Watch online: http://boardagendas.metro.net
Listen by phone: Dial 888-251-2949 and enter Access Code: 8231160# (English) or 4544724# (Español)

Agenda - Final

Thursday, August 18, 2022

9:00 AM

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

Executive Management Committee

Ara J. Najarian, Chair
Janice Hahn, Vice Chair
Kathryn Barger
James Butts
Eric Garcetti
Hilda Solis
Gloria Roberts (Interim), non-voting member

Stephanie Wiggins, Chief Executive Officer

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. Live Public Comment Instructions can also be translated if requested 72 hours in advance.

323.466.3876
x2 *Español (Spanish)*
x3 中文 *(Chinese)*
x4 한국어 *(Korean)*
x5 Tiếng Việt *(Vietnamese)*
x6 日本語 *(Japanese)*
x7 русский *(Russian)*
x8 Հայերէն *(Armenian)*

HELPFUL PHONE NUMBERS

Copies of Agendas/Record of Board Action/Recordings of Meetings - (213) 922-4880 (Records Management Department)
General Information/Rules of the Board - (213) 922-4600
Internet Access to Agendas - www.metro.net
TDD line (800) 252-9040

NOTE: ACTION MAY BE TAKEN ON ANY ITEM IDENTIFIED ON THE AGENDA

Live Public Comment Instructions:

Live public comment can only be given by telephone.

The Committee Meeting begins at 9:00 AM Pacific Time on August 18, 2022; you may join the call 5 minutes prior to the start of the meeting.

Dial-in: 888-251-2949 and enter
English Access Code: 8231160#
Spanish Access Code: 4544724#

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.

Instrucciones para comentarios publicos en vivo:

Los comentarios publicos en vivo solo se pueden dar por telefono.

La Reunion de la Junta comienza a las 9:00 AM, hora del Pacifico, el 18 de Agosto de 2022. Puedes unirte a la llamada 5 minutos antes del comienso de la junta.

Marque: 888-251-2949 y ingrese el codigo
Codigo de acceso en ingles: 8231160#
Codigo de acceso en espanol: 4544724#

Los comentarios del público se tomaran cuando se toma cada tema. Para dar un comentario público sobre una tema ingrese # 2 (Tecla de numero y dos) cuando se le solicite. Tenga en cuenta que la transmisión de video en vivo se retrasa unos 30 segundos con respecto a la reunión real. No hay retraso en la línea de acceso telefónico para comentarios públicos.

Written Public Comment Instruction:

Written public comments must be received by 5PM the day before the meeting.
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: 7 and 17.

Consent Calendar items are approved by one vote unless held by a Director for discussion and/or separate action.

CONSENT CALENDAR:

7. SUBJECT: HIGH DESERT CORRIDOR JOINT POWERS AGENCY 2022-0338

RECOMMENDATION

APPROVE Metro participation in the Joint Powers Agreement creating the High Desert Corridor Joint Powers Agency.

Attachments: Attachment A - HDC JPA Agreement

(ALSO ON PLANNING AND PROGRAMMING COMMITTEE)

17. SUBJECT: CORRECTION TO PAY GRADE AND ANNUAL SALARY FOR BOARD CLERK POSITION 2022-0502

RECOMMENDATION

APPROVE:

A. the correction of the Board Clerk position of the Los Angeles County Metropolitan Transportation Authority from a Pay Grade HAA to Pay Grade HBB; and

B. the Board Clerk position annual salary of $168,896 retroactive October 4, 2021.

NON-CONSENT

18. SUBJECT: CLIMATE EMISSIONS ANALYSIS - METRO'S INDIRECT IMPACT ON GREENHOUSE GAS EMISSIONS 2022-0003

RECOMMENDATION

RECEIVE AND FILE the Climate Emissions Assessment: Metro's Indirect Impact on Greenhouse Gas Emissions Report (Attachment A).

Attachments: Attachment A - Emissions Reduction Analysis

Attachment B - Metro Board Motion 45

19. SUBJECT: EQUITY FOCUS COMMUNITIES 2022 REPORT BACK 2022-0489

RECOMMENDATION

RECEIVE AND FILE a report back on using 2022 Equity Focus Communities (EFCs) to prioritize investments during the development of the Metro FY24 budget.

Attachments: Attachment A - 2022 Equity Focus Communities – June 2022
Attachment B - Comparison of 2019 EFCs and 2022 EFCs - June 2022

20. SUBJECT: STATE AND FEDERAL REPORT 2022-0498

RECOMMENDATION

RECEIVE AND FILE August 2022 State and Federal Legislative Report.

21. SUBJECT: TITLE VI EQUITY ANALYSIS POLICIES 2022-0248

RECOMMENDATION

ADOPT Title VI Equity Analysis Policies presented in Attachments A, B and C.

Attachments: Attachment A - Major Service Change
Attachment B - Disparate Impact Policy
Attachment C - Dispropotionate Burden Policy

22. SUBJECT: SERVICE STANDARDS POLICIES FOR TITLE VI PROGRAM UPDATE 2022-0430

RECOMMENDATION

ADOPT Service Standards policies for Title VI Program Update presented in Attachment A.

Attachments: Attachment A - Metro Systemwide Service Standards

23. SUBJECT: SERVICE MONITORING RESULTS FOR TITLE VI PROGRAM UPDATE 2022-0431

RECOMMENDATION

ADOPT Service Monitoring Results for Title VI Program Update presented in Attachment A.

Attachments: Attachment A - Service Monitoring Review FY20-FY22

SUBJECT: GENERAL PUBLIC COMMENT 2022-0479

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

File #: 2022-0338, **File Type:** Agreement **Agenda Number:** 7.

PLANNING AND PROGRAMMING COMMITTEE
AUGUST 17, 2022
EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: HIGH DESERT CORRIDOR JOINT POWERS AGENCY

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

APPROVE Metro participation in the Joint Powers Agreement creating the High Desert Corridor Joint Powers Agency.

ISSUE

On March 1, 2022, San Bernardino County voted to withdraw its membership in the High Desert Corridor Joint Powers Authority (HDC JPA), resulting in the HDC JPA being dissolved effective June 30, 2022. A new High Desert Corridor Joint Powers Agency (Agency) comprised of new membership has been created to replace the HDC JPA to continue the planning for the future High Desert Corridor Rail Project. Metro, as a major partner in the planning and funding for the project, is being requested to join the new Agency.

BACKGROUND

In 2006, Los Angeles and San Bernardino Counties entered a Joint Powers Agreement creating the HDC JPA. Representatives from the counties of Los Angeles and San Bernardino; the cities of Palmdale, Lancaster, Adelanto, Victorville; and the Town of Apple Valley were appointed by the counties to serve on the HDC JPA Board of Directors. Metro was not a JPA member but was considered a potential candidate to join an expanded HDC JPA after the passage of Measure R in 2008, which included $33 million for the development of an environmental document for the corridor.

The HDC JPA, a project-specific Joint Powers Authority, was formed to develop transportation options between the Antelope Valley in Los Angeles County and the Victor Valley in San Bernardino County. The HDC JPA initially considered a new freeway/expressway/tollway connecting SR-14 to I-15, but expanded the scope to include rail, bicycle lanes, and other improvements, ultimately becoming the High Desert Multi-Purpose Corridor (HDMC). In 2016, the HDMC received CEQA clearance, and it was determined that the Locally Preferred Alternative would be a multi-modal corridor with a highway and a high-speed rail line in the median connecting the two valleys. At the

time, Metro's role was to fund the CEQA study.

In December 2020, due to litigation and funding issues, Caltrans eliminated the highway portion of the HDMC, but allowed for the possibility of a highway later.

HDC Rail Project

Upon elimination of the highway component of the HDMC, the HDC Rail Project moved forward. The HDC Rail Project would link the Metrolink/California High Speed Rail Authority (CHSRA) station in Palmdale with an anticipated high-speed rail station in Apple Valley, which would connect to the planned Brightline West, a privately-funded high-speed rail line to Las Vegas.

The HDC Rail Project will service major employment centers and regional destinations, reduce greenhouse gas emissions, and provide a passenger rail alternative to the congested I-15 corridor between Southern California and Las Vegas.

Travel time on the 54-mile HDC Rail Project from Palmdale to Apple Valley will be 30 minutes, at speeds traveling up to 180 miles per hour. Travel time on the 190-mile Brightline West corridor from Apple Valley to Las Vegas will be 95 minutes, at speeds traveling up to 180 miles per hour.

The HDC Rail Project is estimated to initially carry 3.1 million riders annually and grow to 14 million riders annually by 2050 based upon the 2015 ridership modeling study and connectivity to the future CHSRA service from Los Angeles to Northern California.

The HDC Rail Project is consistent with CHSRA, Brightline West, the California State Rail Plan, and the Metrolink commuter rail network. The Metro Measure M Expenditure Plan and the Metro Long-Range Transportation Plan have committed $170 million for the HDC, with funds for engineering and right-of-way acquisition. Additionally, $1.8 billion in future Measure M funds has been committed in 2063 - 2067 for HDC Rail Project construction.

Metro Service Development Plan

In August 2020, the Metro Board programmed $5,000,000 in Measure M HDMC funds for Metro to lead a High Desert Corridor Intercity Rail Corridor Service Development Plan (SDP) effort [File #2020 -0046]. Starting in early 2021, Metro has been working with key stakeholders to complete detailed ridership and revenue forecasts, conduct operations modeling, Palmdale Transportation Center station planning, conceptual engineering, and financial analysis to advance the HDC Rail Project to the 15% design level. The SDP is expected to be completed in summer 2022.

CEQA/NEPA Environmental Update

Concurrent with the SDP, environmental work for the HDC Rail Project has continued. In April 2021, Metro programmed $400,000 in Proposition C 25% funds to the HDC JPA for additional NEPA work for the HDC Rail Project to address changes to the rail alignment, station location and other related infrastructure changes. In 2021 the HDC JPA requested that the Federal Railroad Administration (FRA) act as the lead agency for NEPA compliance and that the FRA issue a Record of Decision

(ROD) for the HDC Rail Project and revalidate the results of the previous 2016 CEQA environmental approvals. In 2022 the FRA agreed to become the NEPA lead agency for the HDC Rail Project. The FRA also requested that the NEPA environmental document closely align with the SDP, requiring additional engineering analysis. An ROD is expected in late 2022/early 2023.

Metro Board Action in April 2022

In April 2022, the Metro Board programmed $1,236,500 in FY 2022-23 Measure M HDMC funds to the HDC JPA to complete the CEQA and NEPA environmental documents for the HDC Rail Project and other related activities related to the HDC JPA governance, including JPA management, planning and administrative coordination, for FY 2022-23.

DISCUSSION

On March 1, 2022, San Bernardino County voted to withdraw its membership in the HDC JPA effective June 30, 2022. Since the HDC JPA consists of only two members, Los Angeles County and San Bernardino County, the withdrawal of San Bernardino County dissolved the HDC JPA as of June 30, 2022.

The new Agency will replace the HDC JPA and complete the federal and state environmental review process, pursue grant funding and facilitate the planning, design, construction, financing, operations, and maintenance of the HDC Rail Project, which is subject to funding availability. Metro was not a member of the original Joint Powers Authority. Metro's participation in the new Agency is timely and appropriate now that the HDMC has evolved into the development of the HDC Rail Project, which has linkages with the LA County regional rail network; Metro is currently leading the development of the SDP; and Metro is funding the completion of the CEQA/NEPA document.

The agreement for this new Agency (Attachment A) eliminates San Bernardino County as a member and adds Metro plus the cities of Palmdale, Lancaster, Adelanto, and Victorville as direct members of the Agency Board of Directors. Each member agency will appoint a representative to the Agency's Board of Directors, with each Director receiving one vote. Metro will be represented on the new Agency by the Metro Board North County/San Fernando Valley Sector appointee, currently Chair Ara Najarian. The six voting members and their dates of approval to join the new Agency is as follows:

High Desert Corridor Joint Powers Agency Member	Governing Board Action
Los Angeles County	June 28, 2022
Metro	August 25, 2022
City of Palmdale	July 20, 2022
City of Lancaster	June 14, 2022
City of Adelanto	June 8, 2022
City of Victorville	July 19, 2022

The County Counsel of Los Angeles County will serve as the Agency's legal adviser. The Auditor-Controller of Los Angeles County will serve as the Agency's auditor. The Treasurer of Los Angeles

County will serve as the Agency's Treasurer. An annual budget will be established after the new Agency meets, likely to occur in fall 2022.

DETERMINATION OF SAFETY IMPACT

The HDC Rail Project will reduce automobile trips along the SR-138/SR-18 corridor and the I-15 freeway between Southern California and Las Vegas. This project will reduce vehicle accidents and improve safety by moving some people in automobiles along the I-15 corridor to a high-speed rail train, among the safest transportation modes. The HDC Rail Project will be designed to the latest safety standards established by the FRA and other regulatory agencies.

FINANCIAL IMPACT

The previous Metro Board action in April 2022 programmed funds to complete the HDC Rail Project environmental work and fund the management and administration of the new Agency for FY 2022-23. Future year Agency budgets will be established annually by the Agency Board thereafter. Measure M HDMC funds, currently $166 million, are a potential source of funds for Metro's portion of the Agency operations, dues, etc.

EQUITY PLATFORM

The HDC Rail Project will improve mobility for residents in the North Los Angeles County by providing a high-quality, environmentally friendly, safe, and efficient transportation option to the communities to access jobs, health care, education, other services, and economic opportunities offered at major urban and employment centers in Los Angeles and Las Vegas.

The cities of Adelanto and Victorville are designated as high poverty areas. The multi-modal Palmdale High Speed Rail station will be designed to meet the latest Americans with Disability Act requirements along with commuter rail, bus transit, Access Services, ride share and active transportation needs.

The entire project area falls within the low-income communities and households as defined by AB 1550. A significant portion also falls within the disadvantaged and low-income communities as defined by SB 535. In addition, residents within the HDC project area consist of between 61% and 77% in minority populations, with the highest percentage of minority populations in the City of Palmdale. Many of the minority populations include people with limited English proficiency.

The new Agency will enable the environmental process to continue, leading to the ROD and further engineering, outreach, and eventual construction of the HDC, subject to funding availability.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Metro membership in the new Agency supports Vision 2028 Strategic Plan goals 1, 4 and 5, as follows:

- Goal 1: Invest in a world-class transit system that is reliable, convenient, and attractive to more users for more trips;
- Goal 4: Drive mobility agendas, discussions, and policies at the state, regional and national

levels;
- Goal 5: Exercise good public policy judgement and sound fiscal stewardship.

ALTERNATIVES CONSIDERED

The Board could choose not to participate as a member of the new Agency. This alternative is not recommended as Metro is a major partner in the funding and planning for the HDC, which is funded through the Measures R and M Expenditure Plans. This includes working closely with the new Agency to complete the environmental CEQA/NEPA process and leading the current SDP effort.

Given Metro's large role in funding for the HDC, it is appropriate that Metro participates as a voting member in the new Agency. The recommendation is also consistent with Metro's overall role and responsibility to provide public transportation mobility opportunities throughout Los Angeles County and its creation of a multimodal, integrated planning function that seeks to integrate all modes of transportation in a comprehensive, holistic approach.

NEXT STEPS

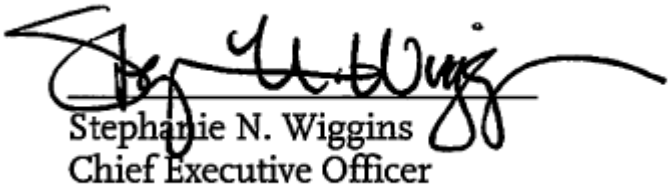
Subject to Board approval of the staff recommendation, the new Agency will convene for its first Board meeting in the fall of 2022. The environmental ROD is anticipated from the FRA in late 2022/early 2023. Staff will work with the new Agency, stakeholders and potential funding partners to advance the HDC Rail Project forward.

ATTACHMENTS

Attachment A - Joint Powers Agreement Creating the High Desert Corridor Joint Powers Agency

Prepared by: Jay Fuhrman, Manager, Countywide Planning & Development, (213) 541-4381
Michael Cano, EO (Interim), Countywide Planning & Development, (213) 418-3010
Allison Yoh, EO, Countywide Planning & Development, (213) 547-4275
Laurie Lombardi, SEO, Countywide Planning & Development, (213) 418-3251

Reviewed by: James de la Loza, Chief Planning Officer, (213) 922-2920



Stephanie N. Wiggins
Chief Executive Officer

JOINT POWERS AGREEMENT

CREATING

THE HIGH DESERT CORRIDOR JOINT POWERS AGENCY

BY AND AMONG

THE COUNTY OF LOS ANGELES, LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY, THE CITY OF LANCASTER, THE CITY OF PALMDALE, THE CITY OF VICTORVILLE, THE CITY OF ADELANTO, AND THE CITY OF APPLE VALLEY

HIGH DESERT CORRIDOR JOINT POWERS AGENCY

JOINT POWERS AGREEMENT

This JOINT POWERS AGREEMENT, made in accordance with Chapter 5 of Division 7 of Title 1 of the Government Code of the State of California (commencing with Section 6500), as amended and supplemented from time to time (the "Act"), for convenience dated as of XXXXXXXXX (date), by and among the COUNTY OF LOS ANGELES, LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY, CITY OF LANCASTER, CITY OF PALMDALE, CITY OF VICTORVILLE, CITY OF ADELANTO, and CITY OF APPLE VALLEY, each of which is a body corporate and politic and a political subdivision of the State of California (the "State") (referred to collectively as "Members").

RECITALS:

WHEREAS, pursuant to the Act, the agency created under this Agreement (as defined herein) shall possess such common powers of the Members, and may exercise such powers, as specified in this Agreement and to exercise the additional powers granted to it pursuant to the Act;

WHEREAS, by this Agreement, each Member desires to create and establish the High Desert Corridor Joint Powers Agency for the purposes set forth herein and to exercise the powers provided herein;

WHEREAS, the High Desert Corridor Joint Powers Authority, ("Predecessor JPA"),was created between Los Angeles County and San Bernardino County in November 2006, and shall be dissolved effective July 1, 2022;

WHEREAS, it is the intent of the Members that, to the fullest extent possible, the High Desert Corridor Joint Powers Agency shall be the successor in interest in all ways to the Predecessor JPA, and any other mechanisms or sources with which the Predecessor JPA was funded and any other obligations or benefits derived therefrom, including, without limitation, the proposed April 14, 2022, Funding Agreement between Predecessor JPA and the Los Angeles County Metropolitan Transportation Authority for the High Desert Intercity Rail Corridor Environmental Work, Surface, Transportation Board Filing, and Predecessor JPA Administration costs.

NOW, THEREFORE, the Members, for and in consideration of the mutual agreements and covenants contained herein, do agree as follows:

ARTICLE I

DEFINITIONS

Section 1.01. Definitions. Unless the context otherwise requires, the words and terms defined in this Article I shall, for the purpose hereof, have the meanings herein specified.

“Act” means the Joint Exercise of Powers Act, Articles 1 through 4 (commencing with Section 6500) of Chapter 5, Division 7, Title 1 of the California Government Code.

''Agency'' shall mean the High Desert Corridor Joint Powers Agency, the separate agency created by this Agreement.

“Agreement” means this Joint Powers Agreement as the same now exists and as it may from time to time be amended.

“Board” means the Board of Directors of the Agency created by this Agreement.

''Brown Act'' means the Ralph M. Brown Act (Chapter 9 of Part 1 of Division 2 of Title 5 of the Government Code of the State of California (Sections 54950 to 54961), and any successor legislation hereinafter enacted.

“Director(s)” means the person(s) appointed to the Board pursuant to Section 2.03.

“Fiscal Year” means the calendar period from July 1st to and including the following June 30th, unless and until changed by a resolution of the Agency.

“Member” means each of the County of Los Angeles, Los Angeles County Metropolitan Transportation Agency, City of Lancaster, City of Palmdale, City of Victorville, City of Adelanto, and City of Apple Valley.

“Members” means all of the Member agencies collectively.

''Predecessor JPA'' means the High Desert Corridor Joint Powers Authority.

“PTAC” means the Policy and Technical Advisory Committee.

“State” means the State of California.

ARTICLE II

GENERAL PROVISIONS REGARDING PURPOSE, CREATION AND OPERATION OF THE AGENCY

Section 2.01. Purpose. In accordance with Section 6503 of the Act, the purpose of this Agreement is to provide for the exercise of powers common to each Member, including but not limited to, the creation of the Agency to provide for the financing, planning, design, construction, operation and maintenance of public and/or private transportation and utility corridor(s) (Corridor) from Los Angeles County in the vicinity of the Cities of Palmdale and/or Lancaster to San Bernardino County in the vicinity of the Cities of Victorville, Apple Valley and Adelanto. The activities contemplated by this Agreement include all manner and modes of surface transportation and all manner and modes of utilities including pipelines and conduits, and those substances that may be feasibly conveyed by such.

The Agency is intended to be the successor in interest, to the fullest extent possible, to the High Desert Corridor Joint Powers Authority, which shall be dissolved as of July, 1, 2022.

Section 2.02. Term. This Agreement shall become effective when it has been approved by each of the Members. This Agreement shall continue in full force and effect until terminated by mutual consent of the Members.

Section 2.03. Board of Directors. The Agency shall be governed by a Board of Directors (Board), with each Director receiving one vote. The Board shall be comprised of seven Directors designated as follows:

A. The County of Los Angeles shall be represented by its Fifth District Supervisor.
B. Los Angeles County Metropolitan Transportation Authority ("Metro") shall be represented by the sitting Metro Board Director representing the Northern Los Angeles County Cities Sector seat.
C. The City of Lancaster shall be represented by an individual selected by the Lancaster City Council.
D. The City of Palmdale shall be represented by an individual selected by the Palmdale City Council.
E. The City of Victorville shall be represented by an individual selected by the Victorville City Council.
F. The City of Adelanto shall be represented by an individual selected by the Adelanto City Council.
G. The City of Apple Valley shall be represented by an individual selected by the Apple Valley City Council.

Section 2.04. Alternates. Except as provided below, each Member shall appoint an alternate (Alternate) for its Director. The Alternate for Los Angeles County's Fifth District Supervisor shall be nominated by the Fifth District Supervisor and approved by the County of Los Angeles Board of Supervisors. The Alternate for Metro shall be nominated by the sitting Metro Board Director representing the Northern Los Angeles County Cities Sector seat and approved by the Metro Board of Directors.

Section 2.05. Term of Board of Directors. Each Director and Alternate shall serve at the pleasure of his or her appointing authority.

Section 2.06. Meetings. All meetings of the Board shall be called, noticed, held, and conducted subject to the provisions of the Brown Act. The Board shall meet a minimum of one time per year. The meeting shall take place at a location determined by the Board, but the location must be within the jurisdictional boundaries of either the County of Los Angeles or the County of San Bernardino.

Section 2.07. Minutes. The Secretary shall cause to be kept minutes of the meetings of the Board and shall, as soon as possible after each meeting, cause a copy of the minutes to be forwarded to each Director of the Board, committee members of the PTAC, and the Clerk of the Board of Supervisors, or governing body of each Member.

Section 2.08. Quorum. A majority of the Board shall constitute a quorum for the transaction of business, except that less than a quorum may adjourn from time to time. The affirmative votes of at least a majority of the Directors present at any meeting at which a quorum is present shall be required to take any action by the Board.

Section 2.09. Bylaws. The Board may adopt Bylaws for the conduct of business and as are necessary for the purposes hereof. The Board may adopt additional resolutions, rules, regulations, and policies for the conduct of its business and as are necessary for the purposes hereof in a manner consistent with this Agreement and the Bylaws.

Section 2.10. Annual Budget. The Board shall adopt an annual budget for each fiscal year. The Bylaws may further provide for the presentation and content of the budget.

Section 2.11. Annual Operational and Fiscal Report. The Board shall cause an annual operational report and annual fiscal report to be prepared and provided to each Member.

Section 2.12. Enlargement of the Board of Directors. The Board may increase the number of Directors on the Board from seven Directors by approval by all Directors following ratification by the governing body of each Member.

ARTICLE III

OFFICERS AND EMPLOYEES

Section 3.01. Chair and Vice-Chair. The Board of Directors shall elect from among its Members, a Chair and First and Second Vice-Chairs. The Chair shall sign all contracts on behalf of the Agency, except as otherwise set forth in this Agreement, and shall perform such other duties as may be imposed by the Board in the Bylaws. The First Vice-Chair shall sign contracts and perform all of the Chair's duties in the absence of the Chair, unless the Bylaws of the Agency provide otherwise. The duties of the Second Vice-Chair may be set forth in the Bylaws. Elections for such officers shall be held each year at a regular or special meeting of the Board with terms running concurrent with the Agency's Fiscal Year. The term of office shall be the Fiscal Year or until a successor is elected.

Section 3.02. Secretary. The Board shall appoint a Secretary to the Board. The Secretary shall serve at the pleasure of the Board. The Secretary shall countersign all contracts signed by the Chair or Vice-Chair on behalf of the Agency, unless the Bylaws of the Agency provide otherwise. The Secretary shall cause a notice of this Agreement to be filed with the California Secretary of State pursuant to Section 6503.5 of the Act and Section 53051 of the California Government Code. The Secretary shall be responsible to the Board for the call, noticing and conduct of the meetings pursuant to the Ralph M. Brown Act (Section 54950 et seq. of the California Government Code). The Board may further provide for the duties and responsibilities of the Secretary in the Bylaws.

Section 3.03. Treasurer. Pursuant to Section 6505.5 of the Act, the Treasurer of the County of Los Angeles shall serve as the Treasurer of the Agency, unless and until otherwise determined by the Agency. The Treasurer shall be the depository, shall have custody of all of the accounts, funds and money of the Agency from whatever source, shall have the duties and obligations set forth in Sections 6505 and 6505.5 of the Act, and shall assure that there shall be strict accountability of all funds and reporting of all receipts and disbursements of the Agency. The bond of the Treasurer under this Agreement shall be his official bond as the Treasurer of the County of Los Angeles and no additional bond will be required. The monies of the Agency shall be accounted for separately and invested in the same manner and upon the same conditions as local agencies pursuant to Section 53601 of the Government Code, including but not limited to investment in the County treasury pool of Los Angeles County.

Section 3.04. Contract With Certified Public Accountant. The Auditor-Controller of Los Angeles County shall serve as the Auditor of the Agency, unless and until otherwise determined by the Agency. As required by Section 6505 of the Act, the Auditor shall make arrangements or contract with a certified public accountant or firm of certified public accountants for the annual audit of accounts and records of the Agency. In each case, the minimum requirements of the audit shall be those prescribed by the State Controller for special districts under Section 26909 of the Government Code of the State of California and shall conform to generally-accepted auditing standards. When such an audit of accounts and records is made by a certified public accountant, a report thereof shall be filed with each Member and each officer of the Agency. Such a report shall be filed within six months of the end of the fiscal year under examination. Any costs of the audit, including contracts with, or employment of, certified public accountants in making an audit pursuant to this section, shall be borne by the Agency and shall be a charge against any unencumbered funds of the Agency available for that purpose.

Section 3.05. Officers in Charge of Records, Funds and Accounts. Pursuant to Sections 6505.1 of the Act, the Treasurer shall have charge of, handle, and have access to all accounts, funds and money of the Agency and all records of the Agency relating thereto. The Secretary shall have charge of, handle, and have access to all other records of the Agency.

Section 3.06. Legal Advisor. The County Counsel of Los Angeles County ("County Counsel") shall serve as legal advisor and counsel to the Agency. County Counsel may consult with counsel for the other Members as necessary, or as directed.

Section 3.07. Other Employees. The Board shall have the power by adoption of Bylaws to appoint and employ such other employees, consultants, and independent contractors as may be necessary for the purpose of this Agreement.

Section 3.08. Officers and Employees of the Agency. As required by Section 6513 of the Act, all of the privileges and immunities from liability, exemption from laws, ordinances and rules, all pension, relief, disability, workers' compensation, and other benefits that apply to the activities of officers, agents, or employees of a public agency when performing their respective functions shall apply to the officers, agents, or employees of the Agency to the same degree and extent while engaged in the performance of any of the functions and other duties of such offices, agents, or employees under this Agreement with no additional compensation. None of the officers, agents, or employees directly employed by the Board shall be deemed, by reason of their

employment by the Board, to be employed by any of the Members or, by reason of their employment by the Board, to be subject to any of the requirements of the Members.

ARTICLE IV

POWERS

Section 4.01. Creation of a Separate Legal Entity. As required in the Act, the Agency shall be a public entity separate from each of the Members in accordance with the meaning of California Government Code section 6503.5. Accordingly, there is hereby created a separate legal entity, which shall exercise its powers in accordance with the provision of this Agreement and applicable law.

Section 4.02. General Powers. The Agency shall exercise, in the manner herein provided, the powers that are common to each of the Members, or as otherwise permitted under the Act, and as is necessary to the accomplishment of the purpose, as provided in Section 2.01, Purpose, of this Agreement.

Section 4.03. Specific Powers. The Agency is hereby authorized, in its own name, to do all acts necessary for the exercise of the foregoing general powers, including but not limited to, any or all of the following:

(a) to make and enter into contracts;

(b) to employ agents or employees;

(c) to sue and be sued in its own name;

(d) to acquire, by negotiated purchase or condemnation, construct, manage, maintain or operate any property, building, works, or improvements;

(e) to acquire, by negotiated purchase or condemnation, hold or dispose of property;

(f) to incur debts, liabilities or obligations, provided that no such debt, liability, or obligation shall constitute a debt, liability or obligation of the Members;

(g) to apply for, accept, receive and disburse grants, loans and other aids from any agency of the United States of America or of the State;

(h) to invest any money in the treasury pool as indicated in Section 3.03 of this Agreement; and

(i) to carry out and enforce all the provisions of this Agreement.

Section 4.04. Restrictions on Powers. Pursuant to Section 6509 of the Act, the above powers shall be subject to the restrictions upon the manner of exercising the power of one of the Members, which is designated as County of Los Angeles.

Section 4.05. Obligations of Agency. The debts, liabilities and obligations of the Agency shall not be the debts, liabilities and obligations of the Members.

Section 4.06. Successor in Interest to Predecessor JPA. It is the intent of the Members that, to the fullest extent possible, the High Desert Corridor Joint Powers Agency shall be the successor in interest in all ways to the Predecessor JPA, and any other mechanisms or sources with which the Predecessor JPA was funded and any other obligations or benefits derived therefrom, including, without limitation, the proposed April 14, 2022, Funding Agreement between Predecessor JPA and the Los Angeles County Metropolitan Transportation Authority for the High Desert Intercity Rail Corridor Environmental Work, Surface, Transportation Board Filing, and Predecessor JPA Administration costs.

ARTICLE V

POLICY AND TECHNICAL ADVISORY COMMITTEE

Section 5.01. Creation of Committee. There shall exist in the Agency a committee named the Policy and Technical Advisory Committee (PTAC). There shall be fourteen voting members of the PTAC who shall be appointed as follows: two each by the Members.

Section 5.02. Other Agencies. The PTAC may include other non-voting agencies that the Board may deem appropriate, including but not limited to Caltrans, San Bernardino Associated Governments, etc.

Section 5.03. Duties. The PTAC shall provide advice on policy and technical issues to the Board and have such other and further duties as may be set forth in the Bylaws.

ARTICLE VI

CONTRIBUTIONS, ASSETS AND DISTRIBUTION UPON TERMINATION

Section 6.01. Contributions. The Members may make contributions from their treasuries for the purpose set forth in Section 2.01, Purpose, make payments of public funds to defray the cost of such purpose, make advances of public funds for such purpose, and/or use their personnel, equipment, or property in lieu of contributions or advances. The provisions of Section 6512.1 of the Act are hereby incorporated into this Agreement by reference.

Section 6.02. Distribution of Assets upon Termination. Upon termination of this Agreement and after resolution of all debts, liabilities and obligations, all money and other property, both real and personal, of the Agency shall, pursuant to Sections 6511 and 6512 of the Act, be divided among the Members proportional to the contributions made by the respective Members.

ARTICLE VII

LIABILITY, INDEMNIFICATION AND INSURANCE

Section 7.01. Agency Liability and Indemnification. The debts, liabilities, and obligations of the Agency shall not be the debts, liabilities, and obligations of the Members. The Board of Directors of the Agency, and the officers, employees, and staff of the Agency shall use ordinary care and reasonable diligence in the exercise of their powers and in the performance of their duties pursuant to this Agreement. They shall not be liable for any mistakes of judgment or any other action made, taken, or omitted by them in good faith, including without limitation, investment of Agency funds, or failure to invest. No member of the Board of Directors, and no officer or employee of the Agency, shall be responsible for any action taken or omitted by any other director, officer or employee. No director, officer or employee shall be required to give a bond or other security to guarantee the faithful performance of his or her duties pursuant to this Agreement, except as otherwise provided in Section 3.03. The Agency shall indemnify, defend, and hold harmless the individual Board of Director members, and the Agency's officers and employees from any and all claims, actions, losses, damages, and/or liability arising from any actions or omissions taken lawfully and in good faith pursuant to this Agreement. The Agency shall indemnify, defend, and hold harmless each of the Members and their authorized officers, employees, agents, and volunteers from any and all claims, actions, losses, damages, and/or liability arising from the Agency's acts, errors, or omissions and for any costs or expenses incurred by any Member on account of any claim therefor, except where such indemnification is prohibited by law.

Section 7.02. Member Indemnification. Pursuant to the provisions of California Government Code Section 895 et seq., and except as required in Section 7.01, Agency Liability and Indemnification, herein, each Member agrees to defend, indemnify, and hold harmless each other Member from any liability, claim,, or judgment for injury or damages caused by any negligent or wrongful act or omission of any agent, officer, and/or employee of the indemnifying Member that occurs or arises out of the performance of this Agreement.

Section 7.03. Insurance. The Board shall provide for insurance covering liability exposure in an amount as the Board determines necessary to cover risks of activities of the Agency.

Section 7.04. Third Party Beneficiaries. This Agreement and the obligations hereto are not intended to benefit any party other than its Members, except as expressly provided otherwise herein. Only the signatories to this Agreement shall have any rights or causes of action against any party to this Agreement as a result of that party's performance or non-performance under this Agreement, except as expressly stated in this Agreement.

ARTICLE VIII

MISCELLANEOUS PROVISIONS

Section 8.01. Notices. Notices hereunder shall be in writing and shall be sufficient if addressed to the offices listed below and shall be deemed given upon deposit into the U.S. mail, first class, postage prepaid:

Los Angeles County	Fifth District Supervisor 869 Kenneth Hahn Hall of Administration 500 West Temple Street Los Angeles, CA 90012
With a copy to:	Los Angeles County Counsel 500 West Temple Street, Suite 648 Los Angeles, CA 90012

NOTE: each Member needs to provide contact info for notice

- The County of Los Angeles shall be represented by its Fifth District Supervisor.
- Los Angeles County Metropolitan Transportation Authority ("Metro") shall be represented by the sitting Metro Board Director representing the Northern Los Angeles County Cities Sector seat.
- The City of Lancaster shall be represented by an individual selected by the Lancaster City Council.
- The City of Palmdale shall be represented by an individual selected by the Palmdale City Council.
- The City of Victorville shall be represented by an individual selected by the Victorville City Council.
- The City of Adelanto shall be represented by an individual selected by the Adelanto City Council.
- The City of Apple Valley shall be represented by an individual selected by the Apple Valley City Council.

The Members may change the above addresses for notice purposes by written notification as provided above to each of the other Members. Said change of address may be filed with the Bylaws. Meeting notices and general correspondence may be served electronically.

Section 8.02. Law Governing. This Agreement is made in the State of California under the constitution and laws of the State, and is to be so construed.

Section 8.03. Amendments. This Agreement may be amended at any time, or from time to time, by unanimous consent of all Members hereto.

Section 8.04. Severability. Should any part, term, or provision of this Agreement be decided by any court of competent jurisdiction to be illegal or in conflict with any law of the State, or otherwise be rendered unenforceable or ineffectual, the validity of the remaining portions or provisions shall not be affected thereby.

Section 8.05. Successors. This Agreement shall be binding upon and shall inure to the benefit of the successors of the Members, respectively. No Member may assign any right or obligation hereunder without the unanimous consent of all Members.

Section 8.06. Section Headings. All Article and Section headings in this Agreement are for convenience of reference only and are not to be construed as modifying or governing the

language in the Section referred to or to define or limit the scope of any provision of this Agreement.

Section 8.07. Multiple Counterparts. This Agreement may be executed in multiple counterparts, any one of which shall be deemed an original but all such counterparts shall together constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed and attested by their duly authorized officers, and their official seal to be hereto affixed, as of the day and year written.

LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY

By:_____
Chair

APPROVED AS TO FORM:

DAWYN R. HARRISON
Acting County Counsel

By:_____

- Los Angeles County Metropolitan Transportation Authority ("Metro") shall be represented by the sitting Metro Board Director representing the Northern Los Angeles County Cities Sector seat.
- The City of Lancaster shall be represented by an individual selected by the Lancaster City Council.
- The City of Palmdale shall be represented by an individual selected by the Palmdale City Council.
- The City of Victorville shall be represented by an individual selected by the Victorville City Council.
- The City of Adelanto shall be represented by an individual selected by the Adelanto City Council.
- The City of Apple Valley shall be represented by an individual selected by the Apple Valley City Council.

File #: 2022-0003, **File Type:** Informational Report **Agenda Number:** 18.

REVISED
EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: CLIMATE EMISSIONS ANALYSIS - METRO'S INDIRECT IMPACT ON GREENHOUSE GAS EMISSIONS

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE the Climate Emissions Assessment: Metro's Indirect Impact on Greenhouse Gas Emissions Report (Attachment A).

ISSUE

As transportation planner and coordinator, designer, builder and operator for the country's largest, most populous county, Metro has an important role to play in the fight against climate change and in meeting our global, state and local targets. Our current commitments and contributions to reducing greenhouse gas (GHG) emissions are detailed in several strategic documents, including the agency's *Climate Action & Adaptation Plan (CAAP)*, *Moving Beyond Sustainability (MBS),* and the *Long Range Transportation Plan (LRTP)*.

In September 2021, to build on these strategic plans, Director Garcetti requested additional details on the projected Vehicle Miles Traveled (VMT) and GHG emission impacts resulting from Metro's planned programs and policies.

As a first step in responding to this Board direction, Metro undertook an analysis to evaluate the individual VMT and GHG impacts of Metro's planned capital expansion projects, service improvements, pricing policies, and strategic programs, most of which are included in the LRTP and were similarly analyzed on a program level in support of that document. Recognizing the limitations of a disaggregated analysis approach, the VMT and GHG emission impact calculations that are presented for each program and initiative were prepared conservatively and the analysis does not account for the synergistic benefits or dampening effects of the holistic program laid out and analyzed in the LRTP.

Additionally, this analysis acknowledges the uncertainty associated with any transportation modeling exercise that involves forecasting future trends, present in this disaggregated analysis as well as program-level analyses such as the LRTP analysis. These uncertainties are particularly notable at

this moment in time, as the data used in this analysis pre-dates COVID-related shifts in travel behavior, land use patterns, and some of the fundamental relationships between the two. Given the above uncertainties, it is not possible to generate a high level of precision in the results.

The results of the analysis do offer high-level insight into the relative impacts of Metro's programs on GHG emissions only, as just one of many metrics that guide Metro's investment decisions in order to meet the goals outlined in Metro's Strategic Plan. The results are intended to provide a foundation for further study and to be a catalyst for the refinement of the analysis methodology.

BACKGROUND

In California, climate action planning is driven by the targets established in the 2016 Senate Bill 32 (SB 32), which establishes targets for Statewide emissions reductions of 40% from 1990 levels by 2030, and 80% from 1990 level by 2050.

Los Angeles County, as part of its commitment to the Paris Agreement, is moving toward a zero-carbon energy system. The *Our County* sustainability plan includes targets of achieving a 25% reduction in greenhouse gas emissions from 2015 levels by 2025, a 50% reduction in greenhouse gas emissions by 2035, and carbon neutrality by 2050. The *Our County* sustainability plan also includes targets to increase countywide trips by foot, bike, micromobility, or public transit to 15% of total trips by 2025 and to 50% by 2045, and targets to reduce daily vehicle miles travelled per capita to 20 miles by 2025 and 10 miles by 2045.

Achieving these reductions in GHG emissions in the transportation sector is critical to achieving the State, County, and City goals and in supporting the national commitment to the Paris Agreement. The transportation sector is responsible for 41% of the GHG emissions in the State of California and 52% of the GHG emissions for the Los Angeles County. Emissions from gasoline used in on-road passenger cars, trucks, and SUVs account for approximately 78 percent of the transportation inventory. Through its core services of providing bus and rail transit, Metro enables the traveling public to reduce their VMT, encouraging mode shift and disrupting single occupancy vehicle (SOV) driving habits.

Metro's own goal is to become a zero-emissions agency by 2050. The MBS and the CAAP include the target of achieving a 79% reduction in GHG emissions from 2017 baseline, by 2030. To reduce emissions, the MBS calls for reducing energy consumption by 17% at facilities from the 2030 Business as Usual scenario, transitioning Metro's fleet to zero emissions technology, and decarbonizing Metro's energy and fuel supply.

Metro also contributes to regional GHG emission avoidance by providing low- and zero-emissions modes of transportation and through the land use changes that occur in response to the transit system. In 2019, Metro's transportation services enabled over 900,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) to be avoided, with an estimated 20% as the direct result of individuals taking Metro rather than driving alone in SOVs, and the remaining 80% as an indirect result of changing land use patterns that result in a denser, mixed-use development pattern.

While Metro's existing transportation and mobility services already significantly reduce regional VMT,

Metro's suite of future initiatives will continue to play a key role in VMT reduction and GHG emission avoidance over time. As expectations for Metro's contribution to County and Regional GHG emissions reduction activities continue to evolve, the agency recognizes the need to understand better the relative VMT and GHG reduction benefits of Metro's various programs and policies.

DISCUSSION

Metro's 2020 Long Range Transportation Plan (LRTP) provides a detailed roadmap for planning, building, operating, maintaining, and partnering to deliver expanded transportation infrastructure and improved mobility over a 30-year timeframe. The programs and projects outlined in the 2020 *LRTP* include bus and rail infrastructure expansion, active transportation programs, transportation demand management, and highway modernization. Additionally, Metro has identified bold policies and programs to augment the implementation of the *LRTP* investments, including NextGen Bus Improvements and Congestion Pricing.

The *LRTP* quantifies the projected impact of Metro's planned programs holistically. The GHG impacts of each program had not previously been evaluated using a disaggregated approach. As Metro's responsibilities expand and VMT/GHG requirements continue to evolve, the agency recognizes the need to better understand the relative benefits of Metro's various programs.

As a result, Metro has undertaken this analysis of the individual VMT and GHG impacts of several of its major initiatives, using the *2020 LRTP* technical document and other Metro program studies as the basis for our assumptions. This analysis (Attachment A) offers high-level insight into the relative GHG emissions reductions resulting from the implementation of each of the LRTP initiative and additional efforts that have been advanced since the adoption of the LRTP. The VMT values for each program were used to estimate GHG emissions using per mile and trip-based emission factors from the California ARB's EMFAC model for each year between 2017-2047. The EMFAC model incorporates changing fleet mix assumptions, with the vehicle fleet becoming more efficient and producing fewer emissions per mile over time.

Disaggregating Metro's major transportation initiatives' individual VMT and GHG impacts is complicated and has significant limitations. Mobility patterns and behavior in Los Angeles County are highly interconnected. *Therefore, the results of this disaggregation analysis and the potential VMT and GHG impacts of Metro's planned programs are approximate, imprecise, and do not account for the holistic program's synergistic benefits or dampening effects.*

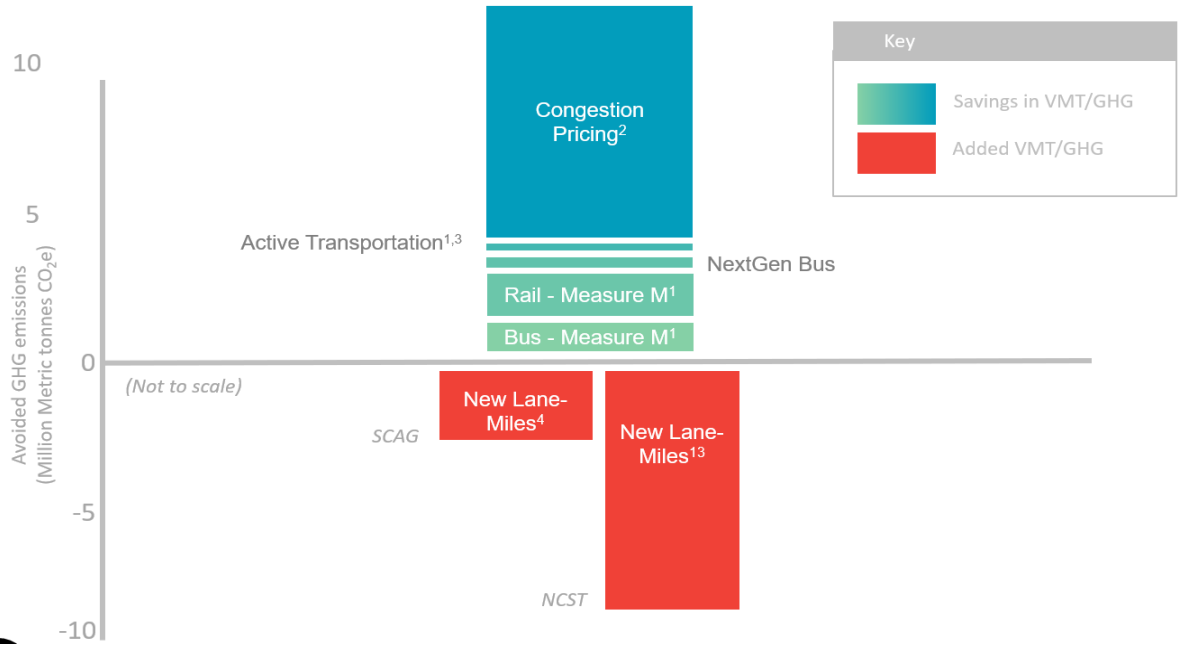
In addition, there is a lack of consensus among transportation planners about how to quantify the relationship between roadway projects and induced VMT, particularly when roadway projects incorporate multi-modal components as has been established as a priority for Metro's future roadway investments. This unresolved technical discussion is happening among planning entities in California in real time in relation to compliance with SB 743-- including in the working group for LA Metro's own VMT Mitigation Program led by Metro Planning staff. We do not attempt to resolve it these open technical questions related to the elasticity of various types of roadway facilities. The body of literature is based on historic nationwide data that is used to perform VMT calculations; however, the burden is on Self Help Counties to find locally relevant data. Instead, we point to a range of outcomes related to new capacity being added to roads and highways based on quantification approaches that

are under consideration.

Despite these limitations, this exercise is an important first step to better understanding the climate impacts of Metro programs relative to one another and throughout the county.

Disaggregated Impacts of Metro's Initiatives

This analysis used published methodologies developed by various agencies (California Air Resources Board and Caltrans) and best-available regional and local input model parameters wherever possible to estimate the VMT impacts for individual initiatives. The resulting VMT values for each of the programs were then used to estimate GHG emissions using per mile and per trip-based emission factors from the CARB's EMFAC model for each year between 2017-2047. Using the *LRTP* results and other Metro-provided data as the basis for this analysis was deemed appropriate and the quantification approach was found to be sound and acceptable by independent peer-reviewers.



[1] *Included in 2020 LRTP.*
[2] *Indicates initial modeled performance analysis, further scoping and detailed analysis required.*
[3] *This includes 244 miles of bike lanes across the County that further incentivizes the use of active transportation.*
[4] *Calculations of induced VMT from highway expansion calculated based on SCAG's Regional Travel Demand Model.*
[5] *Calculations of induced VMT from highway expansion calculated based on the NCST calculator, the statewide tool included in recent Caltrans SB 743 guidance.*

Overall, our preliminary calculations confirm the prior LRTP programmatic analysis showing that the implementation of Metro's *LRTP* and the other complementary strategic initiatives will reduce VMT and avoid greenhouse gas emissions.

Collaboration is Key

In a region with ambitious VMT and GHG reduction goals, Metro's existing and planned system alone is insufficient to meet the necessary State and county emission reduction targets. While these preliminary calculations provide initial estimates of the relative VMT and GHG impacts of the agency's major programs, deeper analysis is needed to fully identify the impacts of programs that Metro supports or funds in the region, such as Metrolink and municipal transit agencies, and the potential synergies across these programs. This analysis is a starting point for Metro and our regional partners to build consensus on a standardized methodology for evaluating the GHG impacts of our major programs.

Partnering agencies across the region must work together to tackle this challenge through meaningful, coordinated action, including land use polices that prioritize public transit, affordable housing, and denser, mixed-use development, economic policies that account for the real cost of driving, and bringing additional resources to the task of providing accessible and affordable zero emissions travel options for all. Current and future collaboration between Metro and other agencies, including the Caltrans, the Southern California Council of Governments (SCAG), LA County, the City of Los Angeles and other local jurisdictions, and the other five regional County Transportation Commissions, amongst others, is essential for successful climate action planning and mitigation, addressing both transportation and land use policies.

EQUITY PLATFORM

The analysis is not designed to be used for decision-making and it does not recommend actions to prioritize programs or funding since issues of equity and access to opportunity have not been evaluated. While this analysis scope does not include actions to prioritize programs or funding, it is recommended that issues of equity, mobility, and access be evaluated concurrently and given equal consideration during further study on the VMT and GHG emissions impacts of Metro's programs and projects. It is important to note the very low automobile ownership among Metro's bus and rail riders. Equity must be considered concurrently because some programs that advance VMT reduction goals may not advance equitable outcomes. Likewise, some programs that advance equity may not realize the greatest VMT reduction, but that does not make them any less worthwhile - the benefits and burdens of each program and project must be viewed holistically.

Equity related considerations that should be included in any Metro programs or projects include:

- Specific impacts to Metro's Equity Focus Communities (EFCs)
- Potential for disproportionate exposure to environmental burden
- Disparities in access to Metro services
- Unique or specific barriers related to gender, race, and/or varying abilities
- Vulnerabilities related to age, income, and/or chronic health conditions

- Potential for the displacement of business and/or residents

The projected reductions in VMT and GHG emissions will result from a combination of rail and bus capital projects, revised bus operations protocols, active transportation projects, and travel pricing strategies. These beneficial impacts of Metro's programs and policies from VMT reduction, including GHG emissions avoidance and enhanced public health, are Countywide in scope and scale. These projects and programs will be implemented throughout Metro's service territory, without focusing on geographically specific impacts.

However, there may be concurrent air quality improvements that could have a locally beneficial impact, including Metro's EFCs, disadvantaged communities (DACs), and areas with high CalEnviroScreen scores for pollution burden combined with high CalEnviroScreen scores for Sensitive Populations and/or Socioeconomic Factors.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This report supports Metro's fourth and fifth Strategic Plan Goals. This analysis reaffirms the need to collaborate with regional agencies to establishes to set meaningful GHG and VMT reduction targets for Los Angeles County (Goal #4). This analysis also demonstrates responsive, accountable, and trustworthy governance in support of Board Motion 45 (Goal #5) by providing transparency through baselining our indirect climate emissions impacts.

The staff recommends that Metro work with our regional partners to build consensus on a standardized methodology for evaluating the GHG impacts of our major programs, ensuring consistency and a more accurate comparison between projects and strategies. All future sustainability and long-range plans and reports will address progress on the development and achievement of Metro's VMT and GHG targets, as well as financially unconstrained pathways to achieve these targets.

Metro staff will leverage the findings of this analysis and work cross-departmentally to:

- Standardize methodology for calculating the VMT and GHG impacts of projects and programs;
- Re-baseline Metro's estimates for the VMT and GHG impacts of projects and programs;
- Further explore the establishment of achievable regional VMT/GHG reduction targets for Metro and set a reporting structure and timeline to achieve these targets;
- Complete the development of the VMT Mitigation Program for Roads and Highways and ExpressLanes, and;
- Continue implementing Motions 2020-0412 and 2021-0467 to Modernize the Metro Highway Program
- Consistently apply equity considerations to Metro's current and future VMT/GHG reduction programs and projects.

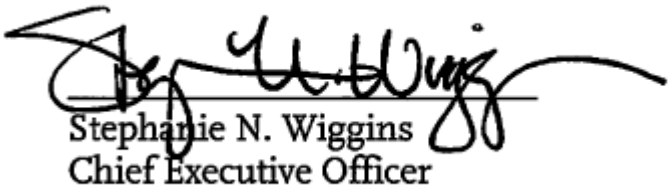
ATTACHMENTS

Attachment A - Emissions Reduction Analysis: Metro's Regional Impact on Greenhouse Gas

Emissions
Attachment B - Metro Board Motion 45

Prepared by: Heather Repenning, Executive Officer, Office of Sustainability (213) 922-4932
Cris B. Liban, Chief Sustainability Officer, (213) 922-2471

Reviewed by: Nicole Englund, Chief of Staff, (213) 922-7950



Stephanie N. Wiggins
Chief Executive Officer

REVISED

CLIMATE EMISSIONS ANALYSIS:

METRO'S INDIRECT IMPACT ON GREENHOUSE GAS EMISSIONS

August 2022

Contents

EXECUTIVE SUMMARY

As transportation planner and coordinator, designer, builder and operator for the country's largest, most populous county, LA Metro has a unique and critical role to play in the fight against climate change for the Los Angeles region. Our commitments and contributions to reducing greenhouse gas (GHG) emissions are detailed in several strategic documents, including the agency's 2019 *Climate Action & Adaptation Plan (CAAP)*, *Moving Beyond Sustainability (MBS)* strategic plan, and the *2020 Long Range Transportation Plan (LRTP)*. Through its core services of providing bus and rail transit, Metro enables the traveling public to reduce their vehicle miles traveled (VMT), encouraging mode shift and disrupting single occupancy vehicle (SOV) driving habits.

In fact, since 2012, Metro has consistently reduced more emissions through its transit services than it generates through daily operations[1]. Metro's efforts to further avoid regional GHG emissions are through a suite of transportation and mobility services paired with bold policies described in the 2020 *LRTP.* The purpose of this analysis is to explore further Metro's indirect impact on GHG emissions resulting from the implementation of these initiatives—including bus and rail infrastructure expansion, active transportation, demand management, and better bus service-- to reduce regional VMT, and thus takes the LRTP document as its point of departure.

When viewed holistically, LA Metro's planned initiatives are designed to have synergistic effects, enabling each program to leverage co-benefits, delivering a more efficient system than any programs could provide individually. By 2047, implementation of the *LRTP*'s capital investments is projected to increase annual transit trips per capita by 81%, reduce annual vehicle hours of delay per capita by 31% and ultimately avoid annual regional GHG emissions by 19% from the 2047 baseline scenario[2].

While the *LRTP* quantifies the projected impact of Metro's planned programs holistically, the impacts of each program have not previously been evaluated. As a result, Metro has undertaken this high-level quantification exercise to disaggregate the individual VMT and GHG impacts of each initiative identified above, using the *2020 LRTP* Technical Document and other on-going Metro programs and studies as the basis for our assumptions[3]. This work sheds light on how transportation policies and programs contribute to regional climate emissions, primarily through their impacts on travel patterns (mode-shift) and on vehicle miles traveled (VMT).

Disaggregating these programs' VMT and GHG impacts is complicated and has significant limitations. While VMT and GHG impact estimates for each program are presented in this report, there was consensus among the stakeholders involved in this assessment that the relative impacts of each program provide greater insight than the absolute values. This exercise is a first step to better understanding the benefits of Metro programs relative to one another and throughout the county. The results of this assessment are summarized in the table below.

[1] *Metro Climate Action and Adaptation Plan (Pg.13)*

[2] *Our Next LA 2020 Long Range Transportation Plan (Pg.22)*

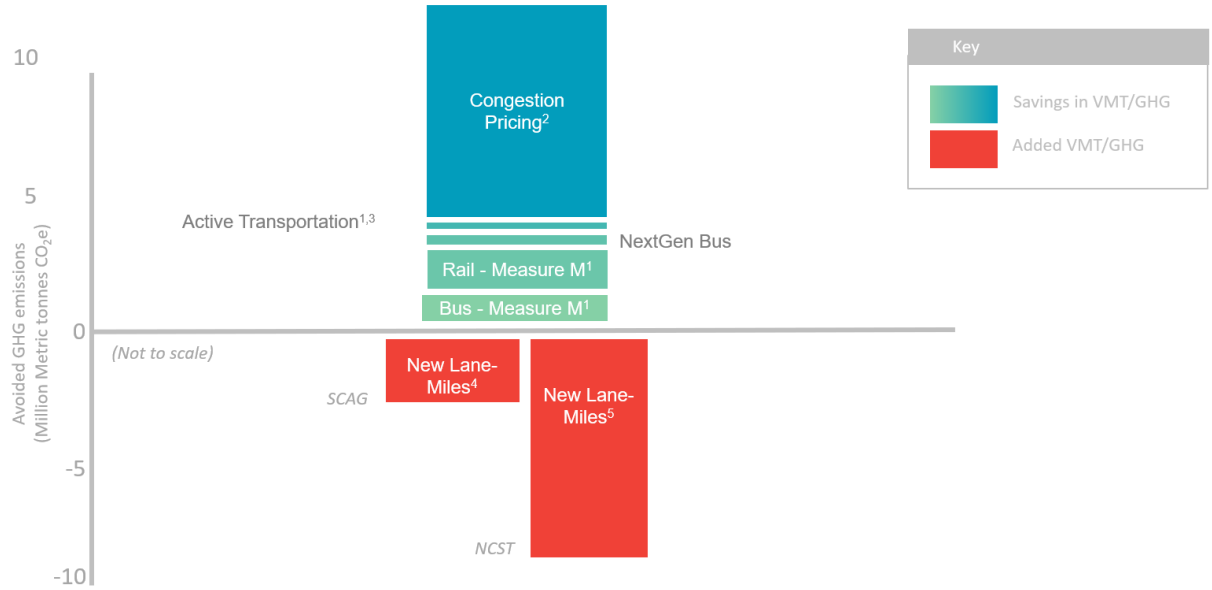
[3] *This quantification exercise used published methodologies from the California Air Resource Board and off-model calculations. All details on methodologies and assumptions can be found in the Climate Emissions Analysis Appendices.*

Disaggregated Impacts of Metro's Initiatives

Initiative	Impact on VMT In Target Years		Cumulative Impact on VMT[5]	Impact on GHG Emissions In Target Years ($MTCO_2e$)		Cumulative Impact on GHG Emissions ($MTCO_2e$)[5]
	2017	2047	2017 through 2047	2017	2047	2017 through 2047
Bus – Measure M[1]	-	-419,257,000	-3,574,723,000	-	-54,000	-1,002,000
Rail – Measure M[1]	-	-203,764,000	-5,491,555,000	-	-110,000	-1,517,000
NextGen Bus *(Starts in 2023)*	-	-25,113,000	-665,449,000	-	-7,000	-190,000
Active Transportation[1,2]	-75,000	-162,000	-3,650,000	-40	-60	-1,400
New Lane Miles (Low-High)[3]	- – -	+581,847,000 – +2,221,100,000	+9,582,876,000 – +36,880,300,000	- – -	+153,000 – +585,000	+2,632,000 – +10,111,000
Congestion Pricing[4]	-1,070,547,000	-1,307,450,000	-36,818,128,000	-401,000	-344,000	-10,926,000

***BLUE SHADING** Indicates more speculative bold policies and programs that require further analysis.*

Relative Change in GHG Emissions Resulting from Metro's Initiatives (Million Metric tonnes CO_2e)



1. *Included in 2020 LRTP (excludes Metrolink).*
2. *Indicates initial modeled performance analysis, further scoping and detailed analysis required.*
3. *This includes 244 miles of bike lanes across the County that further incentivizes the use of active transportation.*
4. *Calculations of induced VMT from highway expansion calculated based on SCAG's Regional Travel Demand Model.*
5. *Calculations of induced VMT from highway expansion calculated based on the NCST calculator, the statewide tool included in recent Caltrans SB 743 guidance.*

This analysis utilized published methodologies and best-available regional and local input model parameters wherever possible. Where locally derived data was not available, statewide default values were applied. Independent peer reviews deemed it appropriate to use the *LRTP* results and other Metro-provided data as the basis for this analysis. They found the quantification approach to be sound and acceptable. Nonetheless, the effort to disaggregate the individual VMT and GHG impacts of major

regional transportation initiatives has significant limitations that should be acknowledged due to the highly interconnected and synergistic nature of the transportation system in Los Angeles County.

The VMT and GHG emission impact calculations presented for each program and initiative were prepared conservatively and do not account for either the synergistic benefits or dampening effects of the holistic program laid out in the LRTP (for more detail on assumptions and calculations, see the Climate Emissions Analysis Appendices). The individual program-by-program results are not intended to be additive, and to sum up the results across all programs would misrepresent the findings presented in this analysis.

Additionally, this analysis acknowledges the uncertainty associated with any transportation modeling exercise, including uncertainty associated with input variables that are themselves estimations (for example, estimates, factors, and assumptions based on sampling); uncertainty in predictive variables (for example, future population growth or ridership trends as Metro's projects are completed); and propagated uncertainty through a sequence of calculations (for example, using point averages rather than a range as an input to a subsequent calculation step).

These sources of uncertainty are particularly notable at this moment in time, as the data used in this analysis pre-dates COVID-related shifts in travel behavior, land use patterns, and some of the fundamental relationships between the two. Specifically, this analysis uses pre-COVID projections for transit ridership and VMT. At the same time, post-COVID trends will be highly influenced by how temporary or permanent behavioral changes are in telecommuting, substitutions for mass transit and ride-hailing, increased walking and bicycling, changes in suburban or urban residential preferences, growth in e-commerce and their combined net effect on driving [4].

As a result, these estimates should be revisited every four years in alignment with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) with updated assumptions, inputs, and variables that are likely to change over time. While the results accurately show the relative impacts of Metro's programs, it is not possible to have a high degree of precision in the results, given the above uncertainties. This analysis is intended to provide a foundation for further study and is not designed to inform decision making beyond catalyzing the development of a baseline and refining methodology. Further study is needed to quantify the impacts of each program more accurately. A standardized methodology needs to be adopted by Metro for conducting these analyses moving forward.

In a region with ambitious VMT reduction goals, Metro's existing system alone is insufficient to meet the necessary State and county emission reduction targets. In fact, substantial, coordinated, bold action must be taken at every level of governance to achieve a low carbon future. Collaboration between Metro and other agencies, including the Southern California Council of Governments (SCAG), LA County, the City of Los Angeles and other local jurisdictions, and the other five regional County Transportation Commissions, among others, is essential for successful climate action planning and mitigation, addressing both transportation and land use policies.

As a next step, it is recommended that Metro work with our regional partners to build consensus on a standardized methodology for evaluating the GHG impacts of our major programs, ensuring consistency and a more accurate comparison between projects and strategies. All future sustainability and long-range plans and reports should address progress on the development and achievement of Metro's VMT and GHG targets, as well as financially unconstrained pathways to achieve these targets.

[4] *Will COVID Drive an Early Peak in Transportation Activity and Oil Demand?*

Metro staff will leverage the findings of this analysis and work cross-departmentally to:

- Standardize methodology for calculating the VMT and GHG impacts of projects and programs;
- Re-baseline Metro's estimates for the VMT and GHG impacts of projects and programs;
- Further explore the establishment of achievable regional VMT/GHG reduction targets for Metro and set a reporting structure and timeline to achieve these targets;
- Complete the development of the VMT Mitigation Program for Roads and Highways, and ExpressLanes;
- Continue implementing Motions 2020-0412 and 2021-0467 to Modernize the Metro Highway Program, and;
- Consistently apply equity considerations to Metro's current and future VMT/GHG reduction programs and projects.

While critical, it is important to note that VMT reduction and GHG emissions avoidance are not the agency's only priorities. Metro also believes that equitable access to opportunity should be at the center of decision making around public investments and services. Issues of equity, mobility and access to opportunity should be evaluated concurrently during further study on the VMT reduction and GHG emissions avoidance benefits of Metro's programs and projects. Equity must be considered concurrently because some programs that advance VMT reduction goals may not advance equitable outcomes. In contrast, some programs that advance equity may not realize the greatest VMT reduction, but that does not make them any less worthwhile – the benefits and burdens of each program and project must be viewed holistically. For e.g., the Rail to Rail Active Transportation Corridor Project will promote biking and walking – thereby reducing VMT, but also increase road safety, access to transit and opportunities.

SECTION I: INTRODUCTION

Nations and communities worldwide are already facing dramatic examples of our changing weather patterns, including extreme heat, wildfires, drought, storms, flooding and sea level rise. The latest report from the Intergovernmental Panel on Climate Change (IPCC, 2022), the world's authoritative body on climate science, finds that the earth is projected to reach or exceed 1.5 degrees C (2.7 degrees F) of warming within the next two decades because of GHGs that are already present in the atmosphere. Limiting warming to this level, which is essential for preventing the most severe climate impacts, depends on mitigation actions taken during this decade. With 14% of global GHG emissions attributable to the transportation sector (road, rail, air, and marine transportation), and 95% of the world's transportation energy derived from petroleum-based fuels (largely gasoline and diesel[5]), avoiding GHG emissions associated with the transportation sector is a fundamental strategy in the global effort towards a low carbon future.

As transportation planner and coordinator, designer, builder and operator for the country's largest, most populous county, Metro has a critical role to play in the fight against climate change for the Los Angeles region. Our commitments and contributions to reducing greenhouse gas (GHG) emissions are detailed in several strategic documents, including the agency's 2019 *Climate Action & Adaptation Plan (CAAP)*, *Moving Beyond Sustainability (MBS)* strategic plan, and the *2020 Long Range Transportation Plan (LRTP)*.

This analysis aims to further explore Metro's impact on GHG emissions through the implementation of numerous initiatives that encourage mode shift away from single occupancy vehicle (SOV) driving. Mitigation measures that target operational emissions are outlined in the *CAAP* and are not considered in this report. Metro presents this initial analysis to evaluate the relative contributions of Metro's various programs on regional GHG mitigation efforts and in acknowledgment of the need for substantial and coordinated action to support, align with and contribute to regional, state, national and international efforts to address the climate crisis.

Federal and State Climate Goals

In alignment with the Paris Climate Agreement and President Biden's new GHG emission reduction target, the United States is committed to reducing the nation's total GHG emissions to 50%-52% below 2005 levels by 2030[6]. To meet these federal climate goals, reducing GHG emissions in the transportation sector is critical. The movement of people and goods is the single largest contributor to the U.S.'s share of GHG emissions, accounting for 29%[7] of the total.

The State of California has taken a decisive action by adopting a comprehensive suite of climate legislation, including commitments to:

- Reduce GHG emissions to 40% below 1990 levels by 2030.
- Reduce short-lived climate pollutants, like methane, by 40-50% below 2013 levels by 2030.
- Procure 60% of all electricity from renewable sources by 2030 and 100% by 2045.
- Generate consistent revenue for transportation projects that improve mobility efficiency and emissions reduction through an increased gasoline tax.
- Set regional GHG emissions targets and use the regional transportation planning process to

[5] *Global Greenhouse Gas Emissions Data.*
[6] *President Biden Sets 2030 Greenhouse Gas Pollution Target.*
[7] *Sources of Greenhouse Gas Emissions.*

achieve reductions in emissions.

> Direct at least 25% of state cap-and-trade revenues to projects that benefit disadvantaged communities.

Transportation generates 41%[8] of all GHG emissions in California, with the majority of emissions coming from on-road vehicles. To meet federal and state goals and targets, significant GHG emission reductions in transportation is essential. Many of the statewide strategies for reducing transportation related GHGs are focused on vehicle electrification, including Governor Newsom's Executive Order N-79-20 that combustion engine vehicles be phased out of new sales by 2035. While some of the GHG emissions resulting from increased VMT over the last few years have been offset by the state-mandated improvements in vehicle efficiency, electrification and increased fuel efficiency efforts must be combined with measures to actively reduce per capita VMT, particularly in the next decade while utilities are still transitioning their power supply from fossil fuels to renewables. Beyond the climate benefits, reducing VMT provides additional community benefits, including congestion reduction, air quality improvements, safety benefits, and increased access to existing and new mobility options.

Passed in 2013 and implemented in 2018, Senate Bill (SB) 743 modifies regulations under the California Environmental Quality Act (CEQA). It requires cities and counties in California to establish thresholds of significance for measured VMT. This threshold replaces the previously used Level of Service (LOS) and is now utilized to determine potential transportation impacts. According to SB 743, preference is given to land use and transportation planning decisions and investments that reduce VMT and contribute to the reduction in greenhouse gas emissions required.

This legislation at the state level models the type of strategic, aggressive action that must be taken at every level of governance to achieve a low carbon future and combat the climate crisis. Now more than ever, a regional focus on avoiding emissions in the transportation sector is crucial to meeting these targets.

Regional Climate Planning Efforts

Until recently, low gas prices and strong employment in LA County have made car ownership more widely accessible[9]. Additionally, increased housing costs have caused many historically high-users of transit to move away from more centralized, transit-rich neighborhoods. As a result, Metro's 2020 *LRTP* projects an upward trend in regional per capita VMT in future years[10]. Increased VMT may cause more congestion on LA County roads, more GHG emissions and more pollution – reducing the quality of life for all LA County residents.

For the Los Angeles region, GHG reduction and climate action require collaboration between several different governments and agencies, including Southern California Association of Governments (SCAG), Los Angeles County, the City of Los Angeles and other local jurisdictions, the region's various County Transportation Commissions (CTCs) and many others. Climate action planning for the region is coordinated through SCAG, which is required to prepare a Sustainable Communities Strategy (SCS) every four years in accordance with SB 375. The goal of the SCS is to reduce GHG emissions from cars and light duty trucks as a major strategy toward achieving the state determined regional GHG emission reduction targets.

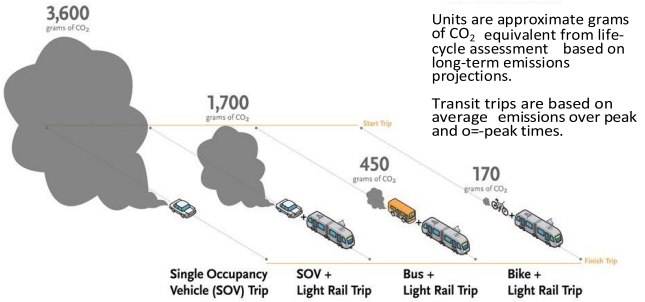
---

[8] Current California GHG Emission Inventory Data | California Air Resources Board.
[9] Lower Gas Prices Drive Down Cost of Car Ownership.
[10] 2020 Long Range Transportation Plan Technical Document (pg.121).

To prepare the SCS, SCAG compiles the capital projects and policies provided by Metro and the five other County Transportation Commissions in the SCAG region in the form of Long Range Transportation Plans (*LRTPs*). Metro's *LRTP* encompasses all of Metro's service growth and expansion plans. SCAG incorporates these plans into a regional analysis of program benefits. These program benefits are combined with regional land use forecasts. The resulting GHG emission avoidance values are submitted to the California Air Resources Board (CARB) for review and certification and then adopted by the SCAG Regional Council. In 2018, CARB established the following VMT and GHG reduction targets for the SCAG region:

- 8% per capita reduction in GHG emissions by 2020 (relative to 2005)
- 19% per capita reduction in GHG emissions by 2035 (relative to 2005)
- 5% decrease in daily vehicle miles per capita by 2045 (relative to baseline trend)

Greenhouse Gas Emission Benefits of Transit



Mikhail Chester et al, "Infrastructure and Automobile Shifts: Positioning Transit to Reduce Life-Cycle Environmental Impacts for Urban Sustainability Goals," Environmental Research Letters 8, no.1 (2013). doi:10.1088/1748-9326/8/1/015041

The 2020 – 2045 SCS titled *Connect SoCal* outlines how the planned programs of the six CTCs (including Metro) aim to achieve these GHG reductions through implementing projects and policies that reduce VMT. The SCS targets a 5% decrease in daily VMT per capita, with a target daily VMT of 20.7 miles by 2045, as compared to the 2016 baseline of 23.2 miles.

While not part of the SCS development process, Los Angeles County's *OurCounty* Sustainability Plan recognizes the important role of the County in achieving regional goals. Strategy 8A related to mobility, establishes the following VMT reduction targets:

- By 2025, achieve a 20-mile average daily VMT and 15% of all trips made by foot, bike, micro-mobility or public transit.
- By 2035, achieve a 15-mile average daily VMT and 30% of all trips made by foot, bike, micro-mobility or public transit.
- By 2045 achieve a 10-mile average daily VMT and 50% of all trips made by foot, bike, micro-mobility or public transit.

Metro is identified as a key partner in the *OurCounty* plan. Many of the actions described in the plan are consistent with the projects and policies included in Metro's planning and program efforts. However, the County targets are aspirational and set much more aggressive targets than the current regulations that guide the SCS and *LRTP* process. These targets consider the impact of land use policy changes in addition to programs that directly reduce SOV trips and are intended to serve as guideposts for future planning efforts by LA County, LA City, the regional transportation agencies and other regulatory decision makers, and in shaping upcoming SCS efforts. As part of Motion 45, Metro will be referencing these goals while considering the development of regional VMT reduction and mode shift targets for the agency.

Metro's programs also contribute to the City of Los Angeles' commitment to achieving climate neutrality for community wide GHG emissions by 2050. The City of Los Angeles' *Green New Deal* plan outlines a series of mobility and zero emissions vehicle targets that contribute to meeting the 2050 goal, including:

- Increasing the percentage of all trips made by walking, biking, micro-mobility/matched rides or transit to at least 35% by 2025; 50% by 2035; and maintain at least 50% by 2050.

> Reducing VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050.

> Increase the percentage of electric and zero emission vehicles in the city to 25% by 2025, 80% by 2035 and 100% by 2050.

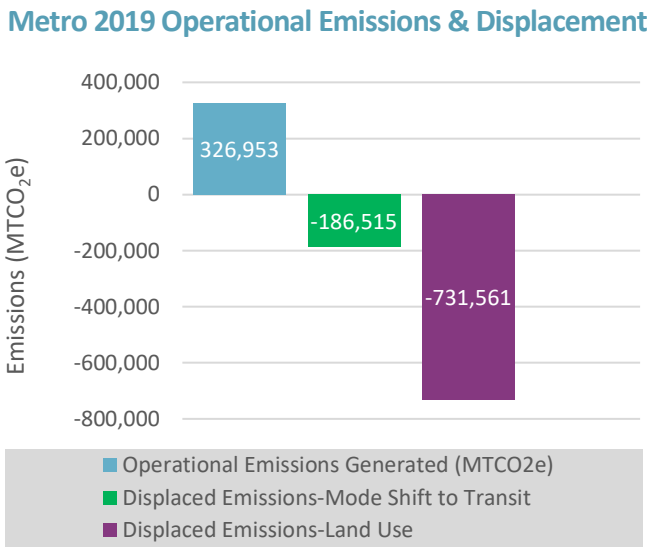
> Electrify 100% of LA Metro and LADOT buses by 2030.

Metro is partnering with the City of Los Angeles to support several plan measures, including improving bike and pedestrian safety, reducing bus travel times, providing infrastructure for zero emissions buses, and providing shade structures for riders to mitigate heat island effects.

Metro's Historical GHG Emission Impacts

Metro must measure and monitor the agency's impacts to meet its aggressive emission reduction goals. Metro generates GHG emissions through operational activities, including transportation operations (rail and bus fleet), as well as non-modal sources (non-revenue vehicles, facility energy use, etc.). However, Metro also contributes to regional GHG emission avoidance by providing alternative modes of transportation and through the land use changes that occur in response to the transit system. Since 2012, Metro has consistently reduced more emissions indirectly through its transit services than the agency generated through operations. In 2019, Metro's transportation services avoided over 900,000 metric tons of carbon dioxide equivalent ($MTCO_2e$). An estimated 20% of these emissions were avoided as a direct result of individuals taking Metro rather than driving alone in SOVs, known as mode-shift.

The remaining 80% of emissions were avoided as an indirect result of changing land use patterns that result from the presence of Metro's service[11], known as the land-use effect[12]. A more dense, mixed-use development pattern adjacent to transit resources results in more walking and cycling and less driving, even by those who do not use public transportation. When thinking regionally, an increase in transit service and transit ridership translates to an increase in avoided GHG emissions.



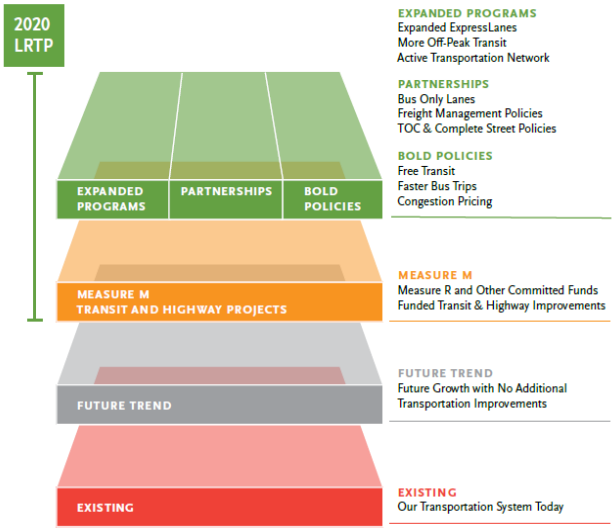
While Metro's existing transportation and mobility services already significantly reduce regional VMT, Metro's suite of initiatives will play a key role in VMT reduction and GHG emission avoidance through mode shift and land use patterns, in support of regional and state GHG emission reduction goals.

[11] *2019 Climate Action and Adaptation Plan (pg.13)*
[12] *APTA 2018 (pg.9).*

Metro's Planning Efforts

Metro's *2020 Long Range Transportation Plan (LRTP)* provides a detailed roadmap for planning, building, operating, maintaining, and partnering to deliver expanded transportation infrastructure and improved mobility over a 30-year timeframe. The capital investments laid out in the plan include the construction or improvement of 22 transit corridors, expanding the Metro rail network to over 200 stations covering nearly 240 service miles, expanding Bus Rapid Transit service to more communities, highway enhancements, along with regional rail improvements.

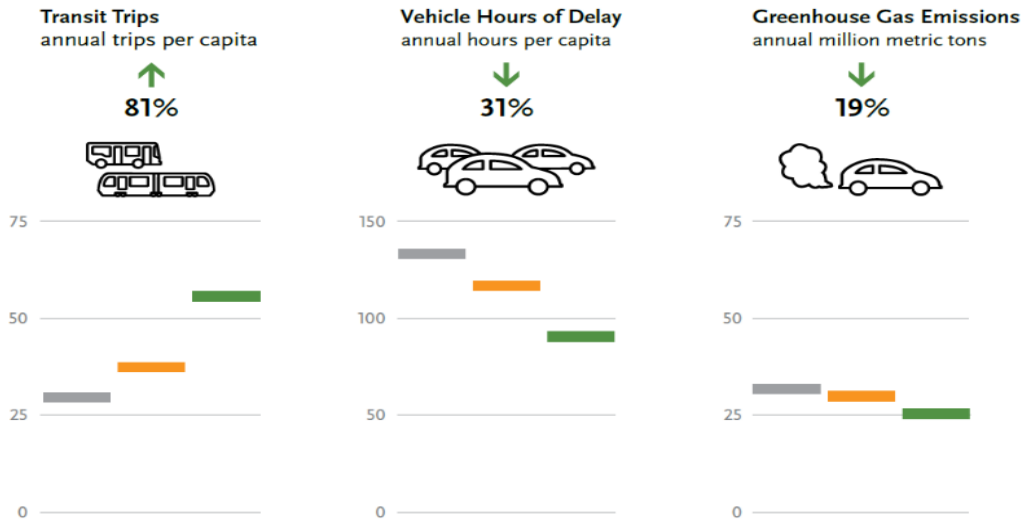
Elements of the 2020 *LRTP*



In addition to these capital investments, Metro has identified bold policies and programs to augment these infrastructure improvements, including Reduced Fare/Free Transit, NextGen Bus improvements, and Congestion Pricing. When viewed holistically, these initiatives are designed to have synergistic effects, enabling each program to leverage co- benefits across the other initiatives and deliver a more efficient system.

By 2047, implementation of the *LRTP*, including the adoption of these bold policies, is projected to increase annual transit trips per capita by 81%, reduce annual vehicle hours of delay per capita by 31% and ultimately decrease annual regional GHG emissions by 19% from the 2047 future trend scenario[13].

Holistic Benefits of Metro's Initiatives Outlined in the *LRTP*



[13] *Our Next LA 2020 Long Range Transportation Plan (pg.22).*

SECTION II: GHG IMPACTS OF METRO'S TRANSPORTATION INVESTMENTS

The *LRTP* quantifies the projected impact of Metro's planned programs holistically. The GHG impacts of each program had not previously been evaluated using a disaggregated approach. As Metro's responsibilities expand and VMT/GHG requirements continue to evolve, the agency recognizes the need to better understand the relative benefits of Metro's various programs and standardize Metro's methodology for calculating, forecasting and tracking emissions and VMT reductions across the county.

As a result, Metro has undertaken this analysis of the individual VMT and GHG impacts of several of its major initiatives, using the *2020 LRTP* technical document and other Metro program studies as the basis for our assumptions. The resulting VMT values for each program were then used to estimate GHG emissions using per mile and trip-based emission factors from the CARB's EMFAC model[14] for each year between 2017-2047. Disaggregating the VMT and GHG impacts of these programs is complicated and has significant limitations this exercise is the first step to better understanding the benefits of Metro's programs relative to one another and throughout the county. While the estimated VMT and GHG impacts that can be attributed to individual programs are presented in this report, there was consensus among the stakeholders involved in preparing this assessment that the *relative* impacts of each program provide greater insight than the absolute values. The results of this assessment are summarized in the following sections of this report, including the projected VMT and GHG emissions impact for each program individually[15].

This analysis used published methodologies and best-available regional and local input model parameters wherever possible. Where locally derived data was not available, statewide default values were used. Using the *LRTP* results and other Metro-provided data as the basis for this analysis was deemed appropriate and the quantification approach was found to be sound and acceptable by independent peer-reviewers. However, because the transportation system in Los Angeles County is highly interconnected and synergistic, the effort to disaggregate the individual VMT and GHG impacts of major regional transportation initiatives has significant limitations that should be acknowledged.

The VMT and GHG emission impact calculations presented for each program and initiative in the following text were done conservatively and do not account for either the potential synergistic benefits or dampening effects of the holistic program laid out in the LRTP (*for more detail on assumptions and calculations, see the Climate Emissions Analysis Appendices*). The individual program-by-program results are not intended to be additive, and to sum up the results across all programs would misrepresent the findings presented in this analysis.

Additionally, this analysis acknowledges the uncertainty associated with any transportation modeling exercise, including: uncertainty associated with input variables that are themselves estimations (for example, estimates, factors, and assumptions based on sampling); uncertainty in predictive variables (for example, future population growth or ridership trends as Metro's projects are completed); and propagated uncertainty through a sequence of calculations (for example, using point averages rather than a range as an input to a subsequent calculation step).

These sources of uncertainty are particularly notable at this moment in time, as the data used in this analysis pre-dates COVID-related shifts in travel behavior, land use patterns, and some of the fundamental relationships between the two. Specifically, this analysis uses pre-COVID projections for transit ridership and VMT, while post-COVID trends will be highly influenced by how temporary or

[14] *California Air Resources Board Emission Factor model.*

[15] *This quantification exercise used published methodologies from the California Air Resource Board and off- model calculations. All details on methodologies and assumptions can be found in the Climate Emissions Analysis Appendices.*

permanent behavioral changes are in telecommuting, substitutions for mass transit and ride-hailing, increased walking and bicycling, changes in suburban or urban residential preferences, growth in e-commerce and their combined net effect on driving [16].

The methodologies used in this analysis were developed by various agencies (California Air Resources Board and CALTRANS) to estimate emissions at the project-level. As a result, these estimates should be revisited regularly with updated assumptions, inputs, and variables that are likely to change over time. While the results accurately show the relative impacts of Metro's programs, it is not possible to have a high degree of precision in the results, given the above uncertainties. This analysis is intended to provide a foundation for further study and is not designed to inform decision-making beyond catalyzing the development of a baseline and refinement of methodology. Further study is needed to quantify the impacts of each program accurately and a standardized methodology needs to be adopted by Metro for conducting these analyses moving forward.

Disaggregated Impacts of Metro's Initiatives

1. Transit Infrastructure Expansion

The foundation for Metro's package of initiatives is the planned expansion of the bus and rail transit system. Funding for this expansion is provided by Measures M and R, LA County sales tax measures to fund projects to ease traffic congestion, repair local streets and sidewalks, expand public transportation, retrofit bridges for earthquakes and subsidize transit fares.

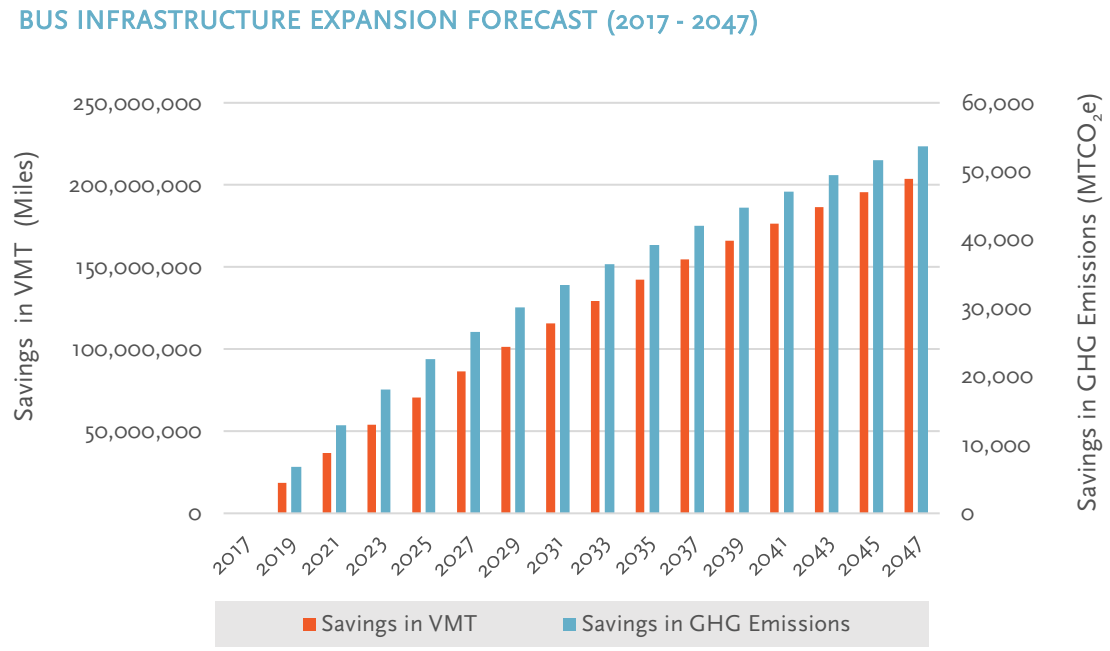
Bus System Expansion

Metro's bus network is the core of the LA County public transport system and currently accounts for approximately three-quarters of weekday ridership across the whole system[17]. Through Measure M, Metro is making infrastructure improvements to increase the bus system's speed and carrying capacity. The *BRT Vision and Principles Study*, released in 2020, identified performance standards and design criteria for all future Bus Rapid Transit (BRT) projects, including bus-only lanes, traffic-signal priority, high-quality stations with all-door boarding, integration with transit-oriented communities and safe pedestrian and bicycle connections. These improvements will expand Metro's bus-based transit system and establish a network of fast, high-frequency and high-capacity bus service across LA County.

Near-term bus system projects include the North Hollywood to Pasadena BRT and the North San Fernando Valley Transit Corridor (Chatsworth to North Hollywood). Future projects will also include converting strategic Metro Rapid corridors (routes identified as high traffic and faster service) to BRT corridors with dedicated bus-only lanes.

While the bus network will continue to play an important role in providing mobility services, as Metro invests in expanding the rail network, it is expected that the share of Metro riders taking the bus will decrease from 72.7% in 2017 to 50.1% in the horizon year of 2047. Using the Quantification Methodology developed for the California Climate Investments (CARB, 2019), Metro's bus infrastructure expansion projects are projected to continue to shift people from SOV trips onto public transit, reducing over 3.5 billion VMT and avoiding over 1.0 million $MTCO_2e$ greenhouse gas emissions in the LA region between 2018 and 2047.

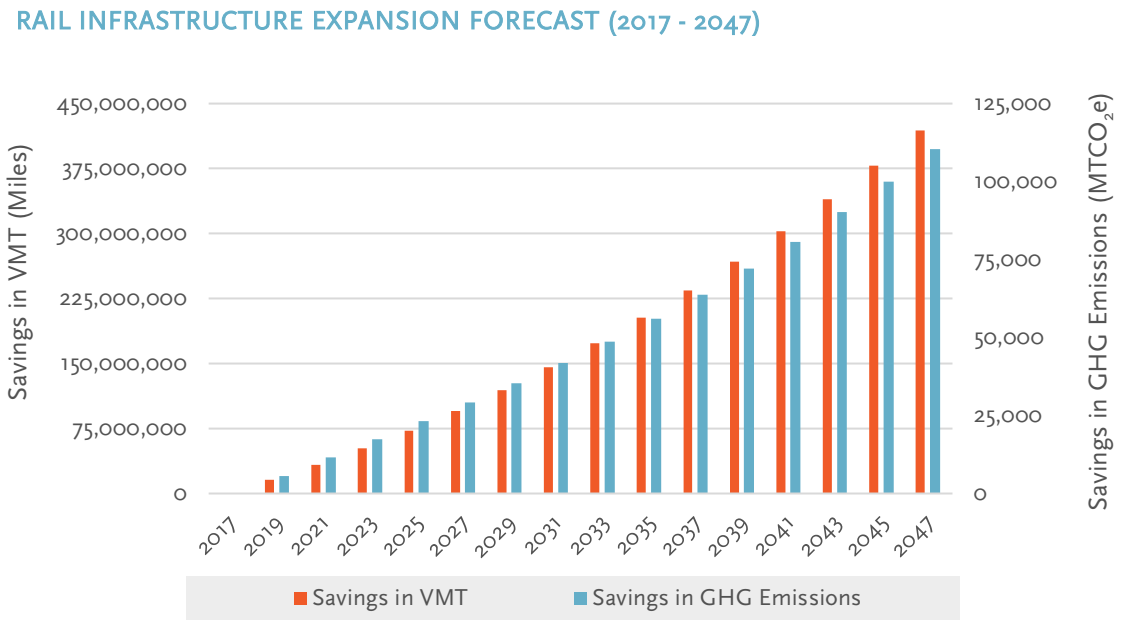
[16] *Will COVID Drive an Early Peak in Transportation Activity and Oil Demand?*
[17] *Metro Interactive Estimated Ridership Stats.*



Rail System Expansion

Metro operates six rail lines throughout the county, including four light rail lines (A, C, L, E) and two heavy rail lines (B, D). Expansion plans funded by Measure M will bring the Metro rail network to over 200 stations covering nearly 240 rail service miles. Construction is currently underway on several of these new rail corridors. The Crenshaw/LAX Transit Project light rail line, expected to open in FY 2023, will extend from the E Line (Expo) to the C Line (Green), with a station at the Los Angeles International Airport's Automated People Mover. The Regional Connector Transit Project, scheduled to open in 2022, will connect the L Line (Gold) to the A Line (Blue) and E Line (Expo) to provide more stations and greater connectivity in downtown Los Angeles. The Westside D Line (Purple) subway extension along Wilshire Boulevard is under construction in three phases, with Section 1 from Western to La Cienega scheduled to open in 2024. Other near-term projects include the Metro Gold Line Foothill Extension to Claremont, which recently broke ground, the East San Fernando Valley Light Rail Project, the West Santa Ana Branch Transit Corridor and the C Line (Green) Extension to Torrance.

Metro's heavy and light rail network currently carries approximately one-fourth of the average weekday ridership in Los Angeles. Both systems are powered by electricity, delivered through the third rail or the overhead catenary. Using the Quantification Methodology developed for the California Climate Investments (CARB, 2019), the rail infrastructure expansion projects are projected to shift people from personal auto travel onto the rail system, reducing nearly 5.5 billion VMT and avoiding 1.5 million $MTCO_2e$ GHG emissions in the LA region between 2018 and 2047.



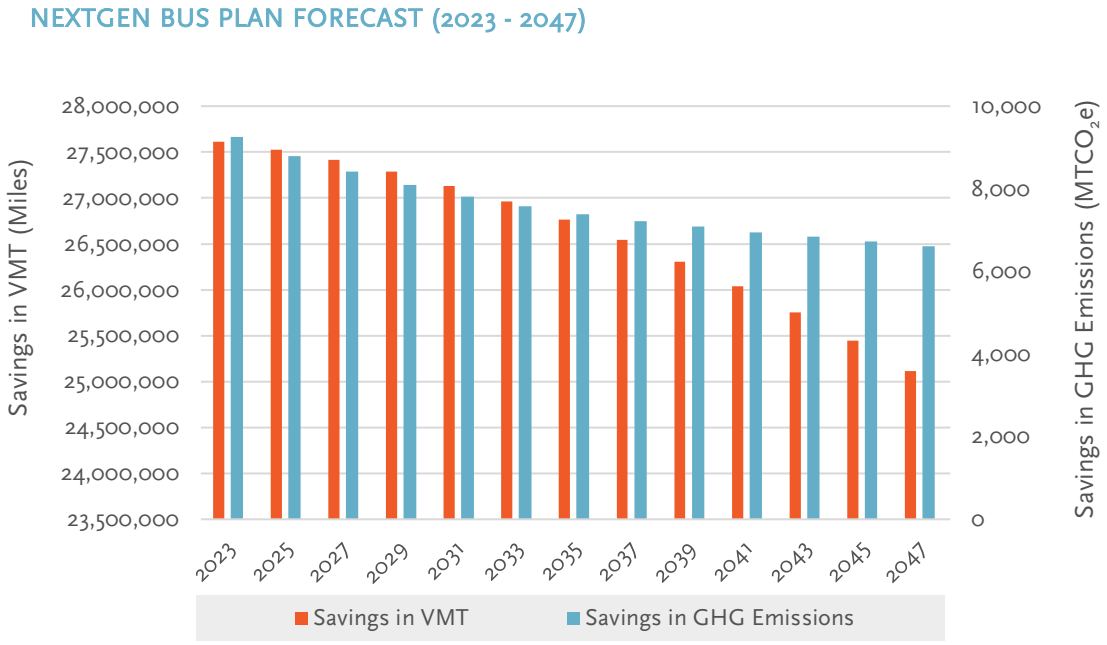
The average length of a trip displaced by transit is considered the same for bus and rail riders. Although the bus system currently carries three times more riders than the rail system in Los Angeles, the investments in the rail system are expected to increase the share of rail riders from 27.3% in 2017 to 49.9% in the horizon year 2047. While the required investment to expand the rail system is higher than that of the bus system due to acquisition of right-of-way and construction and procurement of related infrastructure (power transmission, rolling stock etc.), these investments are expected to result in larger reductions in personal auto VMT and GHG emission avoidance due to higher car ownership rates among rail riders compared to bus riders. The historical costs for the bus system were lower than rail as they use the existing infrastructure (roads and highways) and have comparatively cheaper rolling stock. However, in the future, as Metro moves towards electrifying the entire bus fleet, the investment costs for bus infrastructure will increase.

2. NextGen Bus Service

Metro is currently implementing the NextGen Bus Plan, a reimagining of Metro's bus service delivery to make transit a more appealing and convenient choice than driving. During the NextGen Bus Study's development, the public identified bus speed and reliability improvements as the single most important step Metro could take to retain and grow ridership, increase the carrying capacity of local roadways and shift regional travel patterns toward more efficient modes. Based on rigorous study, robust public input, and technical analysis, the redesigned bus system is expected to make bus service more competitive relative to other travel options by providing faster, more frequent and reliable service, giving Los Angeles residents and commuters an alternative to sitting in gridlock and improving transportation equity (e.g., improving travel time parity between modes and improving travel times and access for existing riders).

The bus improvement program's potential benefits include reduced bus overcrowding through more frequent and faster service, improved safety for motorized and non- motorized users, and reduced GHG emissions and VMT due to shifts from use of personal autos. The service enhancements achieved from this project are expected to support rider retention and increase ridership by at least 5% over the

baseline[18]. The shift of passengers from personal vehicles to the improved bus services is estimated to reduce nearly 0.7 billion VMT and avoid nearly 0.2 million $MTCO_2e$ between 2023 and 2047.



3. Active Transportation

Active transportation programs play a role in reducing VMT by offering transportation alternatives that enable people to leave their cars at home. On their own, active transportation investments will reduce the shortest trips first, resulting in nominal VMT reductions. However, active transportation programs have synergistic benefits, including enabling the shift to transit for longer trips. The VMT reductions associated with those trips are already captured in the rail and bus calculations above. Investments in active transportation can be considered prerequisite to achieving the VMT reductions from bus, rail and NexGen investments through the creation of more walkable and bikeable neighborhoods, enabling short trips to be taken by foot or bike. Active transportation projects are important in public transit's overall attraction and accessibility and provide auxiliary community benefits, such as improving pedestrian safety and motivating more people to walk instead of using vehicles.

Metro's active transportation programs advance the agency's ongoing commitment to enhance access to transit stations, create safer streets and develop a regional network to improve mobility for people who walk, bike and take transit. Emphasizing first/last mile access to transit, Metro's Bike Share program, Bike Parking Program, and the First/Last Mile Program support the emission benefits of the bus and rail network by enabling car-free regional travel. Since the Metro Bike Share program launched, riders have collectively pedaled over four million miles and reduced over 3.8 million pounds of CO_2 emissions from the air[19]. However, most planning and support for active transportation and complete streets projects occurs at the local level.

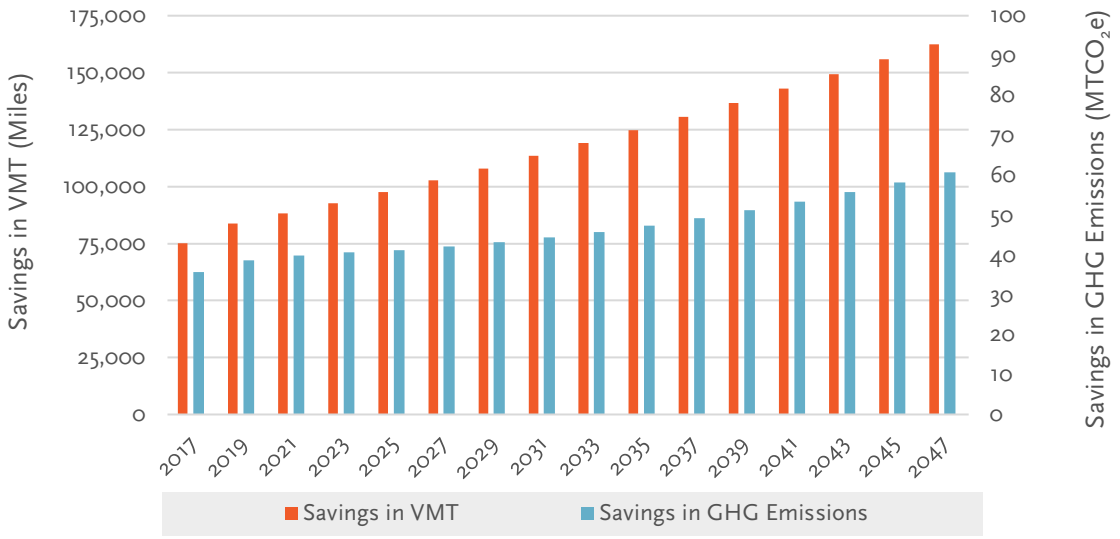
Metro's Active Transport, Transit and First/Last Mile (MAT) Program provides more than $850 million to local jurisdictions to support design and implementation of convenient connections and efficient transfers between transportation modes, including walking and bicycling and rolling. These are also the

[18] *NextGen Bus Speed & Reliability Improvements (pg. 21).*
[19] https://bikeshare.metro.net/about/data/

most affordable means of transportation in LA County. This competitive grant program will fund active transportation infrastructure projects throughout the region. Beyond the $850 million already committed, an additional $365 million is dedicated to the LA River Path project, which will close an eight-mile gap through downtown Los Angeles in the existing multi-use path. Additionally, other Metro funding streams, notably Measure M's Multi-Year Subregional Programs, are utilized for active transportation projects.

Metro's investments in active transportation projects include major facilities and bicycle and pedestrian programs at the local level, providing a better environment for non-motorized travel and improving the modes' connectivity to transit. Combined with the projects implemented by the local jurisdictions, these are projected to reduce 3.6 million VMT and avoid over 1,400 $MTCO_2e$ GHG emissions in the LA region between 2017 and 2047, as estimated using the Methods to Find the Cost-Effectiveness of Funding Air Quality Projects for Evaluating Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement (CMAQ) Projects (CARB, 2019).

ACTIVE TRANSPORTATION (CYCLING, WALKING, ROLLING) FORECAST
(2017 - 2047)



4. New Lane Miles

New lane miles added to the Metro system come in the form of additional miles on highways, in ExpressLanes and as part of major arterials. These improvements are designed to:

- Improve traffic flow, trip reliability and travel times
- Improve regional mobility and system performance
- Reduce recurring congestion, high-frequency traffic incident locations and operational deficiencies on state highways in LA County
- Enhance multimodal efficiency, safety, equity, and sustainability

Metro is also prioritizing project enhancements that encourage VMT reduction and improve safety, such as multi-modal connectivity projects, freeway interchange improvements, signal synchronization, transit signal priority, integrated corridor management and arterial street improvements. Metro's new highway construction projects will mitigate their VMT impacts to a level classified as less than significant under

CEQA (as required by SB 743). Based on current Caltrans policy, it is likely that future highway projects that include general purpose and high occupancy vehicle lanes will be required to mitigate any VMT impacts by directly incorporating VMT-reducing project components or by providing funding through a bank or exchange to meet these new requirements.

While the benefits of adding new lane miles include reducing congestion and idling emissions, these projects also induce travel as capacity increases and congestion eases. Despite improvements to fuel efficiency over time, without VMT mitigation required by SB 743, these projects are likely to increase regional VMT and GHG emissions. Recognizing that highways are part of LA County's transportation infrastructure and are necessary for supporting integrated-corridor management and goods movement in LA County, Metro is committed to trying to mitigate the effect of new lane miles and thinking about these challenges holistically.

One common approach to estimating the induced travel effects of building new lane-miles is to use an elasticity of VMT with respect to added lane miles. This calculation quantifies how a percent increase in lane miles generates a percent increase in VMT. For example, an elasticity of 1.0 means a 10% increase in lane miles results in a 10% increase in VMT, an elasticity of 0.5 means a 10% increase in lane miles results in a 5% increase in VMT, and so on.

Using a lower elasticity (such as those derived by SCAG from their locally developed regional Travel Demand Model) produces a lower estimate of induced VMT, while using a higher elasticity (such as the Caltrans-approved UC Davis Induced Travel Demand Calculator produced by the National Center of Sustainable Transportation), produces a higher estimate of induced VMT. For highway project development and approval, using a local tool that has been sufficiently and dynamically validated to local conditions would produce an estimate that is based more closely on and reflective of local conditions. At the time of writing, Caltrans regularly requires the UC Davis Induced Travel Demand Calculator, which results in a larger estimate for induced VMT when a regional Travel Demand Model does not meet the criteria in their Checklist for Evaluating Adequacy of Travel Demand Models for Estimating Induced Travel[20]. Through a separate effort, Metro is undertaking an evaluation of SCAG's regional Travel Demand Model against Caltrans' Checklist.

Therefore, in our analysis, the long-term induced VMT generated by adding new lane-miles were calculated using a range, bounded by a lower, locally-preferred elasticity number from SCAG (0.23), and a higher, Caltrans-preferred number (1.0). (*For more detail on assumptions and calculations, see the Climate Emissions Analysis Appendices*).

Cumulatively, the proposed expansion of lane miles in the LA region is expected to induce between 9.5 billion and 36.8 billion VMT and between 2.6 million and 10.1 million $MTCO_2e$ GHG emissions, as estimated using the UC Davis induced travel demand calculator[21].

ExpressLanes

Metro's ExpressLanes on the I-110, I-10, and I-105 improve the corridor performance through a reduction in recurring peak period congestion and travel times, as well as an increase in average speeds, throughput and reliability for freight shipments and travelers. These lanes address the existing degradation of the High-Occupancy Vehicle (HOV) lanes by deploying dynamic pricing to manage existing capacity better, thereby offering greater travel time reliability and an enhanced mobility choice

[20] *Transportation Analysis Framework, Caltrans (2020).*
[21] *Induced Travel Calculator, National Center for Sustainable Transportation.*

to travelers.

Specifically, the Metro I-110 and I-10 projects converted and expanded the existing HOV carpool lanes to ExpressLanes, sometimes referred to as High-Occupancy Toll (HOT) lanes, where carpoolers, vanpoolers and eligible clean air vehicles are permitted to use the lanes at no charge with a valid FastTrak® Flex switchable transponder. Single occupant vehicles (SOVs) are given the option to pay a variable toll to avoid congestion.

The I- 110/I-10 ExpressLanes are dynamically priced based on real-time traffic demand in the facility, with prices increasing or decreasing based on the current usage of the ExpressLanes. By using variable pricing to manage traffic demand, traffic flow in the ExpressLanes is continuously managed to maintain speed and flow, providing a reliable alternative to the heavily congested general-purpose lanes (GPLs). The ExpressLanes toll revenue is used to increase mobility and person throughput within the I-10 and I-110 corridors through the implementation of integrated strategies that enhance transit operations, transportation demand management, transportation systems management, active transportation, and capital investments. So far, the Metro Board has approved 20 projects totaling $19 million as part of the Round 1, approved another 21 projects totaling $27 million as part of the Round 2 of the ExpressLanes Net Toll Revenue Grant Program, and allocated a $100 million (net revenue) for multimodal projects/bus services.

Implementing managed/priced lanes, such as ExpressLanes, could influence demand for travel in two directions or could have a negligible effect on VMT, depending on the project conditions. First, converting a general-purpose lane to a managed/priced lane can reduce demand for travel, as the cost of available lane-mile capacity increases. Second, constructing new managed/priced lanes offers additional capacity both directly as a result of the new lane miles, and indirectly as vehicles vacate the general-purpose lanes they were once using in favor of the managed/priced lanes, thereby opening additional capacity on the general-purpose lanes. This additional capacity can have the effect of inducing VMT over a long-range timeframe. The induced travel effect of the new ExpressLanes being constructed is already included in the new lane-miles analysis. Lastly, converting an existing HOV carpool lane to an ExpressLane, as proposed in Metro's I-110 and I-10 projects, is likely to have a negligible impact on VMT.

5. Congestion Pricing

Beyond utilizing pricing with the ExpressLanes Program, Metro's Congestion Pricing initiative is investigating the use of traffic surge pricing to regulate the volume of traffic on the road during peak rush hours. A Traffic Reduction Study (formerly called the Congestion Pricing Feasibility Study) is being conducted to determine:

- If a traffic reduction program would be feasible and successful in LA County.
- Where and how a pilot program with congestion pricing and complimentary transportation options could achieve the project goals of reducing traffic congestion.
- Identify willing local partners to collaborate with on a potential pilot program.

The study explores implementing a congestion pricing model for four concept areas. These areas would require payment of a fee during congested periods of the day. Through engagement with stakeholders and the public, the study is exploring how to realize additional positive outcomes that will benefit residents, workers and businesses in LA County, including improving the economy, supporting environmental and economic justice, and improving health and safety. Potential areas to implement a congestion pricing pilot program include the Santa Monica Mountains Corridor (1A) and US 101 & I-5

Corridor (1B), Downtown LA Freeways Corridor (2), Downtown LA Cordon (3) and the I-10 West of Downtown LA Corridor (4). Initial findings indicate that implementing traffic reduction fees in these concept areas would cause a significant number of people to shift transportation modes to transit, carpool, walking and biking and would also improve air quality.

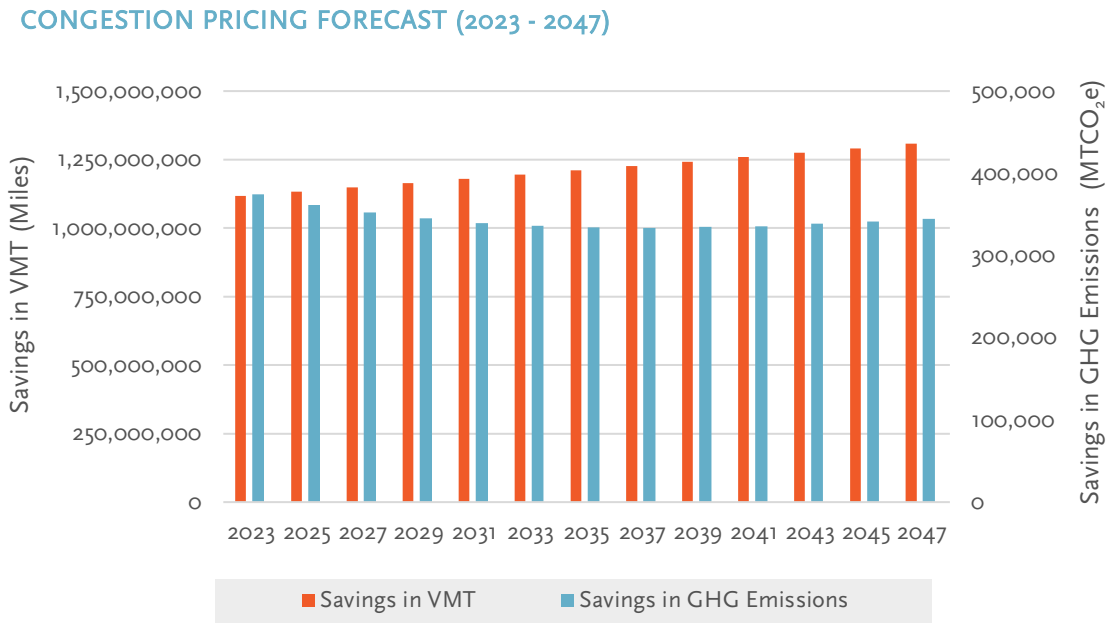
Metro is still in the early stages of studying traffic reduction fees in one or more of these concept areas. However, other major cities have successfully implemented congestion pricing for some time. London adopted congestion fees in Central London in 2003 to help reduce congestion and time spent in traffic. As a result, congestion is greatly reduced, and the program helped London achieve its transportation mode shift goals, with 65% of all trips in the city taking place by walking, cycling or public transportation in 2018[22]. Congestion pricing is also being implemented in 2022 for the New York metropolitan region with an estimated 6.8% reduction in VMT[23]. Metro is investigating whether or not similar benefits could be expected in LA County.

WSP conducted a study with the goal of reducing congestion by pricing the Urban Core, Central Business District (CBD) and Urban Business District (UBD) areas in LA County. With this scenario, trips to a UBD, CBD and Urban Core zone will be charged $3/trip, $6/trip and $9/trip, respectively. Further, using the freeway exit ramps to a CBD and Urban Core zone will increase the fees by an additional $3/trip and $6/trip, respectively. A 1.33% reduction in VMT for LA county is currently predicted from the congestion pricing scenario modeling[24]. If these reductions are realized, congestion pricing would reduce nearly 37 billion VMT and avoid nearly 11 million $MTCO_2e$ GHG emissions between 2017 and 2047.

Concept Area	Concept Area Name	Estimated Daily Change in Weekday Hours of Traffic Delay in 2025*	Estimated Daily Change in Weekday Vehicle Miles Traveled in 2025*
1A	Santa Monica Mountains Corridor	-34,000	-380,000
1B	US 101 & I-5 Corridor	-13,000	20,000
2	Downtown LA Freeways Corridor	-45,000	-890,000
3	Downtown LA Cordon	-44,000	-1,300,000
4	I-10 West of Downtown LA Corridor	-17,000	-360,000

(Source: https://thesource.metro.net/2021/06/24/with-congestion-increasing-heres-an-update-on-metros-traffic-reduction-study/)

[22] *How Road Pricing is Transforming London – and What Your City Can Learn*
[23] *Baghestani, A., Tayarani, M., Allahviranloo, M. and Gao, H.O., 2020. Evaluating the traffic and emissions impacts of congestion pricing in New York City. Sustainability. 12(9), (pG.3655)*
[24] *WSP, Memo: Cordon Pricing Scenario Results for the LRTP Scenario Modeling*



6. Impacts of Metro's Other Initiatives

Other than those already discussed above, Metro also benefits from strategies that reduce SOV trips by encouraging alternatives, such as transit, ridesharing, mobility on demand, vanpooling, walking, biking, shared parking and telework. These strategies are included in the discussion for informational purposes only and are not included in our analysis results because they were not modeled in the *LRTP.*

Shared Mobility

The core focus of Metro's Shared Mobility program is assisting employers and commuters with alternatives to a SOV commute. Examples include utilizing multi-faceted rideshare/mobility programs including carpooling, vanpooling, transit ridership, telecommuting, biking and walking options. Metro's Vanpool Program is one of the largest publicly-funded vanpool programs in the nation, providing essential mobility options for commuters throughout the Southern California region. Through a monthly vanpool subsidy of up to $600, this program incentivizes commuters to reduce single-occupancy VMT by more than 100 million miles annually.

The Shared Mobility program supports Employee Transportation Coordinators at employers across the region who are required to complete regulatory compliance activities for the South Coast Air Quality Management District's Rule 2202. All services are also offered to employers regulated by city/local congestion management strategies and are open to interested unregulated employers and individual commuters looking for an alternative to their drive-alone commute.

Collectively these programs helped avoid 13.7 million VMT and 15.5 million pounds of GHG emissions in FY20 and 21.7 million VMT and 22.8 million pounds of GHG emissions in FY21[25].

Regional Transportation Demand Management (TDM) Program

As identified in the *LRTP*, the Regional TDM Program supports efforts to reduce VMT across LA County by promoting alternatives to SOV trips to the public. Post-pandemic programs include an app advertised

[25] *Planning and TDM Team Communications: FY20 & FY21 Program Impact Estimates.*

inside hotel rooms for visitors to use transit; encouraging county residents to take transit for leisure trips; piloting an incentive program through an FTA AIM grant partnership with Duke University and rolling out a countywide community-based ride matching program that will match residents for carpooling, vanpooling and transit. Additionally, Metro is developing a Countywide TDM outreach campaign to increase awareness of its TDM programs. The campaign will focus on using data, best practices and innovative marketing strategies to change mobility behavior, increasing utilization of non-SOV modes.

Land Use Benefits of Transit

In addition to the direct VMT and GHG reductions resulting from mode shift, the bus and rail expansion projects contribute toward VMT reduction and GHG emission avoidance in LA County by promoting changes in land-use patterns. While Metro has limited control over county land use policies, Metro partners with local governments to create better connections to the regional transportation system.

Metro has adopted a Transit Oriented Community (TOC) Policy formalizing Metro's commitment to partner with the 88 cities and unincorporated areas in LA County to support TOC activities. The goal of the TOC policy is to link local projects to Metro's regional transit investments to achieve five key goals:

- Increase transit ridership and choice
- Stabilize and strengthen communities around transit
- Engage organizations, jurisdictions and the public
- Distribute transit benefits for all
- Capture value created by transit

These communities are designed to make it more convenient to take transit, walk, bike or roll than to drive, and contribute to VMT reductions and GHG avoidance due to land-use.

Metro's Net Impact on Regional GHG Emissions

Based on the modeling conducted for the *2020 LRTP,* Metro's suite of initiatives has a net positive benefit on the LA County region by reducing the VMT associated with personal-auto travel – both through mode-shift and by land-use benefits. Ranging from transit infrastructure expansion and service improvements to travel demand management and pricing policies, these programs are designed to have synergistic effects across the region that will decrease SOV trips, reduce regional VMT and avoid GHG emissions.

Despite the limitations associated with this analysis, our preliminary calculations indicate that implementation of Metro's *LRTP* and the other complementary strategic initiatives will reduce VMT and deliver beneficial land use patterns, putting the agency on track to exceed the GHG avoidance targets outlined in the 2019 *Climate Action and Adaptation Plan and the Moving Beyond Sustainability* strategic plan[26]. The results of this disaggregation analysis and the potential impacts of Metro's planned programs are summarized in the table below.

[26] *Calculations do not consider multimodal synergy of Metro ExpressLanes influencing increase in parallel transit ridership.*

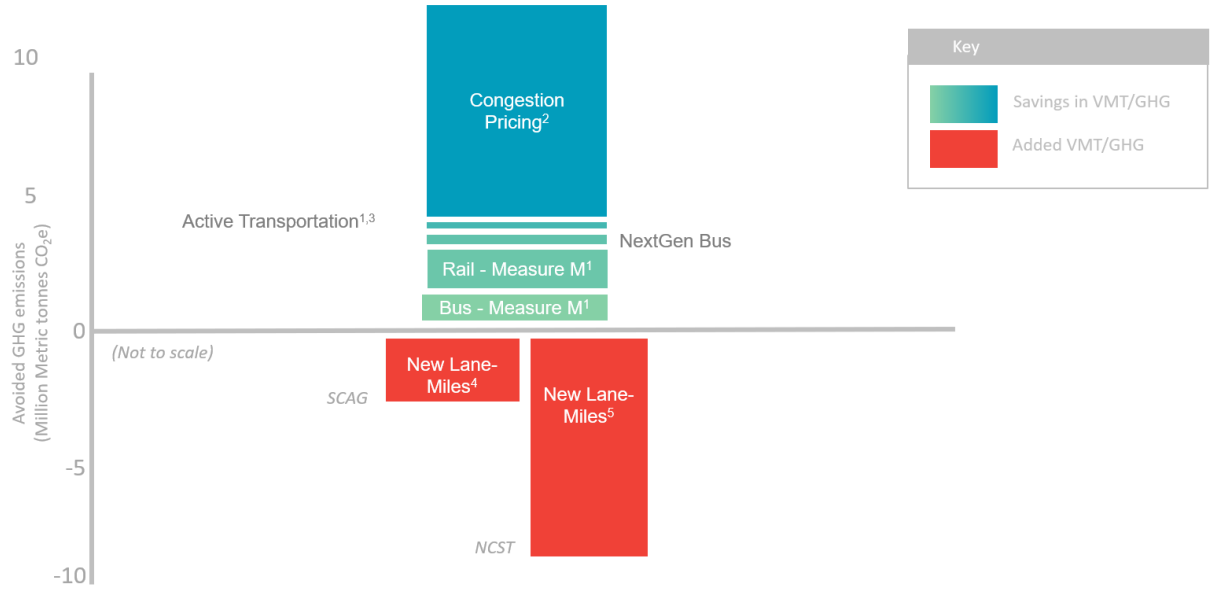
Disaggregated Impacts of Metro's Initiatives

Initiative	Impact on VMT In Target Years		Cumulative Impact on VMT[5]	Impact on GHG Emissions In Target Years ($MTCO_2e$)		Cumulative Impact on GHG Emissions ($MTCO_2e$)[5]
	2017	2047	2017 through 2047	2017	2047	2017 through 2047
Bus - Measure M[1]	-	-419,257,000	-3,574,723,000	-	-54,000	-1,002,000
Rail - Measure M[1]	-	-203,764,000	-5,491,555,000	-	-110,000	-1,517,000
NextGen Bus *(Starts in 2023)*	-	-25,113,000	-665,449,000	-	-7,000	-190,000
Active Transportation[1,2]	-75,000	-162,000	-3,650,000	-40	-60	-1,400
New Lane Miles (Low-High)[3]	- – -	+581,847,000 – +2,221,100,000	+9,582,876,000 – +36,880,300,000	- – -	+153,000 – +585,000	+2,632,000 – +10,111,000
Congestion Pricing[4]	-1,070,547,000	-1,307,450,000	-36,818,128,000	-401,000	-344,000	-10,926,000

***BLUE SHADING** Indicates more speculative bold policies and programs that require further analysis.*

Relative Change in GHG Emissions Resulting from Metro's Initiatives (Million Metric tonnes CO_2e)

The chart below shows the relative the GHG impacts from each program evaluated in this study.



1. *Included in 2020 LRTP (excludes Metrolink).*
2. *Indicates initial modeled performance analysis, further scoping and detailed analysis required.*
3. *This includes 244 miles of bike lanes across the County that further incentivizes the use of active transportation.*
4. *Calculations of induced VMT from highway expansion calculated based on SCAG's Regional Travel Demand Model.*
5. *Calculations of induced VMT from highway expansion calculated based on the NCST calculator, the statewide tool included in recent Caltrans SB 743 guidance.*

However, given the complexity of disaggregating these programs, the results of this analysis contain several uncertainties as described above. While the results accurately show the relative impacts of

Metro's programs, it was not possible to have a high degree of precision in the absolute results. Further study is needed to more accurately quantify the impacts of each program and develop a standardized methodology for conducting these analyses moving forward.

The greatest potential impact of these programs comes from the more speculative bold policies and programs that move beyond infrastructure, including increasing access to free transit, implementing a mileage based VMT fee or implementing congestion pricing. Without investments in supporting infrastructure and transit services, these bold policies and programs would not yield the desired results and could have negative side effects on those who are least able to afford an increased cost of travel. Overall, when implemented effectively, Metro's bold policies have an immediate and considerable impact on encouraging LA County residents to seek non-SOV modes of travel and use the multi-modal options provided by Metro and other agencies across the region.

SECTION III: NEXT STEPS

This analysis is intended to provide a foundation for further study and is not designed to inform decision making beyond catalyzing the development of a baseline and refinement of methodology. While we have completed preliminary calculations and provided initial estimates of the relative VMT and GHG impacts of the agency's major programs, deeper analysis is needed to fully identify the impacts of programs that Metro supports or funds in the region and the potential synergies across other programs being implemented by the various regional agencies.

As a preliminary analysis, these estimates and calculations have helped clarify that Metro's programs and planned infrastructure alone will not meet the aggressive VMT reduction targets laid out by the *OurCounty* Plan. Without control over land use and development in the county, Metro has limited influence over the transportation decisions of LA County residents and those who travel in and out of LA County for business or pleasure daily. Greater support is needed from local municipalities and councils of governments in prioritizing public transit in land-use decisions and developing complete streets and strategic, affordable housing that facilitate public transportation use. In addition, Metro has a long history of partnering with SCAG to model its program's VMT and GHG impacts through the development of the LRTP and the SCS. We recognize that additional collaboration is needed to maximize effectiveness and coordination across the region.

As a next step, Metro should work internally and with our regional partners to build consensus on a standardized methodology for evaluating the GHG impacts of major programs, ensuring consistency and enabling more accurate comparison between projects and strategies. Additionally, Board Motion 45 recommends that Metro set agency specific VMT reduction and mode shift targets to guide decision making on future project and program investments. It is recommended that the Office of Sustainability work with Metro Planning to develop achievable GHG reduction targets that help align Metro with the updated CARB Scoping Plan and SCAG goals. All future sustainability and long-range plans and reports should address progress on the development and achievement of Metro's VMT and GHG targets. In addition, the Roads and Highways group should proceed with developing options for a VMT mitigation program.

It is important to note that VMT reduction and GHG emissions avoidance are not the agency's only priorities. Metro also believes that equity and access to opportunity should be at the center of decision making around public investments and services. Issues of equity, mobility and access should be evaluated concurrently and given thoughtful consideration during further study on the VMT and GHG emissions impacts of Metro's programs and projects. Equity must be considered concurrently because some programs that advance VMT reduction goals may not advance equitable outcomes, while some programs that advance equity may not realize the greatest VMT reduction, but that does not make them any less worthwhile – the benefits and burdens of each program and project must be viewed holistically.

Metro is also evaluating how to effectively communicate the unique role the agency can and will play in avoiding regional GHG emissions and looks forward to continued conversations on how Metro's initiatives contribute to achieving regional and statewide goals and targets.

Transportation infrastructure, programs and service investments must be targeted toward those with the greatest mobility needs first, to improve access to opportunity for all.

Metro

Board Report

File #: 2021-0769, **File Type:** Motion / Motion Response **Agenda Number:** 45.

REVISED
REGULAR BOARD MEETING
DECEMBER 2, 2021

Motion by:

DIRECTORS GARCETTI, SOLIS, KUEHL, BONIN, AND MITCHELL

Addressing Climate Change through Vehicle Miles Traveled Reduction:
Aligning with State of California Climate Goals

Across the globe, cities and countries are taking action to reduce greenhouse gas (GHG) emissions in order to spare future generations from the worst effects of climate change. President Biden rejoined the Paris Agreement and, most recently at the United Nations Framework Convention on Climate Change Conference of the Parties (COP26), committed to reducing GHG emissions 50-52% below 2005 levels in 2030. Additionally, the Infrastructure Investment and Jobs Act, which authorizes billions of dollars in highway, transit, and safety programs, has a strong climate change focus.

The state of California is a global leader in addressing climate change and is prioritizing infrastructure that will support reduced GHG emissions. Governor Newsom's Executive Directive N-19-19 aligns state programs, including $5 billion in annual transportation spending, with GHG reduction goals. The state has set goals in line with global needs under AB 32, now updated under SB 32. Currently, surface transportation is responsible for the largest share of statewide GHG emissions and as such, reducing vehicle miles traveled (VMT) is a central goal to successfully addressing climate change.

Under SB 375, the California Air Resources Board (CARB) sets GHG targets, including VMT reduction goals, for each Metropolitan Planning Organization in the state. The Southern California Association of Governments (SCAG) creates the Regional Transportation Plan/ Sustainable Community Strategy (RTP/ SCS) goals in line with these state goals.
However, as the Metropolitan Transportation Authority overseeing surface transportation in Los Angeles County, Metro has not yet adopted VMT reduction goals in support of the SCAG or CARB targets. In 2019, the County of Los Angeles published a Countywide Sustainability Plan (OurCounty) which created VMT reduction and accompanying mode shift goals, in line with SCAG and CARB targets. Currently, approximately 11% of all commute trips in Los Angeles County were made by foot, bike, micromobility, or public transit, based on 2015 U.S. Census data, and daily trips averaged 21.9 VMT per capita in Los Angeles County in 2017 based on Caltrans analysis.

SUBJECT: ADDRESSING CLIMATE CHANGE THROUGH VEHICLE MILES TRAVELED REDUCTION: ALIGNING WITH STATE OF CALIFORNIA CLIMATE GOALS

RECOMMENDATION

APPROVE Motion by Directors Garcetti, Solis, Kuehl, Bonin, and Mitchell that Metro develop VMT reduction and mode shift targets consistent with and supportive of those in the OurCounty Plan and SCAG RTP/SCS for Board adoption as part of the annual Sustainability Plan update in September 2022.

WE FURTHER DIRECT the CEO to:

A. Include in the Long Range Transportation Plan, Sustainability Plan, and regular reports on the progress of each, financially unconstrained analysis providing options to meet the above goals; and,

B. Include, and present to the Board for consideration, VMT reduction and mode shift projections in project alternatives, operations budgets, program performance, or similar actions that allocate resources toward climate change reduction.

WE FURTHER DIRECT the CEO to use the VMT reduction and mode shift targets of the 2019 OurCounty Plan, as follows, for interim planning and forecasting purposes:

- 2025 Targets:
  - Reduce average daily VMT per capita to 20 miles
  - Increase to at least 15% all trips by foot, bike, micromobility, or public transit

- 2035 Targets:
  - Reduce average daily VMT per capita to 15 miles
  - Increase to at least 30% all trips by foot, bike, micromobility, or public transit

- 2045 Targets:
  - Reduce average daily VMT per capita to 10 miles
  - Increase to at least 50% all trips by foot, bike, micromobility, or public transit

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2022-0489, **File Type:** Informational Report **Agenda Number:** 19.

EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: EQUITY FOCUS COMMUNITIES 2022 REPORT BACK

ACTION: RECEIVE AND FILE

RECOMMENDATION

RECEIVE AND FILE a report back on using 2022 Equity Focus Communities (EFCs) to prioritize investments during the development of the Metro FY24 budget.

ISSUE

During the May 2022 Executive Management Committee (EMC) meeting, Director Garcetti requested a report back in August 2022 on recommendations for using the newly updated 2022 EFC map to prioritize funding during the development of Metro's FY24 budget.

BACKGROUND

The original iteration of the EFC map (adopted by the Board in 2019) has been used as a geographic measurement of marginalized and high-need communities by staff in Metro project and program analysis, budget assessments, and grant application supplementary context. During the FY23 budget development process, Metro's CEO initiated a new approach: Equity Zero-Based Budgeting (EZBB). The FY23 EZBB process expanded the scope of budget justifications and applied the Metro Budget Equity Assessment Tool (MBEAT) to all FY23 annual budget and capital projects requests, both new and ongoing. The FY23 EZBB MBEAT required staff to identify impacts on EFCs for each budget item, including distinguishing between targeted benefits and disproportionate service.

Due to the delayed timing of 2020 Census demographic data becoming publicly available (mid-March 2022), the 2022 EFC Update map was not able to be used during the FY23 EZBB MBEAT process, which ended in late February 2022, per the annual budget development timeline. To accommodate this delay, staff identified budget impacts aligned with a modified EFC map that referenced 2019 Census data. This modified EFC map has only been used during the FY23 EZBB MBEAT process.

During the May 2022 EMC meeting, the 2022 EFC Update was received (File # 2022-0275), which included updating Los Angeles County demographic data (2020 Census), implementing an index methodology, and setting a three-year update cycle going forward.

The May 2022 EFC Update included a small miscalculation, referencing the raw number of residents and/or households per census tract, rather than the percentage of residents and/or households within each census tract that met the EFC sociodemographic criteria. The project consultant corrected this miscalculation in early June 2022.

The corrected analysis includes an overall increase of 43 census tracts designated as EFCs. This increase is a result of 122 census tracts that were added and 79 census tracts that were removed from the EFC designation from the incorrect analysis. The corrected EFC maps are shown in Attachment A. The correction also updates the analysis of the alignment of the 2022 EFC Update with the original 2019 EFC map (see Attachment B). While some census tract boundaries were changed in 2020, the project consultant estimates that approximately 91.4 percent of census tracts identified in the original 2019 EFC map are covered in the 2022 EFC corrected update. The correction maintains a designation of 40 percent of Los Angeles County census tracts defined as EFCs. Staff submitted a board box in mid-June 2022 to provide preliminary updates to the Board on the 2022 EFC Update miscalculation.. Metro will use the 2022 EFC Map in any new or updated equity analysis.

DISCUSSION

To continue Metro's commitment to incorporating equity into the annual budget development process staff will identify a budget equity baseline, calculating the percentage of FY23 investments that provide targeted benefits for EFCs and people living and working in EFCs. This FY23 budget equity baseline will be leveraged to guide FY24 investments through the agency's second EZBB process. A goal of the FY24 EZBB is to achieve equitable investments and targeted benefits for EFCs, which represent 40 percent of Los Angeles County. Staff will categorize FY23 investments as "targeted benefits," "disproportionate service," and/or "no equity impact" to calculate the FY23 budget equity baseline percentage.

A critical element of equity is intention, such as intentionally prioritizing resources based on need or to address disparities, or intentionally centering experiences of historically marginalized groups. "Targeted benefits" demonstrate positive impacts from Metro's projects, programs, policies, and services that are intentionally focused on marginalized communities. Examples of "targeted benefits" in Metro's budget include, but are not limited to, increased mobility access for people living and/or businesses located in EFCs to resources (transit service, transportation affordability, right-of-way design, or state of good repair targeted to EFCs); projects and/or programs that demonstrate priority for EFCs or EFC residents (systemwide programs that address needs in EFCs first or primarily, such as the LIFE Program); and deep and intentional engagement with stakeholders in or representing EFCs (residents, small businesses, community-based organizations).

Transit is a public service that can provide a mobility option for all, but especially for people with fewer transportation choices. Metro serves a core ridership that is disproportionately lower income, non-white, and without access to a vehicle, so many of Metro's projects and services provide a "disproportionate service" for marginalized communities. Examples of "disproportionate service" in Metro's budget include, but are not limited to, state of good repair programs or capital projects that

service Metro's whole transit system, which disproportionately serves EFCs; improvements to a Metro transit stop or station not located within or adjacent to EFCs; and project funding allocations or studies that include EFCs but do not analyze specific impacts to EFCs or people living in EFCs.

The 2022 EFC Update incorporates 40 percent of Los Angeles County and, by definition, have very high mobility investment needs. To continue striving towards equitable outcomes, Metro investments and targeted benefits in EFC's should be greater than an equivalent 40% share. The FY23 budget equity baseline will start the process of reaching these equitable outcomes through the upcoming FY24 EZBB process.

EQUITY PLATFORM

The Equity Focus Communities (EFC) map continues to be a geographic tool and resource to identify regional inequities and mobility needs across Los Angeles County. As Metro deepens implementation of budget equity, the EFC map will be leveraged for both assessment and prioritization of investments to serve those with the highest needs.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

This recommendation supports strategic plan goals #1.1, 3.1, 3.2, 3.3, and 3.4 by helping Metro to target infrastructure and service investments toward those with the greatest needs and enhancing communities and lives through mobility and access to opportunity. Implementation of the equity framework is an explicit recommended action under the goals 1.1 and 3.3, and it supports actions under 3.1, 3.2, and 3.4.

NEXT STEPS

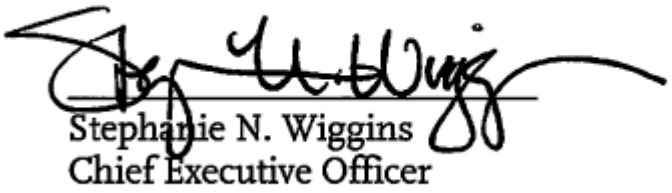
Staff will continue to build on lessons learned from the FY23 Equitable Zero-Based Budgeting (EZBB) process to identify impactful and feasible opportunities to prioritize EFCs in the FY24 budget.

ATTACHMENTS

Attachment A - 2022 Equity Focus Communities - June 2022
Attachment B - Comparison of 2019 EFCs and 2022 EFCs - June 2022

Prepared by: Jessica Medina, Manager, (213) 922-3086
Naomi Iwasaki, Senior Director, (213) 922-3085
KeAndra Cylear Dodds, Executive Officer, (213) 922-4850
Teyanna Williams, Acting Deputy Chief, (213) 922-5580

Reviewed by: Nicole Englund, Chief of Staff, (213) 922-7950

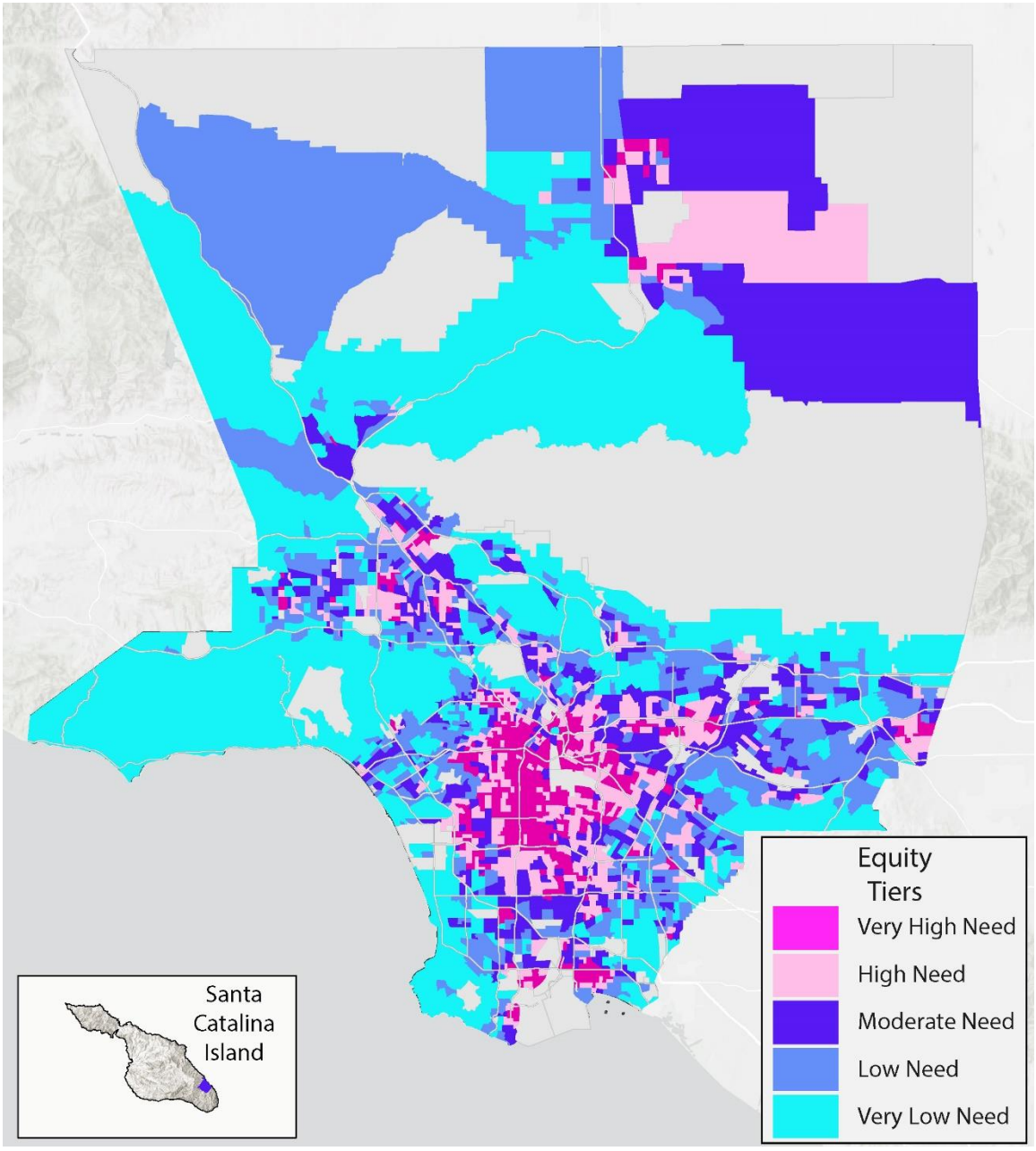


Stephanie N. Wiggins
Chief Executive Officer

2022 EQUITY FOCUS COMMUNITIES UPDATE
Attachment A – 2022 Equity Focus Communities – June 2022

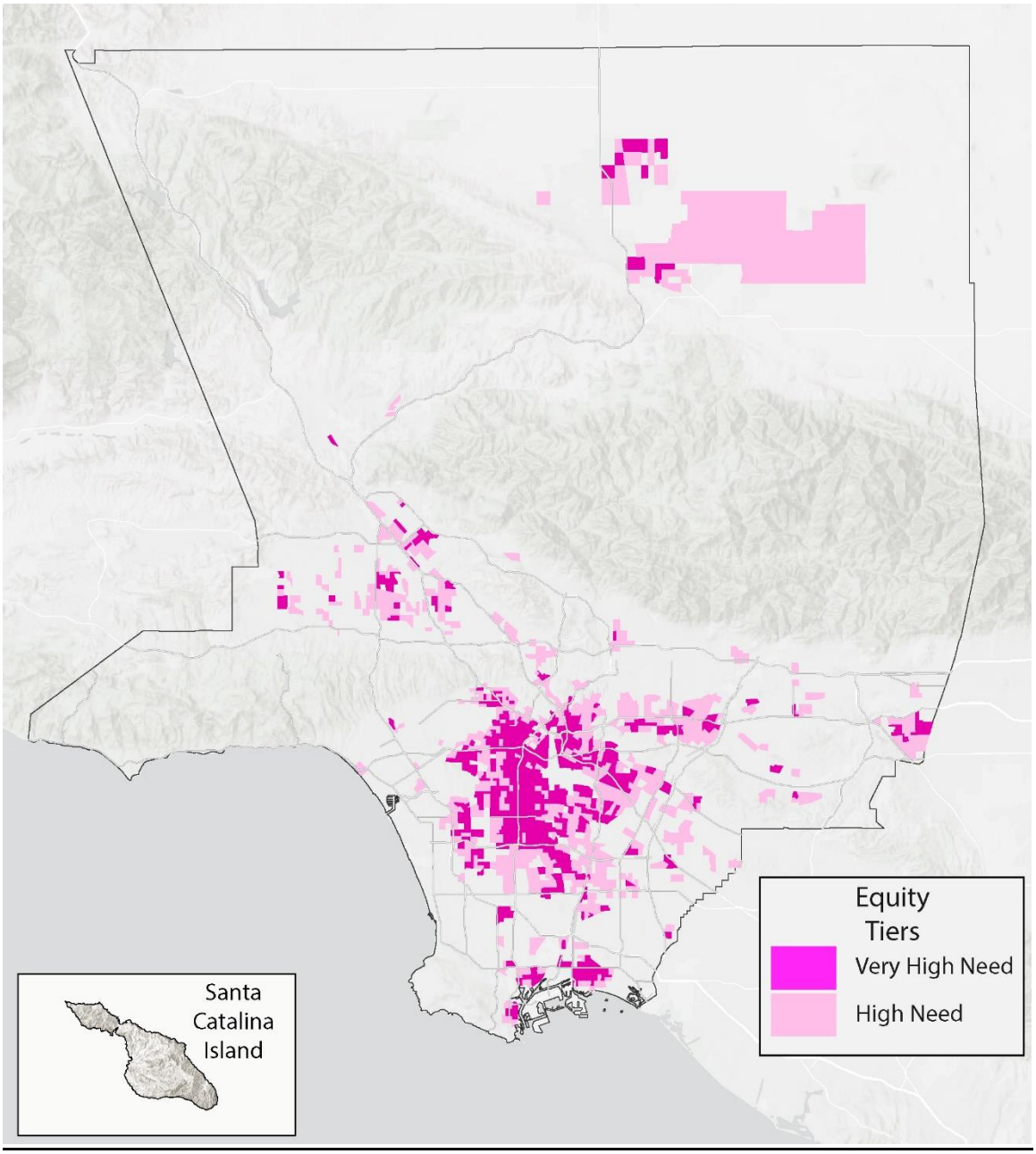
2022 EFC Index

- 80 to 99th percentile: Very High Need (EFC)
- 60 to 79th percentile: High Need (EFC)
- 40 to 59th percentile: Moderate Need (non-EFC)
- 20 to 39th percentile: Low (non-EFC)
- Below 20th percentile: Very Low (non-EFC)



2022 EQUITY FOCUS COMMUNITIES UPDATE
Attachment A – 2022 Equity Focus Communities – June 2022

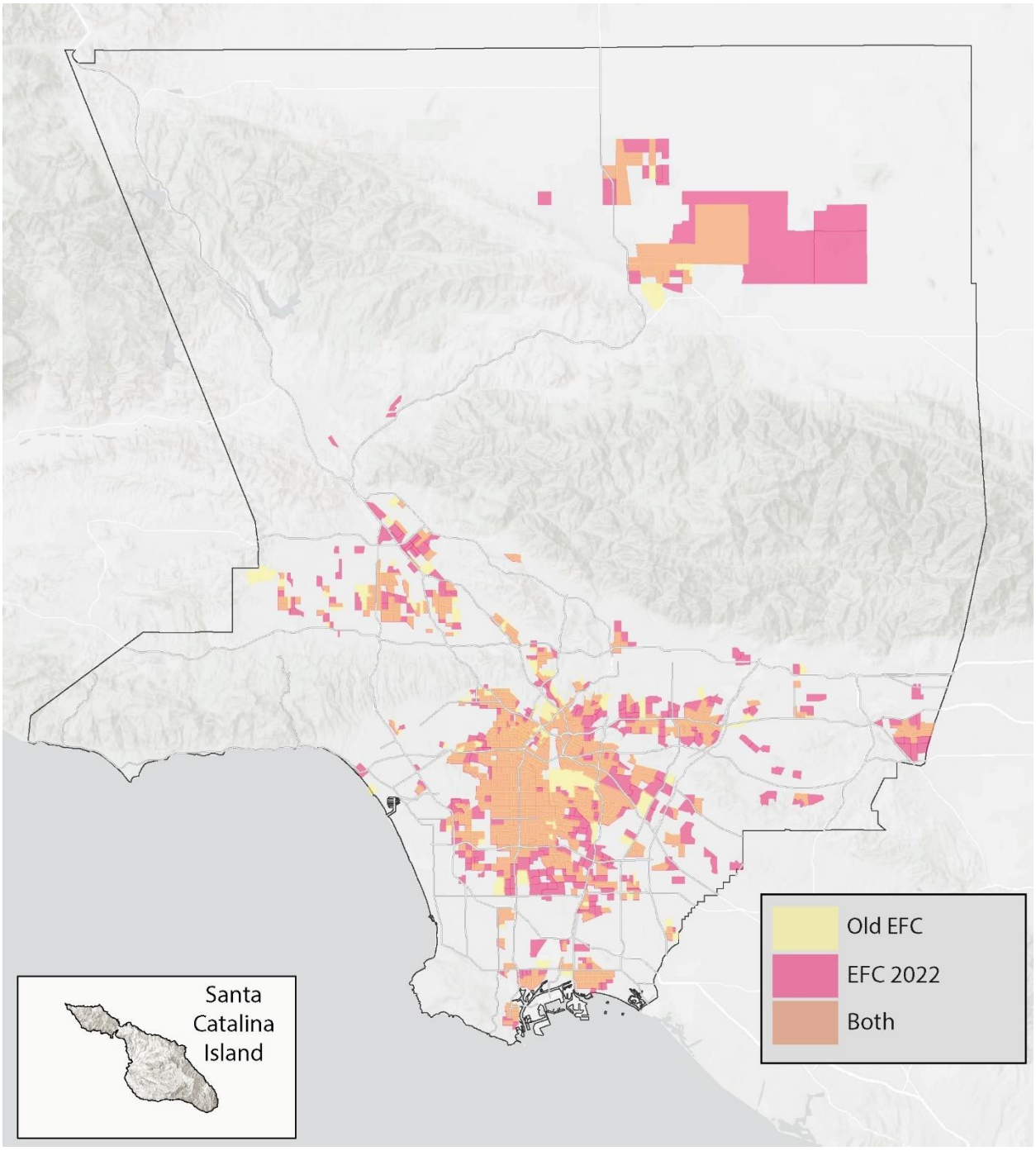
2022 EFC Index – EFCs only



2022 EQUITY FOCUS COMMUNITIES UPDATE
Attachment B – Comparison of 2019 EFCs and 2022 EFCs – June 2022

The map below shows three layers:

- Pink: 2022 EFC Updates that were not previously designated EFCs in the Original (2019) EFC definition
- Orange: 2022 EFC Updates that were previously designated EFCs in the Original EFC definition
- Yellow: Original EFCs that were not in the Very High or High Need tiers of the 2022 EFC Update



Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

File #: 2022-0248, **File Type:** Policy **Agenda Number:** 21.

EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: TITLE VI EQUITY ANALYSIS POLICIES

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

ADOPT Title VI Equity Analysis Policies presented in Attachments A, B and C.

ISSUE

Title VI of the Civil Rights Act of 1964 (Title VI) prohibits discrimination on the basis of race, color, and national origin in programs that receive federal funding. The Federal Transportation Administration (FTA) requires transportation agencies to demonstrate their compliance with Title VI by adopting policies in compliance with FTA Circular 4702.1B "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," issued October 1, 2012. FTA requires the Metro Board of Directors to review and approve the Title VI Equity Analysis policies.

BACKGROUND

Section 601 of Title VI of the Civil Rights Act of 1964 (Title VI) states the following:

> No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop policies to assist in the evaluation of impacts to minority and low-income riders when considering service and fare changes. Metro's Title VI equity policies were adopted into the Administrative Code under Part 2-50 "Public Hearings".

The Title VI Equity Analysis policies consist of:

Major Service Change Policy: This policy defines what constitutes a major service change for the agency which will require a service equity analysis. (Attachment A)

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. (Attachment B)
Disproportionate Burden Policy: Disproportionate burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non low-income populations. (Attachment C)

Metro's Title VI Obligations when evaluating service and fare changes

Metro will utilize the Board adopted Title VI polices included in the agency's Board adopted Title VI Program Update when analyzing service and fare changes. The equity analysis will be completed during the planning stages of the proposed changes. The results of the analysis will be approved by the Metro Board of Directors and evidence of the Board action will be included in the next Title VI Program Update submitted to FTA.

Metro must submit a Title VI Program Update every three years. The last submitted Title VI Program Update was October 30, 2019, and FTA concurrence was received on April 7, 2020. The next Title VI Program Update will be submitted on October 1, 2022.

DISCUSSION

Metro is required under FTA Circular 4702.1B to submit Board approved Title VI policies to ensure minorities and low-income communities are not impacted when it conducts Service and Fare Equity (SAFE) Analyses. There are three policies that must be approved by the Board every three years:

1) The Major Service Change Policy. Metro's current policy states that a Title VI Equity Analysis will be completed for all Major Service Changes and will be presented to the Board for its consideration and the results will be included in the subsequent Metro Title VI Program Update with a record of action taken by the Board. There are no recommended changes to this Policy for 2022. The full policy is attached as Attachment A.

2) The Disparate Impact Policy. Metro's current policy states that testing for Disparate Impact evaluates effects on minority riders or populations as compared to non-minority riders or populations. While performing a Title VI Equity Analysis for possible disparate impact, Metro will analyze how the proposed major service change or fare change action could impact minority populations, as compared to non-minority populations. There are no recommended changes to this Policy for 2022. The full policy is attached as Attachment B.

3) The Disproportionate Burden Policy. Metro's current policy states that testing for Disproportionate Burden evaluates potential effects on low-income riders or populations, which Metro defines in the 2022 program update as $59,550 for a four-member household in

Los Angeles County. The line and system level evaluations are identical to those used to determine potential disparate impacts but compare low-income and non-low-income populations rather than minority and non-minority populations. There are no recommended changes to this policy. The full policy is attached as Attachment C.

The Metro Board last approved the Title VI Policies in September 2019.

DETERMINATION OF SAFETY IMPACT

The requested action in this report will have no direct impact on the safety of Metro's employees or customers.

FINANCIAL IMPACT

Adoption of the Title VI Equity Policies has no direct impact upon Metro's expenditures or revenues. Approval is consistent with the implementation of service included in the adopted FY2020 Budget.

Impact to Budget

Adoption of the Title VI Equity Policies has no direct impact upon Metro's expenditures or revenues. Approval is consistent with the implementation of service included in the adopted FY2023 Budget.

EQUITY PLATFORM

Title VI Equity Policies address impacts to Minority Communities and Low-Income Communities as required by FTA Title VI Circular 4702.1B. While the FTA does not recommend thresholds for Disparate Impacts or Disproportionate Burdens, Metro's commitment to identifying inequities is illustrated by the 5% absolute different thresholds in the recommended policies, which are more ambitious than higher percentages (e.g. 10%) utilized by other public agencies.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan goal # 5, "Provide responsive, accountable and trustworthy governance within the Metro organization" by adhering to civil rights equity requirements mandated by FTA Title VI Circular 4702.1B.

ALTERNATIVES CONSIDERED

The alternative to not including Board approved Title VI Equity Policies could have significant negative impacts to the agency. Failure to include Board approved policies in the Title VI Program update may result in FTA not concurring Metro's Title VI Program Update which may result in suspension of federal grants by being non-compliant with civil rights requirements.

NEXT STEPS

The Title VI Program Update is scheduled for Board approval at the September 22, 2022, Board of

Directors meeting. Upon Board approval, Metro's Title VI Program Update will be submitted to FTA by the due date of October 1, 2022.

ATTACHMENTS

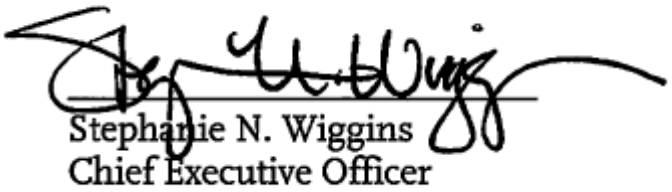
Attachment A - Major Service Change Policy
Attachment B - Disparate Impact Policy
Attachment C - Disproportionate Burden Policy

Prepared by: Aida Berry, Senior Manager, Civil Rights Programs, (213) 922-2748

Joseph Forgiarini, Senior Executive Officer, Service Development, Scheduling & Analysis, (213) 418-3400

Teyanna Williams, Deputy Chief Civil Rights Officer (Interim), (213) 418-3168

Reviewed by: Nicole Englund, Chief of Staff, (213) 922-7950

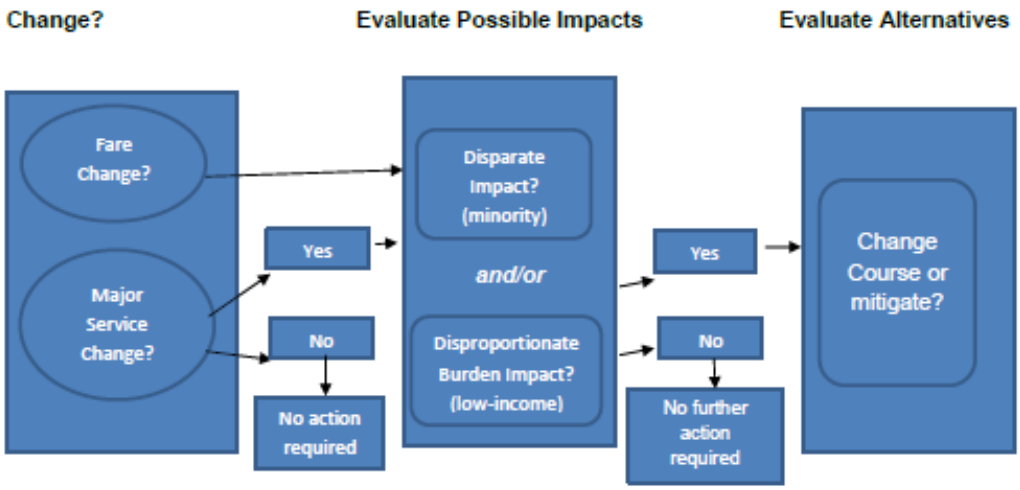


Stephanie N. Wiggins
Chief Executive Officer

Metro Major Service Change Policy

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop policies to assist in the evaluation of impacts to minority and low-income riders when considering service and fare changes.

Figure 1: Overview of Metro's Title VI Equity Analysis process



All changes in service meeting the definition of "Major Service Change" are subject to a Title VI Service Equity Analysis prior to Board approval of the service change. A Title VI Equity Analysis will be completed for all Major Service Changes and will be presented to the Board for its consideration and the results will be included in the subsequent Metro Title VI Program Update with a record of action taken by the Board. Service changes considered "Minor" due to not meeting the thresholds of a Major Service Change are also analyzed and alternatives considered are documented, however, a Service Equity Analysis is not performed.

For the 2022 FTA Title VI Program Update Major Service Change is defined as any service change meeting 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.

a. 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.

b. 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.

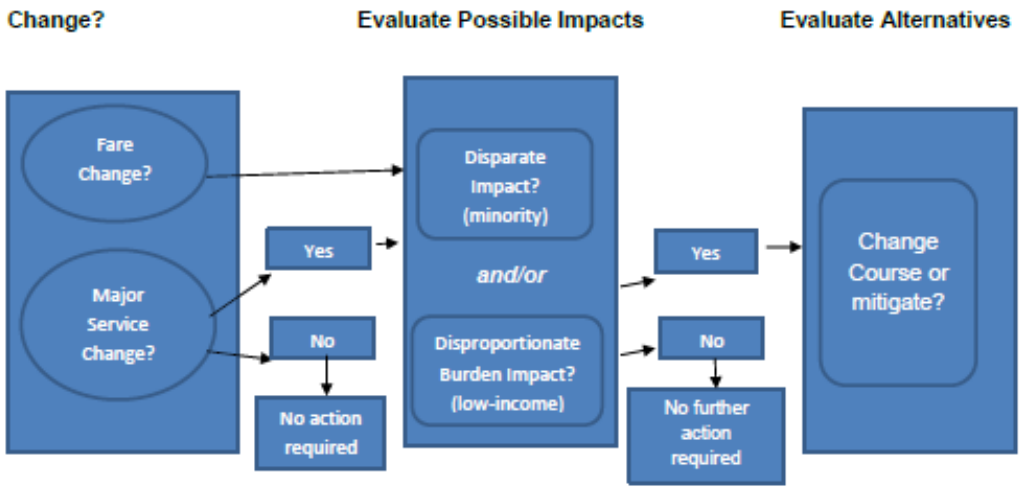
Metro Disparate Impact Policy

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop policies to assist in the evaluation of impacts to minority and low-income riders when considering service and fare changes.

Testing for Disparate Impact evaluates effects on minority riders or populations as compared to non-minority riders or populations. “Minority” is defined as all persons who identify as being part of racial/ethnic groups besides white, non-Hispanic.

In the course of performing a Title VI Equity Analysis for possible disparate impact, Metro will analyze how the proposed major service change or fare change action could impact minority populations, as compared to non-minority populations.

Figure 1: Overview of Metro’s Title VI Equity Analysis process



In the event the proposed action has an adverse impact that affects protected populations more than other populations at a level that exceeds the thresholds established in the Board adopted Disparate Impact Policy, or that restricts the benefits of the service change to protected populations, the finding would be considered as a potential Disparate Impact. In the possible scenario of finding Disparate Impact, Metro will evaluate whether there is an alternative that would serve the same objectives and with a more equitable impact. Otherwise, Metro will take measures to minimize or mitigate the adverse impact of the proposed action.

The Disparate Impact Policy defines measures for determination of potential adverse impact on minority populations/riders from major service changes or any change in fares (increase or decrease) The policy is applied to both adverse effects and benefits of major service changes.

All changes in service meeting the definition of “Major Service Change” and any change in fares and/or fare media are subject to a Title VI Service Equity Analysis prior to Board approval of the change. A Title VI Equity Analysis will be completed for all Major Service Changes and all fare and/or fare media changes (increase or decrease). The results of the Title VI Equity Analysis will be presented to the Board for its consideration and the results will be included in the subsequent Metro Title VI Program Update with a record of action taken by the Board. Service changes considered “Minor” due to not meeting the thresholds of a Major Service Change are also analyzed and alternatives considered are documented, however, a Service Equity Analysis is not performed.

For the 2022 FTA Title VI Program Update:

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 riders.

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%).

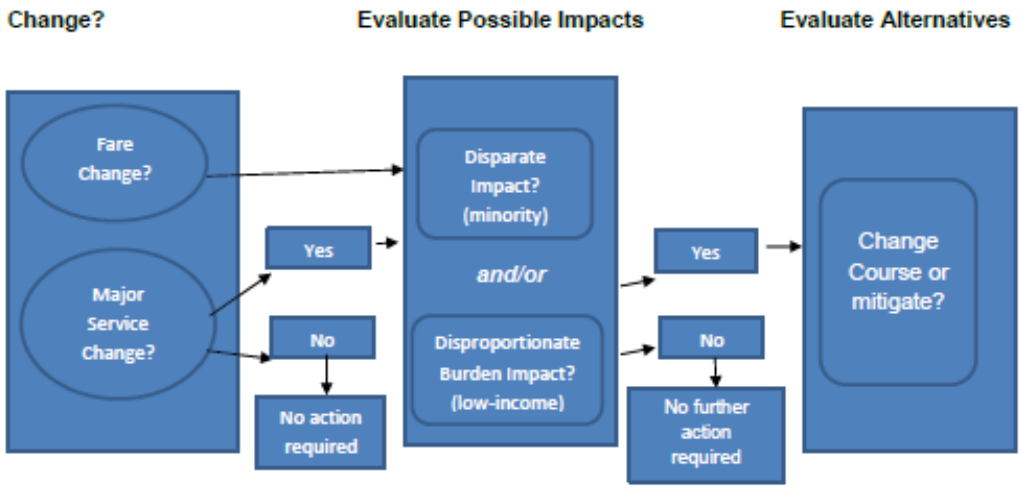
b. For any applicable fare changes, a disparate impact will be deemed to have occurred if the absolute difference between the percentage of minority adversely affected and the overall percentage of minorities is at least five percent (5%).

Metro Disproportionate Burden Policy

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop policies to assist in the evaluation of impacts to minority and low-income riders when considering service and fare changes.

Testing for Disproportionate Burden evaluates potential effects on low-income riders or populations, which Metro defines as $59,550 for a four-member household in Los Angeles County. The line and system level evaluations are identical to those used to determine potential disparate impacts but compare low-income and non-low-income populations rather than minority and non-minority.

Figure 1: Overview of Metro's Title VI Equity Analysis process



All changes in service meeting the definition of "Major Service Change" and any change in fares and/or fare media are subject to a Title VI Service Equity Analysis prior to Board approval of the change. A Title VI Equity Analysis will be completed for all Major Service Changes and all fare and/or fare media changes (increase or decrease). The results of the Title VI Equity Analysis will be presented to the Board for its consideration and the results will be included in the subsequent Metro Title VI Program Update with a record of action taken by the Board. Service changes considered "Minor" due to not meeting the thresholds of a Major Service Change are also analyzed and alternatives considered are documented, however, a Service Equity Analysis is not performed.

For the 2022 FTA Title VI Program Update:

Disproportionate burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. A finding of disproportionate burden for major service and fare changes requires Metro to evaluate alternatives and mitigate burdens where practicable.

a. 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%).
b. 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%).

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2022-0430, **File Type:** Informational Report **Agenda Number:** 22.

EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: SERVICE STANDARDS POLICIES FOR TITLE VI PROGRAM UPDATE

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

ADOPT Service Standards policies for Title VI Program Update presented in Attachment A.

ISSUE

Title VI of the Civil Rights Act of 1964 (Title VI) prohibits discrimination on the basis of race, color, and national origin in programs that receive federal funding. The Federal Transportation Administration (FTA) requires transportation agencies to demonstrate their compliance with Title VI by adopting policies in compliance with FTA Circular 4702.1B "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," issued October 1, 2012. FTA requires the Metro Board of Directors to review and approve the Metro Service Standards to be included in the Title VI Program Update due every three years.

BACKGROUND

Section 601 of Title VI of the Civil Rights Act of 1964 (Title VI) states the following:

> No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop service standards and include them in the Title VI Program update due every three years. These service standards should be followed for the three year period until the next program update.

DISCUSSION

Metro is required under FTA Circular 4702.1B to submit Board approved Service Standards. The Service Standards assist Metro in providing bus and rail service. The Service Standards must be approved by the Metro Board every three years. The Metro Board last approved the monitoring results in September 2019 and there have been no changes.

DETERMINATION OF SAFETY IMPACT

The requested action in this report will have no direct impact on the safety of Metro's employees or customers.

FINANCIAL IMPACT

Adoption of the Service Standards Policies has no direct impact upon Metro's expenditures or revenues. Approval is consistent with the implementation of service included in the adopted FY2023 Budget. Failure to approve the Service Standards Policies could result in an incomplete Title VI Program Update which could potentially result in the loss of federal funding.

Impact to Budget

Adoption of the Title VI Equity Policies has no direct impact upon Metro's expenditures or revenues. Approval is consistent with the implementation of service included in the adopted FY203 Budget. Failure to approve the Service Standards Policies today may result in an incomplete Title VI Program Update which may impact federal grants.

EQUITY PLATFORM

Title VI sets the minimum federal requirements to prevent discrimination or benefits from being denied to federally protected groups, as noted above. The Monitoring of Transit Service for Title VI purposes meets the federal requirements, as it ensures that Metro's Service Standards are being applied consistently throughout the system. The monitoring also provides a means to measure and adjust for impacts and benefits to protected groups, which supports Metro's goal to ensure that impacts to marginalized groups are considered in transportation decisions and service delivery.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan goal # 5, "Provide responsive, accountable, and trustworthy governance within the Metro organization" by adhering to civil rights requirements mandated by Title VI of the Civil Rights Act of 1964.

ALTERNATIVES CONSIDERED

The alternative to not including Board approved Service Standards Policies which would have significant negative impacts to the agency. Failure to include Board approved Service Standards policies in the Title VI Program update may result in FTA, not concurring with Metro's Title VI Program Update which may result in the suspension of federal grants by being non-compliant with civil rights requirements.

NEXT STEPS

The Title VI Program Update will be scheduled for Board approval at the September 22, 2022 Board of Directors meeting. Upon Board approval, Metro's Title VI Program Update will be submitted to FTA by the due date of October 1, 2022.

ATTACHMENTS

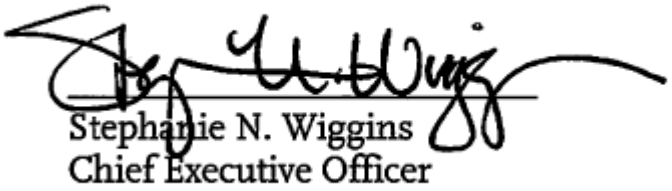
Attachment A - Metro Service Standards

Prepared by: Aida Berry, Senior Manager, Civil Rights Programs (Title VI), (213) 922-2748

Joseph Forgiarini, Senior Executive Officer, Service Development, Scheduling & Analysis (213) 418-3034

Teyana Williams, Deputy Chief Civil Rights Officer (Interim), (213) 418-3168

Reviewed by: Nicole Englund, Chief of Staff, (213) 922-7950



Stephanie N. Wiggins
Chief Executive Officer

2022 METRO SYSTEMWIDE OPERATING STANDARDS

Passenger Loading

Proposed passenger loading standards are summarized in Table A-1. The standard expresses the maximum average ratio of passengers to seats *by direction* for a one-hour period by time of day *and should not be exceeded for at least 95% of all hourly periods*.

	Peak Passengers/seat	Off-Peak Passengers/seat
Heavy Rail	2.30	2.30
Light Rail	1.75	1.75
BRT	1.30	1.30
Rapid	1.30	1.30
Express	1.30	1.30
All Other Bus	1.30	1.30

Table A-1
Passenger Loading Standards

Headways

Current headway standards are summarized in Table A-2. The headway standards provide 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 should not be exceeded for at least 90% of all hourly periods*.

	Peak	Off-Peak
Heavy Rail	10	20
Light Rail	12	20
BRT	12	30
Rapid	20	30
Express	60	60
Limited	30	60
All Other Bus	60	60

Table A-2
Headway Standards

On-Time Performance

On-time performance standards are based on the Board adopted fiscal year budget target for bus, light rail and heavy rail. The standards provide for the minimum desired percentage of time point departures that are between one minute early and five minutes late (excluding terminal departures). *This standard is that 90% of lines achieve at least 90% of the adopted budget target for the fiscal year*.

Stop Spacing

Proposed stop spacing standards are shown in Table A-3. The 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*.

Heavy Rail	1.50
Light Rail	1.50
BRT	1.25
Rapid	0.75
Express	1.25
All Other Bus	0.30

Table A-3
Average Stop Spacing Standards (in miles)

Accessibility

The current accessibility standard is shown in Figure A-1. The standard ensures the availability of fixed route service to virtually all residents of Metro's service area while limiting duplication of service by using services operated by others to achieve the standard.

Service is to be provided within ¼ mile of 99% of Census tracts within Metro's service area having at least 3 households per acre and/or at least 4 jobs per acre. Fixed route service provided by other operators may be used to meet this standard.

Figure A-1
Accessibility Standard

Passenger Amenities Policy

The current passenger amenities policy is shown in Figure A-2. The standard applies to all off-street facilities owned by Metro that permit passenger boardings.

Shelters:	HR – not applicable
	LR – at least 80 linear ft.
	Bus – at least 6 linear ft. per bay
Seating:	HR – at least 12 seats
	LR – at least 10 seats
	Bus – at least 3 seats per bay
Info Displays:	HR – at least 12
	LR – at least 10
	Bus – at least 3
LED Displays:	HR – at least 8 arrival/departure screens
	LR – not applicable
	Bus – not applicable
TVMs:	HR/LR = at least 2
	Bus – not applicable
Elevators:	HR – at least 2
	LR – at least 1 for elevated/underground
	Bus – at least 1 for multi-level terminals
Escalators:	HR – at least 4 (2 Up / 2 Down)
	LR – not applicable
	Bus – not applicable
Waste Receptacles:	HR – at least 6
	LR – at least 2
	Bus – at least 1 per 3 bays / 2 minimum

Figure A-2
Passenger Amenities Policy

Vehicle Assignment Policy

The current vehicle assignment policy is shown in Figure A-3.

Heavy Rail:	Not applicable – only one line and one vehicle type
Light Rail:	Vehicles will be assigned to individual lines on the basis of compatibility of vehicle controllers with each line's signal system. 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.
Bus:	Vehicles will be assigned to individual facilities on the basis of vehicle size requirements for lines supported by each facility.

Figure A-3
Vehicle Assignment Policy

Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

Metro

Board Report

File #: 2022-0431, **File Type:** Informational Report **Agenda Number:** 23.

..Meeting_Body

EXECUTIVE MANAGEMENT COMMITTEE
AUGUST 18, 2022

SUBJECT: SERVICE MONITORING RESULTS FOR TITLE VI PROGRAM UPDATE

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

ADOPT Service Monitoring Results for Title VI Program Update presented in Attachment A.

ISSUE

Title VI of the Civil Rights Act of 1964 (Title VI) prohibits discrimination on the basis of race, color, and national origin in programs that receive federal funding. The Federal Transportation Administration (FTA) requires transportation agencies to demonstrate their compliance with Title VI by ensuring compliance with FTA Circular 4702.1B "Title VI Requirements and Guidelines for Federal Transit Administration Recipients," issued October 1, 2012. FTA requires the Metro Board of Directors to review and approve the Metro Service Monitoring Results to be included in the Title VI Program Update due every three years.

BACKGROUND

Section 601 of Title VI of the Civil Rights Act of 1964 (Title VI) states the following:

> No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

FTA Circular 4702.1B, revised in 2012, requires transportation agencies to develop service standards and monitor the implementation of these standards. The results must be approved by the Metro Board every three years. The Metro Board last approved the monitoring results in September 2019.

DISCUSSION

Metro is required under FTA Circular 4702.1B to monitor the approved Service Standards and submit the results of the monitoring to the Board for approval. The monitoring results assist Metro in

ensuring the Service Standards are accurate in providing service.

Systemwide, bus service did not meet the on-time performance standard. The current standards define on-time as no more than one minute early or five minutes late when leaving a time point. The standard requires that at least 90% of lines be on-time 80% of the time. Based upon data from January through March 2022, bus service on-time performance was 69% on weekdays, 68% on Saturdays, and 74% on Sundays. This is largely attributed to the return of traffic on LA County roads to pre-COVID volumes in the second half of 2021 and into 2022. In June 2022, Metro revised over half its bus schedules to add time to mitigate the increased traffic impacts (previous schedules were based on lower traffic congestion). Initial results for the June changes show improvement, with performance hovering between 74%-78%. Further improvements are expected as a result of Metro's roll out of additional speed and reliability improvements such as new bus lanes, expanded all door boarding, and improved transit signal priority.

DETERMINATION OF SAFETY IMPACT

The requested action in this report will have no direct impact on the safety of Metro's employees or customers.

FINANCIAL IMPACT

Adoption of the Service Monitoring Results has no direct impact upon Metro's expenditures or revenues. Approval is consistent with the implementation of service included in the adopted FY2023 Budget. Failure to approve the Service Monitoring Results could result in an incomplete Title VI Program Update which could potentially result in the loss of federal funding.

EQUITY PLATFORM

Title VI sets the minimum federal requirements to prevent discrimination or benefits from being denied to federally protected groups, as noted above. The Monitoring of Transit Service for Title VI purposes meets the federal requirements, as it ensures that Metro's Service Standards are being applied consistently throughout the system. The monitoring also provides a means to measure and adjust for impacts and benefits to protected groups, which supports Metro's goal to ensure that impacts to marginalized groups are considered in transportation decisions and service delivery.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports strategic plan goal # 5, "Provide responsive, accountable, and trustworthy governance within the Metro organization" by adhering to civil rights requirements mandated by Title VI of the Civil Rights Act of 1964.

ALTERNATIVES CONSIDERED

The alternative to not including Board approved Service Monitoring Results could have significant negative impacts on the agency. Failure to include Board approved Service Monitoring Results in the Title VI Program update may result in FTA not concurring with Metro's Title VI Program Update which may result in the suspension of federal grants by being non-compliant with Title VI requirements.

NEXT STEPS

The Title VI Program Update will be scheduled for Board approval at the September 22, 2022 Board of Directors meeting. Upon Board approval, Metro's Title VI Program Update will be submitted to FTA by the due date of October 1, 2022.

ATTACHMENTS

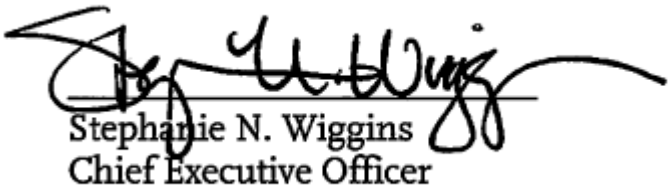
Attachment A - Metro Service Monitoring Results

Prepared by: Aida Berry, Senior Manager, Civil Rights Programs (Title VI), (213) 922-2748

Joseph Forgiarini, Senior Executive Officer, Service Development, Scheduling & Analysis, (213) 418-3034

Teyanna Williams, Deputy Chief Civil Rights Officer (Interim), (213) 418-3168

Reviewed by: Nicole Englund, Chief of Staff, (213) 922-7950



Stephanie N. Wiggins
Chief Executive Officer

Review of Service Policies and Standards FY2020 – FY2022

This is a review of Metro's compliance with specified service standards and policies under the requirements of FTA Circular 4702.1B, Chapter IV-9, Section 6. The review covers the period of FY2020 through FY2022.

The following topics are addressed:

1. Service Availability
2. Classification of Services
3. Headway Standards
4. Loading Standards
5. On-Time Performance Standards
6. Stop Spacing Standards
7. Passenger Amenities Standards
8. Vehicle Assignment Standards

All reviews assess whether Metro has complied with its policies and standards, and whether any non-compliance is biased toward minority population (disparate impact) or low-income household in poverty (disproportionate burden).

1. Service Availability

The adopted service availability standard is:

> At least 99% of all Census tracts within Metro's service area having at least 3 HH/acre and/or 4 jobs/acre shall be within one quarter mile of fixed route service (a bus stop or rail station).
>
> Fixed route service provided by other operators may be used to meet this standard. The use of other operator services to meet this standard ensures maximum availability without unnecessary duplication of service.

There are 2,022 tracts within Metro's service area that meet the above thresholds of 3 HH/acre and/or 4 jobs/acre. Only 14 of these tracts are not within one-quarter mile of fixed route service. This is a service availability of 99.3% which meets the standard.

Service Area Demographics – Minority Population

	Service Area	Tracts Not Served
Population	8,185,999	56,157
Minority Population	6,086,572	32,674

Minority Share	74.4%	58.2%

Service Area Demographics – Low Income Households

	Service Area	Tracts Not Served
Households	2,737,823	18,643
Low Income Households	1,055,231	5,663
Low Income Share	38.5%	30.4%

Both the minority population share, and low-income household share of the unserved tracts are less than the service area minority population and low-income household shares. Therefore, there is no disparate impact or disproportionate burden created by the unserved areas.

2. Classification of Services

The review of service policies and standards requires determination of Minority routes (and Low-income routes) so that a comparison of compliance between Minority (or Low-income) routes and all routes may be made. If the share of Minority routes meeting a standard is an absolute 5% or more less than the share of all routes meeting a standard, then a disparate impact on Minority routes has occurred. If the share of Low-routes meeting a standard is an absolute 5% or more less than the share of all routes meeting a standard, then a disproportionate burden on Low-income routes has occurred.

FTA has defined a Minority route as having one-third or more of its revenue miles operated in census areas that exceed the service area minority share of population. By extension, a Low-income route will have one-third or more of its revenue miles operated in census areas that exceed the service area poverty share of population.

There are 112 fixed route bus lines operated by Metro. It was determined that 96 of these are Minority lines (85.7%), and 97 of these are Low-income lines (86.7%). Both Heavy Rail lines are Minority and Low-income lines. All four Light Rail lines are Minority lines and Low-income lines.

These definitions were used to stratify compliance levels in the subsequent evaluations.

3. Headway Standards

Current service standards were last adopted in FY19. The adopted headway standards follow:

Rail Headway Standards

Mode	Peak Max. (in min)	Off-Peak Max (in min)
Heavy Rail	10	20

Light Rail	12	20

Not to be exceeded for at least 90% of all hourly periods

Bus Headway Standards

Service Type	Peak Max. (in min)	Off-Peak Max (in min)
Local	60	60
Limited	30	60
Express	60	60
Shuttle	60	60
Rapid	20	30
BRT	12	30

Not to be exceeded for at least 90% of all hourly periods

Compliance determination used service in effect as of December 19, 2021, which represents full implementation of the NextGen Service Plan in terms of scheduled service. Service Plans implemented on February 20 and June 26, 2022, were not used since they utilized temporarily reduced schedules due to bus operator shortage. All bus and rail lines were in full compliance with the adopted standards for weekdays, Saturdays, Sundays, and Holidays.

Weekday Headway Compliance - 112 of Bus Lines

	All Lines	Minority Lines Only	Low Income Lines Only	All Compliance	Minority Compliance	Low Income Compliance
Meets Standard	112	96	97	100%	100%	100%
Exceeds Standard	0	0	0			

Saturday Headway Compliance - 107 of Bus Lines

	All Lines	Minority Lines Only	Low Income Lines Only	All Compliance	Minority Compliance	Low Income Compliance
Meets Standard	107	91	93	100%	100%	100%
Exceeds Standard	0	0	0			

Sunday & Holiday Compliance -107 of Bus Lines

	All Lines	Minority Lines Only	Poverty Low Income Only	All Compliance	Minority Compliance	Low Income Compliance
Meets Standard	107	91	93	100%	100%	100%
Exceeds Standard	0	0	0			

4. Loading Standards

Current service standards were adopted in FY19. The adopted passenger loading standards follow:

Rail Passenger Loading Standards

Mode	Peak Psgrs/Seat	Off-Peak Psgrs/Seat
Heavy Rail	2.30	2.30
Light Rail	1.75	1.75

Not to be exceeded for at least 95% of all hourly periods

Bus Passenger Loading Standards

Service Type	Peak Psgrs/Seat	Off-Peak Psgrs/Seat
BRT	1.30	1.30
Rapid	1.30	1.30
Express	1.30	1.30
Limited	1.30	1.30
Local	1.30	1.30

Not to be exceeded for at least 95% of all hourly periods

Although a headway of greater than 60 minutes would be an exception to the headway standards a loading standard is provided for such services when they occur.

Heavy rail is based on trip samples collected by scheduled checkers. Checkers ride randomly selected cars on randomly selected trips recording data for Ons and Offs by station. Over a six-month sliding time frame this data is aggregated to build a profile of rail ridership and is the primary source for ridership estimation by day type and line. While only one car is monitored on any given sample trip, whether that car meets the

loading standard is a surrogate for whether trains are meeting the standard. Light rail loading based on using Automated Passenger Counters (APC).

Loading on the bus system is monitored every six months using quarterly APC data for max loads at time points. Since the most recent bus load standard evaluation was performed using January through March 2022 data, the samples collected from rail ride checks were compiled for the same three months.

Each rail ride check record was processed using Line # (determines mode and applicable # of seats), day type, trip start time (used to categorize weekday trips as peak or off peak), and max accumulated load (calculated from the observations in each check).

Since the light rail system is now equipped with APCs on its rail cars, the loading standards is based on APC data.

A rail mode is assumed to comply with the loading standards if 95% of all monitored trips conform to the standards. Data is from the period January through March 2022 which is the same time frame used for bus monitoring.

Weekday Rail Load Standard Monitoring

	Weekdays		
	# Of Checks/Trips	Within Standard	% Compliance
Heavy Rail	1,071	1,071	100%
Light Rail	68,559	68,545	100%

Weekend Rail Load Standard Monitoring

	Saturday			Sundays & Holidays		
	# Of Checks/Trips	Within Standard	% Compliance	# Of Checks/Trips	Within Standard	% Compliance
Heavy Rail	931	931	100%	931	931	100%
Light Rail	10,329	10,328	100%	12,234	12,230	100%

Both modes met the standard at least 95% of the time, and each line was always found in compliance, as well.

Bus monitoring is more extensive as all buses are equipped with APC’s, and data is available for all time points along each bus route for observed max loads by trip. Every

six months the most recent quarterly data is evaluated to determine adherence with the adopted standards. The most recent evaluation used January through March 2022 data.

Bus Load Standard Monitoring

Day Type	# Trips	Within Standard	% Compliance
Weekdays	580,775	568,490	97.9%
Saturdays	81,650	80,934	99.1%
Sundays/Holidays	86,429	85,823	99.3%

In reviewing the data, Lines 45, 51, 108, and 603 failed to meet the standard on weekdays while Line 16 did not meet the standard throughout the week. Other than these exceptions, the rest of the bus system was in conformance with the adopted loading standards.

5. On-Time Performance Standards

The current on-time performance standards for the system define on-time as no more than one minute early or five minutes late when leaving a time point. In the currently adopted standard both rail and bus have the same objective: 80% on-time on at least 90% of lines at least 90% of the time at the terminal.

Rail is currently monitored using Hastus. Since bus is evaluated every six months using quarterly data this evaluation was performed on the same basis. Data for the months of January through March 2022 was compiled.

Weekday Rail On-Time Performance

Mode	# of Time Point Observations	# of On-Time Observations	On-Time Percentage
Heavy Rail	25,340	25,213	99.5%
Light Rail	69,308	68,564	98.3%

Saturday Rail On-Time Performance

Mode	# of Time Point Observations	# of On-Time Observations	On-Time Percentage
Heavy Rail	4,188	4,171	99.6%
Light Rail	9,060	9,009	99.4%

Sundays & Holidays Rail On-Time Performance

Mode	# of Time Point Observations	# of On-Time Observations	On-Time Percentage

Heavy Rail	4,592	4,559	99.3%
Light Rail	10,192	10,138	99.5%

We find that on-time performance for both heavy and light rail is very good and consistently exceeds the standard.

However, the bus on-time performance is consistently short of the 80% objective. The following observations are based upon three months of data from January through March 2022.

Bus Weekday On-Time Performance

	All Lines	Minority Lines	Low Income Lines
Avg On-Time %	69.0%	69.7%	69.1%
Lines Meeting Std	8	7	6
Lines Failing Std	104	89	91
% Meeting Std	7.1%	7.3%	6.1%

Bus Saturday On-Time Performance

	All Lines	Minority Lines	Low Income Lines
Avg On-Time %	68.4%	68.4%	68.1%
Lines Meeting Std	11	10	10
Lines Failing Std	96	81	83
% Meeting Std	10.3%	11.0%	10.8%

Bus Sunday & Holiday On-Time Performance

	All Lines	Minority Lines	Low Income Lines
Avg On-Time %	74.5%	74.6%	74.4%
Lines Meeting Std	21	19	19
Lines Failing Std	86	72	74
% Meeting Std	19.6%	20.9%	20.4%

On any given day type non-Minority, non-Poverty, Minority, and Poverty bus lines exhibit similar on-time percentages. Unfortunately, only handful of bus lines achieve the 80% on-time standard with lowest percentages on Weekdays where there is more

congestion and the highest on Sundays and Holidays where congestion is the lowest. Systemwide, bus service does not meet the standard whether it is all the lines, minority lines or low-income lines. But since most of the system are both minority and low-income lines, the percentages that achieve the standard are all within one percent of each other for weekdays, Saturdays, and Sunday/Holidays. Consequently, there are no observations of disparate impacts on minorities and disproportionate burdens on low-incomes lines since everything is less than the five percent threshold.

Please note, a significant reason for the low rates of on-time performance has to do with the route running time used for scheduling. During the beginning of the COVID-19 pandemic in 2020, traffic congestion dropped significantly. Accordingly, running time was reduced systemwide. Now that congestion has returned to roughly pre COVID-19, the running time used for scheduling was no longer adequate and was addressed in the June 26, 2022, Service Change. With this change along with the implementing more projects to speed up bus service as part the NextGen Bus program, on-time performance for bus services should improve significantly systemwide.

6. Stop Spacing Standards

Stop spacing standards were incorporated with the FY19 Metro Service Policy update. It states the average stop/station spacing by service type in miles where the average spacing should fall within 0.1 miles of the specified average at least 90% of the time.

Average Stop/Station Spacing Standards

Service Type	**Average Stop Spacing**
Heavy Rail	1.50
Light Rail	1.50
BRT	1.25
Rapid	0.75
Express	1.25
Local	0.30

Transit Line Average Stop/Station Spacing

Service Type	**No. of Lines Meeting the Standard**	**No. of Lines Not Meeting the Standard**	**Service Type Average**
Heavy Rail	2		0.8 miles
Light Rail	4		1.1 miles
BRT	2		1.1 miles
Rapid	3		0.6 miles
Express	4	1	1.5 miles
Local	102		0.2 miles

As shown above, only one transit line does not meet the standard – Express Line 577 which has an average stop spacing of 4.8 miles. Even though it exceeds the standard,

the spacing is appropriate due to the travel market for the corridor. Since this is only one line out of 116 transit lines, Metro's Transit System meets the standard overall.

7. Passenger Amenities Standards

With the FY19 update of Metro's Service Policies a set of passenger amenities standards were incorporated. Those standards are presented here.

Heavy Rail Passenger Amenities Standards

Amenity	**Allocation**
Seating	At least 12 seats
Info Displays	At least 12
LED Displays	At least 8 Arrival/Departure screens
TVM's	At least 2
Elevators	At least 2
Escalators	At least 4 (2 Up / 2 Down)
Trash Receptacles	At least 6

Applies to each station

Light Rail Passenger Amenities Standards

Amenity	**Allocation**
Shelters	At least 80 linear feet per bay
Seating	At least 10 seats
Info Displays	At least 10
TVM's	At least 2
Elevators	At least 1 for elevated / underground
Trash Receptacles	At least 2

Applies to each station

Bus Passenger Amenities Standards

Amenity	**Allocation**
Shelters	At least 6 linear feet per bay
Seating	At least 3 seats per bay
Info Displays	At least 3
Elevators	At least 1 for multi-level terminals
Trash Receptacles	At least 1 per 3 bays / 2 minimum

Applies to off-street bus facilities serving 4 or more bus lines

There are no standards for bus stops because apart from painting the curb Red and erecting bus stop signage Metro has no jurisdiction over street furniture or other appurtenances. The latter are controlled by individual cities and often contracted to third parties who support their costs through advertising revenues.

All applicable facilities comply, and none have opened since the last review.

8. Vehicle Assignment Standards

Adopted vehicle assignment standards include:

Heavy Rail Maintained at a single facility

Light Rail Primarily assigned based on compatibility of vehicle controllers and rail car weight with rail line(s) served. Wherever possible, no more than two vehicle types at each facility.

Bus Assigned to meet vehicle seating requirements for lines served from each facility.

While these standards are consistently applied, we have historically looked at the average age of vehicles assigned to each facility to ensure that there are no extremes serving any area. This is most applicable to the bus system, but we provide the data for rail here also.

Heavy Rail – Vehicle Age by Facility

Facility	**Model**	**# Active**	**Average Age (years)**
Div. 20 – Los Angeles	Breda A650 Base	26	29.3
	Breda A650 Option	74	23.6
		100	**25.1**

Light Rail – Vehicle Age by Facility

Facility	**Model**	**# Active**	**Average Age (years)**
Div. 11 – Long Beach	Siemens 2000 GE/ATP	23	19.4
	Kinkisharyo P3010	57	4.4
		80	**8.7**
Div. 14 – Santa Monica	AnseldoBreda2550Base	2	13.3
	Kinkisharyo P3010	56	5.6
		58	**5.9**
Div. 21 – Los Angeles	AnseldoBreda2550Base	14	12.4
	Kinkisharyo P3010	10	4.6
		24	**9.1**
Div. 22 - Lawndale	Siemens 2000 Base	29	20.9
	Kinkisharyo P3010	25	3.3
		54	**12.8**
Div. 24 - Monrovia	AnseldoBreda2550Base	34	12.6
	Kinkisharyo P3010	39	4.1
		73	**8.1**

Note: As of June 26, 2022

A couple of constraints apply to the light rail assignments. The Siemens 2000 Base vehicles may only operate from Div. 22 (C Line) because their controller package is not compatible with other lines. This will no longer be an issue once they undergo their mid-life overhaul/modernization program which is expected be completed toward the beginning of FY24. The Anseldo Breda 2550 Base vehicles may not be operated from Div. 22 as they are too heavy for the C Line. This sub-fleet is also beginning their mid-life overhaul/modernization program.

Each light rail facility's average vehicle age is between 6 and 13 years which is consistently young to medium for vehicles that should have a 30-year life span. Meanwhile Breda A650 option heavy rail cars are nearly at the end of their useful life and will be replaced once the new HR4000 vehicles start arriving in the second half of FY23. Meanwhile the Breda A650 option vehicles are currently undergoing a mid-life overhaul/modernization program which is expected to extend the life of these vehicles at least five more years.

Bus – Vehicle Age by Facility – Directly Operated

Division	32-foot	40-foot	45-foot	60-foot	# of Buses	Avg. Age
1		164	8	24	196	4.5
2		181			181	6.9
3		139	30			5.0
5		120		45	165	9.5
7		112	77	25	214	8.3
8		127	33	40	200	4.9
9		172	52		224	6.1
13		53	60	69	182	7.9
15		144	42	43	229	5.6
18		121	102	24	247	6.5

Note: As of June 26, 2022

Bus – Vehicle Age by Facility – Purchased

Division	32-foot	40-foot	45-foot	60-foot	# of Buses	Avg. Age
95	11	22	4		37	9.7
97		70			70	3.3
98	18	23	8		49	9.9

Note: As of June 26, 2022

Bus – Vehicle Age Summary

	32-foot	40-foot	45-foot	60-foot	# of Buses	Avg. Age
	29	**1448**	**416**	**269**	**2,162**	**6.5**

Note: As of June 26, 2022

The average fleet age by Division ranges from 3.3 years for contract Division 97 to 9.5 years for directly operated Division 5. All these average ages are within 3 years for the system average. The useful life for a bus, ranges from 12 – 15 years. So, the average age of each division fleet is well within this range. In the last review, Division 97 had the oldest average fleet. Consequently, it now has the youngest feet since it was next in line to have its fleet replaced. Within the next few years, the 32-foot and 45-foot buses will be phased out and then during the next decade, the entire bust fleet will be converted over to battery electric buses.

Conclusion

In conclusion, the results of the service monitoring indicate that the adopted systemwide standards are set properly. However, Metro needs to significantly improve the systemwide bus service on time performance. Much of this should be remedied with the running time adjustments made for the June 26, 2022 service change and future NextGen capital improvement projects designed to speed up service.