCs.
- Peak period weekday access to 10 minute or better service also increased by 900,000 people (+55%). 500,000 of these in EFCs.
- Over 1.1 million more jobs (+350%) were also accessible through 10 minute or better midday service under the NextGen Bus Plan, with gains of over 350,000 jobs (+33%) in peak periods.
- Access to key destinations such as grocery stores, educational colleges, parks, medical centers increased, especially midday.



Key Findings - Competitiveness

- NextGen Bus Study identified trips with transit travel time less than 2.5 times private auto travel time being able to generate a much higher transit mode share (5-6% vs 2%).
- This equates to over 580,000 extra trips (+2.4%) that were transit competitive using the NextGen Bus Plan, with 240,000 of these trips being for residents of EFCs.
- As intended, data shows higher usage of the NextGen Bus Plan frequent network (60.6% of trips use the 10 minute or better service, 82.8% of trips use the 15-minute or better service).



Key Findings – Travel Times

- With NextGen, over 500,000 more overall trips (+13%) have short (30 minute or less) travel times compared to pre-NextGen service.
- 27,000 more transit trips (+20%) see 30 minutes or less travel times.
- These results show NextGen can compete well for shorter distance trips that were a potential growth market for transit.

Next Steps

- Staff will return in early 2023 to report on actual ridership trends for the NextGen Bus Plan.
- This reporting will continue through 2023 to help show how the NextGen Bus Plan is supporting ridership recovery.

Thank You!



Board Report

File #: 2022-0738, File Type: Informational Report

Agenda Number: 45.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE

NOVEMBER 17, 2022

SUBJECT: MONTHLY UPDATE ON PUBLIC SAFETY

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE Public Safety Report.

ISSUE

Metro's main priority is providing riders with a safe experience and work environment for employees. As noted in the 2021 Public Safety Survey, safety is a top concern for riders - about four-in-ten respondents who have reduced their Metro ridership cited concerns about their safety (not related to COVID) as a reason. Metro is researching, listening, reassessing current safety programs, and launching new safety initiatives. This report provides a status update on these public safety initiatives.

BACKGROUND

Metro's mission is to provide a world-class transportation system that enhances the quality of life for everyone living, working, and playing in LA County. Metro has implemented several non-law enforcement initiatives to improve public safety and provide riders with the tools to report crime and foster an environment where they are empowered to look out for themselves and each other. The Chief Safety Office continues to incorporate information from surveys, customer complaints, and physical security assessments, amongst others, to analyze a wide array of safety-related issues. Using this information, Metro will formulate solutions to problems, anticipate future issues, and develop programs and initiatives for areas needing improvement.

DISCUSSION

The Chief Safety Office is responsible for the public safety program's strategic and cohesive deployment. Through agency collaboration, the focus is to increase a safety presence on the system, protecting Metro riders, employees, and infrastructure and conducting fare and code enforcement. Furthermore, the Chief Safety Office oversees safety programs and tools such as the Respect the Ride pilot, the Transit Watch app, and other efforts that are responsive to the security needs of riders and employees. The following initiatives outline the status of existing programs and the research

efforts for new initiatives.

RESPECT THE RIDE

Respect the Ride was recently expanded to the Hollywood/Highland Station on September 26, 2022. This deployment is expected to last 30 days; updates on this deployment will be reflected in next month's report. Furthermore, as we prepared for the opening of the K Line, Transit Security Officers were reassigned from Union Station to 7th/Metro, and officers at 7th/Metro were assigned to support the K-Line. To help identify the impact of Respect the Ride at the Hollywood/Highland Station, we looked at crime at this station from 8/29/2022 to 9/25/2022 (four weeks prior to Respect the Ride) and compared it to crime at this station from 9/26/2022 to 10/23/2022 (when the program launched). Our analysis found that crime dropped from three (3) crimes to two (2) crimes during these two periods, with the most significant reduction occurring in robberies which went down from three to zero during these periods.

Bus Officers Pilot

Since the launch of the Respect the Ride Bus Officers pilot on August 31st, staff identified the top ten most challenging lines. As a result, the Bus Operator Safety detail has been focusing its efforts on gradually launching on those lines and ensuring the safety of the bus operators and transit riders by providing high visibility presence inside the bus with a zero-tolerance posture for all applicable municipal, state and federal laws.

To date, the Bus Riding teams have completed line rides on five of the top ten bus lines identified, this includes the Vermont Corridor and Western Corridor. The joint Bus Riding Teams have successfully ensured fare compliance during passenger boardings and that passengers adhere to the Code of Conduct while on the bus. As a result, bus operator feedback has been overwhelmingly positive. The primary request from Operators is that bus riding efforts continue. SSLE staff will continue to attend RAP sessions to engage Bus Operators and obtain additional feedback regarding bus lines where Respect the Ride should expand.

PHYSICAL SECURITY

Security Operations Center (SOC)

As last month's report mentioned, the SOC serves as the coordination center for Transit Security Department's task management and workflow. The SOC is currently being upgraded and reconfigured to improve its operational functionality, increase value to the Chief Safety Office, streamline current operations, and enhance its capability to provide connectivity, safety, and security to the Transit Security Officers and Metro staff.

In October, SSLE met with its project stakeholders to identify the final requirements, estimates, and equipment. In addition, network switches were ordered, Facilities Maintenance is searching Union Station Gateway's furniture inventory, SSLE has selected the monitors for the video wall, and the drawings and cost estimates are being finalized.

BriefCam/Genetec Update

We have dedicated an additional 115 cameras into our BriefCam/Genetec platform to aid in identifying vandalism incidents on our system. The following four (4) B Line stations are located within or adjacent to Equity Focus Communities and have been integrated into our analytic platform:

- 7th & Metro Station
- Pershing Square
- Wilshire/Vermont
- Wilshire/Normandie

On October 25th-26th, Physical Security hosted an instructor-led Briefcam training for law enforcement, SSLE, and MTS personnel. The training provided in-depth knowledge about the BriefCam solution and its overall functionality.

EMERGENCY MANAGEMENT

The Transportation Security Administration's (TSA) Mandated Surface Transportation Security Training Program (STP) is a training requirement specified in the Code of Federal Regulations (CFR) 49 Part 1500 and 1570. This requires Metro to train all Security Sensitive Personnel (SSP) on responding to transit terrorism, attacks, and other emergencies. This also establishes requirements for ongoing training and compliance. The training program was completed in October, and it's being delivered through Metro's e-Learning portal. The goal is to train all SSP by December 31, 2022.

EMD coordinated the agency-wide participation in The Great California ShakeOut annual earthquake drill. All locations requested employees drop, cover, and hold on for 60 seconds in accordance with the statewide drill. Metro bus and rail vehicles also stopped, if safe to do so, for 20-30 seconds at the start of the drill to simulate their response to an earthquake. They also notified passengers to provide awareness of Metro's emergency procedures.

Lastly, EMD participated in the 2022 Bus Roadeo, providing emergency preparedness information, planning guides, and vehicle safety tools to Metro employees and their families to support a safe and resilient workforce.

OPERATOR SAFETY

Bus/Rail Operator Assaults and Bus Boardings

In September, there were a total of six (6) assaults on bus/rail operators, with four (4) assaults occurring in LASD's jurisdiction and two (2) assaults occurring in LAPD's jurisdiction. Furthermore, there were 22,099 bus boardings by LAPD officers and 3,299 bus boardings by LASD deputies.

Bus operator assaults in LAPD's jurisdiction decreased significantly in September in comparison to

August (a 78% decrease from nine to two) as well as in comparison to prior months. This decrease can be attributed to the bus boardings and interactions that Transit Services Division's Bus Riding Team officers are actively having with bus patrons at the previously identified problem locations.

UPDATES ON SAFETY PROGRAMS

Transit Security Training Program

SSLE is reassessing Metro Transit Security's training program to ensure customer experience and mental health/de-escalation programs are included. We recently completed Terrorism Awareness training for all of the Transit Security Officers. We will engage with LA County's Department of Mental Health, FBI Behavioral Analysis Unit and psychologists to develop mental health and de-escalation training. We will look at the possibility of identifying a TSO who can provide "train the trainer" courses on a quarterly basis to all the TSOs.

Radios

On October 5th, SSLE held a virtual meeting with national transit agencies, including WMATA, BART, and NJ Transit, to discuss their solutions to communications problems. WMATA advised that they use the Wave Communications application to overcome tunnel communications challenges. SSLE will test the application to determine if it can provide a short-term solution.

EQUITY PLATFORM

The SSLE department is in the process of expanding the training curriculum for all Transit Security Officers. To ensure we are addressing the various security needs encountered on the system, our officers must be trained in areas such as implicit bias and mental health. These efforts will position our riders to receive the assistance they need to create a safe system for all.

NEXT STEPS

Staff will continue to monitor our law enforcement partners, private security, and Transit Security performance, monitor crime stats, and adjust deployment as necessary.

ATTACHMENTS

Attachment A - Systemwide Law Enforcement Overview September 2022

Attachment B - MTA Supporting Data September 2022

Attachment C - Transit Police Summary September 2022

Attachment D - Monthly, Bi-Annual, Annual Comparison September 2022

Attachment E - Violent, Prop, and Part 1 Crimes September 2022

Attachment F - Demographics Data September 2022

Attachment G - Bus & Rail Operator Assaults September 2022

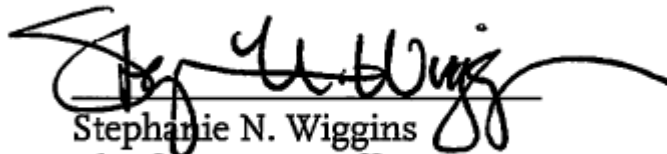
Attachment H - Sexual Harassment Crimes September 2022

Prepared by: William Peterson, Deputy Executive Officer, System Security & Law Enforcement, (213) 922-4515

Robert Gummer, Deputy Executive Officer, Administration, (213)922-4513

Imelda Hernandez, Manager, Transportation Planning, (213) 922-4848

Reviewed by: Gina Osborn, Chief Safety Officer, Chief Safety Office, (213) 922-3055



Stephanie N. Wiggins
Chief Executive Officer

SYSTEM-WIDE LAW ENFORCEMENT OVERVIEW

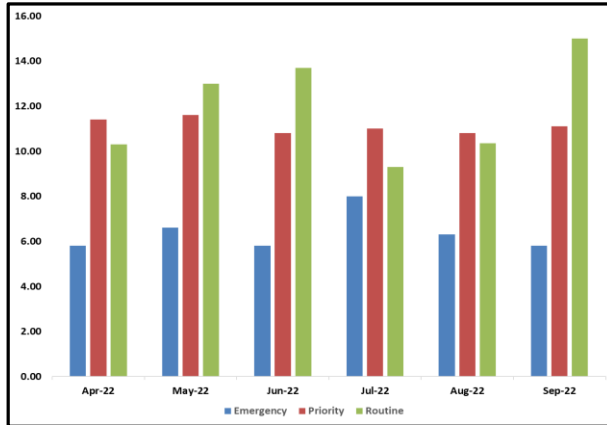
SEPTEMBER 2022

Attachment A

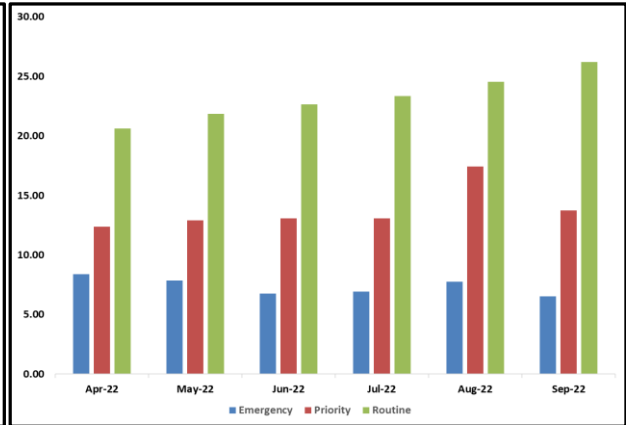
Average Incident Response Times

These graphs show how long it takes (in minutes) for LAPD, LASD, and LBPD to respond to Emergency, Priority, and Routine calls

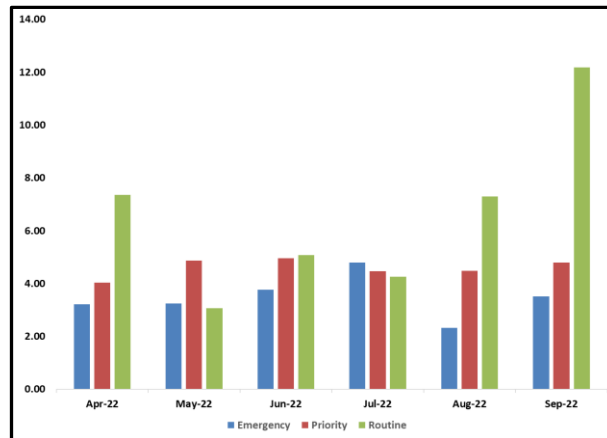
LAPD



LASD



LBPD

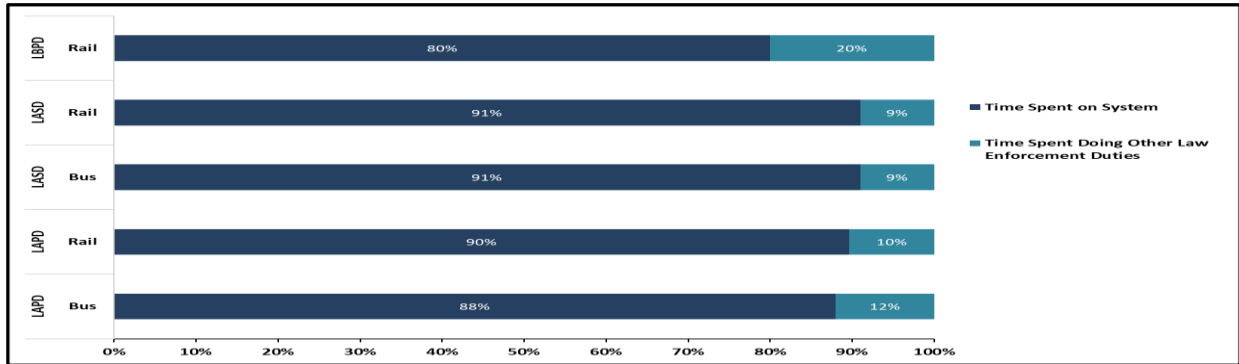


SYSTEM-WIDE LAW ENFORCEMENT OVERVIEW

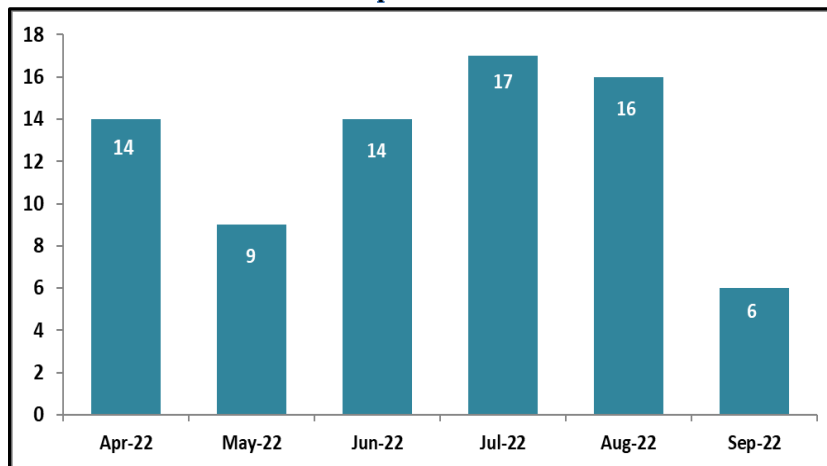
SEPTEMBER 2022

Attachment A

Percentage of Time Spent on the System



Bus Operator Assaults

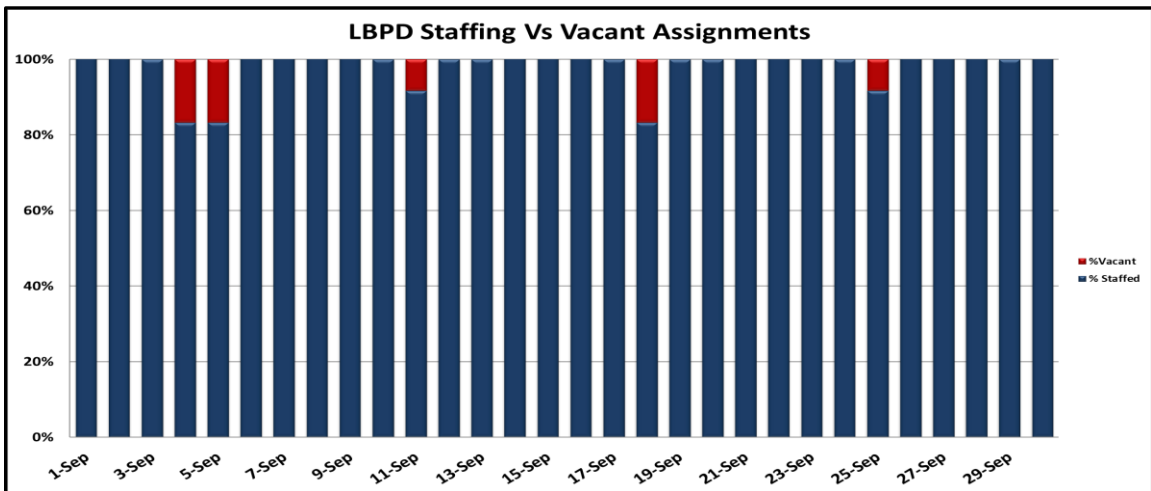
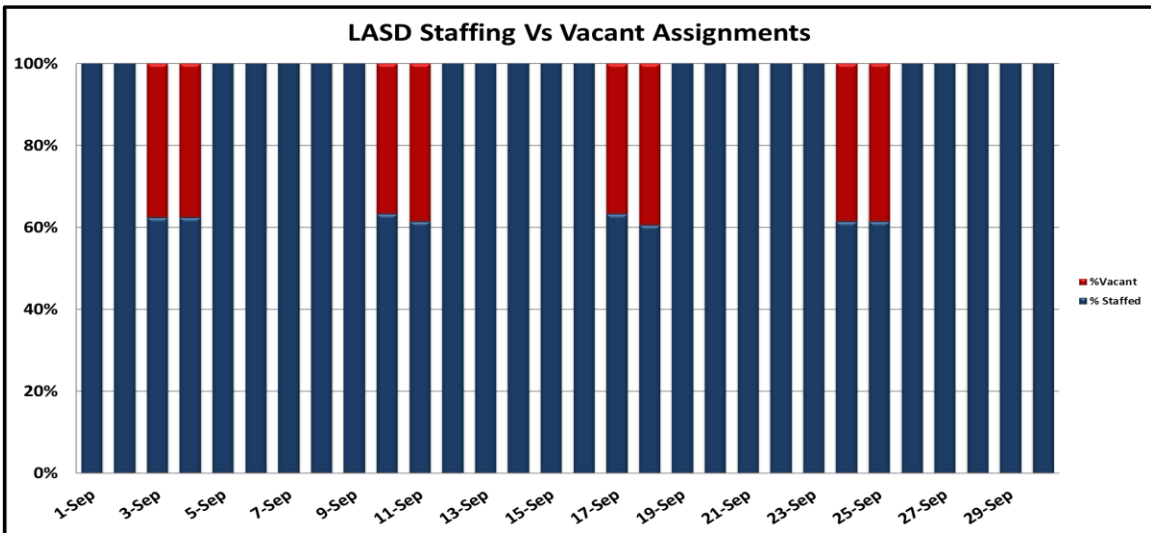
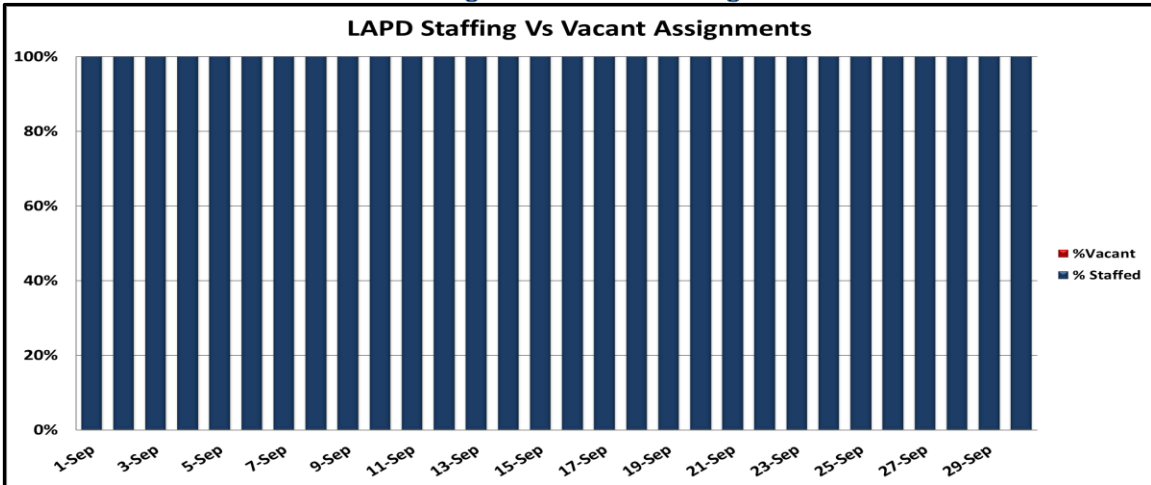


SYSTEM-WIDE LAW ENFORCEMENT OVERVIEW

SEPTEMBER 2022

Attachment A

Ratio of Staffing Levels vs Vacant Assignments



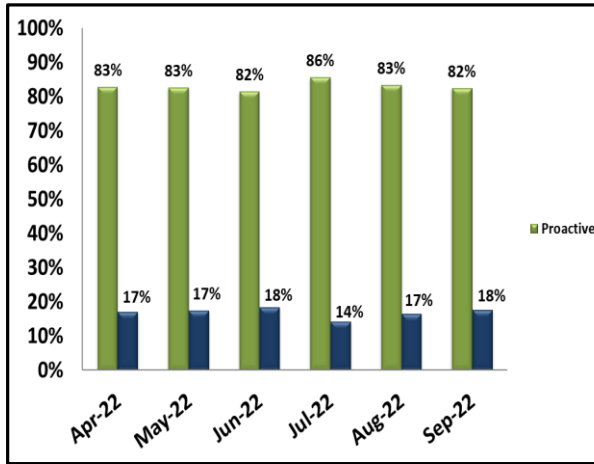
SYSTEM-WIDE LAW ENFORCEMENT OVERVIEW

SEPTEMBER 2022

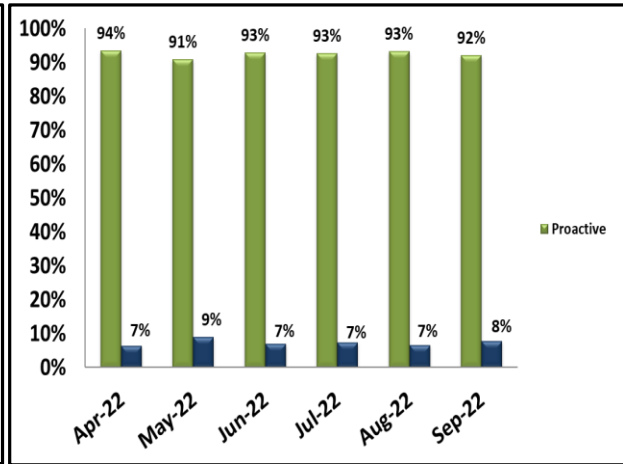
Attachment A

Ratio of Proactive vs Dispatched Activity

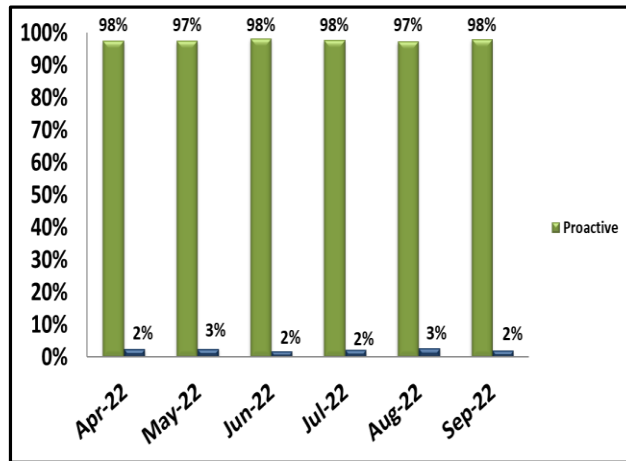
LAPD



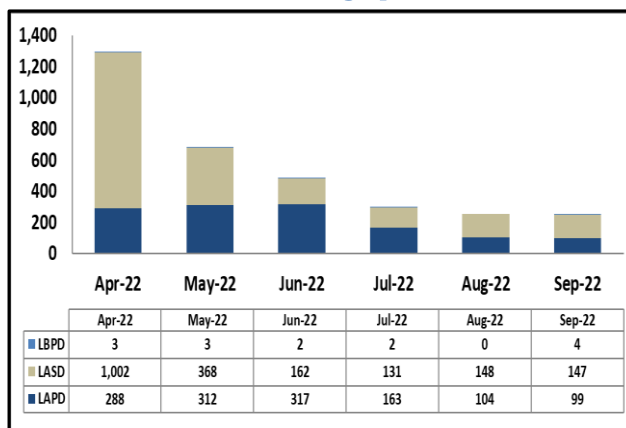
LASD



LBPD



Grade Crossing Operations



Grade Crossing Operation Locations September:

1. Blue Line Stations (151)
2. Expo Line Stations (57)
3. Gold Line Stations (42)

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME				
CRIMES AGAINST PERSONS	LAPD	LASD	LBDP	FYTD
Homicide	0	0	0	0
Rape	0	0	0	0
Robbery	0	2	0	14
Aggravated Assault	0	1	2	10
Aggravated Assault on Operator	0	0	0	0
Battery	1	2	1	15
Battery Rail Operator	0	0	0	0
Sex Offenses	0	0	0	2
SUB-TOTAL	1	5	3	41
CRIMES AGAINST PROPERTY	LAPD	LASD	LBDP	FYTD
Burglary	0	0	0	0
Larceny	1	2	0	12
Bike Theft	0	0	0	1
Motor Vehicle Theft	0	0	0	1
Arson	0	0	0	0
Vandalism	1	2	0	16
SUB-TOTAL	2	4	0	30
CRIMES AGAINST SOCIETY	LAPD	LASD	LBDP	FYTD
Weapons	0	1	0	3
Narcotics	0	2	0	13
Trespassing	0	0	0	0
SUB-TOTAL	0	3	0	16
TOTAL	3	12	3	87

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
7th St/Metro Ctr	0	0	0	5
Pico	0	0	0	1
Grand/LATTC	1	0	0	4
San Pedro St	0	0	0	1
Washington	0	2	0	2
Vernon	0	0	0	1
Slauson	0	2	1	9
Florence	1	1	0	9
Firestone	0	0	0	6
103rd St/Watts Towers	0	0	0	1
Willowbrook/Rosa Parks	3	1	2	23
Compton	0	0	0	3
Artesia	0	0	0	5
Del Amo	1	0	0	7
Wardlow	0	0	0	2
Willow St	0	0	0	1
PCH	0	0	0	0
Anaheim St	2	0	0	3
5th St	1	0	0	1
1st St	0	0	0	0
Downtown Long Beach	0	0	0	3
Pacific Av	0	0	0	0
Blue Line Rail Yard	0	0	0	0
Total	9	6	3	87

ARRESTS				
AGENCY	LAPD	LASD	LBDP	FYTD
Felony	0	7	0	65
Misdemeanor	0	23	1	335
TOTAL	0	30	1	400

CITATIONS				
AGENCY	LAPD	LASD	LBDP	FYTD
Other Citations	0	0	4	137
Vehicle Code Citations	0	0	19	32
TOTAL	0	0	23	169

CALLS FOR SERVICE				
AGENCY	LAPD	LASD	LBDP	FYTD
Routine	1	50	0	209
Priority	25	83	41	510
Emergency	3	4	11	108
TOTAL	29	137	52	827

DISPATCHED VS. PROACTIVE			
AGENCY	LAPD	LASD	LBDP
Dispatched	15%	6%	2%
Proactive	85%	94%	98%
TOTAL	100%	100%	100%

PERCENTAGE OF TIME ON THE RAIL SYSTEM	
Blue Line-LAPD	90%
Blue Line-LASD	83%
Blue Line-LBDP	80%

GRADE CROSSING OPERATIONS				
LOCATION	LAPD	LASD	LBDP	FYTD
Washington St	30	0	0	115
Flower St	20	0	0	48
103rd St	3	0	0	8
Wardlow Rd	0	0	4	6
Pacific Ave.	0	0	0	0
Willowbrook	0	82	0	168
Slauson	1	1	0	8
Firestone	0	1	0	8
Florence	0	1	0	14
Compton	0	3	0	33
Artesia	0	2	0	22
Del Amo	0	2	0	26
Long Beach Blvd	1	0	0	2
TOTAL	55	92	4	458

LEGEND
Los Angeles Police Department
Los Angeles County Sheriff's Department
Long Beach Police Department

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME			
CRIMES AGAINST PERSONS	LAPD	LASD	FYTD
Homicide	0	0	0
Rape	0	0	0
Robbery	1	3	8
Aggravated Assault	0	0	9
Aggravated Assault on Operator	0	0	0
Battery	0	2	11
Battery Rail Operator	0	0	0
Sex Offenses	0	0	0
SUB-TOTAL	1	5	28
CRIMES AGAINST PROPERTY	LAPD	LASD	FYTD
Burglary	0	0	0
Larceny	0	3	9
Bike Theft	0	0	1
Motor Vehicle Theft	0	0	0
Arson	0	0	0
Vandalism	0	1	4
SUB-TOTAL	0	4	14
CRIMES AGAINST SOCIETY	LAPD	LASD	FYTD
Weapons	0	0	3
Narcotics	0	4	8
Trespassing	0	0	1
SUB-TOTAL	0	4	12
TOTAL	1	13	54

ARRESTS			
AGENCY	LAPD	LASD	FYTD
Felony	0	2	17
Misdemeanor	0	14	79
TOTAL	0	16	96

CITATIONS			
AGENCY	LAPD	LASD	FYTD
Other Citations	4	0	95
Vehicle Code Citations	18	0	150
TOTAL	22	0	245

CALLS FOR SERVICE			
AGENCY	LAPD	LASD	FYTD
Routine	4	108	353
Priority	13	49	240
Emergency	3	7	33
TOTAL	20	164	626

DISPATCHED VS. PROACTIVE		
AGENCY	LAPD	LASD
Dispatched	16%	13%
Proactive	84%	87%
TOTAL	100%	100%

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
Redondo Beach	1	1	1	3
Douglas	0	0	0	2
El Segundo	0	1	0	4
Mariposa	1	0	0	3
Aviation/LAX	1	0	0	1
Hawthorne/Lennox	1	0	0	3
Crenshaw	0	1	0	6
Vermont/Athens	0	1	0	8
Harbor Fwy	0	0	0	3
Avalon	0	0	0	2
Willowbrook/Rosa Parks	0	0	1	2
Long Beach Bl	1	0	1	8
Lakewood Bl	0	0	0	0
Norwalk	1	0	1	9
Total	6	4	4	54

PERCENTAGE OF TIME SPENT ON THE RAIL SYSTEM	
Green Line-LAPD	91%
Green Line-LASD	95%

LEGEND	
Los Angeles Police Department	
Los Angeles County Sheriff's Department	

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME			
CRIMES AGAINST PERSONS	LAPD	LASD	FYTD
Homicide	0	0	1
Rape	0	0	0
Robbery	3	2	11
Aggravated Assault	0	2	7
Aggravated Assault on Operator	0	0	0
Battery	2	1	8
Battery Rail Operator	0	0	0
Sex Offenses	1	0	2
SUB-TOTAL	6	5	29
CRIMES AGAINST PROPERTY	LAPD	LASD	FYTD
Burglary	0	0	0
Larceny	9	0	17
Bike Theft	0	0	1
Motor Vehicle Theft	0	0	0
Arson	0	0	0
Vandalism	0	0	1
SUB-TOTAL	9	0	19
CRIMES AGAINST SOCIETY	LAPD	LASD	FYTD
Weapons	0	0	0
Narcotics	0	0	0
Trespassing	0	0	2
SUB-TOTAL	0	0	2
TOTAL	15	5	50

ARRESTS			
AGENCY	LAPD	LASD	FYTD
Felony	2	0	6
Misdemeanor	0	2	19
TOTAL	2	2	25

CITATIONS			
AGENCY	LAPD	LASD	FYTD
Other Citations	0	0	23
Vehicle Code Citations	0	0	0
TOTAL	0	0	23

CALLS FOR SERVICE			
AGENCY	LAPD	LASD	FYTD
Routine	15	65	215
Priority	49	37	261
Emergency	4	2	30
TOTAL	68	104	506

DISPATCHED VS. PROACTIVE		
AGENCY	LAPD	LASD
Dispatched	15%	16%
Proactive	85%	84%
TOTAL	100%	100%

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
7th St/Metro Ctr	0	0	0	1
Pico	0	0	0	0
LATTC/Ortho Institute	0	0	0	0
Jefferson/USC	0	0	0	3
Expo Park/USC	0	0	0	3
Expo/Vermont	1	1	0	5
Expo/Western	1	4	0	11
Expo/Crenshaw	1	0	0	6
Farmdale	1	3	0	4
Expo/La Brea	1	0	0	1
La Cienega/Jefferson	0	0	0	3
Culver City	4	0	0	5
Palms	0	0	0	0
Westwood/Rancho Park	0	0	0	1
Expo/Sepulveda	0	1	0	1
Expo/Bundy	1	0	0	1
26th St/Bergamot	0	0	0	1
17th St/SMC	0	0	0	0
Downtown Santa Monica	1	0	0	4
Expo Line Rail Yard	0	0	0	0
Total	11	9	0	50

PERCENTAGE OF TIME SPENT ON THE RAIL SYSTEM	
Expo Line-LAPD	90%
Expo Line-LASD	96%

GRADE CROSSING OPERATIONS			
LOCATION	LAPD	LASD	FYTD
Exposition Blvd	44	0	182
Santa Monica	N/A	11	29
Culver City	N/A	2	6
TOTAL	44	13	217

LEGEND	
Los Angeles Police Department	
Los Angeles County Sheriff's Department	

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME		
CRIMES AGAINST PERSONS	LAPD	FYTD
Homicide	0	2
Rape	0	1
Robbery	9	17
Aggravated Assault	8	25
Aggravated Assault on Operator	0	1
Battery	8	41
Battery Rail Operator	0	0
Sex Offenses	2	5
SUB-TOTAL	27	92
CRIMES AGAINST PROPERTY	LAPD	FYTD
Burglary	0	1
Larceny	11	34
Bike Theft	1	1
Motor Vehicle Theft	0	0
Arson	0	0
Vandalism	5	18
SUB-TOTAL	17	54
CRIMES AGAINST SOCIETY	LAPD	FYTD
Weapons	0	0
Narcotics	0	0
Trespassing	1	10
SUB-TOTAL	1	10
TOTAL	45	156

ARRESTS		
AGENCY	LAPD	FYTD
Felony	5	11
Misdemeanor	8	18
TOTAL	13	29

CITATIONS		
AGENCY	LAPD	FYTD
Other Citations	12	24
Vehicle Code Citations	0	11
TOTAL	12	35

CALLS FOR SERVICE		
AGENCY	LAPD	FYTD
Routine	18	63
Priority	128	443
Emergency	14	36
TOTAL	160	542

DISPATCHED VS. PROACTIVE	
AGENCY	LAPD
Dispatched	19%
Proactive	81%
TOTAL	100%

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
Union Station	1	2	0	13
Civic Center/Grand Park	1	2	0	6
Pershing Square	5	0	0	13
7th St/Metro Ctr	4	2	0	21
Westlake/MacArthur Park	6	1	0	29
Wilshire/Vermont	2	3	0	13
Wilshire/Normandie	2	1	1	6
Vermont/Beverly	0	0	0	5
Wilshire/Western	0	0	0	5
Vermont/Santa Monica	0	1	0	7
Vermont/Sunset	0	1	0	3
Hollywood/Western	0	2	0	7
Hollywood/Vine	3	0	0	8
Hollywood/Highland	2	0	0	8
Universal City/Studio City	0	0	0	1
North Hollywood	1	2	0	11
Red Line Rail Yard	0	0	0	0
Total	27	17	1	156

PERCENTAGE OF TIME SPENT ON THE RAIL SYSTEM	
Red Line- LAPD	88%

LEGEND
Los Angeles Police Department

GOLD LINE

ATTACHMENT B

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME			
CRIMES AGAINST PERSONS	LAPD	LASD	FYTD
Homicide	0	0	0
Rape	0	0	0
Robbery	0	3	9
Aggravated Assault	2	3	7
Aggravated Assault on Operator	0	0	1
Battery	1	5	9
Battery Rail Operator	0	0	0
Sex Offenses	0	1	3
SUB-TOTAL	3	12	29
CRIMES AGAINST PROPERTY	LAPD	LASD	FYTD
Burglary	0	0	0
Larceny	0	0	3
Bike Theft	0	0	2
Motor Vehicle Theft	0	1	1
Arson	0	0	1
Vandalism	1	0	4
SUB-TOTAL	1	1	11
CRIMES AGAINST SOCIETY	LAPD	LASD	FYTD
Weapons	0	1	6
Narcotics	0	1	2
Trespassing	0	0	3
SUB-TOTAL	0	2	11
TOTAL	4	15	51

ARRESTS			
AGENCY	LAPD	LASD	FYTD
Felony	0	6	26
Misdemeanor	1	33	196
TOTAL	1	39	222

CITATIONS			
AGENCY	LAPD	LASD	FYTD
Other Citations	0	0	193
Vehicle Code Citations	2	0	7
TOTAL	2	0	200

CALLS FOR SERVICE			
AGENCY	LAPD	LASD	FYTD
Routine	3	146	485
Priority	10	82	355
Emergency	1	10	51
TOTAL	14	238	891

DISPATCHED VS. PROACTIVE		
AGENCY	LAPD	LASD
Dispatched	20%	8%
Proactive	80%	92%
TOTAL	100%	100%

PERCENTAGE OF TIME SPENT ON THE RAIL SYSTEM	
Gold Line-LAPD	89%
Gold Line-LASD	90%

GRADE CROSSING OPERATIONS			
LOCATION	LAPD	LASD	FYTD
Marmion Way	0	0	1
Arcadia Station	0	2	7
Irwindale	0	12	33
Monrovia	0	0	3
City of Pasadena	0	15	27
Magnolia Ave	0	0	0
Duarte Station	0	1	3
City Of Azusa	0	2	11
South Pasadena	0	0	2
City Of East LA	0	10	28
Figueroa St	0	0	8
TOTAL GOAL= 10	0	42	123

LEGEND	
Los Angeles Police Department	
Los Angeles County Sheriff's Department	

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
APU/Citrus College	0	0	0	4
Azusa Downtown	2	0	1	6
Irwindale	0	0	0	1
Duarte/City of Hope	1	0	0	3
Monrovia	1	0	0	3
Arcadia	2	0	0	7
Sierra Madre Villa	1	1	0	3
Allen	1	0	0	2
Lake	4	0	1	8
Memorial Park	0	0	0	0
Del Mar	0	0	0	1
Fillmore	0	0	0	3
South Pasadena	0	0	0	1
Highland Park	0	0	0	1
Southwest Museum	0	0	0	0
Heritage Square	0	0	0	0
Lincoln/Cypress	0	0	0	1
Chinatown	1	0	0	2
Union Station	2	0	0	2
Little Tokyo/Arts Dist	0	0	0	0
Pico/Aliso	0	0	0	0
Mariachi Plaza	0	0	0	1
Soto	0	1	0	1
Indiana (both LAPD & LASD)	0	0	0	1
Maravilla	0	0	0	0
East LA Civic Ctr	0	0	0	0
Atlantic	0	0	0	0
Total	15	2	2	51

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME		
CRIMES AGAINST PERSONS	LAPD	FYTD
Homicide	0	0
Rape	0	0
Robbery	1	2
Aggravated Assault	0	3
Aggravated Assault on Operator	0	0
Battery	0	3
Battery Bus Operator	0	0
Sex Offenses	0	1
SUB-TOTAL	1	9
CRIMES AGAINST PROPERTY	LAPD	FYTD
Burglary	0	0
Larceny	1	1
Bike Theft	0	0
Motor Vehicle Theft	0	0
Arson	0	0
Vandalism	0	0
SUB-TOTAL	1	1
CRIMES AGAINST SOCIETY	LAPD	FYTD
Weapons	0	0
Narcotics	0	0
Trespassing	0	0
SUB-TOTAL	0	0
TOTAL	2	10

ARRESTS		
AGENCY	LAPD	FYTD
Felony	0	0
Misdemeanor	2	3
TOTAL	2	3

CITATIONS		
AGENCY	LAPD	FYTD
Other Citations	21	95
Vehicle Code Citations	94	480
TOTAL	115	575

CALLS FOR SERVICE		
AGENCY	LAPD	FYTD
Routine	0	1
Priority	5	26
Emergency	0	2
TOTAL	5	29

DISPATCHED VS. PROACTIVE	
AGENCY	LAPD
Dispatched	19%
Proactive	81%
TOTAL	100%

PERCENTAGE OF TIME SPENT ON THE BUS SYSTEM	
Orange Line- LAPD	91%

LEGEND	
Los Angeles Police Department	

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
North Hollywood	0	0	0	0
Laurel Canyon	0	0	0	0
Valley College	0	0	0	0
Woodman	0	0	0	0
Van Nuys	0	0	0	1
Sepulveda	0	0	0	0
Woodley	0	0	0	2
Balboa	0	0	0	1
Reseda	1	0	0	1
Tampa	0	0	0	1
Pierce College	0	0	0	0
De Soto	0	0	0	1
Canoga	0	1	0	2
Warner Center	0	0	0	0
Sherman Way	0	0	0	0
Roscoe	0	0	0	0
Nordhoff	0	0	0	0
Chatsworth	0	0	0	1
Total	1	1	0	10

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME			
CRIMES AGAINST PERSONS	LAPD	LASD	FYTD
Homicide	0	0	0
Rape	0	0	0
Robbery	0	0	1
Aggravated Assault	1	0	1
Aggravated Assault on Operator	0	0	0
Battery	0	0	2
Battery Bus Operator	0	0	0
Sex Offenses	0	0	1
SUB-TOTAL	1	0	5
CRIMES AGAINST PROPERTY	LAPD	LASD	FYTD
Burglary	0	0	0
Larceny	0	0	0
Bike Theft	0	0	0
Motor Vehicle Theft	0	0	0
Arson	0	0	0
Vandalism	0	0	0
SUB-TOTAL	0	0	0
CRIMES AGAINST SOCIETY	LAPD	LASD	FYTD
Weapons	0	0	0
Narcotics	0	0	1
Trespassing	0	0	0
SUB-TOTAL	0	0	1
TOTAL	1	0	6

ARRESTS			
AGENCY	LAPD	LASD	FYTD
Felony	0	0	0
Misdemeanor	0	0	2
TOTAL	0	0	2

CITATIONS			
AGENCY	LAPD	LASD	FYTD
Other Citations	30	0	75
Vehicle Code Citations	97	0	386
TOTAL	127	0	461

CALLS FOR SERVICE			
AGENCY	LAPD	LASD	FYTD
Routine	0	6	11
Priority	3	2	15
Emergency	0	0	1
TOTAL	3	8	27

DISPATCHED VS. PROACTIVE		
AGENCY	LAPD	LASD
Dispatched	15%	2%
Proactive	85%	98%
TOTAL	100%	100%

CRIMES PER STATION				
STATION	CRIMES AGAINST PERSONS	CRIMES AGAINST PROPERTY	CRIMES AGAINST SOCIETY	FYTD
El Monte	0	0	0	1
Cal State LA	0	0	0	0
LAC/USC Medical Ctr	0	0	0	0
Alameda	0	0	0	0
Downtown	0	0	0	0
37th St/USC	0	0	0	0
Slauson	0	0	0	1
Manchester	1	0	0	1
Harbor Fwy	0	0	0	1
Rosecrans	0	0	0	0
Harbor Gateway Transit Ctr	0	0	0	2
Carson	0	0	0	0
PCH	0	0	0	0
San Pedro/Beacon	0	0	0	0
Total	1	0	0	6

PERCENTAGE OF TIME SPENT ON THE BUS SYSTEM	
Silver Line- LAPD	91%
Silver Line- LASD	92%

LEGEND	
Los Angeles Police Department	
Los Angeles County Sheriff's Department	

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME			
CRIMES AGAINST PERSONS	LAPD	LASD	FYTD
Homicide	0	0	0
Rape	0	0	0
Robbery	6	1	22
Aggravated Assault	7	5	38
Aggravated Assault on Operator	0	1	5
Battery	18	6	85
Battery Bus Operator	2	3	32
Sex Offenses	1	1	7
SUB-TOTAL	34	17	189
CRIMES AGAINST PROPERTY	LAPD	LASD	FYTD
Burglary	0	0	0
Larceny	6	0	27
Bike Theft	0	0	2
Motor Vehicle Theft	0	0	1
Arson	0	0	1
Vandalism	5	2	22
SUB-TOTAL	11	2	53
CRIMES AGAINST SOCIETY	LAPD	LASD	FYTD
Weapons	0	3	11
Narcotics	0	11	29
Trespassing	0	0	2
SUB-TOTAL	0	14	42
TOTAL	45	33	284

LASD's Crimes per Sector		
Sector		FYTD
Westside	3	8
San Fernando	0	0
San Gabriel Valley	1	17
Gateway Cities	17	58
South Bay	12	41
Total	33	124

LAPD's Crimes per Sector		
Sector		FYTD
Valley Bureau		
Van Nuys	2	5
West Valley	0	6
North Hollywood	1	5
Foothill	0	2
Devonshire	0	0
Mission	1	2
Topanga	0	1
Central Bureau		
Central	6	21
Rampart	4	14
Hollenbeck	0	0
Northeast	0	3
Newton	4	13
West Bureau		
Hollywood	4	14
Wilshire	3	9
West LA	2	5
Pacific	0	1
Olympic	4	14
Southwest Bureau		
Southwest	5	23
Harbor	0	2
77th Street	8	18
Southeast	1	2
Total	45	160

ARRESTS			
AGENCY	LAPD	LASD	FYTD
Felony	2	20	57
Misdemeanor	4	83	264
TOTAL	6	103	321

CITATIONS			
AGENCY	LAPD	LASD	FYTD
Other Citations	1	0	226
Vehicle Code Citations	7	0	44
TOTAL	8	0	270

CALLS FOR SERVICE			
AGENCY	LAPD	LASD	FYTD
Routine	5	103	330
Priority	8	124	406
Emergency	1	14	47
TOTAL	14	241	783

DISPATCHED VS. PROACTIVE		
AGENCY	LAPD	LASD
Dispatched	19%	2%
Proactive	81%	98%
TOTAL	100%	100%

PERCENTAGE OF TIME SPENT ON THE BUS SYSTEM	
LAPD BUS	88%
LASD BUS	91%

LEGEND	
Los Angeles Police Department	
Los Angeles County Sheriff's Department	

UNION STATION

ATTACHMENT B

MONTHLY UPDATE ON TRANSIT POLICING PERFORMANCE - SEPTEMBER 2022

REPORTED CRIME		
CRIMES AGAINST PERSONS	LAPD	FYTD
Homicide	0	0
Rape	0	0
Robbery	1	1
Aggravated Assault	2	10
Aggravated Assault on Operator	0	0
Battery	9	30
Battery Rail Operator	0	0
Sex Offenses	0	4
SUB-TOTAL	12	45
CRIMES AGAINST PROPERTY	LAPD	FYTD
Burglary	1	2
Larceny	2	6
Bike Theft	0	2
Motor Vehicle Theft	0	0
Arson	0	0
Vandalism	1	5
SUB-TOTAL	4	15
CRIMES AGAINST SOCIETY	LAPD	FYTD
Weapons	0	0
Narcotics	0	0
Trespassing	0	4
SUB-TOTAL	0	4
TOTAL	16	64

ARRESTS		
AGENCY	LAPD	FYTD
Felony	1	7
Misdemeanor	5	23
TOTAL	6	30

CITATIONS		
AGENCY	LAPD	FYTD
Other Citations	1	5
Vehicle Code Citations	0	2
TOTAL	1	7

CALLS FOR SERVICE		
AGENCY	LAPD	FYTD
Routine	6	19
Priority	37	129
Emergency	3	12
TOTAL	46	160

DISPATCHED VS. PROACTIVE	
AGENCY	LAPD
Dispatched	18%
Proactive	82%
TOTAL	100%

PERCENTAGE OF TIME SPENT AT UNION STATION	
LOCATION	LAPD
Union Station	90%

LEGEND	
Los Angeles Police Department	

Transit Police

Monthly Crime Report



Attachment C

	2021	2022
	September	September
CRIMES AGAINST PERSONS		
Homicide	1	0
Rape	2	0
Robbery	19	32
Aggravated Assault	35	33
Aggravated Assault on Operator	4	1
Battery	47	56
Battery on Operator	11	5
Sex Offenses	10	6
SUB-TOTAL	129	133
CRIMES AGAINST PROPERTY		
Burglary	2	1
Larceny	42	35
Bike Theft	4	1
Motor Vehicle Theft	1	1
Arson	0	0
Vandalism	29	18
SUB-TOTAL	78	56
CRIMES AGAINST SOCIETY		
Weapons	4	5
Narcotics	10	18
Trespassing	4	1
SUB-TOTAL	18	24
TOTAL	225	213
ENFORCEMENT EFFORTS		
Arrests	143	221
Citations	229	310
Calls for Service	1,374	1,303

MONTHLY, BI-ANNUAL, ANNUAL COMPARISON

SEPTEMBER 2022

Attachment D

Crimes

Monthly	System-Wide	Sep-21	Sep-22	% Change
	Crimes Against Persons	129	133	3.10%
	Crimes Against Property	78	56	-28.21%
	Crimes Against Society	18	24	33.33%
	Total	225	213	-5.33%

Six Months	System-Wide	Apr-21-Sep-21	Apr-22-Sep-22	% Change
	Crimes Against Persons	799	951	19.02%
	Crimes Against Property	416	432	3.85%
	Crimes Against Society	136	178	30.88%
	Total	1,351	1,561	15.54%

Annual	System-Wide	Oct-20-Sep-21	Oct-21-Sep-22	% Change
	Crimes Against Persons	1,419	1,956	37.84%
	Crimes Against Property	715	887	24.06%
	Crimes Against Society	282	296	4.96%
	Total	2,416	3,139	29.93%

Average Emergency Response Times

Monthly	Sep-21	Sep-22	% Change
	4:32	5:17	16.54%

Six Months	Apr-21-Sep-21	Apr-22-Sep-22	% Change
	4:22	5:44	31.30%

Annual	Oct-20-Sep-21	Oct-21-Sep-22	% Change
	4:26	5:19	19.92%

Bus Operator Assaults

Monthly	Sep-21	Sep-22	% Change
	15	6	-60.00%

Six Months	Apr-21-Sep-21	Apr-22-Sep-22	% Change
	53	76	43.40%

Annual	Oct-20-Sep-21	Oct-21-Sep-22	% Change
	94	163	73.40%

Ridership

Monthly	Sep-21	Sep-22	% Change
	22,061,893	22,380,399	1.44%

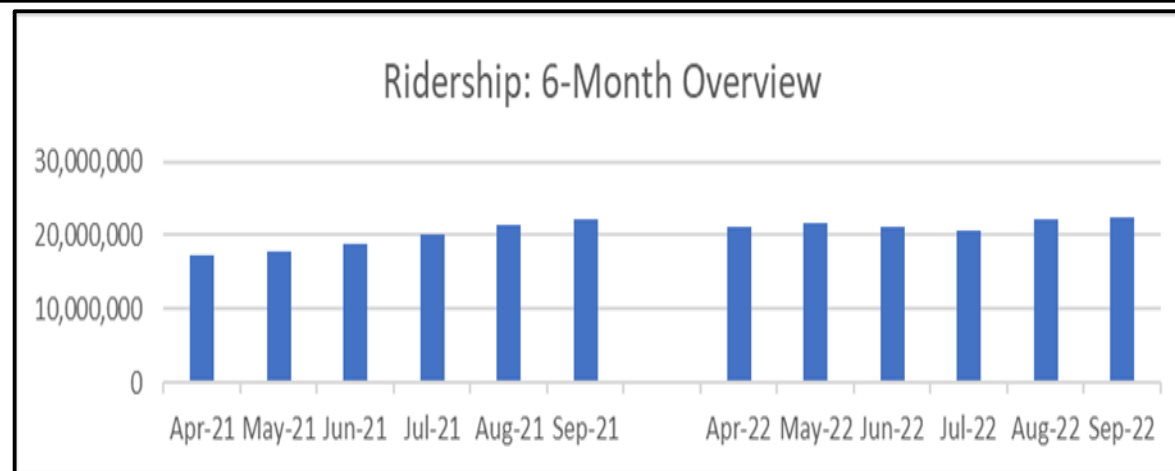
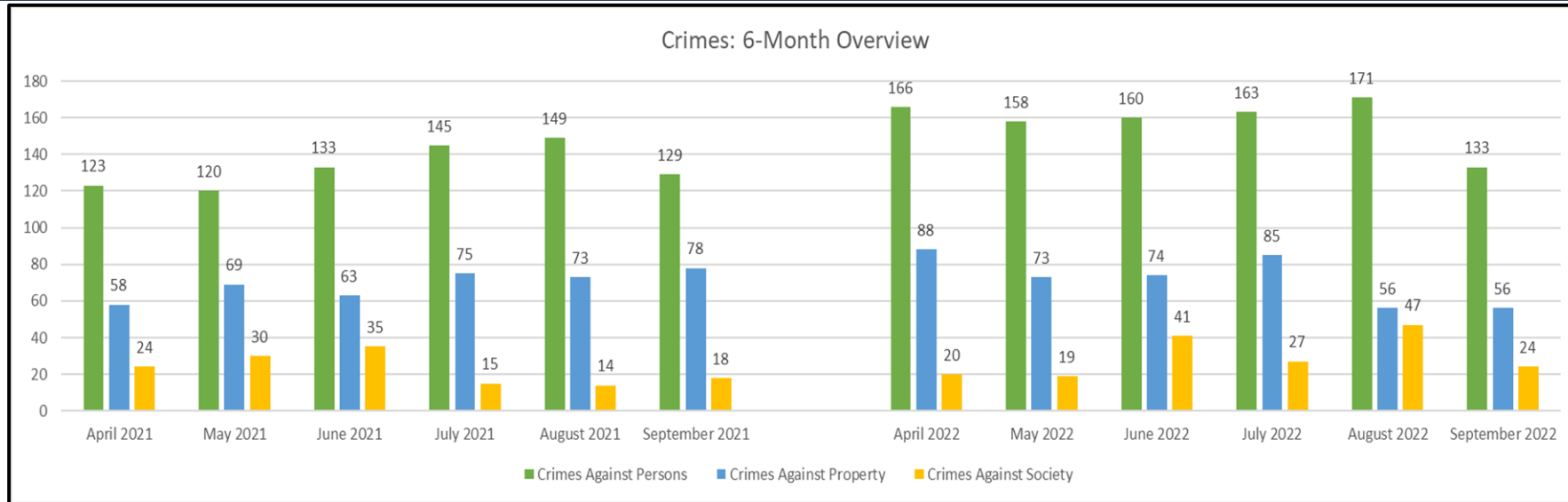
Six Months	Apr-21-Sep-21	Apr-22-Sep-22	% Change
	117,442,360	128,894,992	9.75%

Annual	Oct-20-Sep-21	Oct-21-Sep-22	% Change
	212,062,879	255,157,777	20.32%

MONTHLY, BI-ANNUAL, ANNUAL COMPARISON

SEPTEMBER 2022

Attachment D



**Violent and Property Crimes
September 2022**

VIOLENT CRIMES	9/01/2022 TO 9/30/2022	8/01/2022 TO 8/31/2022	% Change	8/01/2022 TO 8/31/2022	7/01/2022 TO 7/31/2022	% Change	1/01/2022 TO 9/30/2022	1/01/2021 TO 9/30/2021	% Change	1/01/2022 TO 9/30/2022	1/01/2020 TO 9/30/2020	% Change
Homicide	0	2	-100.0%	2	1	100.0%	4	3	33.3%	4	2	100.0%
Rape	0	1	-100.0%	1	0	N/A	9	12	-25.0%	9	5	80.0%
Robbery	32	28	14.3%	28	25	12.0%	260	166	56.6%	260	177	46.9%
Agg Assault	33	38	-13.2%	38	41	-7.3%	337	275	22.5%	337	181	86.2%
Agg Assault on Operator	1	3	-66.7%	3	3	0.0%	23	18	27.8%	23	10	130.0%
TOTAL VIOLENT	66	72	-8.3%	72	70	2.9%	633	474	33.5%	633	375	68.8%
PROPERTY CRIMES	9/01/2022 TO 9/30/2022	8/01/2022 TO 8/31/2022	% Change	8/01/2022 TO 8/31/2022	7/01/2022 TO 7/31/2022	% Change	1/01/2022 TO 9/30/2022	1/01/2021 TO 9/30/2021	% Change	1/01/2022 TO 9/30/2022	1/01/2020 TO 9/30/2020	% Change
Burglary	1	0	N/A	0	2	-100.0%	11	14	-21.4%	11	4	175.0%
Larceny	35	27	29.6%	27	47	-42.6%	395	282	40.1%	395	312	26.6%
Bike Theft	1	6	-83.3%	6	3	100.0%	37	34	8.8%	37	40	-7.5%
Motor Vehicle Theft	1	1	0.0%	1	1	0.0%	12	10	20.0%	12	12	0.0%
TOTAL PROPERTY	38	34	11.8%	34	53	-35.8%	455	340	33.8%	455	368	23.6%
TOTAL PART 1	104	106	-1.9%	106	123	-13.8%	1,088	814	33.7%	1,088	743	46.4%

This table summarizes Violent Crimes and Property Crimes, which make up Part 1 Crimes.

Los Angeles Police Department - Transit Services Division
ARRESTEE DEMOGRAPHIC
09/01/2022 - 09/30/2022

ATTACHMENT F

RAIL / STATION	MALE					FEMALE					TOTAL
	BLK	HISP	WHI	OTH	TOTAL	WHI	HISP	BLK	OTH	TOTAL	
RED LINE	12	5	5	0	22	0	1	0	1	2	24
WESTLAKE MACARTHUR PARK	3	1	2	0	6	0	0	0	1	1	7
7TH & METRO CENTER	4	1	1	0	6	0	1	0	0	1	7
WILSHIRE / VERMONT	2	1	1	0	4	0	0	0	0	0	4
VERMONT / SUNSET	1	0	0	0	1	0	0	0	0	0	1
VERMONT / BEVERLY	0	0	1	0	1	0	0	0	0	0	1
CIVIC CTR / GRAND PARK	0	1	0	0	1	0	0	0	0	0	1
HWD / VINE	1	0	0	0	1	0	0	0	0	0	1
NORTH HWD	0	1	0	0	1	0	0	0	0	0	1
PERSHING SQUARE	1	0	0	0	1	0	0	0	0	0	1
UNION STATION	3	3	0	0	6	2	1	1	0	4	10
EXPO LINE	2	0	1	0	3	0	0	0	0	0	3
EXPO / LA BREA	1	0	0	0	1	0	0	0	0	0	1
WESTWOOD / RANCHO PARK	0	0	1	0	1	0	0	0	0	0	1
EXPO / SEPULVEDA	1	0	0	0	1	0	0	0	0	0	1
GOLD LINE	1	1	0	0	2	0	0	0	0	0	2
SOTO	1	1	0	0	2	0	0	0	0	0	2
ORANGE LINE	1	0	0	1	2	0	0	0	0	0	2
VAN NUYS	0	0	0	1	1	0	0	0	0	0	1
SHERMAN WAY	1	0	0	0	1	0	0	0	0	0	1
VALLEY BUREAU	0	1	1	0	2	0	0	0	0	0	2
BRT	0	1	1	0	2	0	0	0	0	0	2
WEST BUREAU	2	0	0	0	2	0	0	0	0	0	2
BRT	2	0	0	0	2	0	0	0	0	0	2
SOUTH BUREAU	1	1	0	0	2	0	0	0	0	0	2
BRT	1	1	0	0	2	0	0	0	0	0	2
BLUE LINE	0	2	0	0	2	0	0	0	0	0	2
SAN PEDRO	0	1	0	0	1	0	0	0	0	0	1
103RD WATTS TOWER	0	1	0	0	1	0	0	0	0	0	1
RED LINE	0	0	1	0	1	0	0	0	0	0	1
WESTLAKE MACARTHUR PARK	0	0	1	0	1	0	0	0	0	0	1
PURPLE LINE	1	0	0	0	1	0	0	0	0	0	1
WILSHIRE / NORMANDIE	1	0	0	0	1	0	0	0	0	0	1
TOTAL	23	13	8	1	45	2	2	1	1	6	51
% of TOTAL	45.1%	25.5%	15.7%	2.0%	88.2%	3.9%	3.9%	2.0%	2.0%	11.8%	100.0%

Los Angeles Police Department - Transit Services Division
ARRESTEE DEMOGRAPHIC
09/01/2022 - 09/30/2022

ATTACHMENT F

ARREST TYPE	MALE					FEMALE					TOTAL	% of TOTAL
	B	H	W	O	TOTAL	W	H	B	O	TOTAL		
FELONY	14	8	3	1	26	0	0	0	1	1	27	
RED LINE	8	3	2	0	13	0	0	0	1	1	14	27.5%
UNION STATION	1	2	0	0	3	0	0	0	0	0	3	5.9%
SOUTH BUREAU	1	1	0	0	2	0	0	0	0	0	2	3.9%
ORANGE LINE	1	0	0	1	2	0	0	0	0	0	2	3.9%
VALLEY BUREAU	0	0	1	0	1	0	0	0	0	0	1	2.0%
GOLD LINE	0	1	0	0	1	0	0	0	0	0	1	2.0%
WEST BUREAU	1	0	0	0	1	0	0	0	0	0	1	2.0%
EXPO LINE	1	0	0	0	1	0	0	0	0	0	1	2.0%
BLUE LINE	0	1	0	0	1	0	0	0	0	0	1	2.0%
PURPLE LINE	1	0	0	0	1	0	0	0	0	0	1	2.0%
MISDEMEANOR	9	4	5	0	18	2	2	1	0	5	23	45.1%
RED LINE	4	2	3	0	9	0	1	0	0	1	10	19.6%
UNION STATION	2	1	0	0	3	2	1	1	0	4	7	13.7%
EXPO LINE	1	0	1	0	2	0	0	0	0	0	2	3.9%
WEST BUREAU	1	0	0	0	1	0	0	0	0	0	1	2.0%
GOLD LINE	1	0	0	0	1	0	0	0	0	0	1	2.0%
RED LINE	0	0	1	0	1	0	0	0	0	0	1	2.0%
BLUE LINE	0	1	0	0	1	0	0	0	0	0	1	2.0%
OTHER	0	1	0	0	1	0	0	0	0	0	1	2.0%
VALLEY BUREAU	0	1	0	0	1	0	0	0	0	0	1	2.0%
TOTAL	23	13	8	1	45	2	2	1	1	6	51	100.0%

Los Angeles Sheriff's Department - Transit Services Bureau
 Arrestee Information for the Month of September 2022
 09/01/2022 - 09/30/2022

ATTACHMENT F

Premise	Female				Total Female	Male				Total Male	Total Arrests
	Black	Hispanic	Other	White		Black	Hispanic	Other	White		
A-Line - Del Amo	0	0	0	0	0	1	0	0	0	1	1
A-Line - Artesia	0	1	0	0	1	3	3	0	0	6	7
A-Line - Compton	0	0	0	0	0	0	0	0	0	0	0
A-Line - Willowbrook	2	0	0	1	3	5	8	0	1	14	17
A-Line - Firestone	0	0	0	0	0	1	1	0	0	2	2
A-Line - Florence	0	0	0	0	0	0	0	0	0	0	0
A-Line - Slauson	0	0	0	0	0	1	3	0	0	4	4
C-Line - Redondo Beach	0	0	0	0	0	0	0	0	0	0	0
C-Line - Douglas	0	0	0	0	0	0	0	0	0	0	0
C-Line - El Segundo	0	0	0	0	0	0	0	0	0	0	0
C-Line - Mariposa	0	0	0	0	0	0	0	0	0	0	0
C-Line - Hawthorne	0	0	0	0	0	0	1	0	0	1	1
C-Line - Crenshaw	0	0	0	0	0	0	0	0	0	0	0
C-Line - Vermont	0	0	0	0	0	0	0	0	0	0	0
C-Line - Willowbrook	0	0	0	0	0	2	2	0	0	4	4
C-Line - Long Beach	0	0	0	0	0	2	3	0	0	5	5
C-Line - Lakewood	0	1	0	0	1	0	0	0	0	0	1
C-Line - Norwalk	0	0	0	1	1	0	4	0	0	4	5
E-Line - Culver City	0	0	0	0	0	0	0	0	0	0	0
E-Line - 26th/Bergamot	0	0	0	0	0	1	0	0	0	1	1
E-Line - 17th/SMC	0	0	0	0	0	0	0	0	1	1	1
E-Line - Downtown Santa Monica	0	0	0	0	0	0	0	0	0	0	0
L-Line - Atlantic	0	0	0	0	0	0	0	0	0	0	0
L-Line - East LA Civic Center	0	0	0	0	0	0	1	0	0	1	1
L-Line - Maravilla	0	0	0	0	0	0	0	0	0	0	0
L-Line - Indiana	0	0	0	0	0	0	0	0	0	0	0
L-Line - South Pasadena	0	0	0	0	0	0	0	0	0	0	0
L-Line - Fillmore	0	0	0	0	0	0	0	0	0	0	0
L-Line - Del Mar	0	0	0	0	0	0	0	0	0	0	0
L-Line - Memorial Park	0	0	0	0	0	0	0	0	0	0	0
L-Line - Lake	1	2	0	3	6	5	5	1	3	14	20
L-Line - Allen	0	0	0	0	0	1	0	0	0	1	1

Los Angeles Sheriff's Department - Transit Services Bureau
 Arrestee Information for the Month of September 2022
 09/01/2022 - 09/30/2022

ATTACHMENT F

Premise	Female				Total Female	Male				Total Male	Total Arrest
	Black	Hispanic	Other	White		Black	Hispanic	Other	White		
L-Line - Sierra Madre Villa	0	0	0	0	0	1	0	0	0	1	1
L-Line - Arcadia	0	0	0	1	1	0	1	1	2	4	5
L-Line - Monrovia	0	0	0	0	0	0	0	0	0	0	0
L-Line - Duarte	0	0	0	0	0	0	1	0	0	1	1
L-Line - Irwindale	0	0	0	0	0	0	0	0	0	0	0
L-Line - Azusa Downtown	0	0	0	0	0	3	0	0	2	5	5
L-Line - APU/Citrus College	0	0	0	1	1	2	2	0	0	4	5
J-Line - Carson	0	0	0	0	0	0	0	0	0	0	0
J-Line - El Monte	0	0	0	0	0	0	0	0	0	0	0
Bus	5	6	1	4	16	17	60	5	5	87	103
Total	8	10	1	11	30	45	95	7	14	161	191

Long Beach Police Department - Metro Transportation Detail

Arrestee Demographic Stats - September 2022

10/14/22

Crimes Against Persons	Arr/Cite	Gender	Ethnicity	Age	Station	Unhoused
None						

Crimes Against Property	Arr/Cite	Gender	Ethnicity	Age	Station	Unhoused

Crimes Against Society	Arr/Cite	Gender	Ethnicity	Age	Station	Unhoused

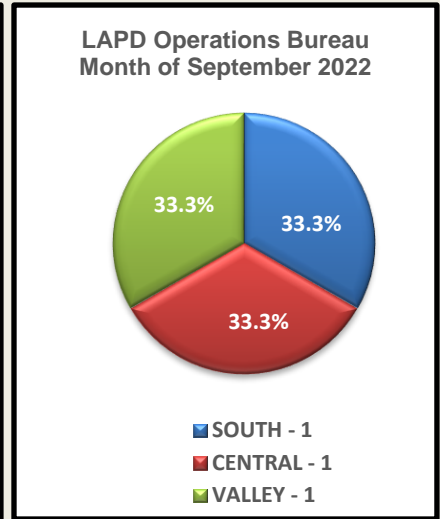
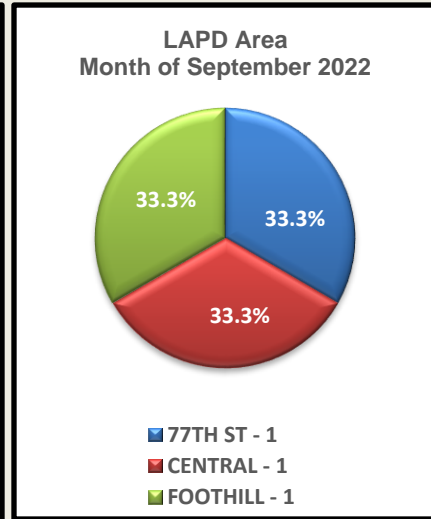
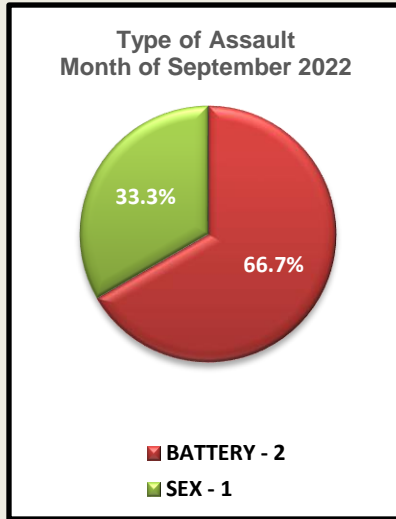
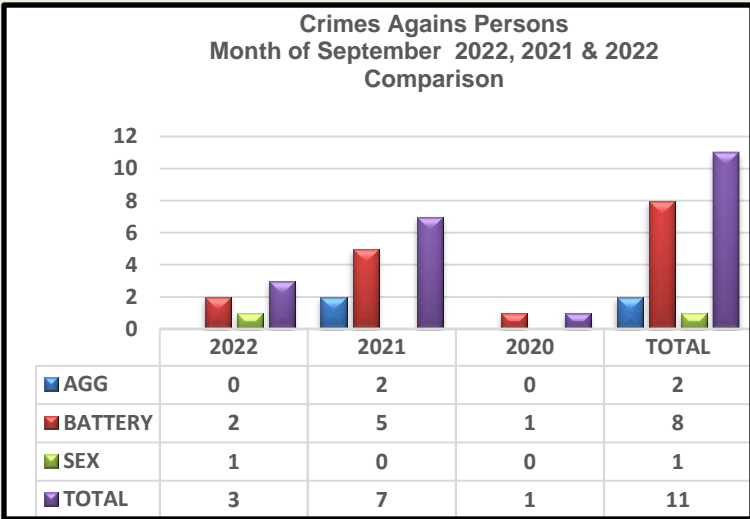


Los Angeles Police Department - Transit Services Division Monthly Bus / Rail Operator Assault Recap Report



SEPTEMBER 2022

ATTACHMENT G

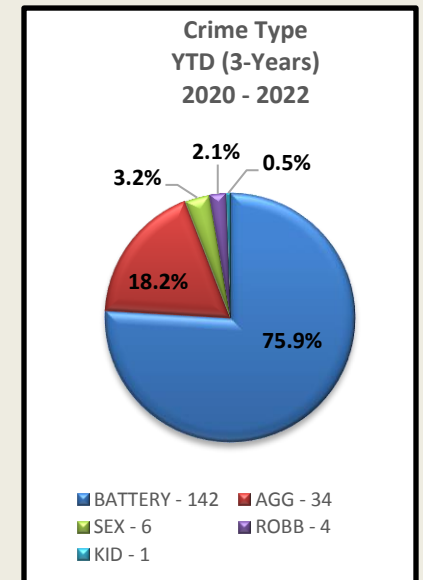


DATE & TIME	BUS / RAIL# LOCATION	NARRATIVE	SUSP INFO	TRANSIENT AND / OR MENTALLY DISABLED	BARRIER UTILIZED
09/12/22 @ 1520 HRS	Bus Line # 224 Bus # 1680 Stagg St. & Lankershim	SEXUAL BATTERY Suspect boarded bus, reached over the glass barrier and grabbed victim. Suspect then proceeded to kiss the top of victim's head. Suspect proceeded to the rear of the bus and sat down. Suspect continued to blow kisses at victim. INJURIES: Victim felt sexually harassed. NO ARREST.	M/H 60 YOA	Unkn Unkn	Yes
09/17/22 @ 1630 HRS	Bus Line # 204 Bus # 8805 Slauson & Western	BATTERY Suspect interjected in victim's conversation with another bus patron stating, "Shut up, do your job and drive the bus. Victim told suspect the matter was not his concern. Suspect walked up to the driver compartment and threw a partially consumed 12 oz aluminum can of A & W root beer at victim's face and upper body. INJURIES: Soda contact to victim's face, upper body. ARREST	M/B 65 YOA	Unkn Unkn	Yes
09/27/22 @ 1320 HRS	Bus Line # 4 Bus # 8470 2 nd Street & Hill Street.	AGG ASSAULT Suspect exited bus and left his skateboard inside bus. Suspect walked in front of the bus and demanded victim allow him to reenter and retrieve his skateboard. Victim exited bus and suspect approached victim spitting in victim's direction. Suspect took possession of his skateboard, approached victim and struck victim with the skateboard. INJURIES: Victim refused RA services. NO ARREST	M/H UNKN YOA	Unkn Unkn	No

3 - Year YTD ending September 30, 2022, Type of Assault & Crime Type Statistical Analysis

TYPE OF ASSAULT	2022	2021	DIFF	% CHG	2021	2020	DIFF	% CHG	TOTAL
PUNCH / HIT / KICK / PUSH	35	30	5	16.7%	30	3	27	900.0%	86
SPITTING	23	14	9	64.3%	14	0	14	N.C*	54
THREW OBJ/ FOOD / LIQUID	11	4	8	200.0%	4	0	4	N.C*	22
BRANDISH / GUN / KNIFE / WEAPON	1	6	-5	-83.3%	6	21	-15	-71.4%	10
SEX	2	2	0	0.0%	2	1	1	100.0%	6
PEPPER SPRAY / UNKN SPRAY	1	2	-1	-50.0%	2	2	0	0.0%	3
ROBBERY	2	0	2	N.C*	0	17	-17	-100.0%	3
URINE / FECES / VOMIT	2	0	2	N.C*	0	0	0	N/C*	2
FIRE	1	0	1	N.C*	0	0	0	N.C*	1
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187

CRIME TYPE	2022	2021	DIFF	% CHG	2021	2020	DIFF	% CHG	TOTAL
BATTERY	66	37	29	78.4%	37	39	-2	-5.1%	142
AGG	7	18	-11	-61.1%	18	9	9	100.0%	34
SEX	2	2	0	0.0%	2	2	0	0.0%	6
ROBB	3	0	3	N.C*	0	1	-1	-100.0%	4
KID	0	1	-1	-100.0%	1	0	1	N.C*	1
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187

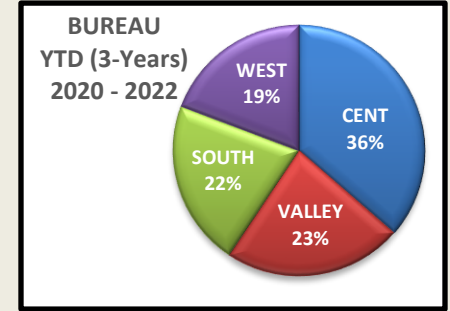


3 - Year YTD ending September 30, 2022, Area Statistical Analysis

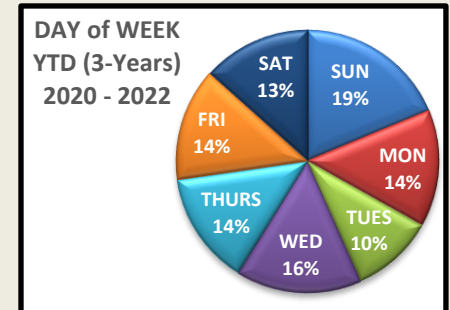
AREA	2022	2021	DIFF	% CHG	2021	2020	DIFF	% CHG	TOTAL	% of YTD (3-Year) TOTAL
CENTRAL	12	13	-1	-7.7%	13	6	7	116.7%	31	16.6%
OLYMPIC	10	2	8	400.0%	2	8	-6	-75.0%	20	10.7%
SOUTHWEST	6	2	4	200.0%	2	5	-3	-60.0%	13	7.0%
77TH ST	4	4	0	0.0%	4	5	-1	-20.0%	13	7.0%
NORTHEAST	7	3	4	133.3%	3	3	0	0.0%	13	7.0%
NEWTON	8	0	8	N.C*	0	2	-2	-100.0%	10	23.3%
NORTH HWD	3	5	-2	-40.0%	5	2	3	150.0%	10	27.8%
VAN NUYS	2	4	-2	-50.0%	4	3	1	33.3%	9	25.0%
SOUTHEAST	2	2	0	0.0%	2	4	-2	-50.0%	8	4.3%
HOLLENBECK	2	4	-2	-50.0%	4	1	3	300.0%	7	3.7%
RAMPART	1	5	-4	-80.0%	5	1	4	400.0%	7	3.7%
DEVONSHIRE	3	2	1	50.0%	2	1	1	100.0%	6	3.2%
WILSHIRE	3	3	0	0.0%	3	0	3	N.C*	6	3.2%
HOLLYWOOD	3	1	2	200.0%	1	2	-1	-50.0%	6	3.2%
HARBOR	1	2	-1	-50.0%	2	3	-1	-33.3%	6	3.2%
FOOTHILL	2	1	1	100.0%	1	2	-1	-50.0%	5	2.7%
WEST VALLEY	3	1	2	200.0%	1	1	0	0.0%	5	2.7%
MISSION	3	0	3	N.C*	0	1	-1	-100.0%	4	2.1%
TOPANGA	1	3	-2	-66.7%	3	0	3	N.C*	4	2.1%
WEST LA	2	1	-1	-100.0%	1	1	0	0.0%	2	1.1%
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187	100.0%

3 Year YTD ending September 30, 2022, Bureau, Watch and Day of Week Statistical Analysis

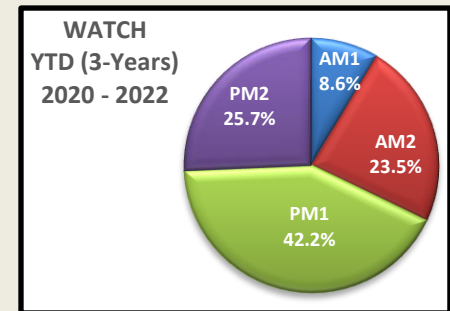
BUREAU	2022	2021	DIFF	% CHG	2020	2021	DIFF	% CHG	TOTAL
CENTRAL	30	25	5	20.0%	25	13	12	92.3%	68
VALLEY	17	16	1	6.3%	16	10	6	60.0%	43
SOUTH	13	10	3	30.0%	10	17	-7	-41.2%	40
WEST	18	7	11	157.1%	7	11	-4	-36.4%	36
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187



DAY OF WEEK	2022	2021	DIFF	% CHG	2021	2020	DIFF	% CHG	TOTAL
SUNDAY	14	12	2	16.7%	12	9	3	33.3%	35
MONDAY	9	11	-2	-18.2%	11	7	4	57.1%	27
TUESDAY	7	9	-2	-22.2%	9	3	6	200.0%	19
WEDNESDAY	8	7	1	14.3%	7	14	-7	-50.0%	29
THURSDAY	11	9	2	22.2%	9	6	3	50.0%	26
FRIDAY	13	5	8	160.0%	5	8	-3	-37.5%	26
SATURDAY	16	5	11	220.0%	5	4	1	25.0%	25
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187

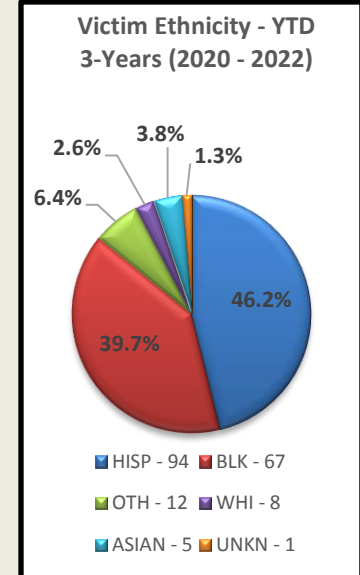
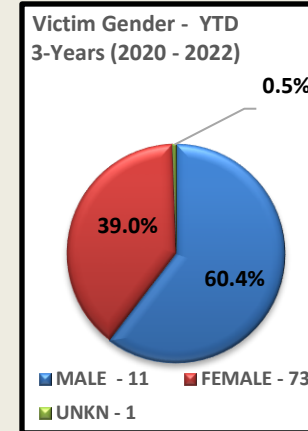


WATCH	2022	2021	DIFF	% CHG	2021	2020	DIFF	% CHG	TOTAL
AM1	5	10	-5	-50.0%	10	1	9	900.0%	16
AM2	19	17	2	11.8%	17	8	9	112.5%	44
PM1	38	18	20	111.1%	18	23	-5	-21.7%	79
PM2	16	13	3	23.1%	13	19	-6	-31.6%	48
TOTAL	78	58	20	34.5%	58	51	7	13.7%	187

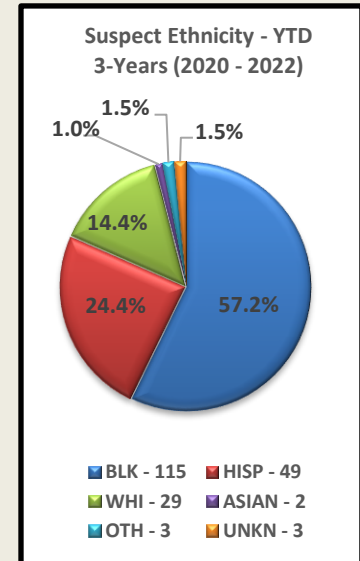
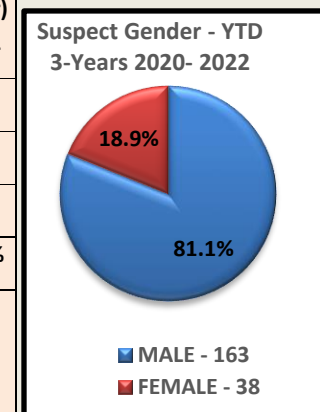


3 Year YTD, ending September 30, 2022 Victim & Suspect (Gender & Ethnicity) Demographics - Statistical Analysis

VICTIM DEMOGRAPHICS														
YEAR	MALE						FEMALE					UNKN TOTAL	TOTAL	% of (3-Year) TOTAL
	HISP	BLK	OTH	WHI	ASIAN	TOTAL	BLK	HISP	WHI	OTH	TOTAL			
2022	26	10	5	2	3	46	21	10	0	0	31	1	78	41.7%
2021	23	6	5	1	0	35	12	10	1	0	23	0	58	31.0%
2020	17	8	1	4	2	32	10	8	0	1	19	0	51	27.3%
TOTAL	66	24	11	7	5	113	43	28	1	1	73	1	187	100.0%
% of (3-Year) TOTAL	35.3%	12.8%	5.9%	3.7%	2.7%	60.4%	23.0%	15.0%	0.5%	0.5%	39.0%	0.5%	100.0%	



SUSPECT DEMOGRAPHICS														
YEAR	MALE						FEMALE					TOTAL	% of (3-Year) TOTAL	
	BLK	HISP	WHI	OTH	UNKN	TOTAL	BLK	HISP	WHI	OTH	UNKN			TOTAL
2022	37	19	11	0	0	67	10	1	0	1	1	13	80	39.8%
2021	26	11	11	1	1	50	10	1	1	0	0	12	62	30.8%
2020	22	15	7	1	1	46	10	2	1	0	0	13	59	29.4%
TOTAL	85	45	29	2	2	163	30	4	2	1	1	38	201	100.0%
% of (3-Year) TOTAL	42.3%	22.4%	14.4%	1.0%	1.0%	81.1%	14.9%	2.0%	1.0%	0.5%	0.5%	18.9%	100.0%	





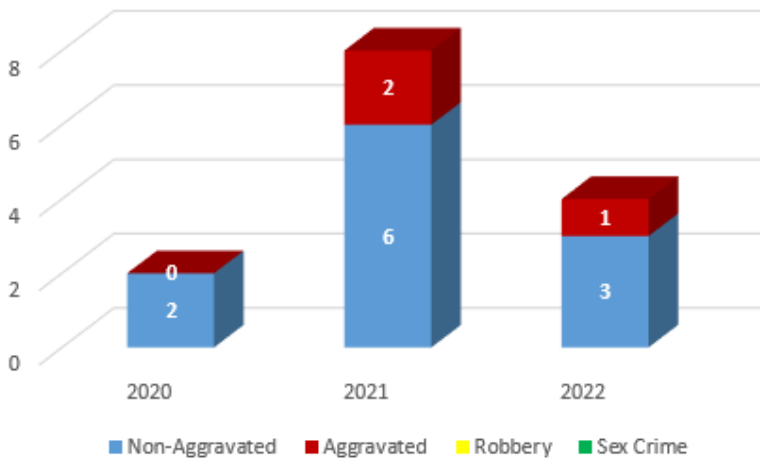
Monthly Bus/Rail Operator Assault Report



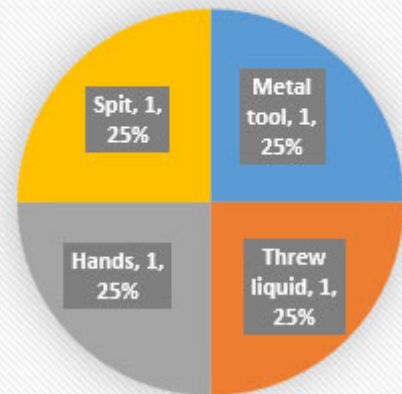
September 2022

September Bus/Rail Operator Assaults

September 2020 - 2022 Assaults



September 2022 Method of Assault



In September, there were three non-aggravated assaults with 1 arrest, and one aggravated assault with an arrest.

Date	Time	Line	Bus #	Narrative	Barrier
9/6/2022	8:40	L2	5891	Beverly Hills 9/6 0840hrs Sus transient MO/27yrs arrested for hitting bus op w/metal rod	N/A (o)
9/10/2022	11:00	L108	5827	LA 9/10 1100hrs Sus MH threw cup of beer at bus op for no reason	Yes
9/21/2022	16:50	L127	6037	Compton 9/21 1650hrs Sus FB/35yrs punched bus op when demanded stop	Yes
9/26/2022	15:10	L256	3133	Pasadena 9/26 1510hrs Sus MH/55yrs arrested for spitting on bus op	Yes

*B (NU): Barrier installed, not used; N/A (o): Not applicable, assault occurred outside of barrier

Year to Date Assaults

Year To Date by Month



YTD Operator Assaults
YTD 2020 - 25
YTD 2021- 35
YTD 2022 - 45

Solve Rate

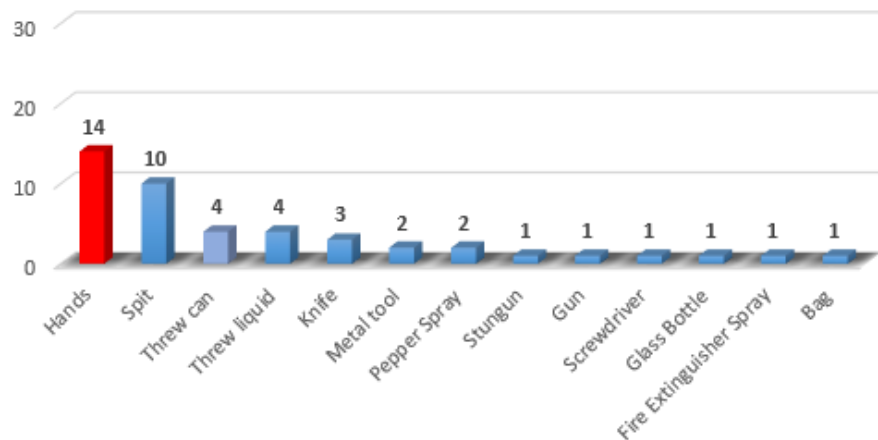
Type	Unsolved	Solved	Total	% Solved
Aggravated Assault	10	9	19	47.4%
Non-Aggravated Assault	15	11	26	42.3%
Robbery			0	#DIV/0!
Sex Crime			0	#DIV/0!
Total	25	20	45	44.4%

44% of assaults have been solved. The most frequent method of assault has been using hands.

Top Reasons for Assault

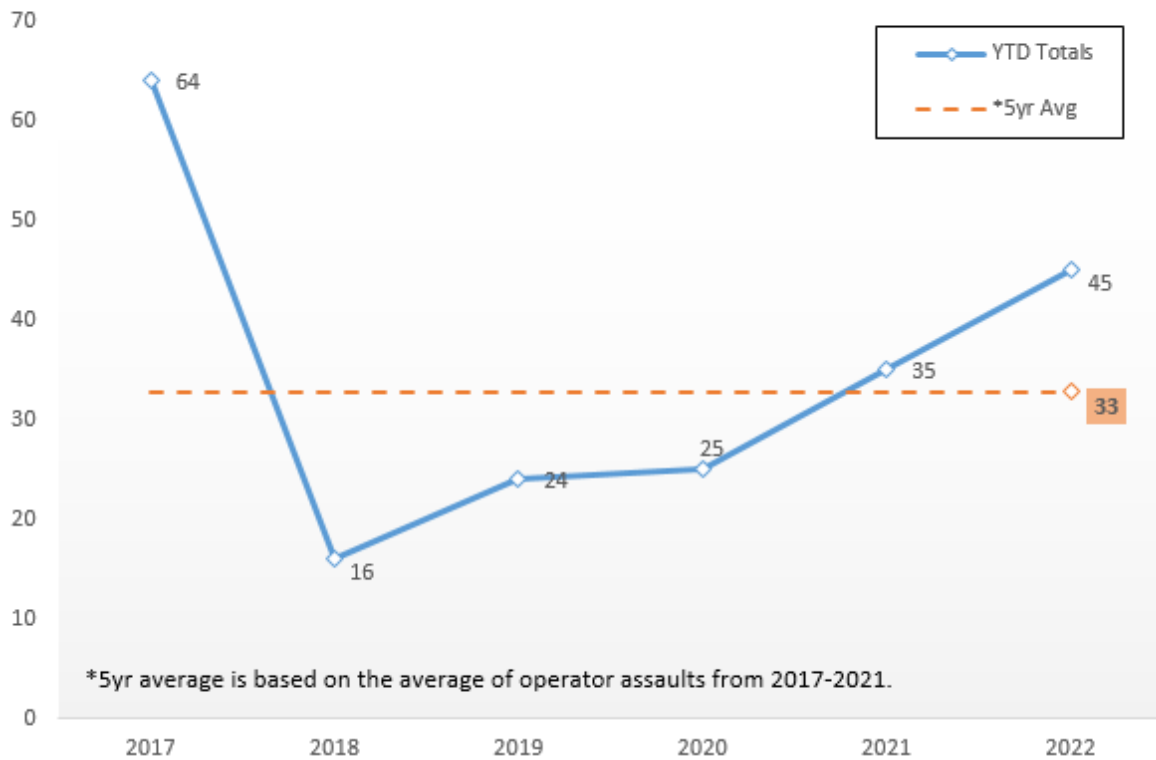
Reason	Count
Other	11
No Reason	7
Fare	6
Disorderly	4
Out of service	3
Mentally ill	3
Mask	2
Policy/drink	2
Missed stop	1
Passenger Pass Up	1
Other/Vehicle accident	1
Mask/Fare	1
Accident	1
Demand Stop	1
Policy/Food	1
Grand Total	45

Year to Date: Method of Assault



Year to Date Assaults CONTINUED

Bus/Rail Operator Assaults

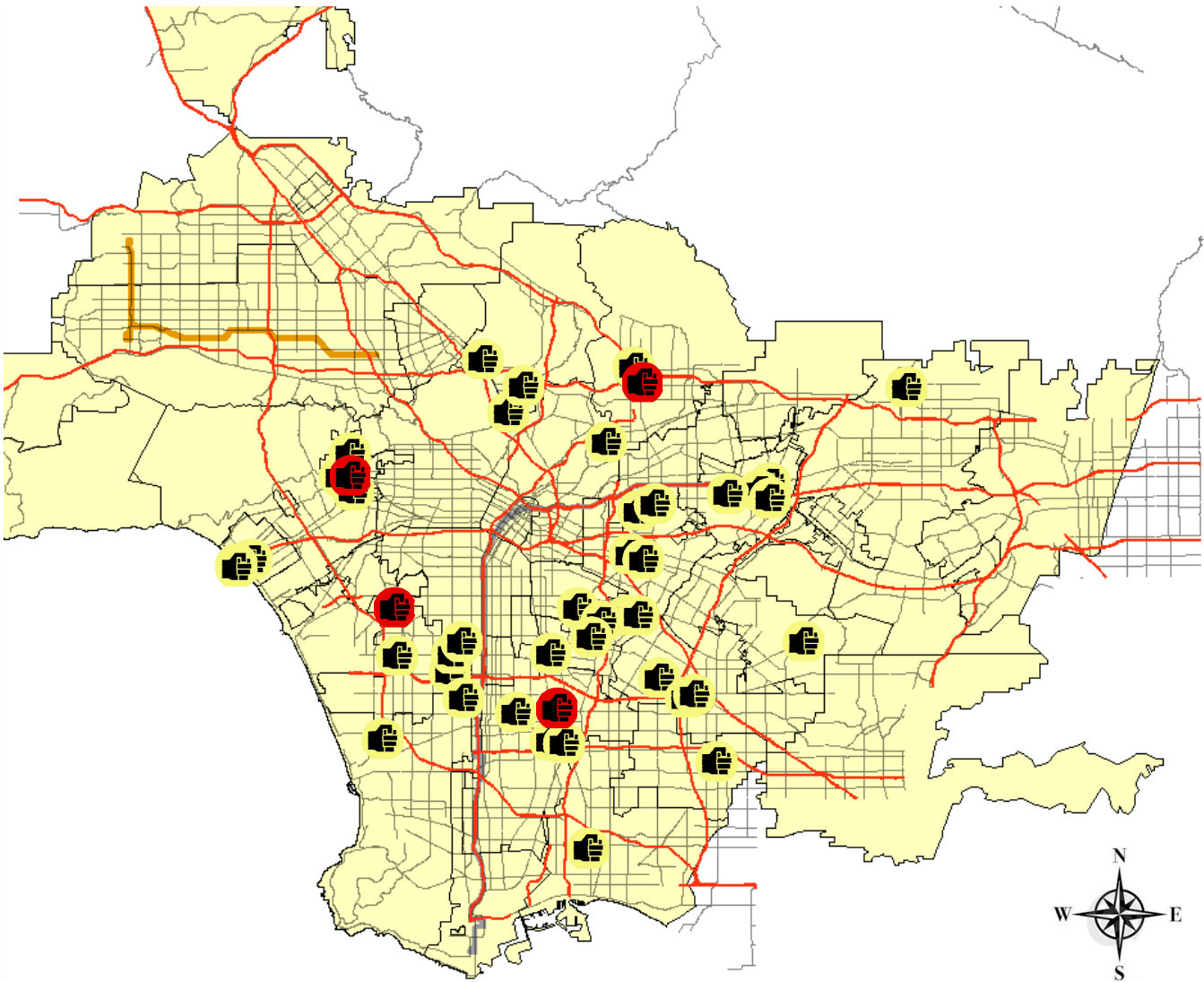


Prior to July 1st 2017, LASD patrolled the entire Metro system.



Barrier/No Barrier	Count
Not reported	0
No Barrier/Monitor	0
Operator assaulted outside barrier	13
Barrier (Not Used)	0
Barrier Used	32
Grand Total	45

Of the 45 incidents reported this year, 13 occurred outside the barrier. In 32 incidents, the barrier was used.

Map of 2022 Bus/Rail Operator Assaults



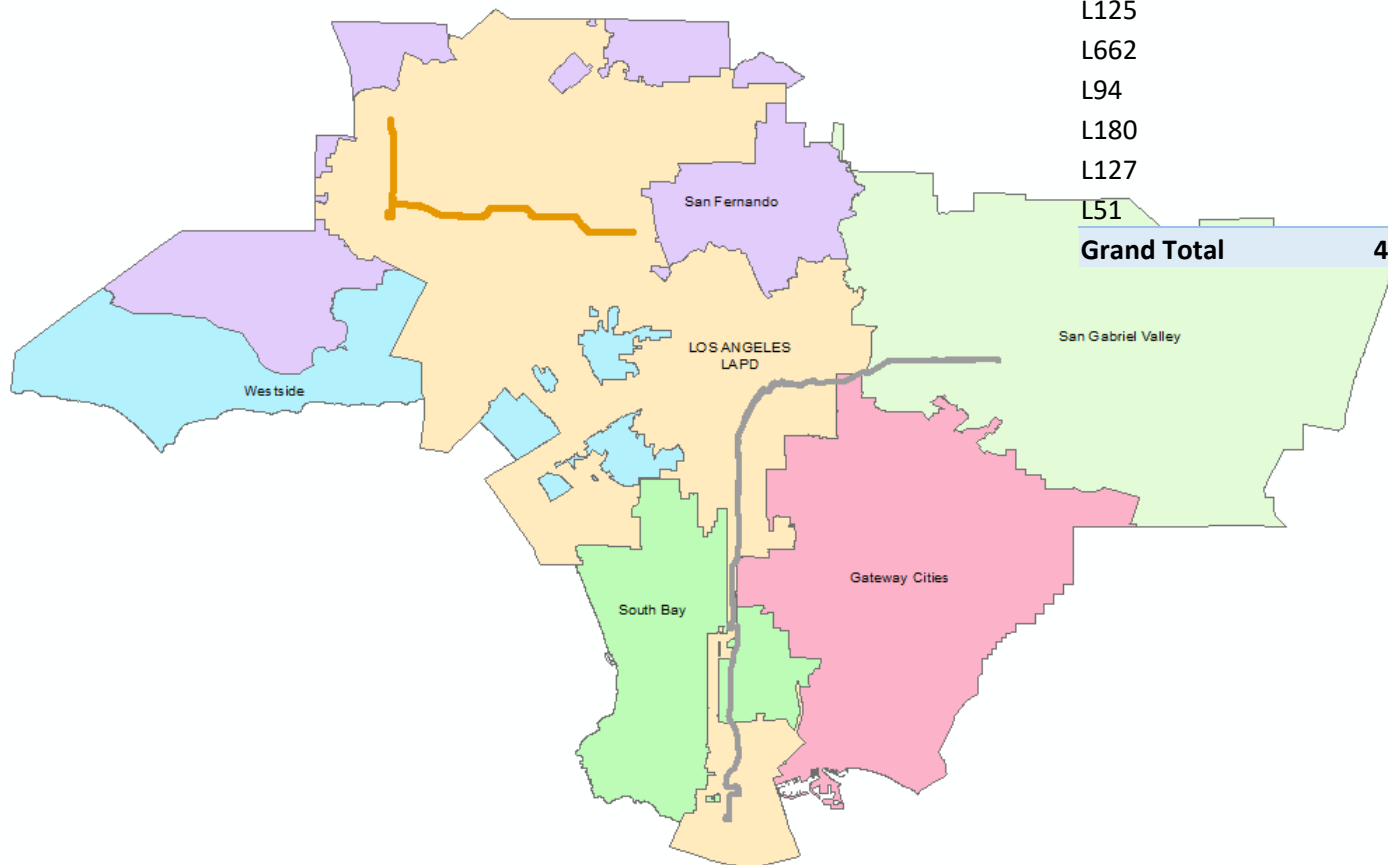
Bus Operator Assaults

-  September
-  Jan—Aug

Bus Sector and Line Statistics - YTD

Sector	Count
South Bus Gateway	14
South Bus Southbay	11
North Bus San Gabriel	6
North Bus San Fernando	3
North Bus El Monte Terminal	3
South Bus Westside	2
North Bus Westside	2
North Rail Expo	1
North Rail Gold	1
South Rail Expo	1
South Rail Green	1
Grand Total	45

Line	Count
L70	3
L207	3
L111	3
L260	3
L18	2
L204	2
L60	2
E Line	2
L258	2
L287	2
L108	2
L4	2
L74	1
L Line	1
L256	1
FH Transit	1
L117	1
L2	1
L266	1
L120	1
L217	1
L62	1
C Line	1
L125	1
L662	1
L94	1
L180	1
L127	1
L51	1
Grand Total	45



Sexual Crime / Harassment Calls for Service September 2022

Calls related to sexual harassment are routed through Metro Transit Security Operations Center, which then transfers the caller to a free 24/7 hotline — Peace Over Violence, Center for the Pacific Asian Family Inc., and Sister Family Services — that can provide more directed counseling. Between September 1st and September 30th, Metro Transit Security, LAPD, LASD, and LBPD received seven (7) incidents and referred all seven (7) victims of sexual harassment to the above free hotlines.

September 2022 Incident Type & Totals					
	LAPD	LASD	LBPD	MTS	SSLE
Sexual Harassment	0	1	0	0	1
Sexual Battery	2	1	0	0	3
Lewd Conduct	2	0	0	0	2
Indecent Exposure	1	0	0	0	1
Rape	0	0	0	0	0
TOTAL	5	2	0	0	7

Counseling Information Provided	
	September 2022
YES	7
NO- If no, why?	0
Gone On Arrival	0
Did Not Have Info	0
Telephonic Report	0
Not Offered	0
Refused	0
Officer Witnessed Incident	0
TOTAL	7

September 2022: Dept. Average Incident Response Time Sex Crime / Harassment Measured in Minutes			
Agency	Time Tracking: Incident Rpt. To Call Created	Time Tracking: Call Generated To On Scene	Time Tracking: Incident Rept. To On Scene
LAPD	0	8	8
LASD	3	39	42
LBPD	N/A	N/A	N/A
MTS	N/A	N/A	N/A
DEPT AVERAGE	1	17	18



Monthly Update on Public Safety

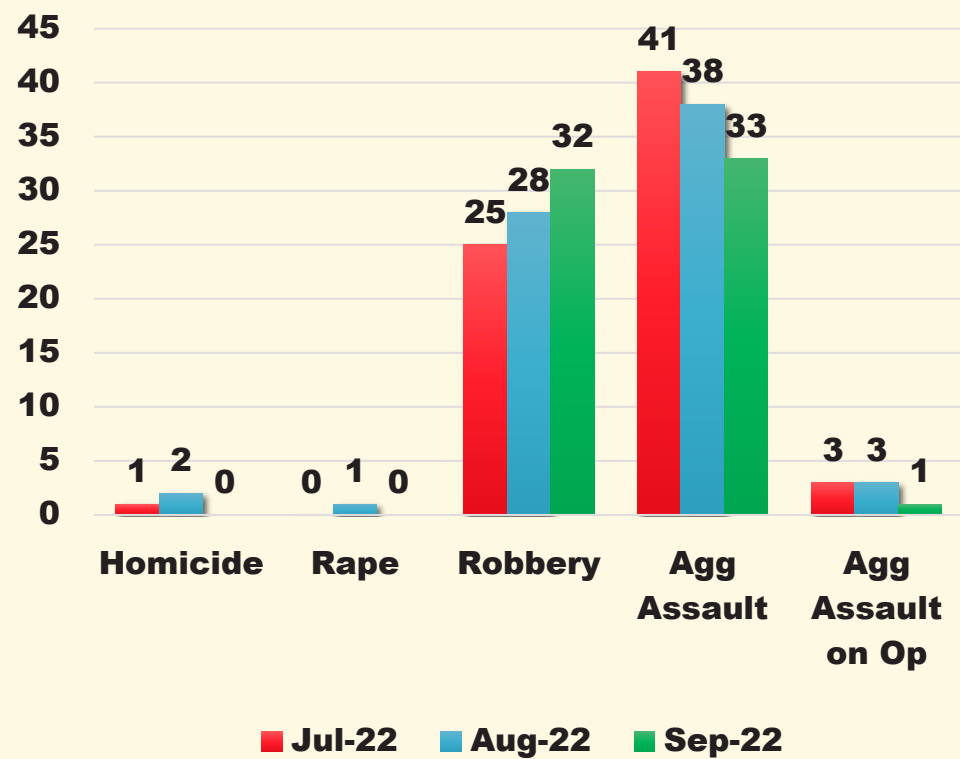
Operations, Safety, and Customer Experience Committee
November 17, 2022



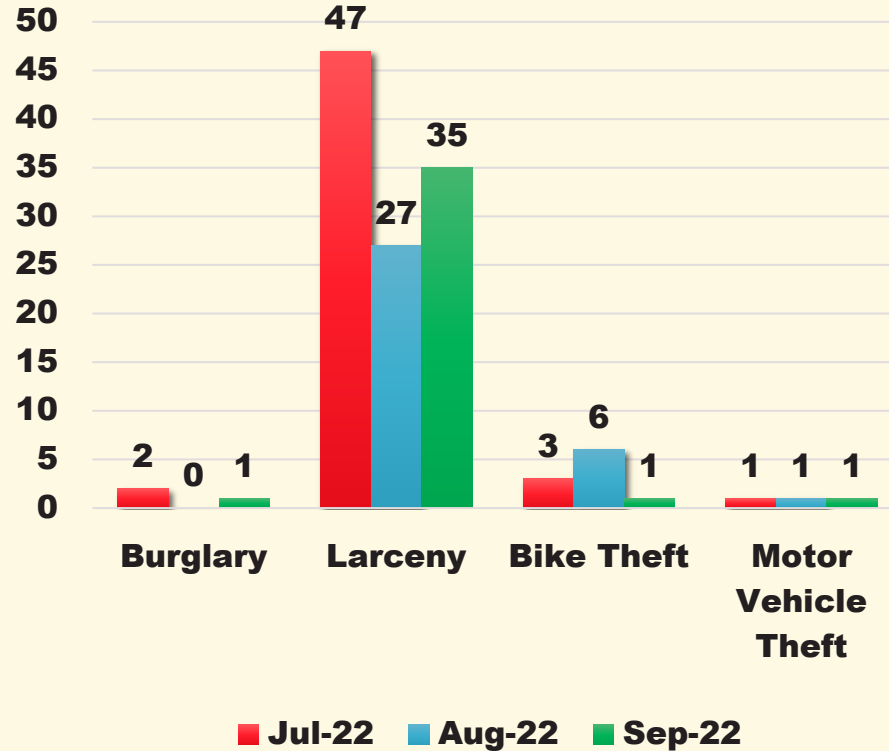
2

Crime Overview

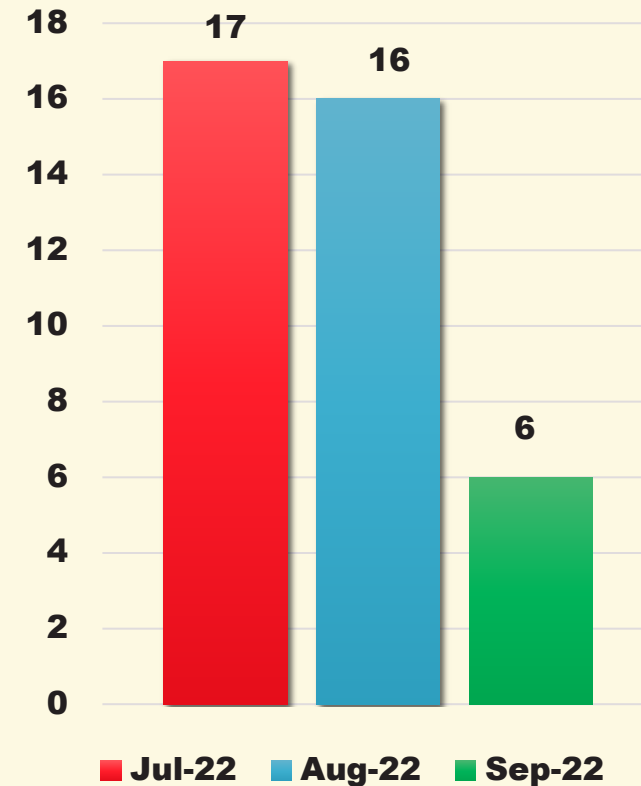
Violent Crimes



Property Crimes



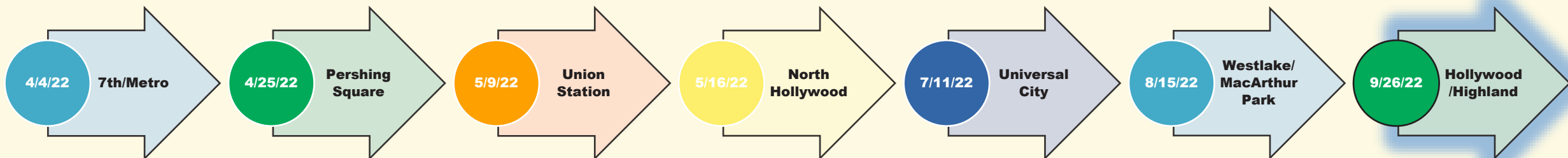
Operator Assaults





3

Respect the Ride



Hollywood/Highland Station

- **Crime dropped from (3) crimes to (2) crimes.**
- **The most significant reduction occurring in robberies which went down from (3) to (0).**

Crimes	8/29 to 9/25	9/26 to 10/23	% Change
Robbery	3	0	-100.0%
Larceny	0	1	100%
Battery	0	1	100%
Total	3	2	-33.3%



4

Respect the Ride (cont'd)

Bus Officers Pilot

- **The Bus Riding teams have completed line rides on five of the top ten bus lines identified with the greatest safety challenges.**
- **The teams cover each line for one week (Day watch and PM watch).**
- **After each week, the teams move on to the next line on the list.**
- **Once the 10 lines are completed, we will evaluate for next steps.**
- **Riders have been cooperative with fare compliance with less than six riders per watch existing the system due to no payment.**

Rail Riding Teams

- **LAPD has 18 riding teams and LASD has 2 riding teams deployed on the system.**





5

Physical Security

BriefCam/Genetec Update

- **Genetec is a video management system (VMS) that seamlessly controls all video operations and allows rapid response to emerging situations within a single, modular platform.**
- **The Genetec VMS will allow users to efficiently manage and prioritize events such as critical area protection, perimeter protection, unauthorized access, and persons of interest.**
- **We have dedicated 115 cameras, across five Red Line stations, into our BriefCam/Genetec platform to aid in identifying vandalism incidents on our system.**



6

Training & Outreach

- **TSOs recently completed Terrorism Awareness training.**
- **Currently developing a curriculum for de-escalation training.**
- **On October 5th, SSLE held a virtual meeting with national transit agencies, including WMATA, BART, and NJ Transit, to discuss their solutions to tunnel communications.**
- **WMATA advised that they use the Wave Communications application.**
- **SSLE will test the application to determine if it can provide a short-term solution towards having underground connectivity.**