



Board Report

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PLANNING AND PROGRAMMING COMMITTEE
APRIL 17, 2024

SUBJECT: PILOT VEHICLE MILES TRAVELED (VMT) MITIGATION PROGRAM

ACTION: APPROVE RECOMMENDATION

RECOMMENDATION

APPROVE the Pilot VMT Mitigation Program (Attachment A).

ISSUE

In September 2020, Caltrans released statewide guidance for analyzing transportation impacts under the California Environmental Quality Act (CEQA). Succinctly, the guidance directs project sponsors, such as Metro, to use vehicle miles traveled (VMT) as the transportation impact analysis metric to measure and mitigate induced travel impacts on the state highway system (SHS).

In 2021, Metro was awarded funds through the Caltrans Sustainable Transportation Planning Grant program to develop a Metro Pilot VMT Mitigation Program. The Pilot VMT Mitigation Program is a set of four tools to measure and mitigate the potential induced travel impacts of Metro highway and ExpressLanes projects on the SHS. The pilot term is not temporal but will instead be based on the application of the tools to a minimum of one highway project and one ExpressLanes project.

Per the requirements of the Caltrans grant, the Board must take formal action on the Pilot VMT Mitigation Program.

BACKGROUND

Under CEQA, public agencies must analyze transportation projects to determine whether they may have a significant impact on the environment. Senate Bill (SB) 743, signed into law in 2013, initiated an update to the CEQA guidelines to change how lead agencies evaluate transportation impacts to promote greenhouse gas (GHG) reduction.

Induced travel impacts are most commonly associated with the addition of new lane miles in essence additional roadway capacity. Added roadway capacity increases speed of travel in the short term, which results in more trips and more travel over time, therefore resulting in increased VMT and corresponding GHGs.

In response to these Caltrans rule changes, Metro pursued and was awarded Fiscal Year (FY) 2021-22 Caltrans Sustainable Transportation Planning Grant Program funds to develop a Pilot VMT

Mitigation Program, which would measure and mitigate the VMT impacts attributable to Metro projects on the SHS.

DISCUSSION

The premise of the Pilot VMT Mitigation Program is that Metro can mitigate the potential VMT-inducing impacts of highway and ExpressLanes projects by investing in Metro VMT-reducing projects and programs or the VMT-reducing projects and programs of our public agency partners. This is accomplished through the development of tools that comprise an evaluative framework to anticipate future mitigation needs and to streamline the process for estimating the VMT reduction capacity of a discrete set of mitigations. Of note, the Metro ExpressLanes on the 110 and 10 were developed as multimodal ExpressLanes with the focus of increasing person throughput -- moving more people, not more cars.

The specific tools developed through this VMT Mitigation Program study include: 1) a quantification methodology to measure induced travel impacts resulting from Metro highway or ExpressLanes projects; 2) a discrete list of mitigations pre-analyzed for their VMT reducing potential; 3) a VMT Calculator populated with the aforementioned mitigations to estimate the VMT reduction potential of a mix of mitigations; and, 4) a VMT Mitigation Bank that establishes a monetary value for a specific set of VMT-reducing projects such that a project sponsor can buy credits to mitigate induced travel impacts.

The first tool is described under the Quantification Methodology below. The remaining three tools are described in the Mitigation and Mitigation Tools section in addition to the Evaluation Criteria, Pilot Term, and Stakeholder Engagement sections for the proposed Pilot VMT Mitigation Program.

1 - Quantification Methodology

At the September 20, 2023 Planning & Programming Committee meeting, staff presented Metro's LA County-Specific Quantification approach and noted that Caltrans did not concur with Metro's approach. Since that time, common ground has been found in several key areas, and some disagreement remains:

- Caltrans agreed to explore a hybrid approach, with a number of cautions and further suggested that working through the approach on a project-by-project basis could be an appropriate means to conduct that exploration.
- Caltrans agreed to reductions in the default elasticity to account for the presence of trucks consistent with the California Environmental Quality Act (CEQA).
- Caltrans rejected the elasticities developed through Metro's quantification methodology analysis.

At the September meeting, staff also included rough order of magnitude (ROM) estimates of mitigation costs for the State Route (SR) 14 Traffic Safety Improvement Project comparing the Metro LA County-Specific Quantification Methodology to Caltrans' preferred methodology, the California Induced Travel Calculator. Mitigation costs for this example were derived from two projects undergoing environmental review at that time: I-680 Northbound ExpressLanes project in Contra

Costa County and I-5 Managed Lanes Project in Orange County. The comparison is included below in Table 1.

TABLE 1: SR-14 Traffic Safety Improvement Project-Potential Mitigation Obligation

Project Cost	LA County-Specific Quantification Methodology	California Induced Travel Calculator
<i>Estimated Capital Cost</i>	\$168 million	
<i>Mitigation Cost*</i>	\$97.7 million	\$252.6 million
<i>Total Project Cost with Mitigation</i>	\$265.7 million	\$420.6 million

**Based on I-680 Northbound ExpressLanes project in Contra Costa County and I-5 Managed Lanes Project in Orange County*

Staff have new ROM mitigation cost estimates based on Caltrans’ concurrence on the use of a hybrid methodology as noted above, using Metrolink service expansion as the mitigation strategy. As you can see in Table 2 below, even if Caltrans agreed to the use of the Metro LA County-Specific Quantification Methodology, cost estimates have increased from the original estimates reported in September 2023 (Table 1). Conversely, the use of the hybrid methodology reduces total mitigation costs when compared to the California Induced Travel Calculator.

TABLE 2: SR-14 Traffic Safety Improvement Project-Revised Potential Mitigation Obligation

Project Cost	LA County-Specific Quantification Methodology	Hybrid Methodology
<i>Estimated Capital Cost</i>	\$168 million	
<i>Mitigation Cost*</i>	\$107.4 million	\$196.2 million
<i>Total Project Cost with Mitigation</i>	\$275.4 million	\$364.2 million

**Based on Metrolink service expansion of lines serving Los Angeles County*

Metro staff believe that the technical analysis in developing our quantification methodology is valid, although staff have not received concurrence from Caltrans. Nevertheless, it is important to note that Caltrans is the owner, operator, and CEQA lead for all projects on the SHS. By definition, Metro cannot deviate from the rules prescribed by Caltrans without their agreement. So, while Metro staff see merit in using the quantification approach on a project-by-project basis, staff do not have the authority to unilaterally impose our quantification methodology without Caltrans’ approval.

Mitigations and Mitigation Tools

A mitigation program that applies a consistent approach across a set of projects requires more work upfront but can be advantageous over an ad hoc approach to project mitigation. Project-by-project mitigation requires that each project individually identify, analyze, negotiate, and coordinate the implementation of mitigation actions and does not guarantee any consistency in the analysis

approach to determine how much VMT reduction can be achieved from mitigation action investments. A mitigation program, on the other hand, provides advanced planning to ensure consistency and to intentionally pre-plan mitigations with implementers to ensure better outcomes.

Three major tasks were completed to develop this mitigation program approach: 1) a discrete list of VMT mitigations pre-analyzed for their VMT-reducing potential; 2) a Metro VMT Calculator to estimate the VMT reduction potential of a discrete list of projects and programs applied to specific subregions in Los Angeles County; and, 3) a VMT Mitigation Bank that establishes a monetary value for a specific set of VMT-reducing projects such that a project sponsor can buy credits to mitigate induced travel impacts.

2- Mitigations

For a mitigation to be considered eligible under this program it must meet two eligibility criteria. First, the mitigation must effectively reduce VMT. Mitigations that reduce GHGs alone are insufficient. Per CEQA, to mitigate induced travel, a mitigation must be effective at reducing VMT. Second, the VMT-reducing potential of a mitigation must be supported by substantial evidence. That means there must be an established evidentiary basis of the VMT-reducing potential of a given applied mitigation. For purposes of this study, Metro relied largely on the evidentiary basis provided by the California Air Pollution Control Officers Association (CAPCOA) 2021 Handbook, which is the most extensively documented compendium of VMT quantification methodologies based on peer-reviewed industry research available for California planning agencies to date. Finally, for this initial pilot program, Metro placed a premium on mitigations that were directly enforceable by Metro to ensure that mitigations are delivered.

Based on the eligibility criteria, the list of mitigations in Table 3 has been identified for the initial pilot phase.

TABLE 3: Mitigation Actions Identified for the Pilot VMT Mitigation Program

MITIGATION ACTIONS
Increase Metro Bus Service Frequency
Provide Bus-Only Lanes
Extend Transit Network Coverage or Hours
Provide Bus Rapid Transit
Expand Metro Micro Service to New Zones
Expand Subsidized or Discounted Transit Program (U-Pass)
Implement Subsidized or Discounted Transit Program (Employer Pass)
Support Employer Commute Trip Reduction Program
Implement Affordable Housing on Metro Joint Development Sites
Implement Community-Based Travel Program (Metro TDM Master Plan)
Implement Electric Bikeshare Program
Implement Non-Electric Bikeshare Program
PARTNER MITIGATION ACTIONS

Metrolink Service Expansion
Implement South Bay Cities Council of Governments Local Travel Network
PENDING IMPLEMENTING AGENCY
Implement Electric Bike Voucher Program

The list of mitigations above is not exhaustive and could be expanded over time with additional resources to include mitigations such as Metro light or heavy rail service frequency improvements and more. However, for this pilot phase, these mitigation measures were determined to have a high degree of confidence in terms of effectiveness, enforceability, and evidentiary support. The electric bike voucher program is the only mitigation on this list that does not currently have an implementing agency but could be deployed as a mitigation for a Metro highway or ExpressLanes project at the municipal, subregional, or county scale.

Evaluation Criteria

Staff also developed evaluation criteria to analyze the efficacy of mitigations across a set of key indicators. This exercise did not result in the elimination of any mitigation but rather was used to qualitatively assess opportunities and challenges with each individual mitigation.

The key evaluation criteria used in this exercise were:

- Metro Direct Enforceability - the degree to which a mitigation is directly implemented and enforced by Metro.
- Expansion of Existing Programs - this generally correlates with lower implementation costs attributable to having administrative and organizational infrastructure in place.
- Cost Effectiveness - assess on cost per VMT reduced.
- Scalability - can the mitigation be easily scaled up or expanded?
- Incorporation into a Highway or ExpressLanes Project - mitigations that can easily and directly be incorporated into the project are more efficient by avoiding separate implementation efforts, cost, and time.
- Speed of Delivery Timeframe - how quickly the mitigation can be delivered, with shorter implementation times more desirable than longer ones.
- Benefits to Equity Focus Communities (EFC) - does the mitigation provide direct benefits or otherwise better serve EFCs comparatively?
- Benefits to Populations Affected by VMT/Pollution Burdens - the degree to which a mitigation may provide relief to burdened communities.
- Ease of Implementation - the degree of difficulty associated with inter-jurisdictional coordination required and infrastructure challenges like right-of-way acquisition.

As mentioned above, no mitigations were screened out through this evaluation process, but the review was critical to identify which mitigations were best suited for inclusion in a VMT Mitigation Bank and which mitigations remain eligible outside of a VMT Mitigation Bank.

3- Metro VMT Calculator

The Metro VMT Calculator is an Excel-based spreadsheet that estimates reductions in VMT resulting from the actual application or implementation of the fifteen mitigation actions listed in the Mitigation Action Table 3 above. This tool is intended to serve as a resource for identifying and evaluating the VMT-reducing potential of a mitigation action or combinations of mitigation actions for projects on the SHS.

The tool was developed in partnership with Caltrans. The tool is modular and flexible and designed to be relatively easy to modify as new estimation methodologies are developed or new mitigations are added. The intended users of the Calculator are Metro and Caltrans staff or their respective consultant teams responsible for the delivery of highway or ExpressLanes projects determined to have a significant induced VMT impact.

The Calculator's underlying prepopulated data relating to travel behavior in each Metro subregion derive from the Southern California Association of Governments (SCAG) 2020 activity-based model (ABM), which is the adopted regional model for the six-county SCAG area. The SCAG model is programmed with demographic data at the transportation analysis zone (TAZ) level and outputs data on vehicle trip length, VMT, and mode split. This baseline data is combined with CAPCOA VMT reduction formulas to estimate VMT reduced in a given subregion for a given mitigation action.

The Metro VMT Mitigation Calculator also permits the user to focus the implementation of any mitigation action to EFCs exclusively. This option is not related to any CEQA statute or guidelines but rather supports Metro's work by allowing the user to select a suite of implementable mitigation actions that may benefit EFCs specifically.

4- VMT Mitigation Bank

The primary goal of the VMT Mitigation Bank is to provide a streamlined and CEQA-defensible approach to mitigating the induced travel impacts of projects on the SHS through the development and sale of mitigation credits to offset increases in VMT.

A Bank achieves this by obviating the work of interfacing with project implementers to assess available mitigations and their corresponding VMT-reducing potential by pre-analyzing a set of mitigations, estimating the total VMT-reducing potential and total cost, including annual escalation factors, and then establishing a cost credit per VMT reduced. This means that project sponsors do not buy mitigations, they buy credits.

Based on the list in Table 3, the following four pilot mitigation actions were identified for the VMT Mitigation Bank: Metro Bus Service Frequency Improvements, Metro Bus-Only Lanes, Metro Joint Development, and Metrolink Service Expansion. These four actions have been converted into implementation packages with associated VMT credit values, costs, and minimum units of purchase as described in Attachment A. This approach ensures that mitigation dollars can be invested more expediently in an incremental manner, rather than waiting for full funding to accrue for the totality of

the mitigation. By converting the mitigation actions into implementation packages, there is an assurance that with a single transaction (e.g. a credit purchase by a sponsor of a project on the SHS), sufficient funding will be deposited in the Bank such that mitigation actions can be funded.

To be clear, a CEQA-defensible mitigation is not predicated on a mitigation action being completely funded or implemented; but the use of implementation packages as a minimum unit of sale will reduce the risk that a mitigation action will be partially funded but not implemented.

Projects on the SHS often take four or more years to construct once the Project Approval & Environmental Document phase (PA&ED) is complete. Mitigation credits should be purchased at the close of PA&ED, to ensure credit availability. Studies show that full VMT impact occurs in year 10 of a project opening; therefore, mitigation credits would need to be in place within approximately 14 years of the close of PA&ED, which is expected to be ample time for a mitigation action to be fully funded and implemented.

Future mitigation actions can be added to the Bank based on the success of the pilot program. It is envisioned that once 50% of the credits have been sold and the mitigation actions are meeting interim success standards, the Mitigation Bank Manager will identify additional mitigation actions, based on future SHS project needs to ensure that mitigation credits will be available. Similarly, depending on the success of the pilot program, Metro may elect to expand the VMT Mitigation Bank program to include transactions beyond the narrow application to highway and ExpressLanes projects.

Annual audits and reports to the Board will necessarily be part of the VMT Mitigation Bank administrative functions. Staff will provide the Board with annual reporting on VMT Mitigation Bank transactions, mitigation status, investments in EFCs, successes and challenges, and any forthcoming projects that may require mitigation. The VMT Mitigation Bank Plan (Attachment A) includes additional detail on the administrative and functional elements of the VMT Mitigation Bank.

The concept of applying a mitigation bank as a tool to mitigate CEQA to transportation projects is novel. Metro is poised to be the first agency in the state to successfully stand up this innovative mitigation structure.

Pilot Term

The initial pilot term of this effort will not be temporal but instead be based on the application of the Program to a minimum of one highway project and one ExpressLanes project. The earliest available projects with induced travel impacts to mitigate will be selected for the pilot. This pilot term should not be construed to impose any mandate to deliver a single project on the SHS. Such decisions are exclusively the province of the Board of Directors. The intention of aligning a pilot term to the delivery of two distinct project types is simply due to the fact that ExpressLanes generate ongoing revenues, which may or may not affect the selection and delivery of mitigation actions.

In terms of specific performance metrics, staff will measure success according to:

- How mitigations meet stakeholder expectations and needs (particularly in EFCs),

- Local public agency satisfaction with process and outcomes,
- Project Manager satisfaction with process and outcomes,
- VMT Mitigation Bank Administrator satisfaction with process and outcomes,
- Timeliness of delivery of mitigations,
- Administrative cost to operate and maintain the Bank,
- Consistent and reliable feedback from our CEQA lead in Caltrans, and
- Potential to apply the Bank concept to additional Metro goals.

Staff will evaluate and report the effectiveness of the Program in annual updates to the Board, which will also include VMT Mitigation Bank transactions, mitigation status, investments in EFCs, successes and challenges, and any forthcoming projects on the SHS that may require mitigation. These annual reports will document the effectiveness of the Program for both Metro Highway and ExpressLane projects including documenting any new research and published literature on the subject.

Stakeholder Engagement

Great care was taken from the outset of our engagement process to ensure that our project team used accessible language and commonplace analogies to explain highly technical concepts whenever possible. The material was presented in an accessible and iterative fashion where each engagement session was recapped and then built on prior discussion. The initial engagement began with simple framing questions, such as the type of mitigation actions Metro should consider, which was followed with engagement on how best to evaluate mitigations, and finally moved into more complex questions about the best program framework to deliver these mitigations.

Stakeholder engagement was undertaken across a variety of forums: virtual community engagement meetings, Metro advisory bodies, Policy Working Group meetings, which included Council of Government Executive Directors and/or staff, transit operators, local public agency staff, staff from Caltrans and the California Air Resources Board, as well as several focused meetings with Caltrans and SCAG on very technical aspects of the program development. Engagement began in June 2022 and concluded in February 2024 with 26 stakeholder meetings held.

Feedback from stakeholders was received and incorporated through each stage of the project. Thematically, respondents supported mitigations that had the highest cost-effectiveness and near-term implementation. Most respondents indicated that prioritizing mitigations that benefit communities impacted by transportation burdens should be a priority. Delivering mitigations in proximity to the project was also a key consideration for stakeholders. Lastly, the use of a VMT Mitigation Bank as a tool to mitigate induced travel impacts received broad support and received no objections. The full outreach summary is included as Attachment B to this report.

DETERMINATION OF SAFETY IMPACT

The proposed action has no adverse impact on the safety of Metro's patrons or employees.

FINANCIAL IMPACT

The approval and implementation of the Pilot VMT Mitigation Program will have no immediate financial impact. Existing staff resources will be utilized in this initial pilot phase of initiating the program. Caltrans' new requirements to analyze and mitigate induced travel impacts of Metro highway and ExpressLanes projects will ultimately increase costs to those projects that add new road capacity, but those costs will be borne by individual projects, not by this program.

Impact to Budget

The approval of the Pilot VMT Mitigation Program is not anticipated to have any impact on the budget.

EQUITY PLATFORM

Staff has worked closely with the Metro Office of Equity and Race (OER) from the inception of the Program to understand and address the equity implications of the Program. This critical analysis has been conducted using OER's Pilot Equity Planning and Evaluation Tool (EPET) as the guide. Staff seeks to balance the economic, access, and mobility benefits of increased VMT with the intended Program outcome of reducing VMT burdens, including emission of air pollutants, collisions, and a built environment that can feel hostile for people traveling by non-auto modes.

The development of the Program aims to prioritize the ways in which Metro can influence people traveling to reduce their VMT but with the goal of ensuring that the Program does not create new inequities in who bears the burden of VMT reduction and who benefits from VMT-reducing mobility investments. Due to the built environment in LA County and the high cost of housing, vehicles greatly improve mobility for low-income individuals who cannot afford to live near their daily destinations. While the American Community Survey (ACS) year 2019 estimates indicate that most transit riders are low-income (80%), the ACS also shows that most low-income individuals drive (81% of low-income workers drive versus 7% who take transit), with highway improvements benefiting both automobile and transit users.

As a reminder, the tools created through this Pilot VMT Mitigation Program in no way usurp existing Metro stakeholder engagement practices. In fact, because Metro will be both a client and administrator of the VMT Mitigation Bank, Metro has the ability to exercise more discretion in the deployment of mitigations than is typically offered in a traditional VMT Bank structure. In terms of equity, this not only means more flexibility in the deployment of mitigations that meet community needs but also establishing as policy and practice that Equity Focus Communities will be priority recipients of mitigations whenever feasible and available. These mitigation decisions will not be done in a vacuum but in close collaboration with OER and community stakeholders.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The Pilot VMT Mitigation Program supports the implementation of the following Strategic Plan Goals:

GOAL #1: *Provide high-quality mobility options that enable people to spend less time traveling*

The mitigation actions available through this program focus on transit and active transportation improvements that potentially expand and improve existing services and/or existing infrastructure. Improvements to these services and infrastructure have the potential to enhance trip quality across networks as a result.

GOAL #4: *Transform LA County through regional collaboration and national leadership*

The research resulting from the Program expands local and regional knowledge of VMT measurement and mitigation. By initiating this effort, Metro not only stands to derive benefits from this innovative approach but also sets an example for other regional and local partners to learn, iterate, and improve upon. Throughout the development of this program Metro has and continues to engage in collaborative information sharing with Caltrans and peer agencies throughout the state.

ALTERNATIVES CONSIDERED

The Board may reject approval of the Pilot VMT Mitigation Program. This is not recommended as it may place in jeopardy the Caltrans Sustainable Transportation Planning Grant funds that made this project possible and would leave project managers without the requisite tools to streamline the analysis and delivery of potential VMT mitigations, thereby increasing the cost of analysis. Further, Caltrans, which has been a supportive partner in this program development, has taken a strong interest in the VMT Mitigation Bank as an opportunity to assess the potential for other regional agencies to undertake similar efforts. As the first agency in the State of California to stand up a VMT Mitigation Bank, Metro's initiative would offer learning opportunities for our public agency partners throughout the state who aspire to pursue similar work.

NEXT STEPS

Staff will begin the process of establishing the administrative functions, oversight, and annual reporting necessary to fully implement the VMT Mitigation Program. This will necessarily include continued engagement across Metro departments to ensure consistency in the application of agency best practices and close coordination with Caltrans to ensure continued concurrence on assumptions and methodologies utilized across mitigation tools. Staff will also continue to work with Caltrans to resolve differences related to VMT quantification methodologies. Annual updates will be provided to the Board on VMT Mitigation Bank transactions, mitigation status, investments in EFCs, successes and challenges, and any forthcoming projects that may require mitigation.

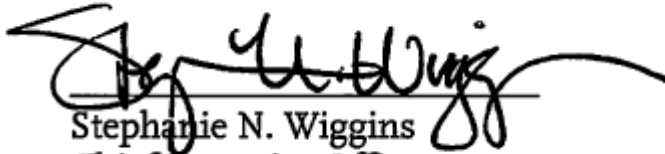
ATTACHMENTS

Attachment A - VMT Mitigation Bank Plan
Attachment B - Outreach Summary

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