



# **NORTH LOS ANGELES COUNTY**

## Transportation Coalition JPA

A Joint Powers Authority

### **BOARD OF DIRECTORS MEETING AGENDA**

**Monday, October 16, 2023 - 1:00PM**

**Public Members are Welcome to Attend In-Person & Remotely**

**To Attend In-Person:**

**Santa Clarita City Hall, Carl Boyer Room  
23920 Valencia Blvd. Santa Clarita, CA 91355**

**To Attend Virtually:**

Please Join from a PC, Mac, iPad, iPhone or Android device. Please click this URL to join.

Join Zoom Meeting:

<https://us02web.zoom.us/j/88996834167?pwd=UEJNRVJDcEM3eUE0MkxHU0tUUWlUUT09>

Meeting ID: 889 9683 4167 Passcode: 876134  
(669)900-9128 US (San Jose), then enter:  
Meeting ID: 860 1148 8834 Passcode: 701104

### **TELECONFERENCE AVAILABLE AT THESE ADDITIONAL LOCATIONS**

**Austin Bishop  
Andrea Alarcon  
Richard Loa  
Eric Ohlsen**  
City of Palmdale  
38300 Sierra Highway Suite A/B  
Palmdale, CA 93550



# **NORTH LOS ANGELES COUNTY**

## **Transportation Coalition JPA**

### **NCTC JPA BOARD OF DIRECTORS**

#### **BOARD MEMBERS**

Chair, Marvin Crist, Vice Mayor, City of Lancaster  
Kenneth Mann, Council Member, City of Lancaster  
Trolis Niebla, Assistant City Manager, City of Lancaster  
Vice Chair, Marsha McLean, Council Member, City of Santa Clarita  
Jason Gibbs, Mayor, City of Santa Clarita  
Mike Hennawy Director of Public Works, City of Santa Clarita  
Austin Bishop, Council Member, City of Palmdale  
Andrea Alarcón, Mayor Pro Tem, City of Palmdale  
Richard Loa, Council Member, City of Palmdale  
Kathryn Barger, Supervisor, 5<sup>th</sup> District, County of Los Angeles  
Mark Pestrella, Director of Public Works, County of Los Angeles  
Vacant, County of Los Angeles

#### **EX-OFFICIO BOARD MEMBERS**

Martin Tompkins, Antelope Valley Transit Authority  
Adrian Aguilar, Santa Clarita Transit

#### **BOARD MEMBER ALTERNATES**

Eric Ohlsen, Council Member, City of Palmdale  
Dave Perry, County of Los Angeles  
Damon Letz, City of Santa Clarita

#### **NCTC JPA STAFF**

Executive Director: Arthur V. Sohikian, AVS Consulting, Inc.  
Auditor-Controller: Arlene Barrera, County of Los Angeles  
Legal Counsel: Warren R. Wellen, County of Los Angeles,  
Laura Jacobson, County of Los Angeles

#### **OPEN SESSION**

- 1. CALL TO ORDER** – Marvin Crist, Chair
- 2. ROLL CALL** – Arthur Sohikian, Secretary
- 3. PLEDGE OF ALLEGIANCE**
- 4. PUBLIC COMMENTS:** NCTC is conducting business in-person and remotely. NCTC is committed to ensuring that our public meetings are accessible to the public to observe and address the meeting and to participate by providing written and oral comment on NCTC matters. Please do not hesitate to reach out to Executive Director Arthur Sohikian at [sohikian@northcountytransportationcoalition.org](mailto:sohikian@northcountytransportationcoalition.org).



# NORTH LOS ANGELES COUNTY

## Transportation Coalition JPA

### Providing Public Comment

- a. Public comment for NCTC virtual Board meetings can be provided in several ways.
  - i. Written Comments
    1. You are welcome to submit written comments to the NCTC via email. Please send your comment to [sohikian@northcountytransportationcoalition.org](mailto:sohikian@northcountytransportationcoalition.org)
    2. In the subject line of your email, indicate the meeting date and the topic of your comment.
  - ii. Oral Comments
    1. At the beginning of the meeting and for each agenda item at the public meeting, the NCTC Chair will ask whether there are any requests for public comment.
    2. If you want to provide oral comments on a specific agenda item, you will need to “[Raise your hand](https://support.zoom.us/hc/en-us/articles/205566129)” <https://support.zoom.us/hc/en-us/articles/205566129> during the Zoom meeting. **\*If calling into the meeting from a telephone, you can use “Star (\*) 9” to raise/ lower your hand. And \*6 to Mute/Unmute phone**
    3. Once your hand is raised and it is your turn to speak, the Chair or the meeting facilitator will unmute you, announce your name, and you will be able to make your public comment to the NCTC. **\*Depending on how you have called in, you may also need to unmute yourself.**
    4. A speaker's time allotment is at the discretion of the Chair. Generally, the NCTC allows 3 minutes per speaker per topic. After your public comment, your hand will be lowered, and you will be placed back on mute.

### NCTC BOARD CONSENT CALENDAR

*All items listed under the Consent Calendar are considered to be routine and may be enacted by one motion. Prior to the motion to consider any action by the Board, any public comments on any of the Consent Calendar items will be heard. There will be no separate action unless members of the Board request specific items to be removed from the Consent Calendar.*

### 5. MINUTES/RECAP OF PROCEEDINGS

**Recommended Action:** *Approve July 17, 2023, Board Meeting Minutes/ Recap of Proceedings held via virtual zoom.*

### 6. MEMBER AGENCY TRANSPORTATION & TRANSIT PROJECT UPDATES

**Recommended Action:** *Receive and file Report & Map.*



# **NORTH LOS ANGELES COUNTY**

## **Transportation Coalition JPA**

### **7. CALIFORNIA HIGHWAY PATROL & SHERIFFS NORTH LA COUNTY UPDATE**

**Recommended Action:** *Receive and file reports from CA CHP and LA County Sheriff's.*

### **8. CALTRANS HIGHWAYS PROJECT UPDATES – Jane Yu, Osama Megalla, District 7**

**Recommended Action:** *Receive and file report.*

### **9. METRO HIGHWAYS UPDATE – Isidro Panuco, Roberto Machuca, Metro**

**Recommended Action:** *Receive and file report.*

### **10. METROLINK NORTH COUNTY UPDATE – Julie Nieto, Jeanette Flores, Metrolink**

**Recommended Action:** *Receive and file report.*

### **11. CALIFORNIA HIGH SPEED RAIL AUTHORITY HIGH-SPEED RAIL PROJECT UPDATE —**

*No written update. Oral update can be provided at meeting if needed.*

### **12. HIGH DESERT CORRIDOR PROJECT UPDATE**

**Recommended Action:** *Receive and file report.*

### **13. METRO LEGISLATIVE UPDATES – Michael Turner, Raffi Hamparian, Metro**

**Recommended Action:** *Receive and file report.*

### **14. NCTC JPA EXECUTIVE DIRECTOR UPDATE – Arthur Sohikian, Executive Director,**

**Recommended Action:** *Receive and file report.*

### **NCTC BOARD REGULAR CALENDAR**

*At the discretion of the Board, all items appearing on this Agenda, whether or not expressly listed for action, may be deliberated and may be subject to action by the Board.*

### **15. PROPOSED NCTC JPA 2024 BOARD OF GOVERNORS MEETING CALENDAR**

**Recommended Action:** *Approve Proposed NCTC JPA 2024 Board of Governors Calendar.*

- A. January 22, 2024, 1pm/Antelope Valley (AVTA)
- B. April 15, 2024, 1pm/Santa Clarita
- C. July 8, 2024, 1pm/Antelope Valley (AVTA)
- D. October 21, 2024, 1pm/Santa Clarita

### **16. NCTC JPA SCAG POLICY COMMITTEE APPOINTMENT – Executive Director**

**Recommended Action:** *Receive and file report/Make Appointment.*

### **17. NCTC JPA BOARD MEMBER COMMENTS AND FUTURE AGENDA ITEMS**

**18. ADJOURNMENT. Next regular Board of Directors meeting: January 22, 2024, at 1:00pm at Antelope Valley Transit Authority and virtually.**

<https://northcountytransportationcoalition.org/upcoming-meetings>



# NORTH LOS ANGELES COUNTY Transportation Coalition JPA

## AGENDA REPORT – BOARD ITEM 5

### North Los Angeles County Transportation Coalition

Date: October 16, 2023

To: Governing Board Members of the North Los Angeles County Transportation Coalition (NCTC) JPA

From: Arthur V. Sohikian, Executive Director

Subject: NCTC JPA Minutes/Recap of Proceedings for the July 17, 2023 Board Meeting

**1. CALL TO ORDER – Chair Marv Crist called meeting to order at 1:01 p.m.**

**2. ROLL CALL – Quorum Present**

**Directors Present and Directors Voting:**

Chair, Marvin Crist, Vice Mayor, City of Lancaster  
Kenneth Mann, Council Member, City of Lancaster  
Trolis Niebla, Assistant City Manager, City of Lancaster  
Vice Chair, Marsha McLean, Council Member, City of Santa Clarita  
Mike Hennawy Director of Public Works, City of Santa Clarita  
Austin Bishop, Council Member, City of Palmdale  
Andrea Alarcón, Mayor Pro Tem, City of Palmdale  
Richard Loa, Council Member, City of Palmdale  
Kathryn Barger, Supervisor, 5<sup>th</sup> District, County of Los Angeles

**EX-OFFICIO BOARD MEMBERS –Non Voting**

Martin Tompkins, Antelope Valley Transit Authority

**BOARD MEMBER ALTERNATES**

Dave Perry, County of Los Angeles **Voting**  
Damon Letz, City of Santa Clarita, Alternate, **Voting**

**NCTC JPA STAFF**

Executive Director: Arthur V. Sohikian  
Legal Counsel: Laura Jacobson, County of Los Angeles

**3. PLEDGE OF ALLEGIANCE: Led by Director Alarcon**

**VOTING LEGEND**

Y=YES ABS=Abstain N=NO C=Conflict A=Absent

**4. PUBLIC COMMENTS – None**

**5. APPROVED CONSENT CALENDAR ITEMS 5 TO 14 including MINUTES/MEETING OF RECAP OF PROCEEDINGS April 17, 2023 Board Meeting held in City of Santa Clarita City Hall Carl Boyer Room virtual and open to public.**



# NORTH LOS ANGELES COUNTY Transportation Coalition JPA

- 6. MEMBER AGENCY TRANSPORTATION & TRANSIT PROJECT UPDATES
- 7. CALIFORNIA HIGHWAY PATROL & SHERIFFS NORTH LA COUNTY UPDATE
- 8. CALTRANS HIGHWAYS PROJECT UPDATES
- 9. METRO HIGHWAYS UPDATE
- 10. METROLINK NORTH COUNTY UPDATE
- 11. CALIFORNIA HIGH SPEED RAIL AUTHORITY HIGH-SPEED RAIL PROJECT UPDATE
- 12. HIGH DESERT CORRIDOR PROJECT UPDATE
- 13. METRO LEGISLATIVE UPDATES
- 14. NCTC JPA EXECUTIVE DIRECTOR UPDATE

**APPROVED** on Motion by Director Bishop, Second by Director Mann.

| MC | KM | TN | MM | MH | AB | AA | RL | KB | DP | DL |
|----|----|----|----|----|----|----|----|----|----|----|
| Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |

- 15. APPROVE PROPOSED FY2023-24 ANNUAL BUDGET AND NCTC EXECUTIVE DIRECTOR SIGNING AUTHORITY – Arthur Sohikian, NCTC JPA Executive Director

**Recommended Action:**

- A. Approve Proposed NCTC JPA FY2023-24 Annual Budget.
- B. Authorize Executive Director signing authority for administrative expenditures up to \$5,000.00
- C. Receive and File FY2021-22 Financial Statements Compliance Audit

**APPROVED** on Motion by Director Loa, Second by Director Alarcón.

| MC | KM | TN | MM | MH | AB | AA | RL | KB | DP | DL |
|----|----|----|----|----|----|----|----|----|----|----|
| Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |

- 16. METRO CENTER OF TRANSPORTATION EXCELLENCE UPDATE – Metro

**Recommended Action:** *Receive and file report.*

**APPROVE** NCTC JPA Letter of Support on Motion by Director Alarcón, Second by Director Mann.

| MC | KM | TN | MM | MH | AB | AA | RL | KB | DP | DL |
|----|----|----|----|----|----|----|----|----|----|----|
| Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  | Y  |

- 17. NCTC JPA BOARD MEMBER COMMENTS AND FUTURE AGENDA ITEMS.

- 18. ADJOURNMENT. 2:49pm. Next regular Board of Directors meeting: October 16, 2023, at 1:00pm at City of Santa Clarita City Hall Carl Boyer Room and virtually.

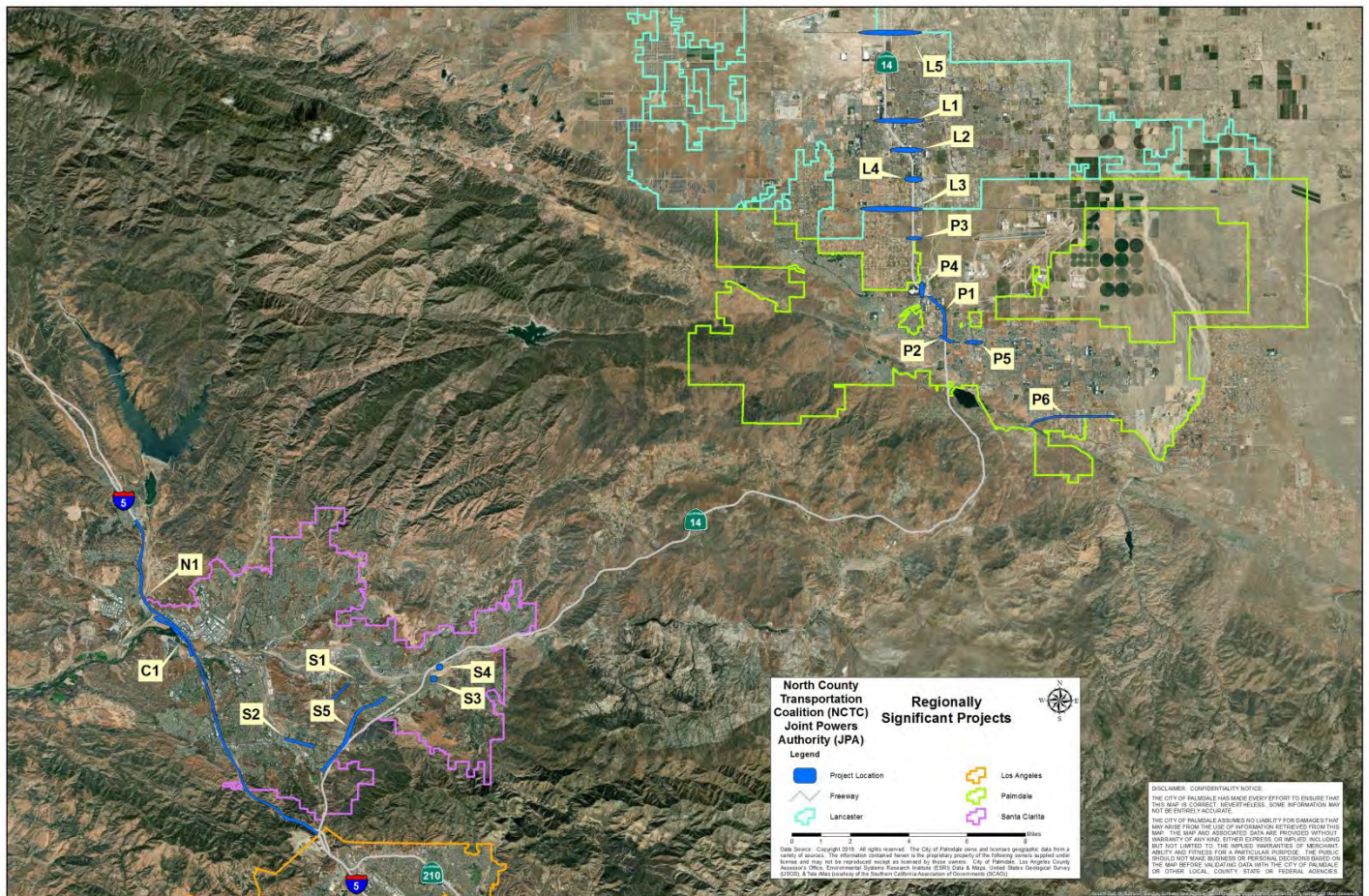
<https://northcountytransportationcoalition.org/upcoming-meetings>



# NORTH LOS ANGELES COUNTY Transportation Coalition JPA

## AGENDA REPORT – BOARD ITEM 6 North Los Angeles County Transportation Coalition

Date: October 16, 2023  
To: Governing Board Members of the North Los Angeles County Transportation Coalition (NCTC) JPA  
From: Arthur V. Sohikian, Executive Director  
Subject: NCTC Member Agency Transportation & Transit Projects Update





# NORTH LOS ANGELES COUNTY

## Transportation Coalition JPA

| Project # | Jurisdiction(s)           | Project Name  | Project Location  | Brief Project Description  | Funding Type   | Status   | Budget Amount             | Project total spent | Start Date (MOU approval w/ Metro) | Completion Date                 |
|-----------|---------------------------|---|---|--|--|--|---------------------------|---------------------|------------------------------------|---------------------------------|
| L1        | Lancaster                 | PWCP 14-010 Avenue J Interchange Improvement Project                          | 14 Freeway Interchange From 25th Street West to 15th Street West                            | SR-138 (SR-14) Avenue J Interchange mainline improvements to accommodate ramp modifications.   | Measure R  | Phase I is Complete Phase II Construction July of 2023                                       | \$36M                     | \$8.6M              | 7/28/2014                          | 2024                            |
| L2        | Lancaster                 | PWCP 13-018 Avenue K Interchange Improvement Project                          | 14 Freeway Interchange From 10th Street West to 20th Street West                            | SR-138 (SR-14) Avenue K Interchange mainline improvements to accommodate ramp modifications.   | Measure R  | Phase I construction is complete Phase II Bid  | \$32M                     | \$6M                | 3/8/2013                           | 2025                            |
| L3        | Lancaster Palmdale County | PWCP 13-019 Avenue M Interchange Improvement Project                          | 14 Freeway Interchange From 10th Street West to 30th Street West                            | SR-138 (SR-14) Avenue M Interchange mainline improvements to accommodate ramp modifications.   | Measure R  | Design is 60% complete   | \$36M                     | \$4.5M              | 3/8/2013                           | 2025                            |
| L4        | Lancaster                 | PWCP 15-001 Avenue L Interchange Improvement Project                          | 14 Freeway Interchange From 10th Street West to 15th Street West                            | SR-138 (SR-14) Avenue L Interchange mainline improvements to accommodate ramp modifications.   | Measure R  | Environment Document Caltrans approved   | \$15M                     | \$1.3M              | 3/14/2016                          | 2025                            |
| L5        | Lancaster County          | PWCP 13-020 Avenue G Interchange Improvement Project                          | 14 Freeway Interchange From 10th Street West to 30th Street West                            | SR-138 (SR-14) Avenue G Interchange mainline improvements to accommodate ramp modifications.   | Measure R  | Project Report Routing Signed  | \$28M                     | \$2.4M              | 2/28/2014                          | 2027                            |
| P1        | Palmdale                  | SR 138 (SR-14) Widening between Rancho Vista Blvd/Avenue P and Palmdale Blvd. | SR 138 (SR-14) Widening between Rancho Vista Blvd/Ave P, includes northbound offramp at RVB | Widening of southbound mainline from RVB to just north of Palmdale Blvd. Widening of northbound offramp at RVB for better queing and storage                               | Measure R  | Construction complete. Remaining money will be used on other Measure R projects in Palmdale. | \$25M                     | \$14.5 M            | 8/30/2014 (MOU MR 330.10)          | 10/6/2020                       |
| P2        | Palmdale                  | SR 138 (SR-14) Widening @ Palmdale Blvd Interchange                           | SR 138 (SR-14) @ Palmdale Blvd Interchange  | Widening of offramps to allow for better queing and storage; right hand turn lane from Palmdale Blvd to Division street.   | Measure R/Measure M                                      | PS&E done. Construction to start March 2024  | \$28.3M (\$25 MR; \$3 MM) | \$2.9 M             | 1/3/2014 (MOU MR 330.08)           | 9/30/2024                       |
| P3        | Palmdale County           | SR 138 (SR-14) Avenue N Widening & Interchange Improvements                   | SR 138 (SR-14) @ Avenue N Interchange   | Reconfiguration of on and off ramps at Avenue N and widening of bridge across SR 14  | Measure R  | PS&E done. Project on the self until we get money for construction.                          | \$25M                     | \$4.1 M             | 9/23/2014 (MOU MR 330.11)          | 3/1/2024                        |
| P4        | Palmdale                  | SR 138 (SR-14) 10th Street West Widening Interchange Improvemt                | 10th Street West from RVB to O-8 and northbound offramp                                     | Widening of 10th Street West from RVB to O-8 and offramp improvements  | Measure R  | PS&E   | \$27.6M                   | \$3.10              | 10/7/2013 (MOU MR 330.09)          | 3/1/2023                        |
| P5        | Palmdale                  | SR 138 (Palmdale Blvd) 5th Street East to 10th Street East Improvements       | SR 138 (Palmdale Blvd) 5th Street East to 10th Street East                                  | Widening of Palmdale Blvd from 5th East to 10th East and railroad improvement  | Measure R  | PS&E   | \$25M                     | \$3.7 M             | 6/20/2013 (MOU MR 330.07)          | 8/14/2023                       |
| S1        | Santa Clarita             | Via Princessa   | Sheldon Avenue to Golden Valley Road  | 6-Lane Major Arterial with raised landscaped median and Class I Bike Facility along one side.  | 2007 Metro Call/ Developer Fees                          | Circulating EIR and in design  | \$36M                     |                     | Fiscal Year 2023-24 (Construction) | FY 20224-26 (Construction)      |
| S2        | Santa Clarita             | Dockweiler Drive  | Valle del Oro to Railroad Avenue  | 4-Lane Secondary Arterial with raised landscaped median and Class II Bike Facility along both sides.   | Measure M 2013 Metro Call 2013 Metro Call Developer Fees | In Right-of -Way   | \$36M                     |                     | August 2024 (Construction)         | December 2026 (Construction)    |
| S3        | Santa Clarita             | Vista Canyon Metrolink Station  | Lost Canyon Road @ Metrolink ROW  | New Metrolink Station  | Measure R Measure M 2013 Metro Call SB1 LPP Grant        | Completed - Operation Planned for October 2023   | \$32M                     |                     | August 2020 (Construction)         | 2nd Quarter 2023 (Construction) |
| S4        | Santa Clarita             | Vista Canyon Road Bridge  | Soledad Canyon Road to Vista Canyon Road  | Vista Canyon Road Bridge and intersection improvements to provide access from Soledad Canyon Road to the Vista Canyon Metrolink station.                                   | Measure R Developer Fees                                 | In Design  | \$22M                     |                     | April 2024(Construction)           | April 2026 (Construction)       |
| S5        | Santa Clarita             | Sierra Highway Improvements   | Newhall Avenue to Whispering Leaves Drive   | **Design Only** Integration of Sierra Highway into the City's ITS. This project also includes maintenance agreements and permitting with CA State Dept. of Transportation. | Measure R  | Design   | \$3.5M                    |                     | July 2020 (Design Only)            | June 2024 (Design Only)         |
| C1        | County of Los Angeles     | The Old Rd Multimodal Mobility & Resiliency Enhancements                      | The Old Rd - Henry Mayo Dr to Magic Mountain Pkwy   | Widening and bridge replacement  | Multiple Funding   | Environmental/Design   | \$250M                    |                     | Summer 2024 (Construction)         | Late 2028                       |
| N1        | NCTC                      | I-5 North Capacity Enhancements   | I-5 (SR14 to Parker Road)   | add N/S High Occupancy Vehicle (HOV) lane and S Truck Lane   | Measure R & Measure M; CA SB1 & Federal INFRA            | Final Design/Construction  | \$679.4M                  |                     | Fall 2021 (construction)           | Late 2026                       |





COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
FISCAL YEAR 2023-24 AND BEYOND

| REF NO. | PROJECT NAME  | PROJECT DESCRIPTION  | COMMUNITY *   | FUNDING TYPE | TOTAL PROJECT COST ESTIMATE | STATUS       | ESTIMATED START OF CONSTRUCTION | ESTIMATED COMPLETION DATE |
|---------|---|--|---|--------------|-----------------------------|--------------|---------------------------------|---------------------------|
| 8       | Bridge Preventive Maintenance Program Group 14  | Preventive maintenance of various bridges  | Acton, Angeles National Forest, Castaic, Littlerock/Pearblossom, Stevenson Ranch, Val Verde | Federal Fund | \$ 1,100,000                | Design       | Spring 2025                     | Summer 2025               |
| 9       | Bridge Preventive Maintenance Program Group 22  | Preventive maintenance of various bridges  | Angeles National Forest, Castaic, Llano   | Federal Fund | \$ 806,300                  | Design       | Early 2027                      | Spring 2027               |
| 19      | San Francisquito Cyn Rd at San Francisquito Ck (Bridge 53C0517)                             | Bridge replacement   | Castaic, San Francisquito Canyon/Bouquet Canyon   | Federal Fund | \$ 12,200,000               | Design       | Early 2027                      | Late 2028                 |
| 20      | Soledad Cyn Rd over LACMTA & UPRR (Bridge 53C0555)  | Bridge replacement   | Acton, Agua Dulce   | Federal Fund | \$ 13,600,000               | Design       | Summer 2027                     | Spring 2029               |
| 21      | Soledad Cyn Rd over Santa Clara River (Bridge 53C0488)                                      | Bridge replacement   | Acton   | Federal Fund | \$ 15,000,000               | Design       | Summer 2028                     | Summer 2030               |
| 24      | The Old Road at Castaic Creek (Bridge 53C1403)  | Seismic retrofit   | Castaic   | Federal Fund | \$ 7,100,000                | Design       | Summer 2025                     | Spring 2026               |
| 32      | Bouquet Cyn Rd - 1 mile S/o Elizabeth Lake Rd to City of Santa Clarita/County boundary line | Installation of horizontal alignment, advanced warning, and curve advisory speed signs | Canyon Country, Leona Valley, Saugus, San Francisquito Canyon/Bouquet Canyon                | Federal Fund | \$ 1,280,000                | Design       | Summer 2024                     | Fall 2024                 |
| 33      | San Francisquito Cyn Rd and Lake Hughes Rd Signage Project                                  | Installation of horizontal alignment, advanced warning, and curve advisory speed signs | Castaic, San Francisquito Canyon/Bouquet Canyon   | Federal Fund | \$ 2,450,000                | Design       | Summer 2024                     | Spring 2025               |
| 144     | Lake Hughes Rd at 235' S/o MM 2.47 (2015 Oct Storm)   | Install culverts   | Lake Hughes   | Federal Fund | \$ 4,130,000                | Design       | Spring 2025                     | Fall 2025                 |
| 145     | Little Tujunga Cyn Rd at MM 16.91, 15.82, 15.67, 15.12 (2017 Creek Fire)                    | Replace damaged boardwall with rip-rap   | Angeles National Forest   | Federal Fund | \$ 3,078,000                | Construction | October 2020                    | Fall 2023                 |
| 177     | San Francisquito Cyn Rd at San Francisquito Ck (Bridge 53C0518)                             | Bridge replacement   | Castaic, San Francisquito Canyon/Bouquet Canyon   | Federal Fund | \$ 4,500,000                | Design       | Summer 2027                     | Summer 2027               |
| 178     | San Francisquito Cyn Rd at San Francisquito Ck (Bridge 53C0519)                             | Bridge replacement   | Castaic, San Francisquito Canyon/Bouquet Canyon   | Federal Fund | \$ 4,500,000                | Design       | Fall 2026                       | Spring 2028               |
| 179     | Little Tujunga Rd at MM 15.57 (2019 Jan Storm)  | Cutting the slope and fill back with soil cement mixture                               | Angeles National Forest   | Federal Fund | \$ 750,000                  | Design       | Spring 2024                     | Summer 2024               |
| 244     | Little Tujunga Cyn Rd at Buck Cyn   | Bridge replacement   | Angeles National Forest   | Federal Fund | \$ 4,200,000                | Design       | Spring 2025                     | Summer 2026               |
| 245     | Little Tujunga Cyn Rd at Pacoima Creek  | Bridge replacement   | Angeles National Forest   | Federal Fund | \$ 3,700,000                | Design       | Spring 2027                     | Late 2028                 |
| 249     | Lake Hughes Rd at MM 8.52 (2020 Lake Fire)  | Rip-rap installation   | Castaic   | Federal Fund | \$ 2,053,000                | Design       | Spring 2024                     | Summer 2024               |
| 250     | Lake Hughes Rd 450' S/O MM 6.70 (2020 Lake Fire)  | Rip-rap installation   | Castaic   | Federal Fund | \$ 512,000                  | Design       | Spring 2024                     | Summer 2024               |
| 251     | Lake Hughes Rd 370' S/O MM 5.77 (2020 Lake Fire)  | Rip-rap installation   | Castaic   | Federal Fund | \$ 767,000                  | Design       | Summer 2024                     | Fall 2024                 |
| 252     | Lake Hughes Rd 760' N/O MM 5.77(2020 Lake Fire)   | Rip-rap installation   | Castaic   | Federal Fund | \$ 512,000                  | Design       | Summer 2024                     | Fall 2024                 |
| 255     | Lake Hughes Rd at MM 5.05 (2020 Lake Fire)  | Rip-rap installation   | Castaic   | Federal Fund | \$ 1,705,000                | Design       | Summer 2024                     | Fall 2024                 |
| 256     | Lake Hughes Rd at MM 6.43 (2020 Lake Fire)  | Guardrail replacement  | Castaic   | Federal Fund | \$ 220,000                  | Construction | March 2023                      | Fall 2023                 |
| 257     | Pine Cyn Rd at Bridge #798 (2020 Lake Fire)   | Guardrail replacement  | Castaic   | Federal Fund | \$ 230,000                  | Construction | March 2023                      | Fall 2023                 |
| 258     | Lake Hughes Rd at Bridge #1519 (2020 Lake Fire)   | Guardrail replacement  | Castaic   | Federal Fund | \$ 300,000                  | Design       | Spring 2028                     | Spring 2029               |
| 262     | Big Pines Hwy, et al. (2020 Bobcat Fire)  | Guardrail replacement  | Littlerock/Juniper Hills, Llano   | Federal Fund | \$ 1,100,000                | Design       | Spring 2024                     | Summer 2024               |

\* The Community names represent the names of the Countywide Statistical Areas (CSA) established by Los Angeles County. The CSA names reflect the general name preferences of residents and historical names of unincorporated areas.

COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
FISCAL YEAR 2023-24 AND BEYOND

| REF NO. | PROJECT NAME   | PROJECT DESCRIPTION  | COMMUNITY  | FUNDING TYPE          | TOTAL PROJECT COST ESTIMATE | STATUS       | ESTIMATED START OF CONSTRUCTION | ESTIMATED COMPLETION DATE |
|---------|--|--|--|-----------------------|-----------------------------|--------------|---------------------------------|---------------------------|
| 319     | The Old Rd – Interstate 5 Rye Cyn Ramps to Magic Mountain Pkwy (Phase 2)                               | Roadway widening and bridge replacement                            | Castaic, Stevenson Ranch   | Federal Fund          | \$ 205,400,000              | Design       | Summer 2026                     | Late 2028                 |
| 322     | Fairmont Rd-Munz Ranch Rd to 167th St W Off-System (JAN 8 2023 WINTER STM)                             | Restore eroded dirt road and culvert repairs                       | West Antelope Valley   | Federal Fund          | \$ 50,000                   | Construction | March 2023                      | Fall 2023                 |
| 324     | Avenue Q at Big Rock Crk W/o 145th St E Off-System (JAN 8 2023 WINTER STM)                             | Place rip-rap and concrete at toe of outlet slope                  | Lake Los Angeles   | Federal Fund          | \$ 290,000                  | Design       | Spring 2024                     | Spring 2024               |
| 325     | Avenue Q W/o 140th St E Off-System (JAN 8 2023 WINTER STM)   | Place rip-rap, repair wing walls, and restore slope                | Lake Los Angeles   | Federal Fund          | \$ 230,000                  | Design       | Spring 2024                     | Spring 2024               |
| 327     | Avenue Q - 90th St E to 145th St E and W/o 200th St E to 188th St E Off-System (JAN 8 2023 WINTER STM) | Regrade dirt road  | Hi Vista, Lake Los Angeles, Sun Village                            | Federal Fund          | \$ 600,000                  | Construction | April 2023                      | Fall 2023                 |
| 328     | Lake Hughes Rd at MM 5.21 On-System (JAN 8 2023 WINTER STM)  | Restore roadway and place rip-rap                                  | Castaic  | Federal Fund          | \$ 450,000                  | Design       | Spring 2024                     | Summer 2024               |
| 329     | Lake Hughes Rd at MM 10.40 On-System (JAN 8 2023 WINTER STM)   | Restore shoulder and place rip-rap                                 | Castaic  | Federal Fund          | \$ 400,000                  | Design       | Fall 2023                       | Fall 2023                 |
| 330     | Avenue T at Big Rock Wash On-System (Jan 8 2023 WINTER STM)  | Placement of rip-rap   | Littlerock/Pearblossom   | Federal Fund          | \$ 200,000                  | Design       | Spring 2024                     | Spring 2024               |
| 332     | Lake Hughes Rd at MM 7.48 On-System (Jan 8 2023 WINTER STM)  | Repair damaged pavement  | Angeles National Forest  | Federal Fund          | \$ 200,000                  | Construction | July 2023                       | Fall 2023                 |
| 351     | Ridge Route Rd at MM 21.05 On-System (2023MARSTM)  | Repair damaged roadway and shoulder                                | Castaic  | Federal Fund          | \$ 200,000                  | Design       | Fall 2023                       | Spring 2024               |
| 221     | North County Bus Stop Improvements (MSP)   | Improvements at 12 AVTA and 11 Santa Clarita Transit bus stops     | Castaic, Quartz Hill, Saugus/Canyon Country, Val Verde             | Measure M-MSP         | \$ 2,987,000                | Design       | Fall 2025                       | Spring 2026               |
| 23      | The Old Road - Henry Mayo Dr to N/o Interstate 5 Rye Cyn Ramps (Phase 1)                               | Roadway widening   | Castaic, Stevenson Ranch   | Measure R Subregional | \$ 44,600,000               | Design       | Summer 2024                     | Summer 2026               |
| 26      | Hasley Hills South   | Pavement reconstruction  | Castaic  | SB1                   | \$ 9,400,000                | Design       | Late 2023                       | Fall 2025                 |
| 31      | Sierra Hwy at Vasquez Cyn Rd   | Traffic signal modification  | Saugus/Canyon Country  | SB1                   | \$ 1,140,000                | Design       | Summer 2024                     | Early 2025                |
| 203     | Castaic Rd at Ridge Route Rd and The Old Road at Parker Rd   | Install new traffic signals  | Castaic  | SB1                   | \$ 2,300,000                | Completed    | February 2023                   | August 2023               |
| 235     | Bouquet Cyn Rd at Vasquez Cyn Rd   | New traffic signal   | Canyon Country, Saugus   | SB1                   | \$ 1,100,000                | Design       | Late 2024                       | Summer 2025               |
| 237     | Pico Cyn Rd at Stevenson Ranch Pkwy  | Traffic signal upgrade   | Stevenson Ranch  | SB1                   | \$ 620,000                  | Design       | Spring 2024                     | Summer 2024               |
| 242     | Avenue E at Sierra Hwy   | Guardrail installation   | North Lancaster  | SB1                   | \$ 2,500,000                | Design       | Early 2025                      | Early 2026                |
| 247     | The Old Rd at Valencia Bl  | Traffic signal upgrade   | Stevenson Ranch  | SB1                   | \$ 520,000                  | Construction | July 2023                       | Fall 2023                 |
| 270     | Sierra Hwy - 2100' S/o Quinn Dr to Avenue S  | Install advance curve advisory speed signs & chevron warning signs | Acton, Agua Dulce, Anaverde, Canyon Country, South Antelope Valley | SB1                   | \$ 1,500,000                | Design       | Fall 2024                       | Early 2025                |
| 271     | Elizabeth Lake Rd - Lake Hughes Rd to 2095' E/o Bouquet Cyn Rd   | Install advance curve advisory speed signs & chevron warning signs | Elizabeth Lake, Lake Hughes, Leona Valley                          | SB1                   | \$ 750,000                  | Design       | Summer 2024                     | Fall 2024                 |
| 295     | Sierra Hwy - Crown Valley Rd to 411' E/o Mountain Springs Rd   | Pavement rehabilitation  | Acton  | SB1                   | \$ 6,000,000                | Design       | Fall 2023                       | Fall 2023                 |
| 297     | Lake Hughes Rd near MM 0.45 Shoulder Repair On-System (2021DECSTM)                                     | Road and shoulder repair using rip-rap and enviroblock             | Lake Hughes  | SB1                   | \$ 250,000                  | Design       | Fall 2023                       | Spring 2024               |
| 298     | Lake Hughes Rd S/o MM 5.26 Slope Repair On-System (2021DECSTM)   | Roadway, shoulder and slope repair                                 | Castaic  | SB1                   | \$ 70,000                   | Design       | Fall 2023                       | Spring 2024               |

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
FISCAL YEAR 2023-24 AND BEYOND**

| REF NO. | PROJECT NAME   | PROJECT DESCRIPTION                   | COMMUNITY                        | FUNDING TYPE | TOTAL PROJECT COST ESTIMATE | STATUS       | ESTIMATED START OF CONSTRUCTION | ESTIMATED COMPLETION DATE |
|---------|--|---------------------------------------|----------------------------------|--------------|-----------------------------|--------------|---------------------------------|---------------------------|
| 300     | Oak Valley Rd, et al.  | Pavement preservation                 | Castaic/Val Verde                | SB1          | \$ 200,000                  | Design       | Fall 2023                       | Spring 2024               |
| 316     | San Francisquito Cyn Rd - Copper Hill Dr to Quail Tr             | Enhance existing equestrian crossings | Agua Dulce, Castaic, Lake Hughes | SB1          | \$ 85,000                   | Design       | Fall 2023                       | Fall 2023                 |
| 318     | Live Oak Springs Cyn Rd, et al.                                  | Pavement preservation                 | Canyon Country                   | SB1          | \$ 400,000                  | Completed    | July 2023                       | August 2023               |
| 334     | Johnson Rd - Elizabeth Lake Rd to Avenue J                       | Pavement resurfacing                  | Leona Valley                     | SB1          | \$ 1,549,000.00             | Completed    | June 2023                       | June 2023                 |
| 336     | 70th St West - Avenue E to Avenue J                              | Pavement resurfacing                  | Antelope Acres                   | SB1          | \$ 1,035,000.00             | Design       | Spring 2024                     | Spring 2024               |
| 337     | Lake Los Angeles Community (Phase I)                             | Pavement preservation                 | Lake Los Angeles                 | SB1          | \$ 1,200,000.00             | Completed    | April 2023                      | August 2023               |
| 338     | Avenue Q Tract   | Pavement preservation                 | Lake Los Angeles                 | SB1          | \$ 314,000.00               | Completed    | August 2023                     | September 2023            |
| 339     | Lake Los Angeles Local Streets, et al.                           | Pavement preservation                 | Lake Los Angeles                 | SB1          | \$ 300,000.00               | Construction | May 2023                        | Fall 2023                 |
| 340     | Avenue O - 1320 E/o 180th St East to 120th St East               | Pavement resurfacing                  | Lake Los Angeles                 | SB1          | \$ 1,457,000.00             | Construction | September 2023                  | Fall 2023                 |
| 342     | Sierra Hwy - Pearblossom Hwy to Avenue S                         | Pavement rehabilitation               | Anaverde                         | SB1          | \$ 1,331,000.00             | Construction | September 2023                  | Fall 2023                 |
| 343     | Avenue P - 1674 E/o 20th St East to 30th St East                 | Pavement resurfacing                  | Palmdale                         | SB1          | \$ 380,000.00               | Design       | Fall 2023                       | Fall 2023                 |
| 344     | 10th St East, et al.   | Pavement resurfacing                  | South Antelope Valley            | SB1          | \$ 2,016,000.00             | Design       | Fall 2023                       | Fall 2023                 |
| 347     | Cheseboro Rd - Pearblossom Hwy to County boundary                | Pavement resurfacing                  | Littlerock/Sun Village           | SB1          | \$ 960,000.00               | Design       | Fall 2023                       | Fall 2023                 |
| 348     | Aliso Cyn Rd - Soledad Cyn to Avenue Y8                          | Pavement resurfacing                  | Acton                            | SB1          | \$ 450,000.00               | Design       | Summer 2024                     | Summer 2024               |
| 349     | Avenue R-8, et al.   | Pavement resurfacing                  | South Antelope Valley            | SB1          | \$ 3,986,000.00             | Design       | Fall 2023                       | Fall 2023                 |
| 353     | Escondido Cyn Rd (Phase 2) - SR 14 Fwy to Syracuse Av            | Pavement resurfacing                  | Acton                            | SB1          | \$ 3,000,000.00             | Completed    | August 2023                     | August 2023               |
| 354     | Bouquet Cyn Rd (Phase 2) - MM 8.74 to MM 13.06                   | Pavement resurfacing                  | Bouquet Cyn Rd                   | SB1          | \$ 3,500,000.00             | Design       | Summer 2024                     | Summer 2024               |
| 355     | Agua Dulce Cyn Rd (Phase 2) - Escondido Cyn Rd to Castlehaven Rd | Pavement resurfacing                  | Agua Dulce                       | SB1          | \$ 1,200,000.00             | Design       | Spring 2024                     | Spring 2024               |
| 356     | Agua Dulce Cyn Rd (Phase 4) - Soledad Cyn Rd to Burke Rd         | Pavement resurfacing                  | Agua Dulce                       | SB1          | \$ 1,200,000.00             | Design       | Fall 2023                       | Fall 2023                 |
| 357     | Sierra Hwy (Phase 4) - Center St to Agua Dulce Cyn Rd            | Pavement rehabilitation               | Agua Dulce                       | SB1          | \$ 2,200,000.00             | Design       | Fall 2023                       | Fall 2023                 |
| 358     | Cherry Dr, et al.  | Pavement resurfacing                  | Castaic/Val Verde                | SB1          | \$ 850,000.00               | Design       | Summer 2024                     | Fall 2024                 |
| 359     | Green Hill Dr, et al.  | Pavement resurfacing                  | Castaic/Val Verde                | SB1          | \$ 1,650,000.00             | Design       | Summer 2024                     | Fall 2024                 |
| 360     | Stevenson Ranch Tract (Phase 4)                                  | Pavement preservation                 | Stevenson Ranch                  | SB1          | \$ 1,900,000.00             | Completed    | August 2023                     | August 2023               |
| 361     | Quail Valley Rd, et al.  | Pavement resurfacing                  | Castaic/Val Verde                | SB1          | \$ 1,300,000.00             | Design       | Fall 2023                       | Fall 2023                 |

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
FISCAL YEAR 2023-24 AND BEYOND**

| REF NO. | PROJECT NAME  | PROJECT DESCRIPTION           | COMMUNITY   | FUNDING TYPE | TOTAL PROJECT COST ESTIMATE | STATUS       | ESTIMATED START OF CONSTRUCTION | ESTIMATED COMPLETION DATE |
|---------|---|-------------------------------|---|--------------|-----------------------------|--------------|---------------------------------|---------------------------|
| 362     | Lake Hughes Rd (Phase 1) - Ridge Route Rd to MM 14.02                                   | Pavement rehabilitation       | Castaic/Val Verde   | SB1          | \$ 4,800,000.00             | Design       | Fall 2023                       | Spring 2024               |
| 363     | Lake Hughes Rd (Phase 2) - MM 14.02 to MM 6.07  | Pavement rehabilitation       | Castaic/Val Verde   | SB1          | \$ 4,200,000.00             | Design       | Spring 2024                     | Spring 2024               |
| 364     | Hasley Cyn Rd - Commerce Center Dr to 4776' W/o Valley Glen St                          | Pavement resurfacing          | Castaic/Val Verde   | SB1          | \$ 2,500,000.00             | Design       | Fall 2023                       | Fall 2023                 |
| 365     | Vasquez Cyn Rd - Bouquet Cyn Rd to 1360' E/o Lost Creek Rd                              | Pavement resurfacing          | Castaic/Val Verde   | SB1          | \$ 500,000.00               | Design       | Fall 2023                       | Fall 2023                 |
| 366     | Godde Hill Rd - 674' N/o Elizabeth Lake Rd to 11345' N/o Elizabeth Lake Rd              | Install curve advisory signs  | Leona Valley  | SB1          | \$ 160,000                  | Design       | Fall 2024                       | Spring 2025               |
| 367     | Vasquez Cyn Rd - Bouquet Cyn Rd-Sierra Hwy  | Install curve advisory signs  | Agua Dulce  | SB1          | \$ 270,000                  | Completed    | August 2023                     | August 2023               |
| 368     | Sand Cyn Rd - Sierra Hwy to 4500' N/o Soledad Cyn Rd                                    | Install curve advisory signs  | Canyon Country  | SB1          | \$ 500,000                  | Construction | August 2023                     | Fall 2024                 |
| 369     | Johnson Rd - Elizabeth Lake Rd to 110th St West   | Install curve advisory signs  | Del Sur, Lake Hughes, Leona Valley  | SB1          | \$ 190,000                  | Design       | Summer 2024                     | Fall 2024                 |
| 370     | Mt Baldy Rd - Angeles National Forest boundary line to Glendora Ridge Rd                | Traffic safety improvements   | Angeles National Forest   | SB1          | \$ 650,000                  | Design       | Summer 2024                     | Fall 2024                 |
| 371     | Avenue N at 50th St East  | New traffic signal            | Palmdale  | SB1          | \$ 735,000                  | Design       | Summer 2025                     | Summer 2026               |
| 373     | Stevenson Ranch Pky - Pico Cyn Rd to The Old Road                                       | Install plastic bollards      | Stevenson Ranch   | SB1          | \$ 100,000                  | Completed    | September 2023                  | September 2023            |
| 375     | Sierra Hwy and Santiago Rd  | Install stop beacons          | Acton   | SB1          | \$ 40,000                   | Design       | Late 2023                       | Late 2023                 |
| 376     | Quartz Hill Rd/Avenue M - 50th St West to 45th St West                                  | Install signing and striping  | Quartz Hill   | SB1          | \$ 30,000                   | Design       | Late 2023                       | Late 2023                 |
| 377     | Lake Hughes Bridges Debris Walls  | Construction of debris walls  | Castaic   | SB1          | \$ 2,450,000.00             | Design       | Fall 2024                       | Fall 2024                 |
| 378     | 70th St East-Avenue N to Palmdale BI Shoulder Rpr On-System (2023STMHILARY EM2306)      | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 328,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 379     | Avenue P-8-160th St East to 170th St East Shoulder Rpr On-System (2023STMHILARY EM2306) | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 1,100,000.00             | Design       | Fall 2024                       | Fall 2024                 |
| 380     | Avenue N-175th St East to 180th St East, et al, Shoulder Rpr On-System (2023STMHILARY)  | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 50,000.00                | Design       | Fall 2024                       | Fall 2024                 |
| 381     | 120th St East-Avenue D to Avenue G Shoulder Rpr On-System (2023STMHILARY EM2306)        | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 279,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 382     | Avenue J-90th St East to 170th St East Shoulder Repair On-System (2023STMHILARY EM2306) | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 648,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 383     | Avenue E-90th St East to 140th St East Shoulder Rpr On-System (2023STMHILARY EM2306)    | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 468,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 384     | 240th St East-Palmdale BI to Avenue M Shoulder Rpr On-System (2023STMHILARY EM2306)     | Shoulder restoration          | Lake Los Angeles  | SB1          | \$ 421,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 385     | Various Dirt Roads in RD555 Regrade Off-System (2023STMHILARY EM2306)                   | Regrade dirt roads & shoulder | Lake Los Angeles  | SB1          | \$ 330,000.00               | Design       | Fall 2024                       | Fall 2024                 |
| 386     | 106th St East-Cima Mesa Rd to Pearlblossom Hwy On-System (2023STMHILARY EM2306)         | Shoulder restoration          | Littlerock/Juniper Hills, Pearlblossom/Llano  | SB1          | \$ 300,000                  | Design       | Fall 2024                       | Fall 2024                 |
| 387     | 90th Street E, et al., Shoulder Repair On-System (2023STMHILARY EM2306)                 | Shoulder restoration          | Lake Los Angeles, Littlerock, Littlerock/Juniper Hills, Littlerock/Pearlblossom, Llano, Pearlblossom/Llano, Sun Village | SB1          | \$ 950,000                  | Design       | Fall 2024                       | Fall 2024                 |

COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
FISCAL YEAR 2023-24 AND BEYOND

| REF NO. | PROJECT NAME  | PROJECT DESCRIPTION     | COMMUNITY *  | FUNDING TYPE | TOTAL PROJECT COST ESTIMATE | STATUS | ESTIMATED START OF CONSTRUCTION | ESTIMATED COMPLETION DATE |
|---------|---|-------------------------|--|--------------|-----------------------------|--------|---------------------------------|---------------------------|
| 388     | Palmdale BI-60th St East to 240th St East Shoulder Rpr On-System (2023STMHILARY EM2306)   | Shoulder restoration    | Hi Vista, Lake Los Angeles, Palmdale, Sun Village                              | SB1          | \$ 500,000                  | Design | Fall 2024                       | Fall 2024                 |
| 389     | 165th St East-Crystalaire Dr to Avenue T Shoulder Repair On-System (2023STMHILARY EM2306) | Shoulder restoration    | Littlerock/Pearblossom, Llano, Pearblossom/Llano                               | SB1          | \$ 300,000                  | Design | Fall 2024                       | Fall 2024                 |
| 390     | Sand Canyon Rd-700' N/o MM 6.13 Pavement & Slope Repair On-Sys (2023STMHILARY)            | Pavement & Slope Repair | Angeles National Forest  | SB1          | \$ 45,000                   | Design | Fall 2024                       | Fall 2024                 |
| 391     | Various Dirt Roads in RD558 Regrade Off-System (2023STMHILARY EM2306)                     | Regrade dirt roads      | Pearblossom/Llano, Little Rock Pearblossom, Little Rock/Juniper Hills, & Llano | SB1          | \$ 200,000                  | Design | Fall 2024                       | Fall 2024                 |
| 392     | 150th St East-Avenue N to Avenue K Shoulder Rpr On-System (2023STMHILARY EM2306)          | Shoulder restoration    | Lake Los Angeles   | SB1          | \$ 480,000                  | Design | Fall 2024                       | Fall 2024                 |
| 393     | Avenue Q, et al., Shoulder Repair Off-System (2023STMHILARY EM2306)                       | Shoulder restoration    | Hi Vista, Lake Los Angeles   | SB1          | \$ 186,000                  | Design | Fall 2024                       | Fall 2024                 |
| 394     | Soledad Canyon Rd Tunnel (County #0739 State #53C0489)                                    | Repair tunnel           | Canyon Country   | SB1          | \$ 1,300,000                | Design | Fall 2024                       | Summer 2025               |
| 395     | Various Dirt Roads in RD558 Off-System (2023STMHILARY EM2306)                             | Shoulder restoration    | Pearblossom/Llano & Little Rock/Juniper Hills                                  | SB1          | \$ 480,000                  | Design | Fall 2024                       | Fall 2024                 |
| 233     | Lancaster Rd - Munz Ranch Rd to 300' E/o Munz Ranch Rd                                    | Shoulder paveout        | West Antelope Valley   | SRD Fund     | \$ 12,500                   | Design | Spring 2024                     | Spring 2024               |
|         |   |                         |  |              | \$ 425,515,800              |        |                                 |                           |

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**10th St East, et al.**

8th St East - Avenue Q to Avenue P-8  
9th St East - Avenue P 15 to Avenue P-12  
10th St East - 660' N/o Avenue Q to Avenue P-8  
Avenue P-8 - 8th St East to 10th St East  
Avenue P-12 - 8th St East to 9th St East  
Avenue P 15 - Rambler Av to 9th St East  
Avenue Q - Sierra Hy to 272' E/o 9th St East  
Rambler Av - Avenue Q to Avenue P-12  
Sierra Hy - Avenue Q to 1382' N/o Avenue Q

**Avenue Q, et al., Shoulder Repair**

Avenue Q - 190th St East to 200th St East  
200th St East - Avenue Q to Palmdale Av

**Avenue Q Tract**

150th St East - Palmdale Bl to Avenue Q  
151st St East - Avenue Q-7 to 1802' N/o Avenue Q-7  
152nd St East - Palmdale Bl to 1200' N/o Avenue Q-7  
152nd St East - Avenue Q-1 to Avenue Q  
154th St East - 1296' N/o Avenue Q-7 to Avenue Q-1  
155th St East - Palmdale Bl to Avenue Q-4  
156th St East - Avenue Q-7 to Avenue Q-1  
158th St East - Palmdale Bl to Avenue Q-7  
158th St East - Avenue Q-1 to Avenue Q  
159th St East - Avenue Q-7 to Avenue Q-1  
160th St East - Palmdale Bl to Avenue Q  
155th St East - Avenue Q-4 to Avenue Q  
Avenue Q - 145th St East to 170th St East  
Avenue Q-1 - 699' W/o 152nd St East to 154th St East  
Avenue Q-1 - 156th St East to 159th St East  
Avenue Q-3 - 150th St East to 151st St East  
Avenue Q-4 - 154th St East to 156th St East  
Avenue Q-4 - 1193' W/o 159th St East to 160th St East  
Avenue Q-7 - 151st St East to 154th St East  
Avenue Q-7 - 156th St East to 159th St East

**Avenue Q Tract (Phase 2)**

Avenue Q-1 - 156th St East to 159th St East  
Avenue Q-4 - 154th St East to 156th St East  
Avenue Q-4 - 1193' W/o 159th St East to 160th St East  
Avenue Q-7 - 156th St East to 159th St East  
150th St East - Palmdale Bl to Avenue Q  
155th St East - Palmdale Bl to Avenue Q  
156th St East - Avenue Q-7 to Avenue Q-1  
158th St East - Palmdale Bl to Avenue Q-7  
158th St East - Avenue Q-1 to Avenue Q  
159th St East - Avenue Q-7 to Avenue Q-1  
160th St East - Palmdale Bl to Avenue Q

**Avenue R-8, et al.**

95th St East - Avenue R-8 to Avenue R  
95th St East - Avenue S to Avenue Q

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Avenue R-8, et al. (Continued)**

96th St East - Avenue S to Avenue R-8  
97th St East - Avenue S to Avenue R-8  
100th St East - Avenue R-8 to Avenue Q  
100th St East - Avenue S to Avenue R-10  
100th St East - Avenue R-10 S to Avenue R-8  
102nd St East - Avenue S to Avenue Q-14  
102nd St East - Avenue Q-12 to Palmdale Bl  
105th St East - Avenue S to Palmdale Bl  
107th St East - Avenue S to Avenue R  
Avenue Q-2 - 95th St East to 100th St East  
Avenue Q-4 - 90th St East to 100th St East  
Avenue Q-6 - 95th St East to 100th St East  
Avenue Q-10 - 90th St East to 105th St East  
Avenue Q-12 - 90th St East to 105th St East  
Avenue Q-14 - 90th St East to 105th St East  
Avenue R - 1100' W/o 90th St East to 105th St East  
Avenue R-2 - 100th St East to 4688' E/o 110th St East  
Avenue R-4 - 100th St East to 115th St East  
Avenue R-6 - 100th St East to 115th St East  
Avenue R-8 - 90th St East to 115th St East  
Avenue R-10 - 90th St East to 95th St East  
Avenue R-10 - 97th St East to 110th St East  
Avenue R 11 - 95th St East to 96th St East  
Avenue R-12 - 90th St East to 95th St East  
Avenue R-12 - 96th St East to 97th St East  
Avenue R-12 - 100th St East to 110th St East  
Avenue R-14 - 90th St East to 95th St East  
Avenue R-14 - 96th St East to 97th St East  
Avenue R-14 - 100th St East to 110th St East

**Big Pines Hwy, et al. (2020 Bobcat Fire)**

Big Pines Hy at MM 1.22  
Big Pines Hy 700' E/o MM 1.22  
106th St East 800' S/o MM 24.90  
Tumbleweed Rd at MM 0.35 (Pallet Creek, BR No. 3578)

**Bridge Preventive Maintenance Program Group 14**

Lake Hughes Rd over Elizabeth Cyn Creek  
Calgrove Bl over South Fork Santa Clara River  
Castaic Rd over Violin Creek  
North Ridge Route Rd over Violin Creek  
Soledad Cyn Rd over Bee Cyn Wash  
Commerce Center Dr over Castaic Creek & Hasley Channel  
Aliso Cyn Rd over Gleason Cyn Creek  
Avenue T over SPRR  
East Fork Rd over Susana Creek

**Bridge Preventive Maintenance Program Group 22**

Valyermo Rd over Big Rock Creek  
Camp Bonita Rd over Cattle Cyn Creek  
Big Tujunga Cyn Rd over Big Tujunga Cyn Creek  
Romero Cyn Rd over Hasley Cyn Channel



**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Cherry Dr, et al.**

Arrow Point Dr - Banjo Cr to Nares Dr  
Arrow Point Dr - Dry Well Cr to Banjo Cr  
Arrow Point Dr - Fox Run Cr to Dry Well Cr  
Arrow Point Dr - Gold Hill Dr to Fox Run Cr  
Arrow Point Dr - Nares Dr to Cherry Dr  
Banjo Cr - 173' W/o Arrow Point Dr to Arrow Point Dr  
Cherry Dr - Arrow Point Dr to 228' N/o Arrow Point Dr  
Cherry Dr - Gold Hill Dr to Arrow Point Dr  
Cherry Dr - 600' S/o Parker Rd to Parker Rd  
Cherry Dr - Parker Rd to Gold Hill Dr  
Dry Well Cr - 272' W/o Arrow Point Dr to Arrow Point Dr  
Fox Run Cr - 328' W/o Arrow Point Dr to Arrow Point Dr  
Gold Hill Dr - 438' W/o Arrow Point Dr to Arrow Point Dr  
Gold Hill Dr - Arrow Point Dr to Cherry Dr  
Karena Av - Parker Rd to Lisa St  
Lisa St - 141' W/o Karena Av to Karena Av  
Nares Dr - Sloan Cyn Rd to Arrow Point Dr  
Tobiah Pl - 600' S/o Parker Rd to Parker Rd

**Green Hill Dr, et al.**

Applewood Ln - 275' W/o Meadow Grass Dr to Meadow Grass Dr  
Applewood Ln - 336' E/o Meadow Grass Dr to Quail Valley Rd  
Applewood Ln - Meadow Grass Dr to 336' E/o Meadow Grass Dr  
Avion Cr - 705' E/o Victoria Rd to Green Hill Dr  
Avion Cr - Victoria Rd to 705' E/o Victoria Rd  
Banjo Cr - 173' W/o Arrow Point Dr to Arrow Point Dr  
Bobcat Wy - Chucker Ct to Sloan Cyn Rd  
Bobcat Wy - Hipshot Dr to Chucker Ct  
Branch Rd - 163' E/o Timber Pl to Green Hill Dr  
Branch Rd - 569' W/o Olive Av to Olive Av  
Branch Rd - Olive Av to Timber Pl  
Branch Rd - Timber Pl to 163' E/o Timber Pl  
Cedar Wy - Forest Meadow Pl to Meadow Grass Dr  
Chucker Ct - 173' W/o Bobcat Wy to Bobcat Wy  
Cloverleaf Pl - 909' S/o Heather Ln to Heather Ln  
Dell Ct - Meadow Grass Dr to 175' N/o Meadow Grass Dr  
Forest Meadow Pl - 328' E/o Cedar Wy to Quail Valley Rd  
Forest Meadow Pl - 476' W/o Cedar Wy to Cedar Wy  
Forest Meadow Pl - Cedar Wy to 328' E/o Cedar Wy  
Gelding Rd - 456' S/o Royal Rd to Royal Rd  
Green Hill Dr - 108' N/o Pinto Pl to 1162' N/o Pinto Pl  
Green Hill Dr - 1162' N/o Pinto Pl to Avion Cr  
Green Hill Dr - 145' N/o Royal Rd to Pinto Pl  
Green Hill Dr - 262' S/o Branch Rd to Branch Rd  
Green Hill Dr - Avion Cr to Victoria Rd  
Green Hill Dr - Branch Rd to Windy Wy  
Green Hill Dr - Pinto Pl to 108' N/o Pinto Pl  
Green Hill Dr - Windy Wy to Royal Rd  
Green Hill Dr - Royal Rd to 145' N/o Royal Rd  
Greenwood Pl - 1678' E/o Heather Ln - W to Heather Ln - E  
Greenwood Pl - Heather Ln - W to 1678' E/o Heather Ln - W  
Heather Ln - 235' E/o Cloverleaf Pl to Greenwood Pl - E

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Green Hill Dr, et al. (Continued)**

Heather Ln - 98' E/o Greenwood Pl - W to Cloverleaf Pl  
Heather Ln - Cloverleaf Pl to 0235' E/o Cloverleaf Pl  
Heather Ln - Greenwood Pl - E to Quail Valley Rd  
Heather Ln - Greenwood Pl - W to 98' E/o Greenwood Pl - W  
Hipshot Dr - 221' S/o Rogue Wy to Rouge Wy  
Hipshot Dr - Bobcat Wy to 727' N/o Bobcat Wy  
Hipshot Dr - Rogue Wy to Bobcat Wy  
Mariposa Ln - Shadow Lake Ln to Pine Crest Pl  
Meadow Grass Dr - 173' E/o Cedar Wy to Dell Ct  
Meadow Grass Dr - 863' E/o Heather Ln to Cedar Wy  
Meadow Grass Dr - Applewood Ln to 145' E/o Applewood Ln  
Meadow Grass Dr - Cedar Wy to 173' E/o Cedar Wy  
Meadow Grass Dr - Dell Ct to Applewood Ln  
Meadow Grass Dr - Heather Ln to 863' E/o Heather Ln  
Mustang Dr - 220' S/o Victoria Rd to Victoria Rd  
Olive Av - Branch Rd to Royal Rd  
Pinto Pl - Green Hill Dr to The Old Road  
Quail Valley Rd - 331' S/o Heather Ln to Heather Ln  
Quail Valley Rd - Applewood Ln to Sloan Cyn Rd  
Quail Valley Rd - Forest Meadow Pl to Applewood Ln  
Quail Valley Rd - Heather Ln to Forest Meadow Pl  
Rogue Wy - Hipshot Dr to Sloan Cyn Rd  
Royal Rd - 082' W/o Gelding Rd to Gelding Rd  
Royal Rd - 359' N/o Gelding Rd to Olive Av  
Royal Rd - 437' N/o Olive Av to 663' N/o Olive Av  
Royal Rd - 663' N/o Olive Av to Green Hill Dr  
Royal Rd - Gelding Rd to 359' N/o Gelding Rd  
Royal Rd - Green Hill Dr to The Old Road  
Royal Rd - Olive Av to 437' N/o Olive Av  
Stallion Pl - 137' W/o The Old Road to The Old Road  
Timber Pl - 231' S/o Branch Rd to Branch Rd  
Victoria Rd - 389' W/o Mustang Dr to Mustang Dr  
Victoria Rd - 402' E/o Mustang Dr to Avion Cr  
Victoria Rd - 445' E/o Avion Cr to Green Hill Dr  
Victoria Rd - Avion Cr to 445' E/o Avion Cr  
Victoria Rd - Green Hill Dr to The Old Road  
Victoria Rd - Mustang Dr to 402' E/o Mustang Dr  
Windy Wy - 104' W/o Green Hill Dr to Green Hill Dr  
Windy Wy - 397' W/o Green Hill Dr to 104' W/o Green Hill Dr

**Hasley Hills South**

Ashby Ct - Chelsea St to 139' E/o Chelsea St  
Beacon St - Concord Av to Cambridge Av  
Buckskin Dr - Rangewood Rd to 386' E/o Plymouth Rd  
Cambridge Av - Quincy St to Hasley Cyn Rd  
Chelsea St - Quincy St to 110' N/o Ashby Ct  
Colt Rd - 570' S/o Hawkset St to Hawkset St  
Concord Av - 650' W/o Quincy St to Quincy St  
Danvers Pl - 152' W/o Wakefield Rd to Wakefield Rd  
Diablo Pl - 574' S/o Buckskin Dr to Buckskin Dr  
FenWy Ct - 229' S/o Quincy St to Quincy St  
Hartford Av - Wakefield Rd to 211' E/o Chelsea St

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Hasley Hills South (Continued)**

Hawkset St - Remington Rd to 325' E/o Colt Rd  
Hidden Trail Rd - Live Oak Rd to Saddleridge Wy  
Highplains Ct - 341' S/o Stageline Rd to Stageline Rd  
Live Oak Rd - 580' W/o Hidden Trail Rd to The Old Rd  
Nantucket St - 182' W/o Wakefield Rd to Beacon St  
Newport Pl - Wakefield Rd to 162' N/o Wakefield Rd  
Plymouth Rd - 329' S/o Quincy St to Quincy St  
Plymouth Rd - Buckskin Dr to 500' N/o Buckskin Dr  
Quincy St - 438' W/o Stageline Rd to Live Oak Rd  
Rangewood Rd - 338' S/o Stageline Rd to Saddleridge Wy  
Remington Rd - Winchester Rd to Hawkset St  
Rockport Wy - Beacon St to Quincy St  
Romero Cyn Rd - Hasley Cyn Rd to 577' N/o Sharp Rd  
Saddleridge Wy - Rangewood Rd to Hidden Trail Rd  
Salem Ct - Chelsea St to 327' E/o Chelsea St  
Sharp Rd - Winchester Rd to Romero Cyn Rd  
Stageline Rd - 308' W/o Highplains Ct to Rangewood Rd  
Stowe Ln - 242' W/o Chelsea St to Chelsea St  
Sturbridge Dr - 441' W/o Beacon St to Beacon St  
Wakefield Rd - Nantucket St to 421' N/o Hartford Av  
Winchester Rd - 371' S/o Remington Rd to 520' N/o Remington Rd  
Woodstock Av - 442' W/o Beacon St to Beacon St

**Lake Hughes Bridges Debris Walls**

BR 1519 - Lake Hughes Rd over Turkey Canyon Crk  
BR 2040 - Lake Hughes Rd over Elizabeth Lake Canyon Crk  
BR 741 - Lake Hughes Rd over Fish Crk  
BR 798 - Pine Canyon Rd over Pine Canyon Crk  
BR 1209 - Lake Hughes Rd over Deer Canyon Crk  
BR 3285 - Lake Hughes Rd over Unnamed Wash  
BR 3252 - Lake Hughes Rd over Prospect Canyon Crk

**Lake Los Angeles Community (Phase 1)**

151st St East - Avenue N-12 to Newmont Av  
151st St East - Greenrock Av to Lanfair Av  
152nd St East - 1675' S/o Avenue M-8 to Avenue M-8  
152nd St East - Avenue O to Sweetaire Av  
152nd St East - Sweetaire Av to Grey Stallion Rd  
152nd St East - Newmont Av to Greenrock Av  
154th St East - Sweetaire Av to 2065' N/o Sweetaire Av  
154th St East - Greenrock Av to Lanfair Av  
155th St East - Avenue O to Avenue M-4  
155th St East - Avenue N to Avenue M-12  
155th St East - Avenue M-12 to Avenue M-8  
156th St East - Sweetaire Av to Newmont Av  
156th St East - Valeport Av to Mossdale Av  
156th St East - Greenrock Av to Lanfair Av  
156th St East - Indian Falls Av to 858' N/o Indian Falls Av  
158th St East - 1671' S/o Avenue M-8 to 1344' N/o Avenue M-8  
158th St East - Avenue O to Sweetaire Av  
158th St East - 1193' S/o Newmont Av to Valeport Av  
158th St East - 1193' S/o Mossdale Av to Greenrock Av

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Lake Los Angeles Community (Phase 1) (Continued)**

159th St East - Sweetaire Av to Newmont Av  
159th St East - Valeport Av to Mossdale Av  
159th St East - Greenrock Av to Lanfair Av  
159th St East - Indian Falls Av to Avenue M-4  
160th St East - Avenue O to Avenue N  
Avenue M-8 - 155th St East to 160th St East  
Avenue M-12 - 150th St East to 151st St East  
Avenue M-12 - 154th St East to 156th St East  
Avenue M-12 - 159th St East to 160th St East  
Avenue N - 150th St East to 160th St East  
Avenue N-4 - 155th St East to 156th St East  
Avenue N-4 - 159th St East to 160th St East  
Avenue N-8 - 155th St East to 160th St East  
Avenue N-12 - 150th St East to 151st St East  
Avenue N-12 - 154th St East to 156th St East  
Avenue N-12 - 159th St East to 160th St East  
Greenrock Av - 151st St East to 154th St East  
Greenrock Av - 156th St East to 159th St East  
Grey Stallion Rd - 152nd St East to 154th St East  
Indian Falls Av - 156th St East to 59th St East  
Lanfair Av - 151st St East to 154th St East  
Lanfair Av - 156th St East to 159th St East  
Mossdale Av - 156th St East to 159th St East  
Newmont Av - 151st St East to 154th St East  
Newmont Av - 156th St East to 159th St East  
Sweetaire Av - 152nd St East to 154th St East  
Sweetaire Av - 156th St East to 159th St East  
Valeport Av - 156th St East to 159th St East

**Lake Los Angeles Local Streets, et al.**

166th St East - 624' S/o Jubilee Trail Av to Jubilee Trail Av  
166th St East - Highacres Av to Coolwater Av  
167th St East - 624' S/o Jubilee Trail Av to Jubilee Trail Av  
167th St East - 426' S/o Highacres Av to Avenue O  
168th St East - 425' S/o Jubilee Trail Av to Jubilee Trail Av  
168th St East - Highacres Av to Coolwater Av  
169th St East - 425' S/o Jubilee Trail Av to Jubilee Trail Av  
169th St East - Glenfall Av to Coolwater Av  
171st St East - 499' S/o Rawhide Av to Rawhide Av  
171st St East - Laredo Vista Av to Lakespring Av  
173rd St East - 168' S/o Rawhide Av to Rawhide Av  
173rd St East - Avenue P to Laredo Vista Av  
174th St East - 161' S/o Rawhide Av to Rawhide Av  
174th St East - Laredo Vista Av to Lakespring Av  
173rd St East - Rawhide Av to Avenue P  
Biglake Av - 171st St East to 174th St East  
Coolwater Av - Fieldspring St to 169th St East  
Fieldspring St - 166th St East to Coolwater Av  
Frontier Circus St - Jubilee Trail Av to Avenue P-8  
Glenfall Av - 168th St East to 170th St East Wf  
Highacres Av - 166th St East to 168th St East  
Jubilee Trail Av - 166th St East to 169th St East

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Lake Los Angeles Local Streets, et al. (Continued)**

Lakespring Av - 171st St East to 174th St East  
Laredo Vista Av - 171st St East to 174th St East  
Longmeadow Av - 170th St East to 175th St East  
Parkvalley Av - 169th St East to 170th St East  
Queensglen Av - 171st St East to 174th St East  
Rawhide Av - 171st St East to 174th St East

**Live Oak Springs Cyn Rd, et al.**

Cyn End Rd - Saddleback Rd to Live Oak Springs Cyn Rd  
Crystal Springs Rd - 43' N/o Live Oak Springs Cyn Rd to 433' N/o Live Oak Springs Cyn Rd  
Live Oak Springs Cyn Rd - 130' W/o Saddleback Rd to 393' E/o Cyn End Rd  
Michael Crest Dr - 809' W/o Cyn End Rd to Cyn End Rd  
Saddleback Rd - 913' S/o Cyn End Rd to 616' N/o Cyn End Rd

**North County Bus Stop Improvements (MSP)**

50th St West & Avenue M-8  
50th St West & Avenue L  
50th St West & Avenue M  
Avenue L-12 & 65th St West  
Avenue L & 45th St West  
Avenue M & 65th St West  
Avenue M & 52nd St West  
Avenue M & 55th St West  
Avenue M & 60th St West  
Avenue M & Quartz Hill Mobile Home Park  
Chiquito Cyn Rd & Lincoln Av  
Chiquito Cyn Rd & Marvin St  
Chiquito Cyn Rd & Taft Ct  
Chiquito Cyn Rd & Taylor St  
Del Valle Rd & Hasley Cyn Rd  
Del Valle Rd & Silver St  
San Martinez Rd & Neuraschel St  
Sierra Hwy & Vasquez Cyn Rd  
29415 Bouquet Cyn Rd  
The Old Rd & Parker Rd  
LARC Ranch

**Oak Valley Rd, et al.**

Autumn Oak Ct - 116' S/o Oak Valley Rd to Oak Valley Rd  
Black Oak Ln - Sierra Oak Tr to The Old Road  
Highland Ct - 332' W/o Sierra Oak Tr to Sierra Oak Tr  
Oak Hill Ct - 604' S/o The Old Road to The Old Road  
Oak Valley Rd - 793' W/o Sierra Oak Tr to The Old Road  
Ridge Top Ln - 468' S/o Sierra Oak Tr to 751' N/o Sierra Oak Tr  
Sierra Oak Tr - Oak Valley Rd to Ridge Top Ln

**Quail Valley Rd, et al.**

Applewood Ln - 275' W/o Meadow Grass Dr to Meadow Grass Dr  
Applewood Ln - 336' E/o Meadow Grass Dr to Quail Valley Rd  
Applewood Ln - Meadow Grass Dr to 336' E/o Meadow Grass Dr  
Cedar Wy - Forest Meadow Pl to Meadow Grass Dr  
Cloverleaf Pl - 909' S/o Heather Ln to Heather Ln

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Quail Valley Rd, et al. (Continued)**

Dell Ct - Meadow Grass Dr to 175' N/o Meadow Grass Dr  
Forest Meadow PI - 328' E/o Cedar Wy to Quail Vly Rd  
Forest Meadow PI - 476' W/o Cedar Wy to Cedar Wy  
Forest Meadow PI - Cedar Wy to 328' E/o Cedar Wy  
Greenwood PI - 1678' E/o Heather Ln - W to Heather Ln - E  
Greenwood PI - Heather Ln - W to 1678' E/o Heather Ln - W  
Heather Ln - 235' E/o Cloverleaf PI to Greenwood PI - E  
Heather Ln - 98' E/o Greenwood PI - W to Cloverleaf PI  
Heather Ln - Cloverleaf PI to 235' E/o Cloverleaf PI  
Heather Ln - Greenwood PI - E to Quail Valley Rd  
Heather Ln - Greenwood PI - W to 98' E/o Greenwood PI - W  
Meadow Grass Dr - 173' E/o Cedar Wy to Dell Ct  
Meadow Grass Dr - 863' E/o Heather Ln to Cedar Wy  
Meadow Grass Dr - Applewood Ln to 145' E/o Applewood Ln  
Meadow Grass Dr - Cedar Wy to 173' E/o Cedar Wy  
Meadow Grass Dr - Dell Ct to Applewood Ln  
Meadow Grass Dr - Heather Ln to 863' E/o Heather Ln  
Quail Valley Rd - 331' S/o Heather Ln to Heather Ln  
Quail Valley Rd - Forest Meadow PI to Applewood Ln  
Quail Valley Rd - Heather Ln to Forest Meadow PI  
Quail Valley Rd - Applewood Ln to Sloan Cyn Rd

**San Francisquito Cyn Rd and Lake Hughes Rd Signage Project**

San Francisquito Cyn Rd - Elizabeth Lake Rd to City of Santa Clarita/County boundary line  
Lake Hughes Rd - Elizabeth Lake Rd to Ridge Route Rd

**Stevenson Ranch Tract (Phase 4)**

Beecher Ln - 253' W/o De Quincy PI to Faulkner Dr  
Bowman Wy - Beecher Ln to Housman PI  
Brooks Cr - Trent Wy to Poe Py (East)  
Brooks Cr - Poe Py (West) to Trent Wy  
Byron Wy - Shakespeare Ln to Brooks Cr  
Campbell Ct - 263' W/o De Quincy PI to De Quincy PI  
De Quincy PI - Beecher Ln to 156;' N/o Campbell Ct  
Defoe Wy - Wyatt Ln to Poe Py  
Durant PI - 413' S/o Thackery Ln to Thackery Ln  
Forster Wy - Beecher Ln to Housman PI  
Forsythe Wy - Beecher Ln to Faulkner Dr  
Hawthorne PI - Beecher Ln to 632' N/o Beecher Ln  
Hood Wy - Beecher Ln to Faulkner Dr  
Hopkins PI - Shakespeare Ln to 524' N/o Shakespeare Ln  
Housman PI - 388' W/o Bowman Wy to 39' E/o Forster Wy  
Kendall Ln - 29' W/o Wallace PI to Brooks Cr  
Lewis Wy - Beecher Ln to Faulkner Dr  
Mackenzie Wy - Hood Wy to Moore Ln  
Melville Ct - 182' S/o Thackery Ln to Thackery Ln  
Moore Ln - Beecher Ln to 63' N/o Mackenzie Wy  
Poe Py - 127' W/o Defoe Wy to Hemingway Av  
Raleigh Ln - 241' S/o Wyatt Ln to Wyatt Ln  
Reade PI - Thoreau Wy to 548' E/o Thoreau Wy  
Sandburn PI - 197' W/o Shakespeare Ln to Brooks Cr  
Shakespeare Ln - Sandburn PI to 48' E/o Thoreau Wy

**COUNTY TRANSPORTATION PROJECTS IN THE NORTH COUNTY  
STREET LISTS FOR ET AL. PROJECTS  
FISCAL YEAR 2023-24 AND BEYOND**

**Stevenson Ranch Tract (Phase 4) (Continued)**

Shelley Pl - Shakespeare Ln to 428' N/o Shakespeare Ln  
Sinclair Pl - 387' S/o Bowman Wy to Bowman Wy  
Thackery Ln - 198' W/o Trent Wy to Brooks Cr  
Thoreau Wy - Shakespeare Ln to Poe Py  
Thurber Wy - Beecher Ln to Faulkner Dr  
Trent Wy - Brooks Cr to Thackery Ln  
Wallace Pl - Kendall Ln to 463' N/o Kendall Ln  
Wyatt Ln - Kendall Ln to 234' N/o Raleigh Ln

**Various Dirt Roads in RD555 Regrade**

100th St East - Avenue H to Avenue G-8  
130th St East - Avenue J to Avenue H.

**Various Dirt Roads in RD558 Regrade**

Avenue S-2 - 96th St East to 106th St East  
Avenue S-4 - 660' E/o 101st St East to 106th St East  
Avenue S-6 - 96th St East to 106th St East  
Avenue S-12 - 103rd St East to 106th St East  
92nd St East - 1,447' N/o Avenue S-8 to Avenue S  
98th St East - Avenue T to Avenue S  
103rd St East - Avenue T to Avenue S  
Avenue T-2 - 87th St East to 92nd St East  
Avenue T-6 - 87th St East to 96th St East  
Avenue T-10 - 87th St East to 96th St East  
89th St East - Avenue U to Avenue T-14  
92nd St East - Avenue T-14 to Avenue T-2  
94th St East - Avenue T-14 to Avenue T-2  
Avenue W-2 - Longview Rd to 136th St East  
Avenue W-4 - Longview Rd to 136th St East  
Avenue W-6 - 135th St East to 136th St East  
Avenue W-8 - Longview Rd to 136th St East  
132nd St East - Avenue W-10 to Avenue W-6  
132nd St East - 465' N/o Avenue W-6 to Avenue W-2  
133rd St East - 500' N/o Avenue W-11 to Avenue W-6  
133rd St East - Avenue W-4 to Avenue W-2  
135th St East - Avenue W-11 to Avenue W-2  
136th St East - Avenue W-8 to Avenue W  
Avenue R - 200th St East to 230th St East  
Fort Tejon Rd - Bobs Gap Rd to Largo Vista Rd  
Fort Tejon Rd - 660' E/o 213th St East to Antelope Hy  
175th St East - Fort Tejon Rd to Avenue W  
200th St East - Avenue R to Palmdale Bl  
230th St East - Avenue R to Palmdale Bl  
233rd St East - Fort Tejon Rd to Antelope Hy

**Various Dirt Roads in RD558 Shoulder Restoration**

75th St East - Avenue U to SR 138 Hy  
77th St East - Avenue T-8 to SR 138 Hy  
80th St East - Avenue T to SR 138 Hy  
Avenue T-8 - 77th St East to 87th St East  
96th St East - Fort Tejon Rd to Avenue T  
Juniper Hills Rd - Cima Mesa Rd to Tumble Weed Rd  
121st St East - SR 138 Ht to Fort Tejon Rd

## North LA County Transportation Coalition Meeting

### California Highway Patrol – Antelope Valley Area

#### 3<sup>rd</sup> Quarter 2023

Total Citations: 2,463  
Citations for exceeding 100 MPH: 34  
Driving Under the Influence Arrests:  
203 DUI Crashes: 36  
Fatal Crashes: 2  
Injury Crashes: 252  
Property Damage Only Crashes: 221

#### 3<sup>rd</sup> Quarter 2022

Total Citations: 3,056  
Citations for exceeding 100 MPH: 71  
Driving Under the Influence Arrests: 190  
DUI Crashes: 50  
Fatal Crashes: 10  
Injury Crashes: 198  
Property Damage Only Crashes: 233

#### Change from 2022 to 2022(Comparison)

Total Citations: -19%  
Citations for exceeding 100 MPH: -32%  
Driving Under the Influence Arrests: +7%  
DUI Crashes: -28%  
Fatal Crashes: -80%  
Injury Crashes: +27%  
Property Damage Only Crashes: -5%



# North LA County Transportation Coalition October 2023

## California Highway Patrol – Newhall Area

### July - September 2023 Statistics

Total Citations: 6,333

Citations over 100 mph: 106

Driving Under the Influence Arrests: 153

All Traffic Collisions: 630

Fatal Traffic Collisions: 5

Injury Traffic Collisions: 212

Property Damage Only Traffic Collisions: 399

### July - September 2022 Statistics

Total Citations: 6,286

Citations over 100 mph: 127

Driving Under the Influence Arrests: 186

All Traffic Collisions: 694

Fatal Traffic Collisions: 3

Injury Traffic Collisions: 271

Property Damage Only Traffic Collisions: 420

### 2022-2023 - 3<sup>rd</sup> Quarter Comparison

**Citations: + 47**

**Citations of 100+ MPH: - 21**

**DUI arrest: - 33**

**Traffic Collisions: + 210**

**Fatal Collisions: + 2**

**Injury Collisions: - 59**

**Property Damage Collisions: - 21**

## **North LA County Transportation Coalition meeting**

**October 16, 2023**

### **Santa Clarita Valley Sheriff's Station**

#### **Jan-Sep, 2022**

Total Citations= 13896 (Motor team = 12186, remainder of patrol station = 1710) (Commercial Enforcement car suspended. Item reallocated to special team).

Citations over 100 MPH= 4

Driving under the influence arrests= 101 (DUI Enforcement car suspended January through March 2022)

All traffic collisions= 1194

Fatal traffic collisions= 3 (1 = Private property)

Injury collisions= 390 (Estimated, not all reports are processed)

Property damage only collisions= 801

#### **Jan-Sep, 2023**

Total Citations= 9345 (Motor team = 7661, remainder of patrol station = 1684) (Commercial Enforcement car suspended. Item reallocated to special team).

Citations over 100 MPH= 3

Driving under the influence arrests= 107

All traffic collisions= 1304

Fatal traffic collisions= 2

Injury collisions= 410 (Estimated, not all reports are processed)

Property damage only collisions= 891

#### **2022-2023 January through September comparison**

**Citations= -4551**

**Citations over 100 MPH= -1**

**DUI arrests= +6**

**Total collisions= +110**

**Fatal collisions= -1**

**Injury collisions= +20**

**Property damage only collisions= +90**

## NORTH COUNTY TRANSPORTATION COALITION

### 2023 3<sup>rd</sup> QUARTER BOARD REPORT UPDATE PALMDALE SHERIFF'S STATION

January – August Statistics

|                       | <b>2022</b> | <b>2023</b> | <b>% CHANGE</b> |
|-----------------------|-------------|-------------|-----------------|
| TOTAL COLLISIONS      | 1143        | 1071        | -6%             |
| FATAL COLLISIONS      | 11          | 11          | 0%              |
| INJURY COLLISIONS     | 402         | 382         | -5%             |
| NON-INJURY COLLISIONS | 730         | 679         | -7%             |
| DUI COLLISIONS        | 73          | 56          | -23%            |
| DUI ARRESTS           | 219         | 200         | -9%             |
| TOTAL CITATIONS       | 6980        | 6205        | -11%            |
| HAZARDOUS CITATIONS   | 5780        | 5186        | -10%            |
| ENFORCEMENT INDEX*    | 14.5:1      | 13.7:1      | -6%             |

\*The traffic enforcement index is the ratio of hazardous citations and DUI arrests to fatal and injury collisions. The recommended ratio of an effective traffic program is 20:1.

Traffic collision numbers have been decreasing for the last few months compared to last year, except for fatal collisions which are the same as last year. Speed continues to be a major factor in making those collisions fatal as opposed to just injury collisions. Enforcement is also down which has caused the enforcement index to decrease.

**NORTH COUNTY TRANSPORTATION COALITION**  
2nd QUARTER 2023 BOARD REPORT UPDATE  
LANCASTER SHERIFF'S STATION

**LANCASTER TRAFFIC ANALYSIS REPORT, PRIOR YEAR COMPARISON**

Statistical reporting dates of January 1, 2023, to June 30, 2023, as of October 3, 2023.  
There are still some late reports from this period that may affect these statistics.

|                     | <b>2022</b> | <b>2023</b> | <b>% CHANGE</b> |
|---------------------|-------------|-------------|-----------------|
| TOTAL CRASHES       | 1170        | 1048        | -10%            |
| FATAL CRASHES       | 12          | 8           | -33%            |
| INJURY CRASHES      | 485         | 456         | -6%             |
| NON-INJURY CRASHES  | 673         | 584         | -13%            |
| DUI CRASHES         | 80          | 61          | -24%            |
| DUI ARRESTS         | 258         | 246         | -5%             |
| TOTAL CITATIONS     | 3527        | 2610        | -26%            |
| HAZARDOUS CITATIONS | 3104        | 2324        | -25%            |
| ENFORCEMENT INDEX*  | 6.2         | 5.0         | -19%            |

\*The traffic enforcement index is the ratio of hazardous citations + DUI arrests to fatal + injury collisions. The recommended ratio of an effective traffic program is 20:1.

# NORTH COUNTY TRANSPORTATION COALITION

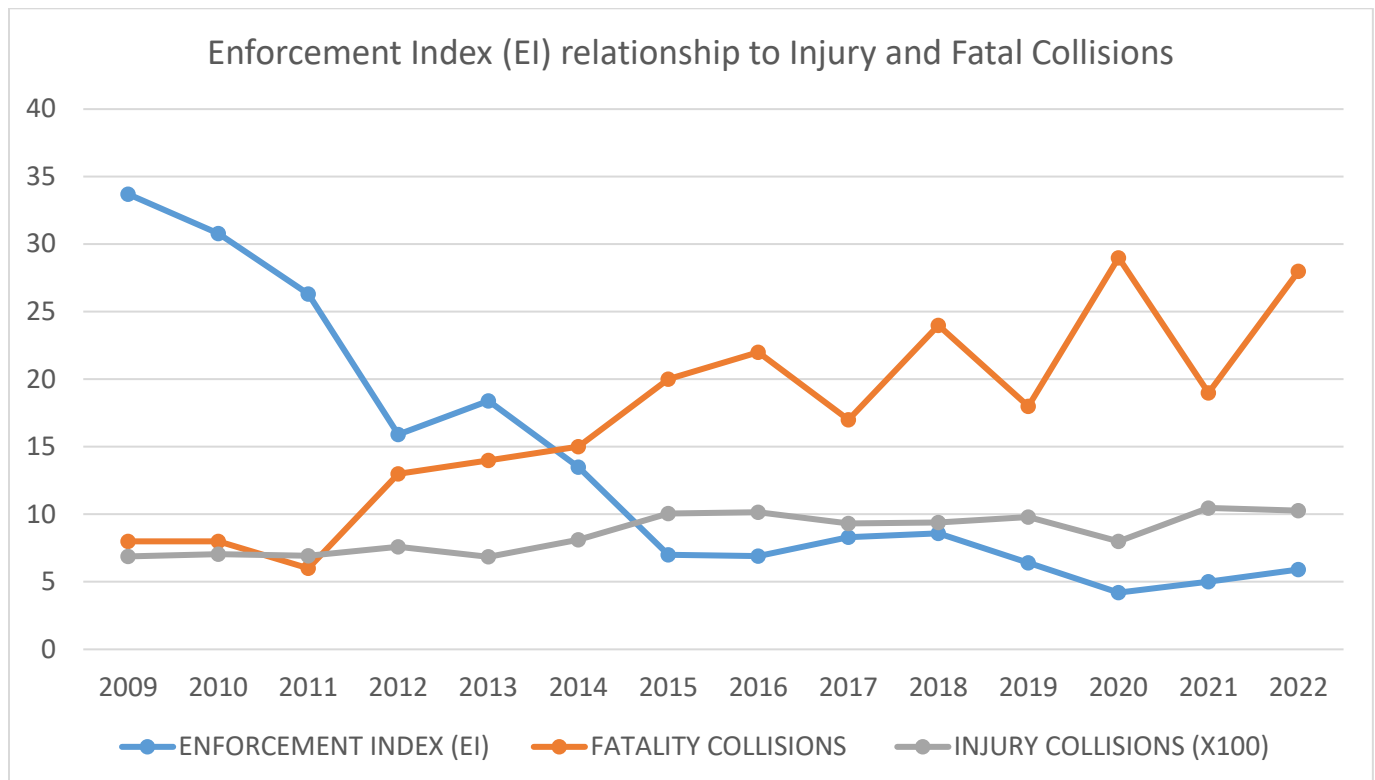
## 2nd QUARTER 2023 BOARD REPORT UPDATE

### LANCASTER SHERIFF'S STATION

#### LANCASTER TRAFFIC ANALYSIS REPORT, YEAR BY YEAR

The Traffic Analysis Report is obtained through Crossroads data. The traffic enforcement index (EI) is a ratio of hazardous citations and DUI arrests to fatal and injury collisions. The generally accepted ratio of an effective traffic safety program is 20:1 respectively.

| YEAR | INJURY COLLISIONS | FATALITY COLLISIONS | HAZARDOUS CITATIONS | ENFORCEMENT INDEX (EI) |
|------|-------------------|---------------------|---------------------|------------------------|
| 2009 | 688               | 8                   | 23468               | 33.7                   |
| 2010 | 706               | 8                   | 21973               | 30.8                   |
| 2011 | 693               | 6                   | 20212               | 26.3                   |
| 2012 | 760               | 13                  | 12287               | 15.9                   |
| 2013 | 685               | 14                  | 12875               | 18.4                   |
| 2014 | 812               | 15                  | 11081               | 13.5                   |
| 2015 | 1006              | 20                  | 7178                | 7.0                    |
| 2016 | 1016              | 22                  | 7214                | 6.9                    |
| 2017 | 933               | 17                  | 7924                | 8.3                    |
| 2018 | 940               | 24                  | 8316                | 8.6                    |
| 2019 | 979               | 18                  | 6340                | 6.4                    |
| 2020 | 799               | 29                  | 3501                | 4.2                    |
| 2021 | 1047              | 19                  | 5274                | 5.0                    |
| 2022 | 1026              | 28                  | 6193                | 5.9                    |



OTS TRIP GRANT

TRAFFIC RECORDS  
IMPROVEMENT PROJECT  
FOR  
ELECTRONIC CRASH  
REPORTS AND CITATIONS

NORTH PATROL DIVISION TRAFFIC SERGEANTS

# CURRENT REPORT WRITING CHALLENGES

- Handwritten face pages are often illegible and do not copy well.
- They are usually a combination of PDF and Word documents.
- Lancaster alone has 200-250 crash reports per month (35-50 are hit and run crashes), with only 3 detectives reviewing reports along with investigating hit and runs, complex fatal crashes, and filing cases.
- Average traffic deputy writes 40% more reports than the average crime deputy.
- Traffic crash reports take approximately 45 minutes to an hour to complete.
  - Sketch (drawing), statistical elements require a complete investigation.
- Currently 40%-50% report rejection rate, usually due to missing statistical elements and poor documentation.
- Paper reports get lost and pencil marks smear, especially when returned for corrections.
- Manual data entry into Crossroads Analytics by station clerk leads to errors.
- Time taken due to these issues lead to PRA request backlogs and inaccurate statistics.

# CURRENT CITATION CHALLENGES

- Citations can take up to 10-15 minutes to write.
- 50-75 citation rejects per month due to being illegible, missing subsections, missing boxes, incorrect court dates and other minor errors.
- Any minor rejection requires a mailed amendment.
- Manual data entry by traffic secretary and court transmittal must be written. They are then hand delivered to court.



# TRIP GRANT SOLUTION

- \$1.5 million OTS TRIP Grant was recently awarded to the Sheriff's Department to improve traffic records and equipment, as well as allowing all reports to be electronically delivered to SWITRS in Sacramento for statistical purposes.
- Electronic Crash report writing software for all desktops and mobile devices countywide.
- Mobile electronic citation software countywide including court transmittal and amendment capability.
- Project Management and training with "Crossroads."
- Mobile handheld devices and citation printers.
- County is reimbursed once successful upload to CHP servers at SWITRS and court occurs within the grant cycle (1 year).

# WHAT IS THE SOFTWARE?

- Crossroads software. <https://youtu.be/WzDqNh-9ViM>
- Used by over 120 police departments in California including Riverside, Orange, Ventura, San Bernardino County Sheriffs.
- Electronic crash report writing and electronic citations.
- Completely paperless system for report and citation submission, approval, and upload to SWITRS and court.
- Barcode scanning of driver's licenses and vehicle registration which auto populates in both systems.
- Impressive ability to draw a crash sketch using Google Map image, rather than hand drawn.
- Reduce report writing, approval, and data entry time in half or more.
- Reduce cost of hard copy citations.
- Neat, complete and professional reports and citations with less errors and increased statistical validation.

# COST TO THE COUNTY?

- Servers to hold the software and data was not approved by OTS. Funding for servers must be obtained by other means. Approximately \$100k.
- Personnel cost to implement and maintain servers and oversee project.
- \$15,000 annually in addition to the \$10,000 we are already spending on our current "Crossroads" analytics program.

# QUESTIONS?

- Welcome any questions.
- Thank you for your time.

October 3, 2023

**Vision Zero Los Angeles County Update**

**Traffic Fatality Statistics and Challenge Areas**

Traffic Fatalities- County-maintained Roadways in Unincorporated Communities\*

|  | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|------|------|------|------|------|
| Fatal Injuries NCTC area                   | 24   | 28   | 42   | 36   | 20   |
| Fatal Injuries Countywide (Unincorporated) | 79   | 86   | 114  | 124  | 49   |

\* Data from Public Works Traffic Collision Database, accessed September 25, 2023

Challenge areas in the NCTC area since 2019:

- Fixed-object crashes:
- Head-on crashes:
- Midblock Pedestrian:
- Left-road crashes:

Public Works will be exploring ways to address the challenge areas through its Vision Zero Initiative.

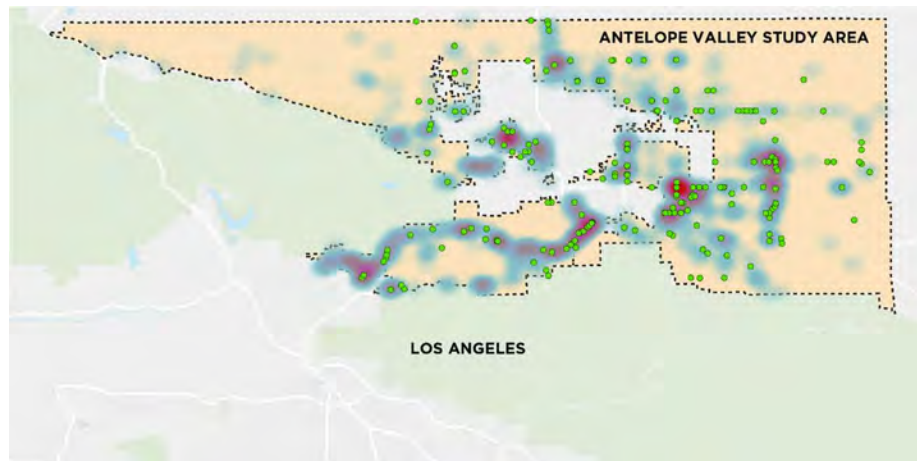
**Slow Streets Program**

- PW launched a Slow Streets program under the umbrella of the Vision Zero Initiative on July 2, 2020, in response to the COVID-19 pandemic
- Constituents in local, residential neighborhoods may apply for PW to install, at no cost, corrugated plastic signs with “Slow Down” messaging on the centerline or in the parking lane at neighborhood entrances.
- Program guidelines and the application process were developed to promote traffic calming, help communities comply with social distancing requirements, and encourage physical activity in neighborhoods
- Installation totals as of September 18, 2023:
  - Countywide – 2,270 signs (898 new, 1,372 replacements) at 821 locations, estimated nearly 63,000 residents served \*\*
  - NCTC area – 73 signs (38 new, 35 replacements) at 28 locations in Desert View Highlands community, estimated over 2600 residents served \*\*

\*\* The number of residents served is an estimated value that was calculated by multiplying the number of residences along a roadway within a designated Slow Street network by the average persons per household (according to 5-year Census estimates from 2015-2019 for Los Angeles, California, this value is 2.99, <https://www.census.gov/quickfacts/losangelescountycalifornia>).

### **Safe Streets and Roads for All 2023 Application**

- Public Works submitted an application to the USDOT for the Safe Streets and Roads for All competitive grant program in July 2023.
- A component of the grant application is the creation of a Rural Roadway Safety Plan for the unincorporated communities of the Antelope Valley.
- The development of the Plan will involve residents and stakeholders to identify traffic safety recommendations and develop feasibility studies for these recommendations along County-maintained roadways. Recommendations may include roundabouts, rumble strips, signing, shoulder widening, passing lanes, and other safety countermeasures.
- Below is a map of the Plan area:





# CALTRANS PROJECTS ON ROUTES 14 AND 138 IN LOS ANGELES AND SAN BERNARDINO COUNTIES

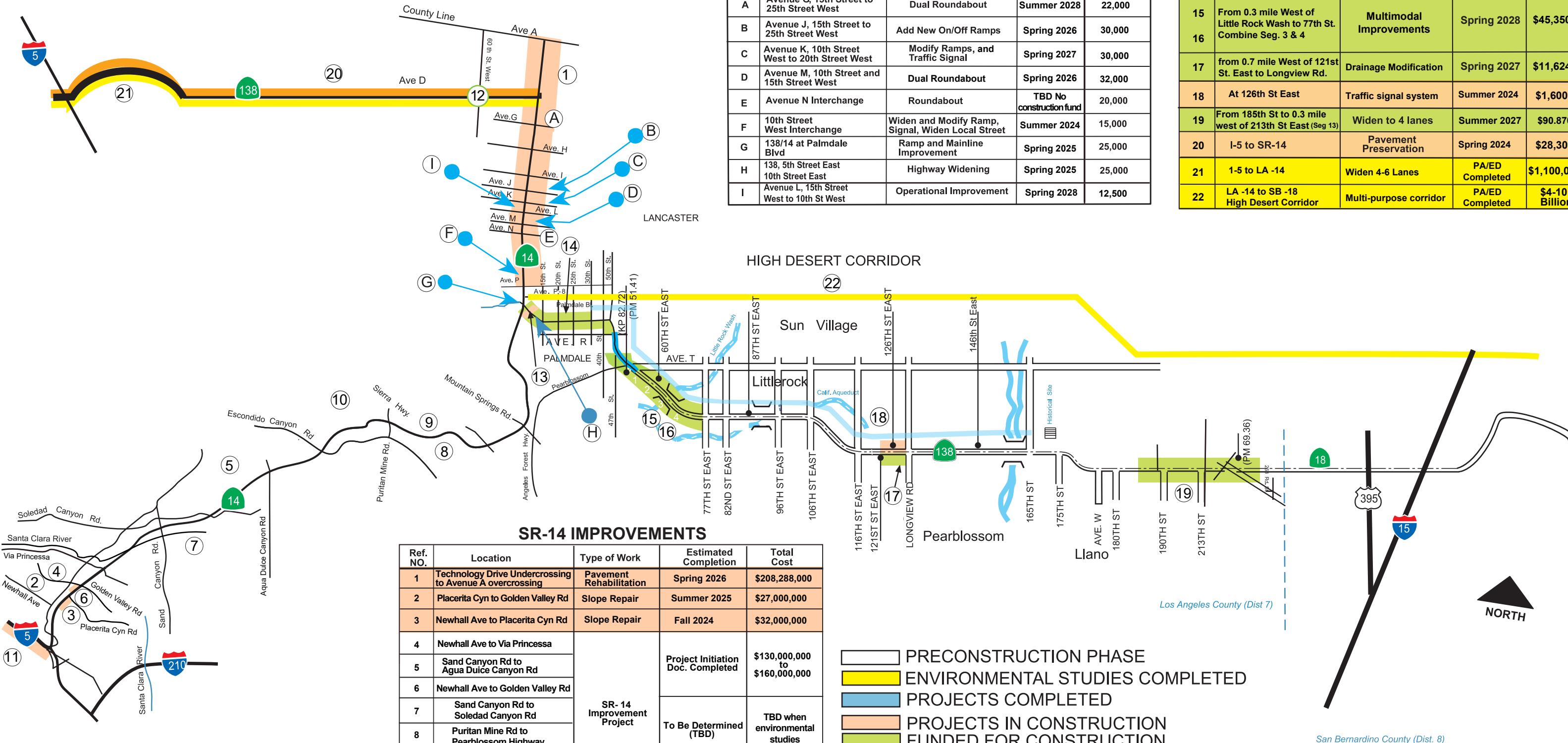
## SR-138 IMPROVEMENTS

| Ref. NO. | Location  | Type of Work            | Estimated Completion | Total Cost \$ x 1000 |
|----------|---|-------------------------|----------------------|----------------------|
| 12       | At 60th St West   | Roundabout              | Fall 2026            | \$13,234             |
| 13       | At 2nd St East  | Traffic signal system   | Summer 2024          | \$4,000              |
| 14       | LA-138 from 138/14 Junction to Ave T                                  | ADA compliance          | Spring 2026          | \$20,000             |
| 15       | From 0.3 mile West of Little Rock Wash to 77th St. Combine Seg. 3 & 4 | Multimodal Improvements | Spring 2028          | \$45,350             |
| 16       |   |                         |                      |                      |
| 17       | from 0.7 mile West of 121st St. East to Longview Rd.                  | Drainage Modification   | Spring 2027          | \$11,624             |
| 18       | At 126th St East  | Traffic signal system   | Summer 2024          | \$1,600              |
| 19       | From 185th St to 0.3 mile west of 213th St East (Seg 13)              | Widen to 4 lanes        | Summer 2027          | \$90,870             |
| 20       | I-5 to SR-14  | Pavement Preservation   | Spring 2024          | \$28,300             |
| 21       | 1-5 to LA -14   | Widen 4-6 Lanes         | PA/ED Completed      | \$1,100,000          |
| 22       | LA -14 to SB -18 High Desert Corridor                                 | Multi-purpose corridor  | PA/ED Completed      | \$4.10 Billion       |

### LOCAL AGENCY

| Ref. NO. | Location                                       | Type of Work                                      | Estimated Completion     | Total Cost \$ x 1000 |
|----------|--|---|--------------------------|----------------------|
| A        | Avenue G, 15th Street to 25th Street West      | Dual Roundabout                                   | Summer 2028              | 22,000               |
| B        | Avenue J, 15th Street to 25th Street West      | Add New On/Off Ramps                              | Spring 2026              | 30,000               |
| C        | Avenue K, 10th Street West to 20th Street West | Modify Ramps, and Traffic Signal                  | Spring 2027              | 30,000               |
| D        | Avenue M, 10th Street and 15th Street West     | Dual Roundabout                                   | Spring 2026              | 32,000               |
| E        | Avenue N Interchange                           | Roundabout  | TBD No construction fund | 20,000               |
| F        | 10th Street West Interchange                   | Widen and Modify Ramp, Signal, Widen Local Street | Summer 2024              | 15,000               |
| G        | 138/14 at Palmdale Blvd                        | Ramp and Mainline Improvement                     | Spring 2025              | 25,000               |
| H        | 138, 5th Street East 10th Street East          | Highway Widening                                  | Spring 2025              | 25,000               |
| I        | Avenue L, 15th Street West to 10th St West     | Operational Improvement                           | Spring 2028              | 12,500               |

## NCTC JPA October 16, 2023 Board Item 8 - Caltrans Highways Update



### SR-14 IMPROVEMENTS

| Ref. NO. | Location  | Type of Work                 | Estimated Completion              | Total Cost                     |
|----------|---|------------------------------|-----------------------------------|--------------------------------|
| 1        | Technology Drive Undercrossing to Avenue A overcrossing | Pavement Rehabilitation      | Spring 2026                       | \$208,288,000                  |
| 2        | Placerita Cyn to Golden Valley Rd                       | Slope Repair                 | Summer 2025                       | \$27,000,000                   |
| 3        | Newhall Ave to Placerita Cyn Rd                         | Slope Repair                 | Fall 2024                         | \$32,000,000                   |
| 4        | Newhall Ave to Via Princesa                             | SR-14 Improvement Project    | Project Initiation Doc. Completed | \$130,000,000 to \$160,000,000 |
| 5        | Sand Canyon Rd to Agua Dulce Canyon Rd                  |                              |                                   |                                |
| 6        | Newhall Ave to Golden Valley Rd                         |                              |                                   |                                |
| 7        | Sand Canyon Rd to Soledad Canyon Rd                     |                              |                                   |                                |
| 8        | Puritan Mine Rd to Pearblossom Highway                  |                              |                                   |                                |
| 9        | Escondido Canyon Rd to Pearblossom Highway              |                              |                                   |                                |
| 10       | 1-5 to Rancho Vista Blvd                                | Collision Severity Reduction | Summer 2027                       | \$18,489,000                   |

### I-5 IMPROVEMENTS

| Ref. NO. | Location           | Type of Work            | Estimated Completion | Total Cost \$ X 1000 |
|----------|--------------------|-------------------------|----------------------|----------------------|
| 11       | SR-14 to Parker Rd | HOV lane and Truck Lane | Spring 2027          | \$560,000            |

NOT TO SCALE

San Bernardino County (Dist. 8)



# Caltrans Updates

- SR-14 Reconstruct Pavement & Ramps Project (map reference No. 1)
- SR-14 Improvement Project (Implemented by Metro) (map reference No. 4, 5, 6)
- SR-14 Collision Severity Reduction Project (map reference No. 10)
- I-5 HOV and Truck Lanes Project (Implemented by Metro) (map reference No. 11)
- SR-138 Roundabout project (map reference No.12)
- SR-138 Drainage Project (map reference No. 17)
- SR-138 Segment 13 Project (map reference No. 19)





# STATE ROUTE 14 – No. 1

---

## Reconstruct Pavement & Ramps project:

- From Technology Drive Undercrossing to Avenue A Overcrossing
- Ready To List (RTL): June 30, 2021 (Actual Date)
- Approve Contract: March 3, 2023 (Actual Date)
- Contract Acceptance: March 11, 2026 (Target Date)



# STATE ROUTE 14 – No. 4, 5, 6

---

## SR-14 Improvement project:

- Project Initiation Document: August 11, 2021 (Actual Date)
- 3 out of 6 locations were considered: Two segments in the southbound direction and one segment in northbound direction. The other 3 locations (#7, 8, 9) may be considered
- Begin Project Approval & Environmental Document (PA&ED): October 6, 2023 (Actual Date)
- Finish PA&ED: Fall 2026\*

\*Target dates to be confirmed with Metro



# STATE ROUTE 14 – No. 10

---

## Collision Severity Reduction project:

- From Interstate 5 to Rancho Vista Blvd
- Begin PA&ED: September 12, 2023 (Actual Date)
- Percent Completed: 0%
- Finish PA&ED: July 31, 2024 (Target Date)
- Begin Design: September 1, 2024 (Target Date)
- Finish Design and RTL: December 16, 2025 (Target Date)



# INTERSTATE 5 – No. 11

---

## Construct High Occupancy Vehicle Lanes and Truck Lanes Project:

- From SR-14 to Parker Road
- Ready To List (RTL): April 8, 2020 (Actual Date)
- Approve Contract: August 23, 2021 (Actual Date)
- Contract Acceptance: December 18, 2026\* (Target Date)

\*Target dates to be confirmed with Metro



# STATE ROUTE 138 – No. 12

---

## Roundabout Project:

- At 60th Street West
- Begin PA&ED: June 30, 2020 (Actual Date)
- Finish PA&ED: April 20, 2022 (Actual Date)
- Begin Design: February 3, 2022 (Actual Date)
- Percent Completed: 60%
- Finish Design and RTL: March 15, 2024 (Target Date)



# STATE ROUTE 138 – No. 17

---

## Pearblossom Drainage Modification Project:

- From 0.7 miles west of 121st Street to Longview Road
- Begin PA&ED: June 1, 2022 (Actual Date)
- Finish PA&ED: April 24, 2023 (Actual Date)
- Begin Design: May 5, 2023 (Actual Date)
- Percent Completed: 5%
- Finish Design and RTL: March 25, 2025 (Target Date)



# STATE ROUTE 138 – No. 19

---

## Segment 13 Project:

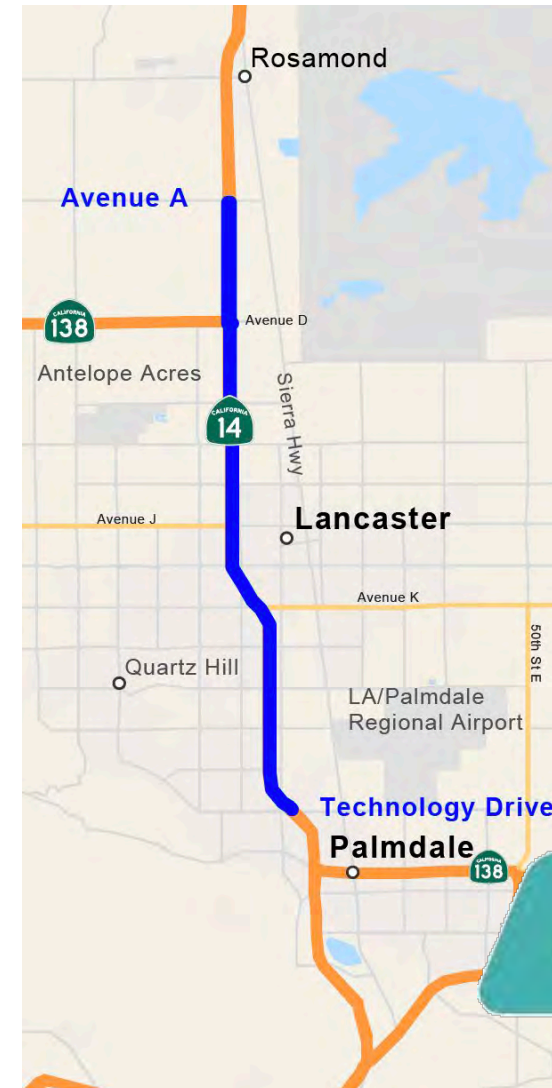
- From 0.4 mile west of 190<sup>th</sup> Street East to State Route 18 Junction
- Begin Design: May 10, 2019 (Actual Date)
- Percent Completed: 95%
- Finish Design and RTL: January 5, 2024 (Target Date)

# SR-14 Reconstruct Pavement & Ramps

In Palmdale and Lancaster  
From Technology Drive UC to Avenue A OC  
Project EA: 316004

Area Manager: Karen Fong  
Project Manager: Juan Arias  
Construction Engineer: James Shih  
Resident Engineer: James Shih

Monday October 16, 2023



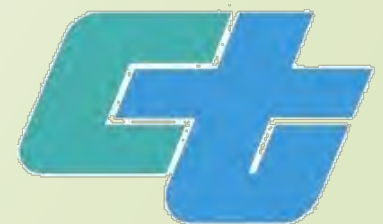


# SR-14 Reconstruct Pavement & Ramps

## Project Scope

---

- Pavement rehab for inside & outside shoulders
- Full outside lane reconstruction
- Rapid Setting Concrete (RSC) individual slab replacement
- Rehab of on-ramps & off-ramps
- ADA curb ramps & accessible pedestrian signals
- Roadway & overhead signs
- MBGR upgrades & AC dikes
- Approach slabs
- Vehicle detection
- Lighting upgrades



# SR-14 Reconstruct Pavement & Ramps

## Project Budget

---

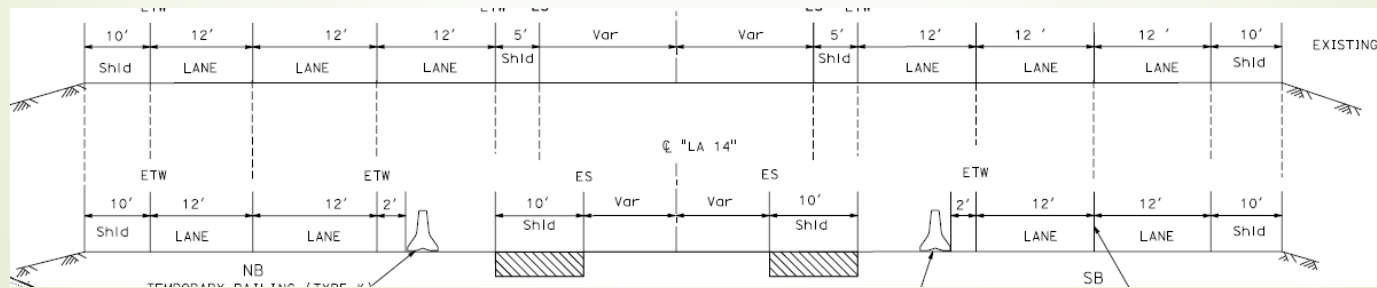
- ▶ Project Costs: \$160,193,801.00
- ▶ Paid to Date (as of 9/20/23): \$15.6 million
- ▶ Work Completed to date (as of 9/20/23): 10%



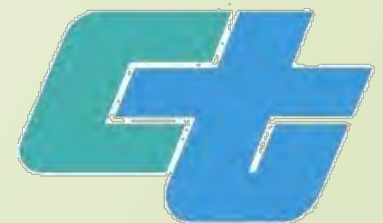
# SR-14 Reconstruct Pavement & Ramps

Schedule: Estimated Completion March 2026

- Currently on Stage 1 Phase 1 & Phase 2
  - From July 2023 to March 2024
  - NB Traffic reduced to 2 lanes (Technology Dr to Ave I)
  - NB Traffic reduced to 1 lane (Ave I to Ave A)
  - SB Traffic reduced to 2 lanes (Ave H to Technology Dr)
  - **Traffic impacts: Inside shoulder and fast lane closed** during the dates specified resulting in 9-minute delay from Ave I to Ave A.



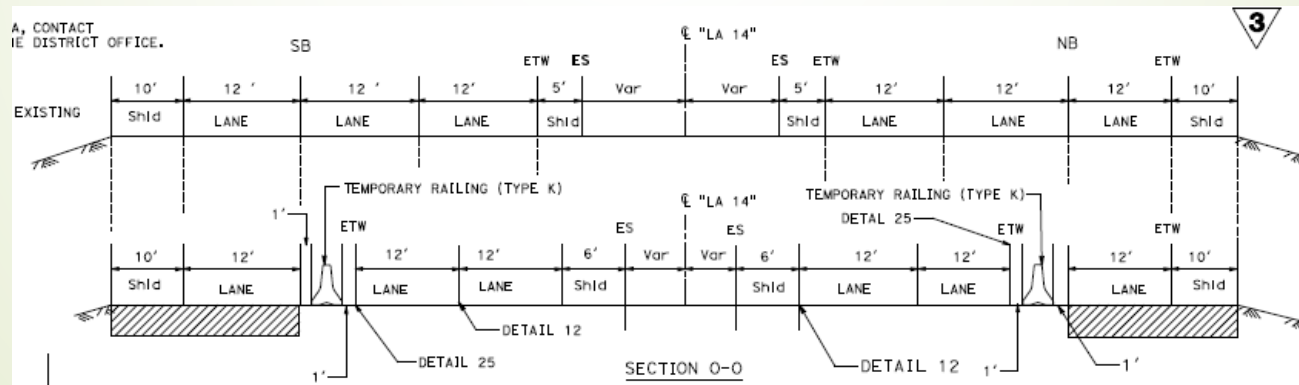
Typical Section of Stage 1 from Technology to Ave I (Looking in the NB direction)



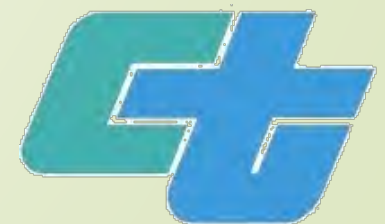
# SR-14 Reconstruct Pavement & Ramps

## Schedule

- Stage 2 Phase 1 & Phase 2: Mar 2024 to Dec 2025
  - Northbound traffic to be reduced to 2 lanes from Technology Ave to Ave I.
  - Southbound Traffic to be reduced to 2 lanes from Ave H to Technology Ave.
  - **Traffic impacts: Outside shoulder and lane 3 will be closed** during the dates specified.



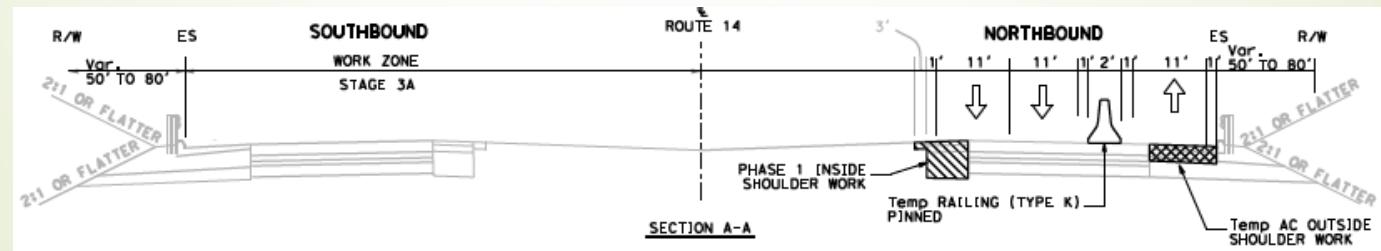
Typical Section of Stage 2 Phase 1 & 2 from Technology to Ave I  
(Looking in the NB direction)



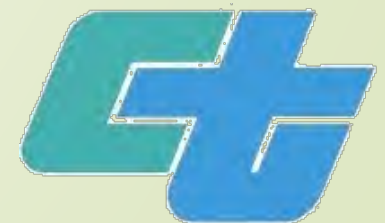
# SR-14 Reconstruct Pavement & Ramps

## Schedule

- Stage 2 Phase 3: Dec 2023 to Oct 2025
  - Contra Flow Stage Construction change to reduce/eliminate 25+ 55-hour weekend closures.
  - SB direction of travel from Ave A to Ave H will be completely shut down. 2 SB lanes will be diverted across the center median to the NB side at Ave A and diverted back at Ave H.
  - **Traffic impacts:** NB Traffic will be reduced to 1 lane from Ave H to Ave A (9-minute delay), while accommodating the 2 SB lanes in the NB direction (See cross section below).



Typical Section of Stage 2 Phase 3A (Looking in the NB direction)



# SR-14 Reconstruct Pavement & Ramps

## Overview

Full outside lane and shoulder / Inside median shoulder concrete pavement replacement

From Technology Dr to Avenue I



Current Stage 1 Phase 1 Inside 10' median concrete pavement shoulder replacement



# SR-14 Reconstruct Pavement & Ramps

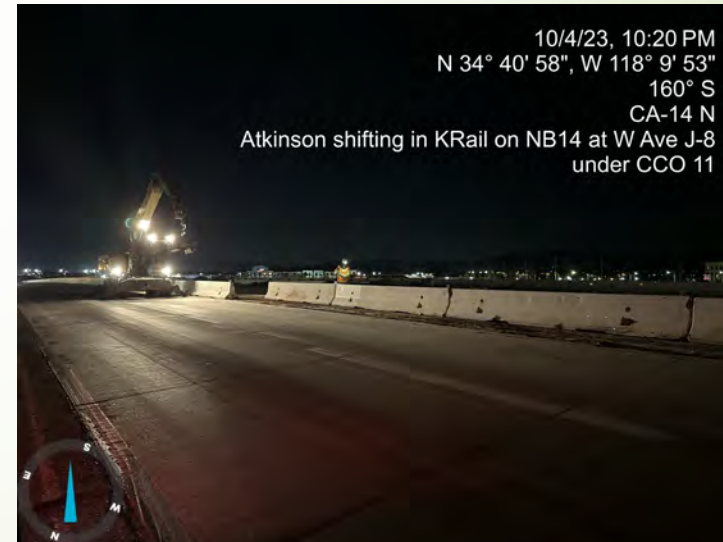
## Overview - Continued

Full outside lane and shoulder concrete pavement /  
Inside median shoulder Asphalt Concrete  
replacement

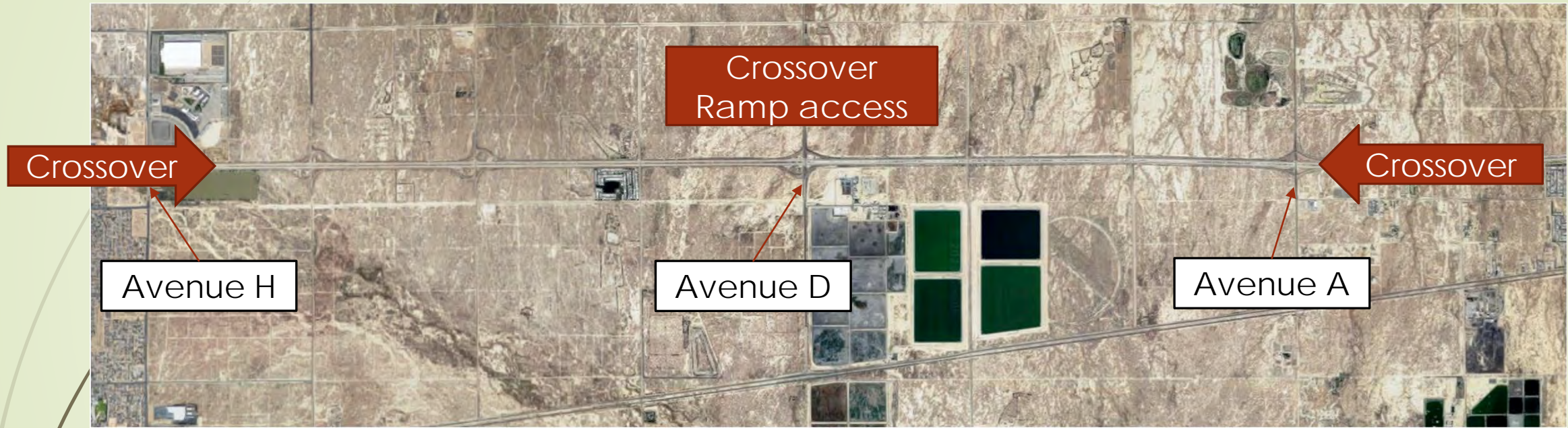
From Avenue I to Avenue A



No Stage – Coordination work with City of  
Lancaster Ave J project shifting K-rail



# Contraflow Lane – Stage 2 phase 3





# Contraflow Operations



# Project Status Report

## Recent Milestones

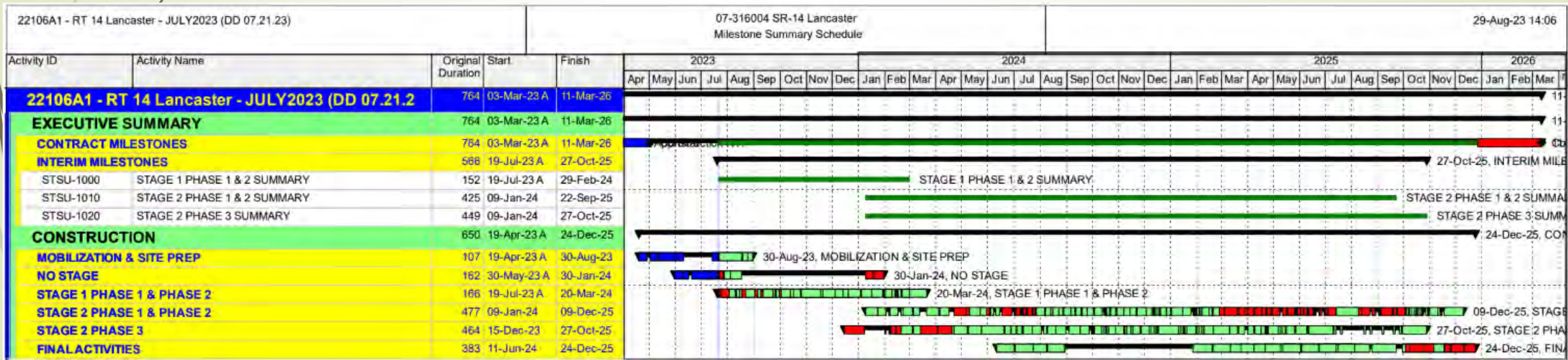
- NB/SB Individual Slab Replacement and Grind Existing Pavement
- NB and SB Stage 1 Phase 1 Striping
- NB and SB Stage 1 Phase 1 K-rail Setting
- Erected Concrete Batch Plant (Ave H)



# Project Status Report

## Upcoming Milestones

- ▶ Stage 1 Phase 1 (South Segment – Technology Dr to Avenue I)
  - ▶ 11/01/2023 – Complete 10' wide NB Inside Median (JPCP) Concrete Paving
  - ▶ 12/14/2023 – Complete 10' wide SB Inside Median (JPCP) Concrete Paving
- ▶ Stage 1 Phase 1 (North Segment – Avenue I to Avenue A)
  - ▶ 10/30/2023 – Complete 5' wide (HMA) AC Paving
  - ▶ 11/16/2023 – Complete Ave A, Ave D, Ave H Crossover Construction for Contraflow lane



# Caltrans Contacts

- ▶ Juan Arias, Project Manager: (213)760-7546, [juan.arias@dot.ca.gov](mailto:juan.arias@dot.ca.gov)
- ▶ Karen Fong, Area Manager: (213)880-3771, [karen.fong@dot.ca.gov](mailto:karen.fong@dot.ca.gov)
- ▶ James Shih, Construction/Resident Engineer: (213)793-7522, [james.w.shih@dot.ca.gov](mailto:james.w.shih@dot.ca.gov)
- ▶ Peter Jones, Public Information Officer: (213)500-6985, [peter.jones@dot.ca.gov](mailto:peter.jones@dot.ca.gov)



# NCTC October 16, 2023 Board Item 9 - Metro Highways Update



**NCTC Meeting**  
 Metro Highway/Roadways Project Status Update  
 October 17, 2022

| Project   | Phase              | Activities  | Project Manager                       |
|---|--------------------|---|---------------------------------------|
| <b>North County</b>   |                    |   |                                       |
| I-5 North HOV Project between SR-14 in Santa Clarita and Parker Road in Castaic | Construction       | Construction on-going. Metro Program Management is administering the construction.  | Paul Sullivan<br>sullivanpa@metro.net |
| SR-138 Widening, E/O SR-14, Segment 13  | Final Design       | Segment 13 is between 185th Street and 0.3 mile west of 213th Street East. Design completion in August 2022. The Project limits were recombined to be inclusive of both Segments 13 and 14. This was due to ROW efforts on the segments that required that the Project limits stay between 1.6 miles along Route 138 (PM 66.0/70.1) and 1.1 mile along Route 18 (PM 3.4/4.5). Caltrans ROW continues to work on the remaining parcels and right-of-entry permits for hazardous waste investigations.                      | Robert Machuca<br>machucaR@metro.net  |
| SR-138/SR-14 Overlap - Freeway Interchange Improvements                         | Various Phases     | 9 of the planned 10 Projects (5 in Palmdale and 5 in Lancaster) are advancing in various phases. Palmdale: Four of the five projects in Palmdale are in design. The Rancho Vista Project construction is completed, soil/slope stabilization is in progress. Lancaster: Three projects in design and two in environmental. Avenue J Project Phase 1 started construction in March 2021. Phase 2 final design scheduled for completion in September 2021 and will be ready to list by the beginning of calendar year 2022. | Robert Machuca<br>machucaR@metro.net  |
| SR-138/SR-18 Widening   | Planning (PSR/PDS) | SR-138/18 PSR-PDS draft was submitted to Caltran for review and comment. A Final PSR-PDS should be completed by end of 2022. The final report will outline costs by County (LA and SB) and approaches to improvements on the corridor. Metro, SBCTA and Caltrans Districts 7 and 8 are coordinating to outline feasibility of widening SR-18 for a continuous 4-lane highway between Palmdale and Victorville.  | Isidro Panuco<br>panucol@metro.net    |



**METROLINK**

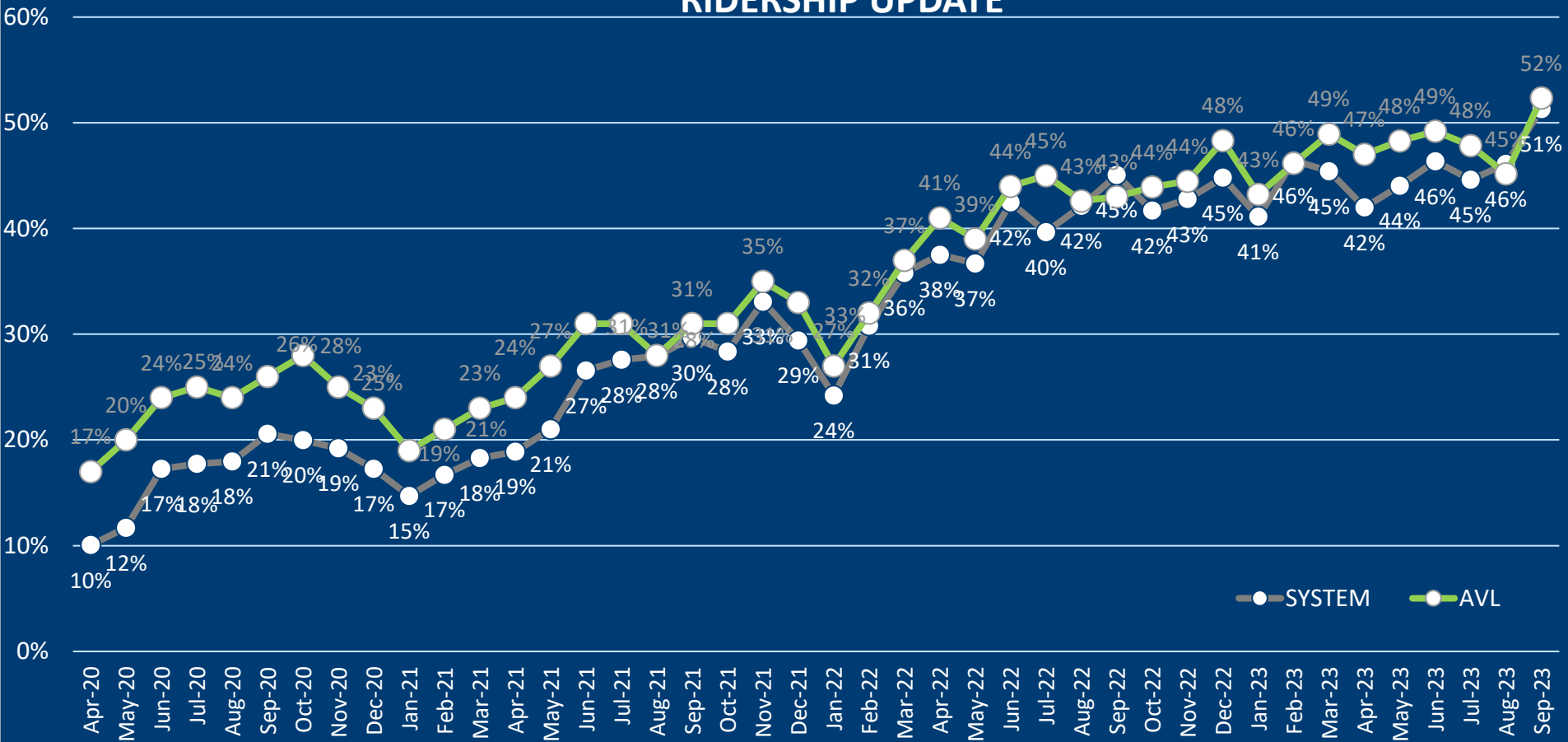
**NCTC JPA October 16, 2023 Board Item 10  
Metrolink Update**

North Los Angeles County  
Transportation Coalition (NCTC)

*Board of Directors Meeting  
October 16, 2023*



# RIDERSHIP UPDATE



Source: Conductor counts





# California Clean Air Day October 4

**METROLINK**

# Student Adventure Pass

- Offers student passes at no cost
- K-12, trade school, community college, and university students with valid student ID
- Available on ticket machines and the mobile app
- Includes existing transfer benefits and partnerships (i.e., Codeshare & Rail2Rail)
- Unlimited rides and access system-wide
- 6-month pilot or until grant funds are exhausted



City of  
**SANTA CLARITA**

Mayor Jason Gibbs,  
Mayor Pro Tem Cameron Smyth,  
Councilwoman Marsha McLean,  
Councilmember Bill Miranda  
and Councilmember Laurene Weste

*Cordially Invite You to Attend the*



**FRIDAY**  
**OCTOBER**  
**20**  
**2023**

[santa-clarita.com](http://santa-clarita.com)



**METRO**  
**LINK**



# VISTA CANYON MULTI-MODAL CENTER RIBBON CUTTING CEREMONY

**Friday, October 20, at 1:00 p.m.**

27550 Vista Canyon Road

*To attend, please RSVP by Friday, October 13, to Billie Abreu  
at [babreu@santa-clarita.com](mailto:babreu@santa-clarita.com), or call (661) 255-4939.*

**METROLINK**

# Antelope Valley Line Service

LA Metro and Metrolink Boards have approved increased Antelope Valley Line service that will be the first line to resemble regional rail frequencies starting October 23.

## Weekday

- New roundtrip service connecting Lancaster, Via Princessa, and L.A. Union Station
- New early and late-night service between Lancaster and L.A. Union Station

## Weekend

- Near-hourly service between Via Princessa and L.A. Union Station; clock-facing schedule into Lancaster

New schedule improves customer experience and connections to local operators; resulting in new daily weekday and weekend riders



# Antelope Valley Line Service Coordination

- Coordination with transit operators on connecting services
- Coordination with local law enforcement
- Coordination with private security
- Adding coverage with armed private security on late night trains
- Extending LASD Metrolink hours to provide coverage
- Increased fare enforcement for late night trains departing LAUS

# AVL Zero Emission Pilot



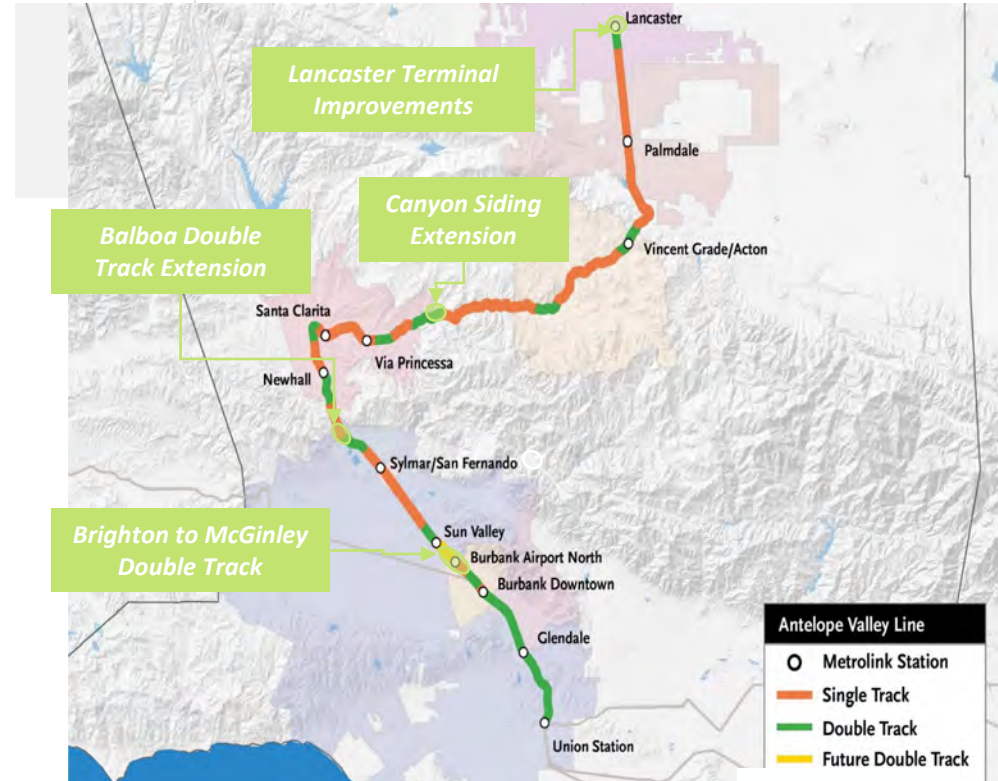
- Zero Emission Technical Analysis was presented to the Metrolink Board of Directors on July 28, 2023.
- Informs Metrolink how to proceed with the AVL pilot funded as part of the 2020 Transit and Intercity Rail Capital Program (TIRCP) award.
- Explore applying AVL funding toward hosting a Caltrans/CalSTA demonstration

# Antelope Valley Line Capacity and Service Improvements Program

- **Balboa Double Track Extension**
- **Canyon Siding Extension**
- **Lancaster Terminal Improvements**
- **Brighton to McGinley Double Track (led by Metro)**

## Project Benefits

- Enable 30-minute bi-directional passenger rail service between LAUS and Santa Clarita Valley
- 60-minute bi-directional service between LAUS and Lancaster Station and infrastructure improvements:



# AVL Projects Current Status



- **Balboa Double Track Extension (Los Angeles)**

- Field surveys complete
- 30% design complete

- **Canyon Siding Extension (Santa Clarita)**

- Ongoing coordination with City
- 30% design complete

- **Lancaster Terminal Improvements**

- Data collection and field surveys ongoing

- **Brighton to McGinley Double Track**

- 90% resubmittal to City of LA Nov. 2023





# AVL Projects Schedule (Metrolink Led)

Spring 2023 – Design commenced

Fall 2024 - Complete final design

Summer 2025 - Complete ROW  
acquisitions

Spring 2026 - Begin construction

Fall 2027 - Complete construction

Fall 2027 - Open for service



# AVL Projects Brighton to McGinley Schedule

Summer 2024 - Complete final design

Spring 2025 - Complete ROW acquisitions

Fall 2025 - Begin construction

Summer 2027 - Complete construction

Summer 2027 - Complete construction





**METROLINK**

Thank you.



## ANTELOPE VALLEY LINE

### Crime Report Details, Operations and Special Events - AUGUST 2023

**Petty Theft, 484(a) PC:** On August 3, 2023, an Allied Security guard had his backpack stolen by suspect/s unknown from train #218 while it was conducting a service stop at the Via Princessa Station. Metrolink detectives are conducting a follow up investigation.

**Assault on Peace Officer, 243(c)(2) PC:** On August 10, 2023, a female black adult assaulted a Metrolink deputy at the Sun Valley Station after she had been removed from Metrolink train #209 for fare evasion. The suspect was arrested for the indicated charge.



**AGENDA REPORT – BOARD ITEM 7**

**High Desert Corridor Joint Powers Agency**

Date: October 19, 2023

To: Board of Director Members of the High Desert Corridor Joint Powers Agency (HDC)

From: Arthur V. Sohikian, Executive Director

**Subject: HDC JPA Executive Director Report**

**Recommended Action:** Receive and File Report

**1. High Desert Intercity High Speed Rail Project in Federal NEPA Environmental Process**

The HDC JPA submitted the High Desert Intercity High Speed Rail Project petition for Reevaluation to the Federal Railroad Administration (FRA) and Surface Transportation Board (STB) in April 2021. The FRA is the Lead Agency for the National Environmental Policy Act (NEPA) environmental clearance process, which they launched in February 2023.

The High Desert Intercity High Speed Rail Project objective is to progress with the FRA NEPA process to receive the Record of Decision (ROD) and Notice of Determination (NOD) approval in 2024. With California Environmental Quality Act (CEQA) concurrence, this will complete environmental clearance for the high-speed rail project to advance to the next phase of Project Development, which is to conduct 30% level of design engineering.

On September 27, 2023, the FRA sent letters to Re-initiate the Invitation of Consultation Pursuant to Section 106 of the National Historic Preservation Act. Due to recent HDC High Speed Rail project updates, the FRA letter seeks to: 1) re-initiate Section 106 consultation for the Project; 2) provide the updated Project background and Project description; 3) determine agency/tribe interest in continuing as a Consulting Party to the Project; and 4) invite Consulting Parties to consultation workshops proposed for October 2023.

**2. Federal and State Grant Opportunities Update**

On January 26, 2023, the Metro Board of Directors approved \$8.5 million in Measure M HDC funds to use as a local match to the state and federal grant submittals.

On April 24, 2023, CalSTA announced the award of \$8 million in Cycle 6 SB1 2022 Transit and Intercity Rail Capital Program (TIRCP) grant funds to the HDC JPA High Speed Rail Project. TIRCP Info can be found at <https://calsta.ca.gov/subject-areas/transit-intercity-rail-capital-prog>. The HDC JPA \$8 million grant award allocation of funds letter request is scheduled for the California Transportation Commission December 7, 2023, meeting agenda. HDC JPA request letter is contained in Attachment A.

On March 27, 2023, the HDC JPA submitted a grant application to the FRA for the Corridor Identification and Development Program seeking \$500,000 and entrance into the Program. The Corridor ID Program Information can be found at <https://www.federalregister.gov/documents/2022/12/20/2022-27559/notice-of-solicitation-of-corridor-proposals-and-funding-opportunity-for-the-corridor-identification>

FRA Corridor ID Program grant award announcements are likely in November/December 2023.

### 3. HDC JPA in dialogue with Southern California Trades Councils & Rail Labor Unions

The HDC JPA has initiated a dialogue with labor unions for the use of highly skilled union labor in essential jobs required to construct, operate, and maintain the HDC High Speed Rail project. The HDC JPA understands the importance of utilizing union labor in Southern California to construct, operate and maintain the high-speed rail project and seeks to bring memorandum of understanding (MOU) agreements to the January 11, 2024, HDC JPA Board meeting.

One MOU would be for the construction of the project employing workers of the State Building and Construction Trades Council of California, Los Angeles/Orange Counties Building and Construction Trades Council and the San Bernardino - Riverside Building and Construction Trades Council.

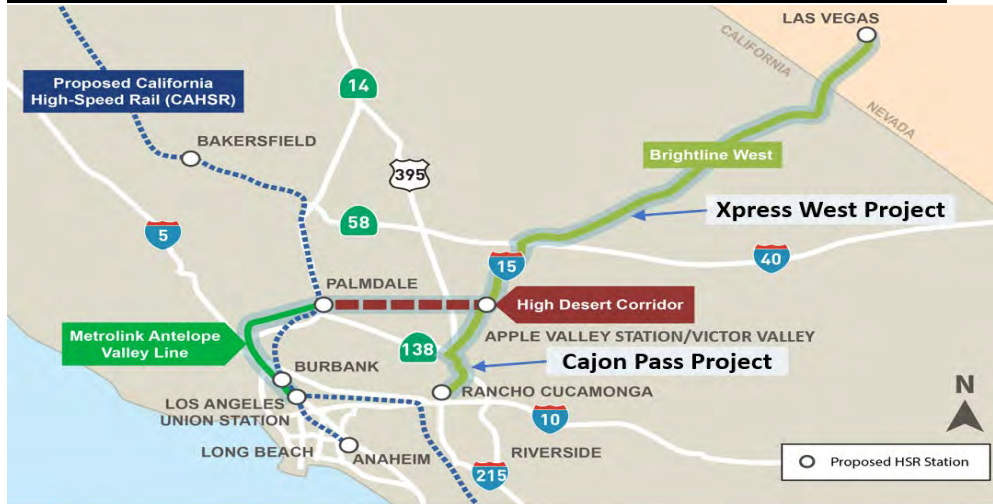
The second MOU would be to operate and maintain the HDC High Speed Rail project with workers from the High-Speed Rail Labor Coalition comprised of 13 rail unions representing more than 160,000 freight, regional, commuter, and passenger railroad workers in the United States.

The High-Speed Rail Labor Coalition members include the Brotherhood of Maintenance of Way Employes Division, Brotherhood of Railroad Signalmen, International Association of Sheet Metal, Air, Rail and Transportation Workers-Mechanical and Engineering Department, National Conference of Firemen and Oilers 32BJ/SEIU, Transportation Communications Union, International Association of Machinists and Aerospace Workers, Brotherhood of Railway Carmen, International Brotherhood of Boilermakers, Transport Workers Union of America, American Train Dispatchers Association, International Association of Sheet Metal, Air, Rail and Transportation Workers-Transportation Department, Brotherhood of Locomotive Engineers and Trainmen, and International Brotherhood of Electrical Workers.

### 4. HDC JPA FY24 Work Program Implementation

On May 25, 2023, the Metro Board of Directors unanimously approved the HDC JPA FY24 Budget Work Program of \$1,947,500 from Measure M funds. As part of the HDC FY24 Work Program, the HDC JPA entered an MOU on September 5, 2023, with Los Angeles County Public Works to provide contracting and other supportive services for the procurement of professional services and architectural and engineering services. As part of the FY24 Work Program, the HDC JPA is currently working with LA County Public Works and LA County Counsel on two contracting opportunities: one to procure Financial Advisory Services and another to procure Project Management Support Services.

## 5. High Desert Intercity High Speed Rail Project Map & Project Highlights



2016: High Desert Corridor Multi-purpose corridor receives California CEQA clearance which included a highway and high-speed rail line.

2018: High Desert Corridor Joint Powers Authority (HDC) supports study of an alternative to the HDC

2016 Locally Preferred Alternative (LPA), Highway Component and decides to focus on first phase as the High Desert Intercity High Speed Rail Project of the LPA.

2020: Caltrans declares No Build for the highway portion.

April 2021: HDC JPA submits Reevaluation petition to Federal Railroad Administration (FRA) and Surface Transportation Board (STB) to receive NEPA clearance and receive the Rail Project Record of Decision (ROD/NOD).

The High Desert Intercity High Speed Rail Project proposes a 54-mile corridor (Palmdale to Victor Valley) that can be traveled in roughly 30-minutes providing future connection to the California High Speed Rail Project and the Brightline West Xpress West Project.

One station in Palmdale and one station in Victor Valley: Proposed integration with Palmdale California High Speed Rail Station and Brightline West Desert Xpress Victor Valley Station.

The estimated cost of the HDC Rail Project is \$5.54B in year of expenditure dollars, calculated based on the assumed service operations in 2031 and an escalation rate at 3% per year. Final Design and Construction is estimated at \$3.6B of the \$5.54B Project estimate. Environmental clearance could accommodate doubled track. Future design and cost considerations will determine.

Nearly the entire 54-mile route of the HDC high-speed rail project is within Equity Focused Communities in the high desert communities of Los Angeles and San Bernardino Counties.

The HDC Rail Project is consistent with the CA State Rail Plan's objectives to improve connectivity of the California statewide rail network. The HDC Rail Project supports the state's greenhouse gas reduction efforts and provides economic development and equity benefits for a region comprised of many historically underserved, low-income, and disadvantaged communities.





October 4, 2023

Sameh Hegazi, MS. PE  
 Senior Transportation Engineer, Project Management & Technical Support  
 Office of Project Development, Management, & Delivery  
 Division of Local Assistance  
 1120 N Street  
 Sacramento, CA 95814

Dear Mr Hegazi:

RE: Allocation Request – High Desert Intercity High-Speed Rail Corridor Preliminary Engineering

On behalf of the High Desert Corridor Joint Powers Agency (HDC JPA) member jurisdictions: Los Angeles County (5<sup>th</sup> Supervisor District), Los Angeles County Metropolitan Transportation Authority, the Cities of Adelanto, Lancaster, Palmdale, and Victorville, is requesting the California Transportation Commission (CTC) to allocate \$8.0 million in Transit and Intercity Rail Capital Program (TIRCP) Cycle 6 at the December 2023 meeting to the project. The allocation will allow the HDC JPA to begin 30% preliminary design plans and completion of the necessary environmental clearance.

The project was awarded \$8.0 million of TIRCP Cycle 6 grant in April 2023 for project development, including completion of environmental clearance and 30% preliminary engineering. This will be the first allocation by the CTC to the HDC High Speed Rail Project.

| <b>High Desert Intercity High-Speed Rail Corridor Preliminary Engineering Funding Allocation Request</b> |               |                     |                |
|--|---------------|---------------------|----------------|
| Allocation Amount Requested  |               | Date of CTC Meeting |                |
| \$8,000,000  |               | December 7, 2023    |                |
| <b>Project Information</b>   |               |                     |                |
| Funding Program  | Program Cycle | Project Component:  | Project Phase: |
| TIRCP  | 6 -2023       | High Speed Rail     | PA&ED          |
| Local Agency: High Desert Corridor Joint Powers Agency   |               |                     |                |
| Project Name: High Desert Intercity High-Speed Rail Corridor Preliminary Engineering                     |               |                     |                |

To support this allocation request, please refer to the attached documents:

- Program Allocation Plan, October 4, 2023
- Allocation Request Form, October 4, 2023



If you have any questions related to this allocation request, please contact Arthur Sohikian, Executive Director at (213) 379-1551 or [sohikian@highdesertcorridor.org](mailto:sohikian@highdesertcorridor.org)

Thank you in advance for your consideration.

A handwritten signature in black ink, appearing to read "Arthur V. Sohikian".

Arthur V. Sohikian  
Executive Director  
High Desert Corridor Joint Powers Agency  
[www.highdesertcorridor.org](http://www.highdesertcorridor.org)



# NORTH LOS ANGELES COUNTY Transportation Coalition JPA

## AGENDA REPORT – BOARD ITEM 14 North Los Angeles County Transportation Coalition

Date: October 16, 2023

To: Governing Board Members of the North Los Angeles County Transportation Coalition JPA

From: Arthur V. Sohikian, Executive Director

Subject: **NCTC JPA EXECUTIVE DIRECTOR UPDATE**

**Recommended Action:** *Receive and File.*

**Fiscal Impact:** Items mentioned in this report may have a future fiscal impact.

The NCTC JPA October 2023 Executive Director Update will cover the following items:

### 1. SR14 SAFETY & MOBILITY IMPROVEMENTS in the Santa Clarita and Antelope Valleys

NCTC staff in cooperation with Caltrans District 7 and Metro Multi-Modal Planning worked together to include all 6 Segments of the SR14 projects into the Project Approval/Environmental Document (PAED) phase. This is a major milestone for the critical safety and mobility projects for the North Los Angeles County region the NCTC Board has clearly directed become “shovel-ready” for grant opportunities.

On October 6, 2023, Metro and Caltrans held the SR14 PA&ED kick-off meeting to introduce the contractor team, review the goals and objectives of the PA&ED environmental study and to review the 36-month schedule.

On May 26, 2023, Caltrans notified the NCTC JPA regarding the SR14 Rehabilitation/Replacement Project. The Caltrans Press Release is contained in Attachment A. The NCTC JPA will receive an Antelope Valley SR14 Rehabilitation/Replacement Project update from Caltrans construction staff at the October 16, 2023, Board meeting.

### 2. ANTELOPE VALLEY LINE UPDATE

#### AVL Capital Projects Update

On December 2, 2021, Metro Board of Directors certified the Environmental Impact Report (EIR) for the Antelope Valley Line Service and Capacity Improvements. As a funding partner, the NCTC JPA is excited the projects have begun Final Design. Final design is expected to be complete in late 2026.

With the NCTC JPA April 2023 approval of the Annual Multi-Subregional Program, the AVL projects are fully funded through final design. The NCTC has a continued funding commitment for construction of roughly \$77



# NORTH LOS ANGELES COUNTY

## Transportation Coalition JPA

million. With construction cost increases likely, the NCTC has been working with our partners at Metro, Metrolink, and CalSTA to seek solutions and we are seeking grant opportunities to close the funding gap.

### AVL Service Changes Update

With the leadership and support of NCTC JPA Board members, the Metro and Metrolink Board of Directors approved Antelope Valley Line Service Restoration Plan with increased resources for public safety (Attachment A). The NCTC JPA September 18, 2023, support letter highlighted the proposed Metrolink AVL service restoration will provide higher frequency, more reliable and convenient rail transit to attract more Metrolink ridership on the AVL and provide relief for the severely congested Interstate 5 and State Route 14 corridors (Attachment A). The proposed Metrolink AVL service restoration will provide “clock-based” transit service with additional mid-day and reverse commute transit services while instituting new late-night train service.

The NCTC JPA understands Metro and Metrolink are coordinating transit schedules with the Antelope Valley Transit Authority (AVTA) and Santa Clarita Transit. Additionally, the NCTC JPA strongly supports the additional resources earmarked for public safety. The NCTC JPA continues to express concern regarding public safety and coordinating homeless services between Metrolink and NCTC Members. The NCTC JPA wants to ensure with the AVL service restoration plan, especially the new late-night service, that additional law enforcement on the trains and platforms will be coordinated with law enforcement in each NCTC member jurisdiction.

In response to the NCTC JPA letter, Metrolink and Metro coordinated a public safety meeting on September 27, 2023 with law enforcement jurisdictions in the Antelope Valley. NCTC JPA has requested and expects coordination between Metrolink law enforcement and NCTC Member law enforcement. There will be an update at the NCTC JPA October 16, 2023 Board meeting.

### 3. I-5 CAPACITY ENHANCEMENTS HOV & TRUCK LANE

Metro I-5 construction is underway in the Santa Clarita Valley. Metro along with the contractor have been communicating construction activity with the community through media and social media sources while holding regular virtual meetings. Crews have advanced at multiple bridge structures, retaining walls, and soundwalls on the I-5 Project. Metro has upcoming street closures at Gavin Canyon Bridge, Calgrove Blvd Bridge, and Magic Mountain Pkwy Blvd Bridge and the demolition of the existing Weldon Canyon Rd Bridge.

Please sign-up for I-5 construction updates at: <https://www.metro.net/projects/i-5-enhancements/>  
Construction notices for the project are contained in Attachment A.

### 4. METRO VEHICLE MILES TRAVELED (VMT) MITIGATION PROGRAM GUIDELINES UPDATE

Since February 2022, the NCTC JPA has participated in several working groups for Metro’s VMT Mitigation Program. The Metro VMT Program will develop a framework to mitigate VMT impacts resulting from highway projects on the State Highway System (SHS) in Los Angeles County, in compliance with Caltrans’ California Environmental Quality Act (CEQA) transportation impact metric determination. Metro’s VMT Mitigation



# **NORTH LOS ANGELES COUNTY**

## **Transportation Coalition JPA**

Program would allow Metro to support the region's Senate Bill (SB) 32 and SB 375 goals by reducing the impacts of VMT and correlated GHG emissions, while simultaneously providing greater mobility options for the County's residents.

The Metro VMT Program seeks to develop methodologies for VMT quantification and a tool that will inform the selection and prioritization of eligible Metro and/or Countywide programs or projects that demonstrate CEQA-defensible and quantifiable VMT reductions. The effectiveness of VMT mitigation tied to site-specific, on or off-system SHS projects would be evaluated while also expanding or contributing to ongoing Countywide or Statewide programmatic VMT mitigation efforts.

Currently, Metro is considering implementing a VMT bank or exchange system, as outlined in the Metro September 2023 Update in the Spring 2024 (Attachment A). Based on the Metro VMT update report, the cost of highway project improvements is estimated to increase by 58% and 150%. The NCTC JPA Member Jurisdictions staff continue to have strong participation at SCAG, Metro, Metrolink, Caltrans and other regional policy transportation meetings which impact the North Los Angeles County Subregion.

### **5. SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS UPDATE**

The NCTC Subregional Member Jurisdictions Elected Officials and staff have had strong participation at numerous Southern California Association of Governments (SCAG) transportation policy meetings and other regional events of significance. The SCAG October 2023 Update is contained in Attachment A.

The NCTC Subregional Member Jurisdictions Elected Officials and staff continue to have strong participation at SCAG, Metro, Metrolink, Caltrans and other regional policy transportation meetings which impact the North Los Angeles County Subregion.



# NEWS RELEASE

**Date:** Friday, May 26, 2023  
**District 7:** Los Angeles & Ventura Counties  
**Contact:** Peter Jones, 213-500-6985  
**E-mail:** [Peter.Jones@dot.ca.gov](mailto:Peter.Jones@dot.ca.gov)

**FOR IMMEDIATE RELEASE:**

## **Full Freeway Closures on Antelope Valley Freeway (SR-14) Through Palmdale and Lancaster**

**LOS ANGELES COUNTY** – The California Department of Transportation (Caltrans) has scheduled **FULL Freeway Closures** on the northbound and southbound Antelope Valley Freeway (SR-14) between Technology Drive in Palmdale and Avenue A in Lancaster. The closures are necessary to perform pavement replacement work that will extend the life of the existing lanes by a minimum of 40 years and improve ride quality. Currently, construction work is Monday through Friday, 9 p.m. to 6 a.m. to minimize traffic impacts.

Closures are as follows:

**Tuesday, May 30 – Friday, June 2**

**Northbound SR-14**

Lane Replacement between Palmdale Boulevard and Avenue N

**Friday, June 2 at 10 p.m. – Saturday, June 3 at 7 a.m.**

**Northbound SR-14**

Lane Replacement between Avenue N and Avenue M

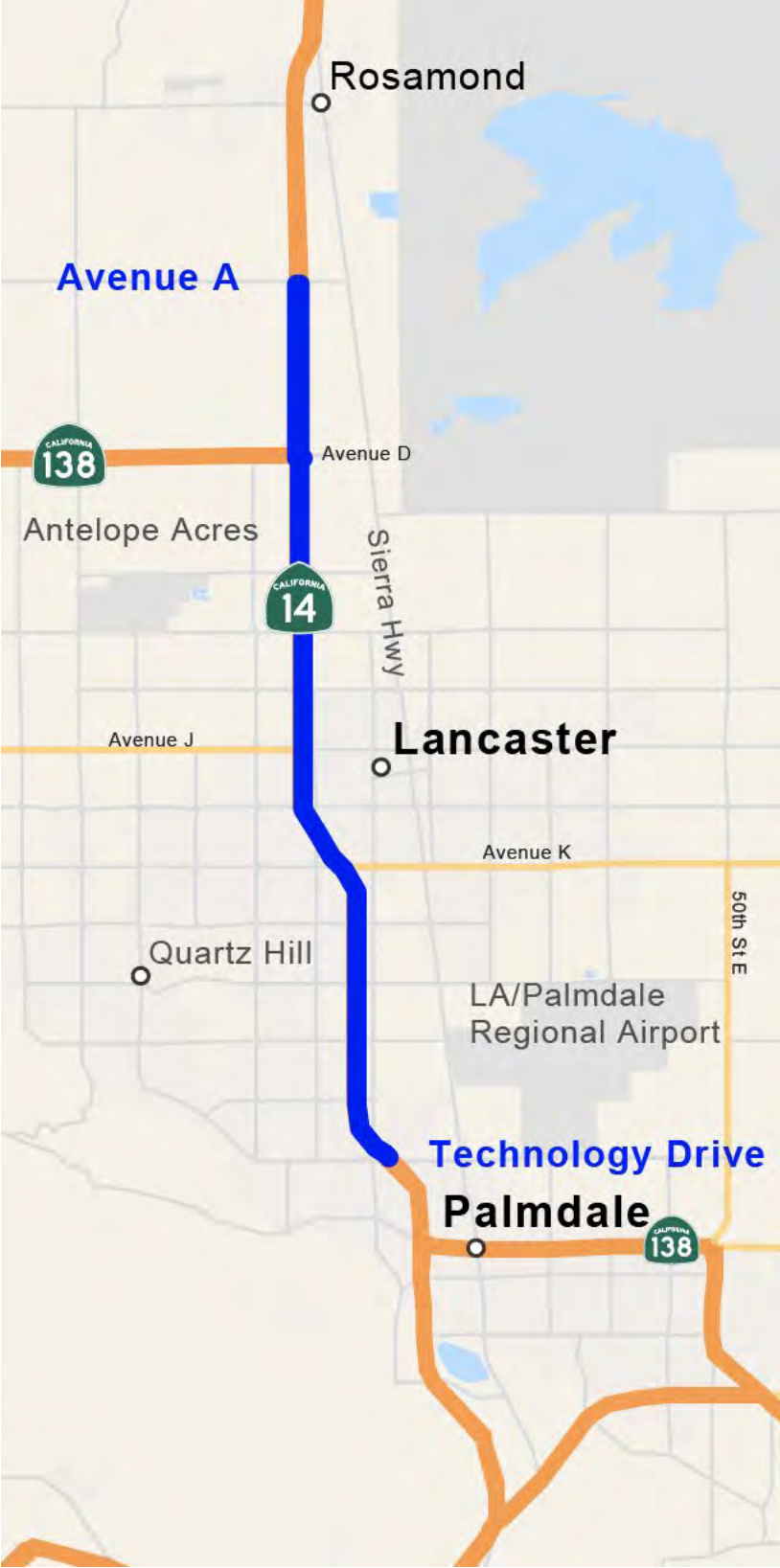
Residents and local businesses located near the freeway may experience noise, vibrations and grinding associated with construction activities. Detour signs will be posted. This is a **Full Freeway Closure**, connectors and onramps will be affected. Motorists should expect delays and are strongly advised to use alternate routes. Real time traffic information can be found at <http://quickmap.dot.ca.gov/>

The project cost is estimated at \$164 million. Atkinson Construction of Irvine, California is the contractor.

Caltrans reminds drivers to “Be Work Zone Alert” and to “Move Over”.

###







# NORTH LOS ANGELES COUNTY Transportation Coalition JPA

September 18, 2023

The Honorable Mayor Karen Bass  
Chair of the Board of Directors  
Los Angeles County Metropolitan Transportation Authority,  
One Gateway Plaza  
Los Angeles, CA 90012

RE: **NCTC JPA Support for Metro Service Restoration for Metrolink Antelope Valley Line**

Dear Chair Bass:

On behalf of the North Los Angeles County Transportation Coalition JPA (NCTC JPA) Member Jurisdictions: Los Angeles County Fifth Supervisorial District, the Cities of Lancaster, Palmdale, and Santa Clarita located in North Los Angeles County, **we strongly support** the Metro Service Restoration for the Metrolink Antelope Valley Line (AVL) on the September 18, 2023, Metro Board Planning & Programming Committee Item 13.

The proposed Metrolink AVL service restoration will provide higher frequency, more reliable and convenient rail transit to attract more Metrolink ridership on the AVL and provide relief for the severely congested Interstate 5 and State Route 14 corridors. The proposed Metrolink AVL service restoration will provide “clock-based” transit service with additional mid-day and reverse commute transit services while instituting new Friday/Saturday late-night train service.

The NCTC JPA is pleased with Metro and Metrolink coordinating transit schedules with the Antelope Valley Transit Authority (AVTA) and Santa Clarita Transit. Additionally, the NCTC JPA strongly supports the additional resources earmarked for public safety. The NCTC JPA continues to express concern regarding public safety and coordinating homeless services between Metrolink and NCTC Members. The NCTC JPA wants to ensure with the AVL service restoration plan, especially the new late-night service, that additional law enforcement on the trains and platforms will be coordinated with law enforcement in each NCTC member jurisdiction.

To close, the **NCTC JPA supports** the Metro Service Restoration for the Metrolink Antelope Valley Line (AVL).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Arthur V. Sohikian'.

Arthur V Sohikian  
Executive Director

North Los Angeles County Transportation Coalition Joint Powers Authority  
[www.northcountytransportationcoalition.org](http://www.northcountytransportationcoalition.org)



# Metro

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



## Board Report

File #: 2023-0472, File Type: Program

Agenda Number: 13.

### PLANNING AND PROGRAMMING COMMITTEE SEPTEMBER 20, 2023

**SUBJECT: METROLINK ANTELOPE VALLEY LINE**

**ACTION: PROGRAM FUNDS FOR WEEKDAY SERVICE RESTORATION AND ADDITIONAL WEEKEND SERVICE**

#### **RECOMMENDATION**

CONSIDER:

- A. APPROVING the reprogramming of \$1,682,842 unspent operating budget from FY23 to the Southern California Regional Rail Authority (SCRRA) for the FY24 Metrolink Antelope Valley Line (AVL) service restoration (Option 3), to start on October 23, 2023; and
- B. AUTHORIZING the Chief Executive Officer to negotiate and execute all necessary agreements between Metro and SCRRA for the approved funding.

#### **ISSUE**

The COVID-19 pandemic impacted ridership on the Metrolink Antelope Valley Line (AVL), resulting in service reduction. As ridership continues to rebound on the AVL, SCRRA staff are evaluating the restoration of service to pre-pandemic levels plus additional AVL service on weekdays and weekends. To accomplish this goal, SCRRA staff propose an AVL Service Restoration Project with several options for Metro's consideration to increase ridership, serve new ridership markets, and address equity needs for the Antelope Valley communities.

#### **BACKGROUND**

Metro is a member of the SCRRA, a five-county Joint Powers Authority (JPA) that operates the Metrolink regional commuter rail service (see Attachment A). The AVL historically has been the third busiest line on the Metrolink system, averaging 7,000 riders per weekday pre-pandemic. As a result of the pandemic, ridership dropped precipitously, resulting in the reduction of service from 15 weekday round trips to 11 presently. Ridership is recovering gradually, now averaging 3,000 riders per weekday, an improvement of 220% from April 2020.

The AVL provides a critical lifeline service to residents of the Antelope Valley and Santa Clarita regions. Many Antelope Valley residents live and work in Equity Focus Communities and have lower

---

income and non-traditional jobs that require non-traditional, non-peak service opportunities, including weekend, late night, and reverse commute schedules. The AVL serves as a transit alternative to the congested SR-14 freeway and provides a vital link between the Antelope Valley, Santa Clarita Valley, San Fernando Valley, and the greater Los Angeles area. Restoration of AVL weekday service to pre-pandemic levels plus additional weekend service will grow AVL ridership significantly by providing more frequent service options and greater transit flexibility, offering greater levels of multimodal transportation choices in Los Angeles County.

## **DISCUSSION**

In December 2015 Metro provided \$3,000,000 in Measure R local funding as a match to a State Transit and Intercity Rail Capital Program (TIRCP) grant to purchase two locomotives for dedicated service expansion on the AVL, including late night and more mid-day and reverse commute services. However, due to the COVID pandemic, the AVL service expansion, planned to be implemented in April 2020, did not happen. Instead, service was reduced from 15 weekday round trips to 8 weekday round trips. As ridership started to recover, service was increased to 11 weekday round trips in April 2022.

In the post-pandemic environment, travel patterns have shifted from the traditional peak hour commuter services to Los Angeles Union Station (LAUS). Metrolink is experiencing more mid-day, off-peak, late-night, reverse commute, and weekend ridership growth. At the June 2023 SCRRA Board meeting, LA County Supervisor and LA Metro and SCRRA Board Member Kathryn Barger requested that SCRRA prepare options for full restoration of weekday service on the AVL and provide them to Metro for consideration in time to implement service adjustments in October 2023. Service restoration would support the steady growth of post-pandemic ridership gains, provide additional public transit service options to Antelope Valley residents, provide access to new mid-day, reverse commute, and late-night markets, provide equity benefits to disadvantaged communities, and fulfill the TIRCP grant requirement to increase service on the AVL.

In response, SCRRA staff created three weekday service restoration and expanded weekend service options which were shared with Metro staff. The primary criteria for evaluating these options are as follows:

- Do the additional trains provide new peak services to/from LAUS?
- Do the additional trains fill in gaps in mid-day service?
- Do the additional trains serve evening, late night, reverse commute, and new markets?
- What are the equity benefits to disadvantaged communities?
- Do the additional trains go from LAUS to Santa Clarita only or all the way to Lancaster?
- What is the projected ridership growth?
- What is the projected cost to Metro to fund the restored service?

All three service restoration options provide strong ridership growth, excellent overall benefits, and more efficient utilization of existing train crews and rolling stock train sets. Each option targets a slightly different market, with the overall goal to restore service to pre-pandemic levels and move scheduling towards pulse clockface hourly service in each direction throughout the weekday. All

service expansion options are consistent with SCRRA's Southern California Optimized Rail Expansion (SCORE) Program, which envisions implementing 30-minute pulsed bi-directional service on the AVL to Santa Clarita and hourly pulsed bi-directional service to Lancaster by 2030.

The following table summarizes the three service restoration options, which are described in detail in Attachment B:

Table 1  
SCRRA Service Restoration Options

| <i>Service Restoration Criteria</i>           | <i>Option 1</i> | <i>Option 2</i> | <i>Option 3</i>  |
|---|-----------------|-----------------|------------------|
| Number of new round trips                     | 4               | 4               | 4                |
| New peak service to/from LAUS?                | Yes             | Yes             | No               |
| Fill in midday gaps in service?               | Yes             | Yes             | Yes              |
| Late night service?                           | No              | No              | <b>Yes</b>       |
| New markets served?                           | Minimal         | More            | <b>Most</b>      |
| Equity benefits to transit dependent?         | Yes             | Yes             | <b>Yes/Most</b>  |
| No. of trains to Lancaster (end of line)      | 3 of 8          | 4 of 8          | <b>5 of 9</b>    |
| Projected ridership growth *                  | 35% - 39%       | 31% - 36%       | <b>31% - 39%</b> |
| Estimated Subsidy Increase to Metro (FY 24) * | \$1,317,461     | \$1,839,336     | \$1,682,842      |

*\*Ridership and cost estimates include additional weekend service and armed security*

Additional Weekend Service

SCRRA currently operates six weekend round trips (RT) on the AVL. The post-pandemic environment has shifted traditional peak-hour, weekday travel patterns, resulting in increased weekend ridership recovery. With fewer connecting local bus service trips available in the Antelope Valley on weekends than during the week, the addition of Metrolink AVL service on weekends will better connect residents in the AVL to the greater Los Angeles region, providing much needed transit connectivity.

As part of the Antelope Valley Service Restoration Project, SCRRA performed a comprehensive overhaul proposal of the AVL weekend schedule to adopt pulse scheduling, as implemented during the week, to increase connectivity and provide more frequent service options. As proposed, service would increase from 6 RTs to 12 RTs on the weekends, resulting in near-hourly service from LAUS to/from Santa Clarita, and almost bi-hourly service to/from Lancaster.

Due to crew and equipment limitations, most of the proposed new weekend service would be between LAUS and Santa Clarita only. All new trains originating or terminating in Santa Clarita would be closely coordinated with Antelope Valley Transit Authority and Santa Clarita Transit for timed transfers and efficient connections to complete journeys to Santa Clarita and the Antelope Valley. The AVL weekend service would also be timed to provide efficient 18-minute pulse connections at LAUS to/from the San Bernardino Line. SCRRA estimates the proposed new weekend service will increase ridership by 41% - 44% over current weekend ridership. Costs for the weekend service are

included in the cost estimates provided in Table 1.

### Service Restoration Option 3

All service restoration options provide excellent overall benefits; however, Option 3 is recommended by both Metro staff and SCRRA staff as it accomplishes the following:

- Increases the number of trains traveling all the way to Lancaster instead of originating in/terminating at Santa Clarita.
- Serves new markets, including evening, late night, and reverse trains back to LAUS.
- Provides overall benefits to the most equity focused, disadvantaged communities.

### **DETERMINATION OF SAFETY IMPACT**

Approval of this item will provide funding for additional Metrolink AVL operations that will be operated in compliance with applicable Federal Railroad Administration, California Public Utilities Commission, and other regulatory requirements.

### **FINANCIAL IMPACT**

The total revenues, total expenses, and net costs to Metro, including armed security on the evening and late-night trains, are included in the cost estimate provided in Attachment B. Additionally, the \$1,682,842 requested funding amount is for service from October 23, 2023, through June 30, 2024. The recommended option's (Option 3) annualized costs (\$1,584,977) are estimated to be less for a full year due to strong annualized ridership growth following the start-up of this new service for the remainder of FY 2023-24.

SCRRA has reported that Metro's unspent operations funding is sufficient to fund for this fiscal year. These funds are designated for commuter rail only and are not eligible to be used for Metro bus and rail operations.

### Possible Use of FY 2022-23 Unspent Funds

SCRRA is projecting an underutilization of Operating funding for FY 2022-23. The final amount will not be known until the fiscal year-end audit is completed in late 2023. Available FY 2022-23 unspent Operating funds would be used first to fund the service restoration and expansion. Should the FY 2022-23 unspent funds not be sufficient to fund the entire \$1,682,842 required for service restoration and expansion, new Proposition C and/or Measure M commuter rail funds would be used, as needed, and applied to the FY24 Q3 subsidy.

### **EQUITY PLATFORM**

Approval of re-programming will support the Metrolink AVL commuter rail operations, providing residents, workers, students, and families with a regional public transportation option to access jobs, resources, and services across the greater Los Angeles region. Metrolink enables residents who may not be able to afford to live in high-cost areas to access quality jobs and services in those areas while living in more affordable neighborhoods. These neighborhoods include Equity Focus Communities, such as Lancaster/Palmdale, and the East San Fernando Valley along the Metrolink

---

AVL. Riders on the Metrolink AVL have the lowest annual average household income (\$41,000) of any of the seven lines in the Metrolink system. Seven of the eleven stations along the AVL are defined as serving low-income communities. Also, low-income riders who participate in Metrolink's new Mobility-4-All Program, which offers California Electronic Benefit Transfer (EBT) cardholders a 50% discount on any Metrolink ticket or pass, will be able to easily benefit from the increased service on the AVL.

## **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

Recommendation A supports the Metro Vision 2028 Strategic Plan goals 1, 4, and 5 as follows:

- Goal 1.2: Invest in a world-class transit system that is reliable, convenient, and attractive to more users for more trips;
- Goal 4.1: Work with partners to build trust and make decisions that support the goals of the Vision 2028 Plan;
- Goal 5.2: Exercise good public policy judgment and sound fiscal stewardship.

## **ALTERNATIVES CONSIDERED**

An alternative to Recommendation A would be to implement Option 1 or 2 instead of Option 3. This is not recommended since Option 3 performs best in serving new markets, including evening and late night, and provides maximum benefits to equity-focused, disadvantaged communities.

Another alternative is not to go forward with any service restoration at this time. This alternative is not recommended since Metro provided dedicated funding for locomotives for service expansion on the AVL, the TIRCP grant was awarded based on a commitment to expand service, and this action is consistent with the overall SCORE Program. Additionally, the new markets served on the AVL, benefits to economically disadvantaged communities, and strong ridership - all packaged to utilize crews and equipment in a highly cost-efficient manner - are all positive outcomes of Option 3.

Another option is to go forward with weekday service restoration, but not add the weekend service expansion. This is not recommended since the weekend crews, equipment, and service proposal are packaged with the weekday service restoration to achieve maximum efficiencies, ridership growth, and service expansion in the most efficient manner for all seven days of the week. If Metro does not go forward with the weekend service expansion, the overall ridership growth benefits and subsidy impacts would be less efficient for weekday service restoration only.

## **NEXT STEPS**

Subject to Board approval, SCRRA will implement the AVL weekday service restoration and add weekend service effective October 23, 2023. A robust marketing campaign will be implemented to communicate the service restoration and new weekend service on the AVL to the riders. The service will be evaluated for ridership, connections to other services, and overall effectiveness, and can be adjusted in the future.

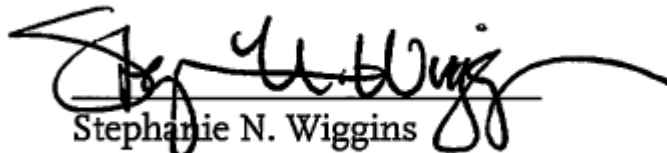
## **ATTACHMENTS**

Attachment A - Metrolink Commuter Rail System Map

Attachment B - Antelope Valley Line Service Restoration Project (Options 1, 2, and 3)

Prepared by: Jay Fuhrman, Manager, Transportation Planning, (213) 547-4381  
Michael Cano, Executive Officer, Countywide Planning & Development, (213) 418-3010  
Avital Barnea, Senior Executive Officer, Multimodal Integrated Planning, (213) 547-4317  
Ray Sosa, Deputy Chief Planning Officer, (213) 547-4274

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



Stephanie N. Wiggins  
Chief Executive Officer

# ATTACHMENT A

## METROLINK REGIONAL RAIL SYSTEM





**ATTACHMENT B**

**METROLINK**

Antelope Valley Service  
Restoration Project

*Three Weekday Options & Expanded  
Weekend Services Proposal*



# Option 1 -- Schedule (Inbound)

| Inbound                       | 200  | 202  | 204  | ADD<br>292 | 206  | 208  | 210   | 212   | ADD<br>214 | ADD<br>216 | 218   | ADD<br>220 | 222   | 224   | 230   |
|-------------------------------|------|------|------|------------|------|------|-------|-------|------------|------------|-------|------------|-------|-------|-------|
| <i>Departure Shift</i>        | 0:00 | 0:00 | 0:00 | 0:00       | 0:00 | 0:00 | -0:03 | 0:00  | -0:03      | -0:03      | 0:00  | -0:03      | 0:00  | 16:12 | 0:00  |
| <i>Current Departure</i>      | 3:41 | 4:41 | 5:11 | 5:47       | 6:11 | 7:11 | 9:15  | 9:11  | 11:15      | 12:15      | 12:11 | 14:15      | 14:11 | 16:15 | 18:11 |
| LANCASTER                     | 3:41 | 4:41 | 5:11 | 5:47       | 6:11 | 7:11 |       | 9:11  |            |            | 12:11 |            | 14:11 |       | 18:11 |
| Palmdale                      | 3:50 | 4:50 | 5:20 | 5:56       | 6:20 | 7:20 |       | 9:20  |            |            | 12:20 |            | 14:20 |       | 18:20 |
| Vincent Grade / Acton         | 4:01 | 5:01 | 5:32 |            | 6:32 | 7:32 |       | 9:32  |            |            | 12:32 |            | 14:32 |       | 18:32 |
| Vista Canyon                  | 4:38 | 5:38 | 6:07 |            | 7:07 | 8:07 |       | 10:07 |            |            | 13:07 |            | 15:07 |       | 19:07 |
| Via Princessa                 | 4:41 | 5:41 | 6:12 |            | 7:12 | 8:12 | 9:12  | 10:12 | 11:12      | 12:12      | 13:12 | 14:12      | 15:12 | 16:12 | 19:12 |
| Santa Clarita                 | 4:48 | 5:48 | 6:19 | 6:46       | 7:19 | 8:19 | 9:19  | 10:19 | 11:19      | 12:19      | 13:19 | 14:19      | 15:19 | 16:19 | 19:19 |
| Newhall                       | 4:56 | 5:56 | 6:27 |            | 7:27 | 8:27 | 9:27  | 10:27 | 11:27      | 12:27      | 13:27 | 14:27      | 15:27 | 16:27 | 19:27 |
| Sylmar / San Fernando         | 5:11 | 6:11 | 6:41 | 7:05       | 7:41 | 8:41 | 9:41  | 10:41 | 11:41      | 12:41      | 13:41 | 14:41      | 15:41 | 16:41 | 19:41 |
| Sun Valley                    | 5:19 | 6:19 | 6:49 |            | 7:49 | 8:49 | 9:49  | 10:49 | 11:49      | 12:49      | 13:49 | 14:49      | 15:49 | 16:49 | 19:49 |
| Burbank Airport - North (AVL) | 5:23 | 6:23 | 6:52 |            | 7:52 | 8:52 | 9:52  | 10:52 | 11:52      | 12:52      | 13:52 | 14:52      | 15:52 | 16:52 | 19:52 |
| Burbank - Downtown            | 5:28 | 6:28 | 6:58 | 7:17       | 7:58 | 8:58 | 9:58  | 10:58 | 11:58      | 12:58      | 13:58 | 14:58      | 15:58 | 16:58 | 19:58 |
| Glendale                      | 5:35 | 6:35 | 7:05 |            | 8:05 | 9:05 | 10:05 | 11:05 | 12:05      | 13:05      | 14:05 | 15:05      | 16:05 | 17:05 | 20:05 |
| L.A. UNION STATION            | 5:48 | 6:48 | 7:18 | 7:35       | 8:18 | 9:18 | 10:18 | 11:18 | 12:18      | 13:18      | 14:18 | 15:18      | 16:18 | 17:18 | 20:18 |
| <i>Current Arrival</i>        | 5:48 | 6:48 | 7:18 | 7:33       | 8:18 | 9:18 | 10:18 | 11:18 | 12:18      | 13:18      | 14:18 | 15:18      | 16:18 | 17:18 | 20:18 |
| <i>Arrival Shift</i>          | 0:00 | 0:00 | 0:00 | 0:02       | 0:00 | 0:00 | 0:00  | 0:00  | 0:00       | 0:00       |       | 0:00       | 0:00  | 0:00  | 0:00  |

# Option 1 -- Schedule (Outbound)

| Outbound                      | 201  | 205   | ADD<br>207 | Shortened<br>209 | ADD<br>211 | 213   | ADD<br>215 | 219   | 221   | 223   | ADD<br>291 | 225   | 227   | 229   | 231   |
|-------------------------------|------|-------|------------|------------------|------------|-------|------------|-------|-------|-------|------------|-------|-------|-------|-------|
| Departure Shift               | 0:00 | 0:00  | 0:00       | 0:00             | 0:00       | 0:00  | 0:00       | 0:00  | 0:00  | 0:00  | 0:00       | 0:00  | 0:00  | 0:00  | 0:00  |
| Current Departure             | 6:39 | 7:39  | 8:39       | 9:39             | 10:39      | 11:39 | 12:39      | 14:39 | 15:39 | 16:39 | 17:25      | 17:39 | 18:39 | 19:39 | 21:39 |
| L.A. UNION STATION            | 6:39 | 7:39  | 8:39       | 9:39             | 10:39      | 11:39 | 12:39      | 14:39 | 15:39 | 16:39 | 17:25      | 17:39 | 18:39 | 19:39 | 21:39 |
| Glendale                      | 6:51 | 7:51  | 8:51       | 9:51             | 10:51      | 11:51 | 12:51      | 14:51 | 15:51 | 16:51 |            | 17:51 | 18:51 | 19:51 | 21:51 |
| Burbank - Downtown            | 6:58 | 7:58  | 8:58       | 9:58             | 10:58      | 11:58 | 12:58      | 14:58 | 15:58 | 16:58 | 17:41      | 17:58 | 18:58 | 19:58 | 21:58 |
| Burbank Airport - North (AVL) | 7:03 | 8:03  | 9:03       | 10:03            | 11:03      | 12:03 | 13:03      | 15:03 | 16:03 | 17:03 |            | 18:03 | 19:03 | 20:03 | 22:03 |
| Sun Valley                    | 7:08 | 8:08  | 9:08       | 10:08            | 11:08      | 12:08 | 13:08      | 15:08 | 16:08 | 17:08 |            | 18:08 | 19:08 | 20:08 | 22:08 |
| Sylmar / San Fernando         | 7:19 | 8:16  | 9:16       | 10:16            | 11:16      | 12:16 | 13:16      | 15:16 | 16:16 | 17:16 | 17:52      | 18:16 | 19:16 | 20:16 | 22:16 |
| Newhall                       | 7:35 | 8:32  | 9:32       | 10:32            | 11:32      | 12:32 | 13:32      | 15:32 | 16:32 | 17:32 |            | 18:32 | 19:32 | 20:32 | 22:32 |
| Santa Clarita                 | 7:44 | 8:40  | 9:40       | 10:40            | 11:40      | 12:40 | 13:40      | 15:40 | 16:40 | 17:40 | 18:12      | 18:40 | 19:40 | 20:40 | 22:40 |
| Via Princessa                 | 7:51 | 8:45  | 9:47       | 10:45            | 11:45      | 12:47 | 13:45      | 15:45 | 16:47 | 17:47 |            | 18:47 | 19:47 | 20:47 | 22:47 |
| Vista Canyon                  | 7:56 |       | 9:51       |                  |            | 12:51 |            |       | 16:51 | 17:51 |            | 18:51 | 19:51 | 20:51 | 22:51 |
| Vincent Grade / Acton         | 8:35 |       | 10:29      |                  |            | 13:29 |            |       | 17:29 | 18:29 |            | 19:29 | 20:29 | 21:29 | 23:29 |
| Palmdale                      | 8:45 |       | 10:40      |                  |            | 13:40 |            |       | 17:40 | 18:40 | 19:07      | 19:40 | 20:40 | 21:40 | 23:40 |
| LANCASTER                     | 8:57 |       | 10:52      |                  |            | 13:52 |            |       | 17:52 | 18:52 | 19:14      | 19:52 | 20:52 | 21:52 | 23:52 |
| Current Arrival               | 8:52 | 8:47  | 10:52      | 10:47            | 11:47      | 13:52 | 13:47      | 15:47 | 17:52 | 18:52 | 19:14      | 19:52 | 20:52 | 21:52 | 23:52 |
| Arrival Shift                 | 0:05 | -0:02 | 0:00       | -0:02            | -0:02      | 0:00  | -0:02      | -0:02 | 0:00  | 0:00  | 0:00       | 0:00  | 0:00  | 0:00  | 0:00  |

# Option 2 -- Schedule (Inbound)

| Inbound                       | 200  | 202  | 204  | ADD<br>292 | 206  | 208  | 210   | 212   | ADD<br>216 | 218   | ADD<br>220 | 222   | 224   | ADD<br>226 | 230   |
|-------------------------------|------|------|------|------------|------|------|-------|-------|------------|-------|------------|-------|-------|------------|-------|
| Departure Shift               | 0:00 | 0:00 | 0:00 |            | 0:00 | 0:00 | -0:02 | 0:00  |            | 0:00  |            | 0:00  | 16:13 |            | 0:00  |
| Current Departure             | 3:41 | 4:41 | 5:11 | New        | 6:11 | 7:11 | 9:15  | 9:11  | New        | 12:11 | New        | 14:11 | 16:15 | New        | 18:11 |
| LANCASTER                     | 3:41 | 4:41 | 5:11 | 5:45       | 6:11 | 7:11 |       | 9:11  |            | 12:11 |            | 14:11 |       | 16:11      | 18:11 |
| Palmdale                      | 3:50 | 4:50 | 5:20 | 5:54       | 6:20 | 7:20 |       | 9:20  |            | 12:20 |            | 14:20 |       | 16:20      | 18:20 |
| Vincent Grade / Acton         | 4:01 | 5:01 | 5:32 |            | 6:32 | 7:32 |       | 9:32  |            | 12:32 |            | 14:32 |       | 16:32      | 18:32 |
| Vista Canyon                  | 4:37 | 5:37 | 6:10 |            | 7:10 | 8:10 |       | 10:10 |            | 13:10 |            | 15:10 |       | 17:10      | 19:10 |
| Via Princessa                 | 4:41 | 5:41 | 6:13 |            | 7:13 | 8:13 | 9:13  | 10:13 | 12:13      | 13:13 | 14:13      | 15:13 | 16:13 | 17:13      | 19:13 |
| Santa Clarita                 | 4:47 | 5:47 | 6:20 | 6:45       | 7:20 | 8:20 | 9:20  | 10:20 | 12:20      | 13:20 | 14:20      | 15:20 | 16:20 | 17:20      | 19:20 |
| Newhall                       | 4:55 | 5:55 | 6:28 |            | 7:28 | 8:28 | 9:28  | 10:28 | 12:28      | 13:28 | 14:28      | 15:28 | 16:28 | 17:28      | 19:28 |
| Sylmar / San Fernando         | 5:10 | 6:10 | 6:43 | 7:05       | 7:43 | 8:43 | 9:43  | 10:43 | 12:43      | 13:43 | 14:43      | 15:43 | 16:43 | 17:43      | 19:43 |
| Sun Valley                    | 5:18 | 6:18 | 6:50 |            | 7:50 | 8:50 | 9:50  | 10:50 | 12:50      | 13:50 | 14:50      | 15:50 | 16:50 | 17:50      | 19:50 |
| Burbank Airport - North (AVL) | 5:22 | 6:22 | 6:54 |            | 7:54 | 8:54 | 9:54  | 10:54 | 12:54      | 13:54 | 14:54      | 15:54 | 16:54 | 17:54      | 19:54 |
| Burbank - Downtown            | 5:28 | 6:28 | 7:00 | 7:17       | 8:00 | 9:00 | 10:00 | 11:00 | 13:00      | 14:00 | 15:00      | 16:00 | 17:00 | 18:00      | 20:00 |
| Glendale                      | 5:35 | 6:35 | 7:06 |            | 8:06 | 9:06 | 10:06 | 11:06 | 13:06      | 14:06 | 15:06      | 16:06 | 17:06 | 18:06      | 20:06 |
| L.A. UNION STATION            | 5:48 | 6:48 | 7:20 | 7:35       | 8:20 | 9:20 | 10:20 | 11:20 | 13:20      | 14:20 | 15:20      | 16:20 | 17:20 | 18:20      | 20:20 |
| Current Arrival               | 5:48 | 6:48 | 7:18 | New        | 8:18 | 9:18 | 10:18 | 11:18 | New        | 14:18 | New        | 16:18 | 17:18 | New        | 20:18 |
| Arrival Shift                 | 0:00 | 0:00 | 0:02 |            | 0:02 | 0:02 | 0:02  | 0:02  |            |       |            | 0:02  | 0:02  |            | 0:02  |

# Option 2 -- Schedule (Outbound)

| Outbound                      | 201  | 205   | 209   | ADD<br>211 | 213   | ADD<br>215 | ADD<br>217 | 219   | 221   | 223   | ADD<br>291 | 225   | 227   | 229   | 231   |
|-------------------------------|------|-------|-------|------------|-------|------------|------------|-------|-------|-------|------------|-------|-------|-------|-------|
| Departure Shift               | 0:00 | 0:00  | 0:00  | 0:00       | 0:00  | 0:00       | 1:00       | 0:00  | 0:00  | 0:00  | 0:00       | 0:00  | 0:00  | 0:00  | 0:00  |
| Current Departure             | 6:39 | 7:39  | 9:39  | 10:39      | 11:39 | 12:39      | 12:39      | 14:39 | 15:39 | 16:39 | 17:25      | 17:39 | 18:39 | 19:39 | 21:39 |
| L.A. UNION STATION            | 6:39 | 7:39  | 9:39  | 10:39      | 11:39 | 12:39      | 13:39      | 14:39 | 15:39 | 16:39 | 17:25      | 17:39 | 18:39 | 19:39 | 21:39 |
| Glendale                      | 6:51 | 7:51  | 9:51  | 10:51      | 11:51 | 12:51      | 13:51      | 14:51 | 15:51 | 16:51 |            | 17:51 | 18:51 | 19:51 | 21:51 |
| Burbank - Downtwn             | 6:58 | 7:58  | 9:58  | 10:58      | 11:58 | 12:58      | 13:58      | 14:58 | 15:58 | 16:58 | 17:41      | 17:58 | 18:58 | 19:58 | 21:58 |
| Burbank Airport - North (AVL) | 7:03 | 8:04  | 10:04 | 11:04      | 12:04 | 13:04      | 14:04      | 15:04 | 16:04 | 17:04 |            | 18:04 | 19:04 | 20:04 | 22:04 |
| Sun Valley                    | 7:08 | 8:08  | 10:08 | 11:08      | 12:08 | 13:08      | 14:08      | 15:08 | 16:08 | 17:08 |            | 18:08 | 19:08 | 20:08 | 22:08 |
| Sylmar / San Fernando         | 7:16 | 8:16  | 10:16 | 11:16      | 12:16 | 13:16      | 14:16      | 15:16 | 16:16 | 17:16 | 17:53      | 18:16 | 19:16 | 20:16 | 22:16 |
| Newhall                       | 7:32 | 8:32  | 10:32 | 11:32      | 12:32 | 13:32      | 14:32      | 15:32 | 16:32 | 17:32 |            | 18:32 | 19:32 | 20:32 | 22:32 |
| Santa Clarita                 | 7:41 | 8:40  | 10:40 | 11:40      | 12:40 | 13:40      | 14:40      | 15:40 | 16:40 | 17:40 | 18:13      | 18:40 | 19:40 | 20:40 | 22:40 |
| Via Princessa                 | 7:48 | 8:45  | 10:46 | 11:45      | 12:46 | 13:45      | 14:46      | 15:45 | 16:46 | 17:46 |            | 18:46 | 19:46 | 20:46 | 22:46 |
| Vista Canyon                  | 7:53 |       | 10:52 |            | 12:52 |            | 14:52      |       | 16:52 | 17:52 |            | 18:52 | 19:52 | 20:52 | 22:52 |
| Vincent Grade / Acton         | 8:32 |       | 11:31 |            | 13:31 |            | 15:31      |       | 17:31 | 18:31 |            | 19:31 | 20:31 | 21:31 | 23:31 |
| Palmdale                      | 8:43 |       | 11:41 |            | 13:41 |            | 15:41      |       | 17:41 | 18:41 | 19:10      | 19:41 | 20:41 | 21:41 | 23:41 |
| LANCASTER                     | 8:54 |       | 11:53 |            | 13:53 |            | 15:53      |       | 17:53 | 18:53 | 19:18      | 19:53 | 20:53 | 21:53 | 23:53 |
| Current Arrival               | 8:52 | 8:47  | 10:47 | New        | 13:52 | New        | New        | 15:47 | 17:52 | 18:52 | New        | 19:52 | 20:52 | 21:52 | 23:52 |
| Arrival Shift                 | 0:02 | -0:02 | 1:06  |            | 0:01  |            |            | -0:02 | 0:01  | 0:01  |            | 0:01  | 0:01  | 0:01  | 0:01  |

# RECOMMENDED

## Option 3 -- Schedule (Inbound)

| Inbound                       | Remove |       |      |      |      |       |       | ADD   |       | ADD   |       | ADD   |       | ADD   | ADD   |       |
|-------------------------------|--------|-------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               | 200    | 202   | 204  | 206  | 208  | 210   | 212   | 216   | 218   | 220   | 222   | 224   | 226   | 230   | 234   | 238   |
| Departure Shift               | 0:00   | -0:30 | 0:00 | 0:00 | 0:00 | -0:02 | 0:00  |       | 0:06  |       |       | -0:02 |       | 0:00  |       |       |
| Current Departure             | 3:41   | 4:41  | 5:11 | 6:11 | 7:11 | 9:15  | 9:11  | New   | 12:05 | New   | 14:11 | 16:15 | New   | 18:11 | New   | New   |
| LANCASTER                     | 3:41   | 4:11  | 5:11 | 6:11 | 7:11 |       | 9:11  |       | 12:11 |       | 14:11 |       | 16:11 | 18:11 | 20:11 | 22:11 |
| Palmdale                      | 3:50   | 4:20  | 5:20 | 6:20 | 7:20 |       | 9:20  |       | 12:20 |       | 14:20 |       | 16:20 | 18:20 | 20:20 | 22:20 |
| Vincent Grade / Acton         | 4:01   | 4:32  | 5:32 | 6:32 | 7:32 |       | 9:32  |       | 12:32 |       | 14:32 |       | 16:32 | 18:32 | 20:32 | 22:32 |
| Vista Canyon                  | 4:37   | 5:10  | 6:10 | 7:10 | 8:10 |       | 10:10 |       | 13:10 |       | 15:10 |       | 17:10 | 19:10 | 21:10 | 23:10 |
| Via Princessa                 | 4:41   | 5:13  | 6:13 | 7:13 | 8:13 | 9:13  | 10:13 | 12:13 | 13:13 | 14:13 | 15:13 | 16:13 | 17:13 | 19:13 | 21:13 | 23:13 |
| Santa Clarita                 | 4:47   | 5:20  | 6:20 | 7:20 | 8:20 | 9:20  | 10:20 | 12:20 | 13:20 | 14:20 | 15:20 | 16:20 | 17:20 | 19:20 | 21:20 | 23:20 |
| Newhall                       | 4:55   | 5:28  | 6:28 | 7:28 | 8:28 | 9:28  | 10:28 | 12:28 | 13:28 | 14:28 | 15:28 | 16:28 | 17:28 | 19:28 | 21:28 | 23:28 |
| Sylmar / San Fernando         | 5:10   | 5:43  | 6:43 | 7:43 | 8:43 | 9:43  | 10:43 | 12:43 | 13:43 | 14:43 | 15:43 | 16:43 | 17:43 | 19:43 | 21:43 | 23:43 |
| Sun Valley                    | 5:18   | 5:50  | 6:50 | 7:50 | 8:50 | 9:50  | 10:50 | 12:50 | 13:50 | 14:50 | 15:50 | 16:50 | 17:50 | 19:50 | 21:50 | 23:50 |
| Burbank Airport - North (AVL) | 5:22   | 5:54  | 6:54 | 7:54 | 8:54 | 9:54  | 10:54 | 12:54 | 13:54 | 14:54 | 15:54 | 16:54 | 17:54 | 19:54 | 21:54 | 23:54 |
| Burbank - Downtown            | 5:28   | 6:00  | 7:00 | 8:00 | 9:00 | 10:00 | 11:00 | 13:00 | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 20:00 | 22:00 | 0:00  |
| Glendale                      | 5:35   | 6:06  | 7:06 | 8:06 | 9:06 | 10:06 | 11:06 | 13:06 | 14:06 | 15:06 | 16:06 | 17:06 | 18:06 | 20:06 | 22:06 | 0:06  |
| L.A. UNION STATION            | 5:48   | 6:20  | 7:20 | 8:20 | 9:20 | 10:20 | 11:20 | 13:20 | 14:20 | 15:20 | 16:20 | 17:20 | 18:20 | 20:20 | 22:20 | 0:20  |
| Current Arrival               | 5:48   | 6:48  | 7:18 | 8:18 | 9:18 | 10:18 | 11:18 | New   | 14:18 | New   | 16:18 | 17:18 | New   | 20:18 | New   | New   |
| Arrival Shift                 | 0:00   | -0:28 | 0:02 |      | 0:02 | 0:02  | 0:02  |       |       |       | 0:02  | 0:02  |       | 0:02  |       |       |

# RECOMMENDED

## Option 3 -- Schedule (Outbound)

| Outbound                      | Renumber |       | ADD   |       | ADD   |       | ADD   |       |       |       |       |       |       |       |       | ADD |
|-------------------------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|
|                               | 203      | 205   | 209   | 211   | 213   | 215   | 217   | 219   | 221   | 223   | 225   | 227   | 229   | 231   | 235   |     |
| Departure Shift               | 0:00     | 0:00  | 0:00  | 0:00  | 0:00  | 0:00  | 1:00  | 0:00  | 0:00  | 0:00  | 0:00  | 0:00  | 0:00  | 0:00  | 0:00  |     |
| Current Departure             | 6:39     | 7:39  | 9:39  | 10:39 | 11:39 | 12:39 | 12:39 | 14:39 | 15:39 | 16:39 | 17:39 | 18:39 | 19:39 | 21:39 | New   |     |
| L.A. UNION STATION            | 6:39     | 7:39  | 9:39  | 10:39 | 11:39 | 12:39 | 13:39 | 14:39 | 15:39 | 16:39 | 17:39 | 18:39 | 19:39 | 21:39 | 23:39 |     |
| Glendale                      | 6:51     | 7:51  | 9:51  | 10:51 | 11:51 | 12:51 | 13:51 | 14:51 | 15:51 | 16:51 | 17:51 | 18:51 | 19:51 | 21:51 | 23:51 |     |
| Burbank - Downtown            | 6:58     | 7:58  | 9:58  | 10:58 | 11:58 | 12:58 | 13:58 | 14:58 | 15:58 | 16:58 | 17:58 | 18:58 | 19:58 | 21:58 | 23:58 |     |
| Burbank Airport - North (AVL) | 7:04     | 8:04  | 10:04 | 11:04 | 12:04 | 13:04 | 14:04 | 15:04 | 16:04 | 17:04 | 18:04 | 19:04 | 20:04 | 22:04 | 0:04  |     |
| Sun Valley                    | 7:08     | 8:08  | 10:08 | 11:08 | 12:08 | 13:08 | 14:08 | 15:08 | 16:08 | 17:08 | 18:08 | 19:08 | 20:08 | 22:08 | 0:08  |     |
| Sylmar / San Fernando         | 7:16     | 8:16  | 10:16 | 11:16 | 12:16 | 13:16 | 14:16 | 15:16 | 16:16 | 17:16 | 18:16 | 19:16 | 20:16 | 22:16 | 0:16  |     |
| Newhall                       | 7:32     | 8:32  | 10:32 | 11:32 | 12:32 | 13:32 | 14:32 | 15:32 | 16:32 | 17:32 | 18:32 | 19:32 | 20:32 | 22:32 | 0:32  |     |
| Santa Clarita                 | 7:40     | 8:40  | 10:40 | 11:40 | 12:40 | 13:40 | 14:40 | 15:40 | 16:40 | 17:40 | 18:40 | 19:40 | 20:40 | 22:40 | 0:40  |     |
| Via Princessa                 | 7:46     | 8:45  | 10:46 | 11:45 | 12:46 | 13:45 | 14:46 | 15:45 | 16:46 | 17:46 | 18:46 | 19:46 | 20:46 | 22:46 | 0:46  |     |
| Vista Canyon                  | 7:52     |       | 10:52 |       | 12:52 |       | 14:52 |       | 16:52 | 17:52 | 18:52 | 19:52 | 20:52 | 22:52 | 0:52  |     |
| Vincent Grade / Acton         | 8:31     |       | 11:31 |       | 13:31 |       | 15:31 |       | 17:31 | 18:31 | 19:31 | 20:31 | 21:31 | 23:31 | 1:31  |     |
| Palmdale                      | 8:41     |       | 11:41 |       | 13:41 |       | 15:41 |       | 17:41 | 18:41 | 19:41 | 20:41 | 21:41 | 23:41 | 1:41  |     |
| LANCASTER                     | 8:53     |       | 11:53 |       | 13:53 |       | 15:53 |       | 17:53 | 18:53 | 19:53 | 20:53 | 21:53 | 23:53 | 1:53  |     |
| Current Arrival               | 8:52     | 8:47  | 11:52 | New   | 13:52 | New   | New   | 15:47 | 17:52 | 18:52 | New   | 20:52 | 21:52 | 23:52 | New   |     |
| Arrival Shift                 | 0:01     | -0:02 | 0:01  |       | 0:01  |       |       | -0:02 | 0:01  | 0:01  |       | 0:01  | 0:01  | 0:01  |       |     |

# Weekend Schedule (Inbound)

| Inbound                       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               | 260   | 264   | 266   | 268   | 270   | 272   | 274   | 276   | 278   | 280   | 282   | 288   |
| <i>Departure Shift</i>        | -0:11 | -0:53 |       | -1:04 |       | -0:29 |       | -0:12 |       |       | -0:12 |       |
| Current Departure             | 6:22  | 9:04  |       | 11:15 |       | 12:40 |       | 14:23 |       |       | 18:23 |       |
| LANCASTER                     | 6:11  | 8:11  |       | 10:11 |       | 12:11 |       | 14:11 |       |       | 18:11 |       |
| Palmdale                      | 6:20  | 8:20  |       | 10:20 |       | 12:20 |       | 14:20 |       |       | 18:20 |       |
| Vincent Grade / Acton         | 6:32  | 8:32  |       | 10:32 |       | 12:32 |       | 14:32 |       |       | 18:32 |       |
| Vista Canyon                  | 7:09  | 9:09  |       | 11:09 |       | 13:09 |       | 15:09 |       |       | 19:09 |       |
| Via Princessa                 | 7:12  | 9:12  | 10:12 | 11:12 | 12:12 | 13:12 | 14:12 | 15:12 | 16:12 | 18:12 | 19:12 | 22:12 |
| Santa Clarita                 | 7:19  | 9:19  | 10:19 | 11:19 | 12:19 | 13:19 | 14:19 | 15:19 | 16:19 | 18:19 | 19:19 | 22:19 |
| Newhall                       | 7:27  | 9:27  | 10:27 | 11:27 | 12:27 | 13:27 | 14:27 | 15:27 | 16:27 | 18:27 | 19:27 | 22:27 |
| Sylmar / San Fernando         | 7:42  | 9:42  | 10:42 | 11:42 | 12:42 | 13:42 | 14:42 | 15:42 | 16:42 | 18:42 | 19:42 | 22:42 |
| Sun Valley                    | 7:49  | 9:49  | 10:49 | 11:49 | 12:49 | 13:49 | 14:49 | 15:49 | 16:49 | 18:49 | 19:49 | 22:49 |
| Burbank Airport - North (AVL) | 7:53  | 9:53  | 10:53 | 11:53 | 12:53 | 13:53 | 14:53 | 15:53 | 16:53 | 18:53 | 19:53 | 22:53 |
| Burbank - Downtown            | 7:59  | 9:59  | 10:59 | 11:59 | 12:59 | 13:59 | 14:59 | 15:59 | 16:59 | 18:59 | 19:59 | 22:59 |
| Glendale                      | 8:05  | 10:05 | 11:05 | 12:05 | 13:05 | 14:05 | 15:05 | 16:05 | 17:05 | 19:05 | 20:05 | 23:05 |
| L.A. UNION STATION            | 8:20  | 10:20 | 11:20 | 12:20 | 13:20 | 14:20 | 15:20 | 16:20 | 17:20 | 19:20 | 20:20 | 23:20 |
| Current Arrival               | 8:25  | 11:10 |       | 11:10 |       | 13:20 |       | 16:28 |       |       | 20:29 |       |
| <i>Arrival Shift</i>          | -0:05 | -0:50 |       | 1:10  |       | 1:00  |       | -0:08 |       |       | -0:09 |       |

# Weekend Schedule (Outbound)

| Outbound                      |       |       |       |       |       |       |       |       |       |       |       |       |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                               | 261   | 263   | 267   | 269   | 271   | 273   | 275   | 277   | 279   | 281   | 285   | 287   |
| Departure Shift               | -1:01 | -0:01 |       | 0:02  |       | -0:19 |       | 0:02  |       | 0:14  | -1:14 |       |
| Current Departure             | 8:40  | 8:40  |       | 11:37 |       | 13:58 |       | 15:37 |       | 17:25 | 20:53 |       |
| L.A. UNION STATION            | 7:39  | 8:39  | 10:39 | 11:39 | 12:39 | 13:39 | 14:39 | 15:39 | 16:39 | 17:39 | 19:39 | 20:39 |
| Glendale                      | 7:51  | 8:51  | 10:51 | 11:51 | 12:51 | 13:51 | 14:51 | 15:51 | 16:51 | 17:51 | 19:51 | 20:51 |
| Burbank - Downtown            | 7:58  | 8:58  | 10:58 | 11:58 | 12:58 | 13:58 | 14:58 | 15:58 | 16:58 | 17:58 | 19:58 | 20:58 |
| Burbank Airport - North (AVL) | 8:04  | 9:04  | 11:04 | 12:04 | 13:04 | 14:04 | 15:04 | 16:04 | 17:04 | 18:04 | 20:04 | 21:04 |
| Sun Valley                    | 8:08  | 9:08  | 11:08 | 12:08 | 13:08 | 14:08 | 15:08 | 16:08 | 17:08 | 18:08 | 20:08 | 21:08 |
| Sylmar / San Fernando         | 8:16  | 9:16  | 11:16 | 12:16 | 13:16 | 14:16 | 15:16 | 16:16 | 17:16 | 18:16 | 20:16 | 21:16 |
| Newhall                       | 8:32  | 9:32  | 11:32 | 12:32 | 13:32 | 14:32 | 15:32 | 16:32 | 17:32 | 18:32 | 20:32 | 21:32 |
| Santa Clarita                 | 8:40  | 9:40  | 11:40 | 12:40 | 13:40 | 14:40 | 15:40 | 16:40 | 17:40 | 18:40 | 20:40 | 21:40 |
| Via Princessa                 | 8:46  | 9:45  | 11:45 | 12:46 | 13:45 | 14:46 | 15:45 | 16:46 | 17:45 | 18:46 | 20:46 | 21:45 |
| Vista Canyon                  | 8:51  |       |       | 12:51 |       | 14:51 |       | 16:51 |       | 18:51 | 20:51 |       |
| Vincent Grade / Acton         | 9:30  |       |       | 13:30 |       | 15:30 |       | 17:30 |       | 19:30 | 21:30 |       |
| Palmdale                      | 9:40  |       |       | 13:40 |       | 15:40 |       | 17:40 |       | 19:40 | 21:40 |       |
| LANCASTER                     | 9:52  |       |       | 13:52 |       | 15:52 |       | 17:52 |       | 19:52 | 21:52 |       |
| Current Arrival               | 10:51 |       |       | 13:48 |       | 16:12 |       | 17:59 |       | 19:30 | 23:00 |       |
| Arrival Shift                 | -0:59 |       |       | 0:04  |       | -0:20 |       | -0:07 |       | 0:22  | -1:08 |       |



# AV Line Service Options Estimates (including Security)

## AV Line Service Assumptions:

- Service to begin on October 23, 2023
- Expenses and Revenues Prorated for the Period of Oct 23, 2023 to June 30, 2024
- Revenue is based on FY24 Ridership/Revenue Forecast(KPMG/Sperry Capital)
- Estimates include Armed Security Guards

|   | Option 1 + Weekend |                  |                 |                  |                 | TOTAL          |
|---|--------------------|------------------|-----------------|------------------|-----------------|----------------|
|   | METRO              | OCTA             | RCTC            | SBCTA            | VCTC            |                |
| Total Revenue   | 1,336,824          | 0                | 0               | 0                | 0               | 1,336,824      |
| Total Expense   | 2,654,285          | (165,711)        | (78,056)        | (119,709)        | (40,910)        | 2,249,899      |
| <b>Change in Member Support increase / (decrease)</b> | <b>1,317,461</b>   | <b>(165,711)</b> | <b>(78,056)</b> | <b>(119,709)</b> | <b>(40,910)</b> | <b>913,075</b> |

|   | Option 2 + Weekend |                  |                 |                  |                 | TOTAL            |
|---|--------------------|------------------|-----------------|------------------|-----------------|------------------|
|   | METRO              | OCTA             | RCTC            | SBCTA            | VCTC            |                  |
| Total Revenue   | 1,233,684          | 0                | 0               | 0                | 0               | 1,233,684        |
| Total Expense   | 3,073,020          | (164,497)        | (75,677)        | (117,744)        | (40,761)        | 2,674,341        |
| <b>Change in Member Support increase / (decrease)</b> | <b>1,839,336</b>   | <b>(164,497)</b> | <b>(75,677)</b> | <b>(117,744)</b> | <b>(40,761)</b> | <b>1,440,657</b> |

|   | Option 3 + Weekend |                  |                 |                  |                 | TOTAL            |
|---|--------------------|------------------|-----------------|------------------|-----------------|------------------|
|   | METRO              | OCTA             | RCTC            | SBCTA            | VCTC            |                  |
| Total Revenue   | 1,268,604          | 0                | 0               | 0                | 0               | 1,268,604        |
| Total Expense   | 2,951,446          | (193,459)        | (90,608)        | (137,577)        | (47,209)        | 2,482,593        |
| <b>Change in Member Support increase / (decrease)</b> | <b>1,682,842</b>   | <b>(193,459)</b> | <b>(90,608)</b> | <b>(137,577)</b> | <b>(47,209)</b> | <b>1,213,989</b> |



## I-5 NORTH COUNTY ENHANCEMENTS PROJECT

### Weldon Canyon Rd Bridge Demolition

#### Summary

As part of the I-5 North County Enhancements Project, Metro's contractor OHLA-USA, will be removing the existing Weldon Canyon Bridge as the new bridge is ready for use. Activities will include the removal and demolition of the existing Weldon Canyon Rd bridge superstructure and columns requiring a full freeway closure from SR-14 to Calgrove Bl starting **Saturday, November 4, 2023 at 8pm to Sunday, November 5, 2023 at 8am**. Additional closures will take place as a contingency on December 2, 2023 from 8pm to 8am, if needed

#### What to Expect & Traffic Control

Northbound full directional closures between SR-14 and Calgrove Bl, anticipated on **Saturday, 11/4/23 from 8pm to 8am**.

- **Primary detour and truck route:** Exit I-5 to northbound SR-14, continue to westbound Golden Valley Rd/Newhall Ranch Rd, proceed to the Newhall Ranch Rd I-5 on-ramps.
- **Local detour route:** Exit I-5 to northbound SR-14, continue to westbound Newhall Av, right on Railroad Av, left on Lyons Av, proceed to the Lyons Av/Pico Canyon Rd I-5 on-ramps.

Southbound full directional closures between Calgrove Bl and SR-14, anticipated on **Saturday, 11/4/23 from 8pm to 8am**.

- **Primary detour and truck route:** Exit I-5 to eastbound Newhall Ranch Rd/Golden Valley Rd, continue to southbound SR-14 off of Golden Valley Rd, proceed to the SR-14/I-5 interchange.
- **Local detour route:** Exit I-5 at Calgrove Bl, continue south on The Old Road, south on San Fernando Rd and Sepulveda Bl, proceed to I-5 southbound on-ramp.

#### Essential Details

- Full freeway closure starting Saturday, 11/4/23 at 8pm to Sunday, 11/5/23 at 8am.
- Additional closures will take place as a contingency on December 2, 2023 from 8pm to 8am, if needed.
- Mobilization and partial lane closures will begin on Saturday at 8pm.
- Advanced warning signage and detour signage will be posted along the route.
- All lanes will reopen on Sunday at 8am.
- The speed limit within the project corridor is 55-miles per hour.

#### Noteworthy


Construction is a dynamic process, and it is subject to weather conditions. Closure dates and information are subject to change.

Visit the project website for the most up to date information and a weekly listing of ramp closures scheduled. Access for emergency responders will be maintained.




**Metro**<sup>®</sup>

#### Contact Us

 213-922-2772

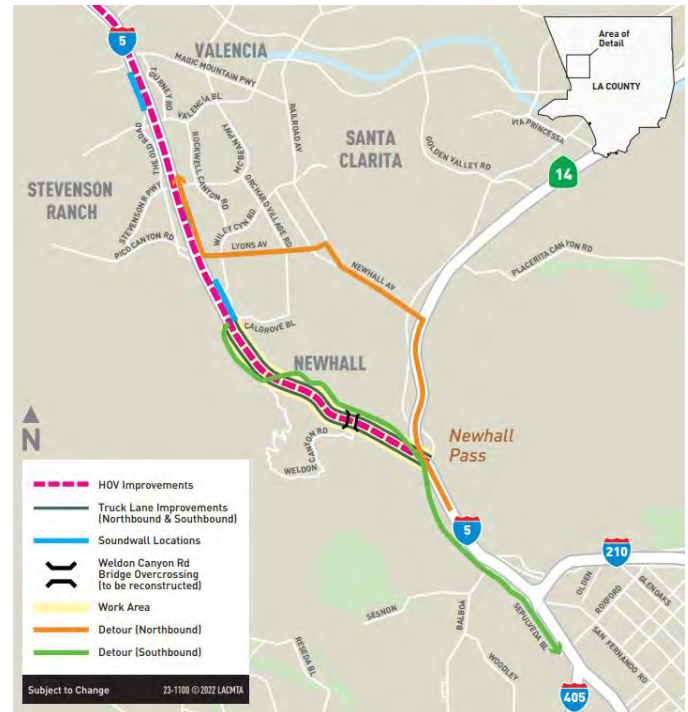
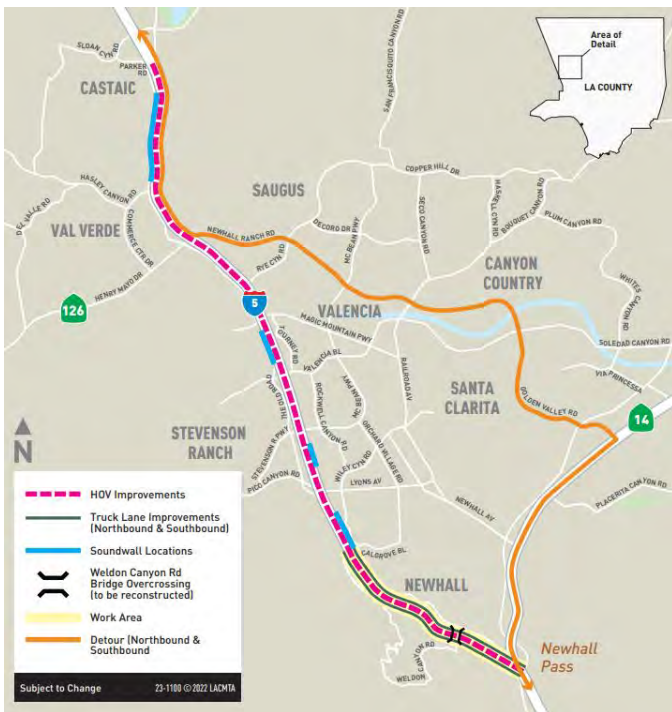
 [i5enhancements@metro.net](mailto:i5enhancements@metro.net)

 [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)



# I-5 NORTH COUNTY ENHANCEMENTS PROJECT

## Weldon Canyon Rd Bridge Demolition Closure Detour Maps



- Northbound I-5 directional closure
  - Saturday, November 4 at 8pm to Sunday, November 5 at 8am
- Southbound I-5 directional closure
  - Saturday, November 4 at 8pm to Sunday, November 5 at 8am
- Northbound/Southbound I-5 directional closure
  - Saturday, December 2 at 8pm to Sunday, December 3 at 8am



### Contact Us

- 213-922-2772
- i5enhancements@metro.net
- metro.net/i-5-enhancements



## I-5 NORTH COUNTY ENHANCEMENTS PROJECT

### Magic Mountain Pkwy Construction

#### Summary

As part of the I-5 North County Enhancements Project, Metro's contractor OHLA-USA, will be extending the overcrossing at Magic Mountain Pkwy to accommodate the new high-occupancy vehicle (HOV) lanes. This I-5 bridge crosses over Magic Mountain Parkway, located between The Old Rd and Tourney Rd.

Construction will take place along the eastbound and westbound Magic Mountain Parkway lanes. Activities will include k-rail installation, excavation, pile driving, falsework installation and removal, demolition, auger drilling for concrete foundations, form, rebar, and concrete work.

This bridge extension is anticipated to be completed by Summer 2024.

#### What to Expect & Traffic Control

Full closures of Magic Mountain Pkwy, between The Old Rd and Tourney Rd anticipated **Wednesday, October 18, 2023**, and a contingency date of **Tuesday, October 24, 2023**, from **9pm to 7am**.

- **Detour 1:** Traveling northbound on The Old Rd, turn right on Rye Canyon Rd, right on Newhall Ranch Rd, right on McBean Pkwy, and right on Magic Mountain Pkwy.
- **Detour 2:** Traveling southbound on The Old Rd, turn left on Valencia, left on Tourney Rd, and right on Magic Mountain Pkwy.
- **Detour 3:** Traveling westbound on Magic Mountain Pkwy, turn left on Tourney Rd, right on Valencia Blvd, and right on The Old Rd.

#### Essential Details

- Work hours: Monday through Friday and Saturdays as needed, between 6am to 3pm behind k-rail, and 7pm to 6am.
- Intermittent traffic control during off-peak hours for construction access from The Old Road to Tourney Road.
- Speed limit within the construction zone on The Old Road, Magic Mountain Parkway, and Tourney Road is 45-miles per hour.

#### Noteworthy

Access to emergency responders will be maintained. Construction is a dynamic process, it is subject to weather conditions, and information is subject to change, visit the project website for the most up to date information and a weekly listing of ramp closures scheduled.



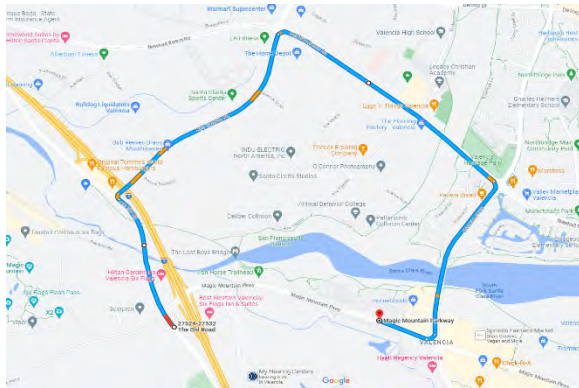
#### Contact Us

- 📞 213-922-2772
- ✉️ [i5enhancements@metro.net](mailto:i5enhancements@metro.net)
- 🌐 [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)

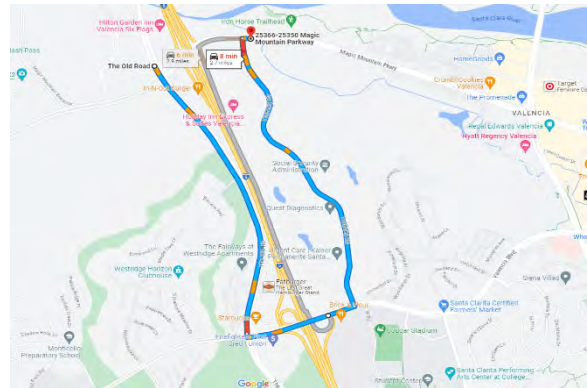


# I-5 NORTH COUNTY ENHANCEMENTS PROJECT

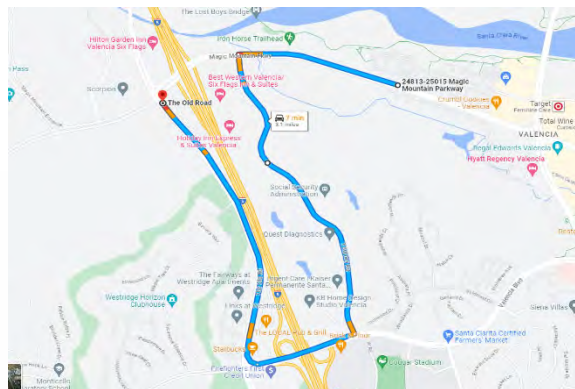
## Magic Mountain Pkwy Construction Detour Maps



**Detour 1:** Traveling northbound on The Old Rd, turn right on Rye Canyon Rd, right on Newhall Ranch Rd, right on McBean Pkwy, and right on Magic Mountain Pkwy.






**Detour 2:** Traveling southbound on The Old Rd, turn left on Valencia, left on Tourney Rd, and right on Magic Mountain Pkwy.



**Detour 3:** Traveling westbound on Magic Mountain Pkwy, turn left on Tourney Rd, right on Valencia Blvd, and right on The Old Rd.



### Contact Us

-  213-922-2772
-  [i5enhancements@metro.net](mailto:i5enhancements@metro.net)
-  [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)



## I-5 NORTH COUNTY ENHANCEMENTS PROJECT

### Gavin Canyon Undercrossing Bridge Construction

#### Summary

As part of the I-5 North County Enhancements Project, Metro's contractor OHLA-USA, will be extending the existing Gavin Canyon Bridge to accommodate the new high-occupancy vehicle (HOV) lanes. This bridge crosses over The Old Road (Rd), located between Calgrove Bl and Weldon Canyon Rd.

Construction will take place along the outside shoulders, center median, and along The Old Rd. Activities will include form, rebar, and concrete work. This bridge extension is anticipated to be substantially completed by December 2024.

#### What to Expect & Traffic Control

Prepare for continued intermittent nighttime closures on The Old Rd to complete construction, anticipated on the following dates from 8pm to 10am.

- **Tuesday, October 3**
  - **Wednesday, October 4**
  - **Friday, October 6**
  - **Thursday, October 12**
  - **Friday, October 13**
- 
- **Detour 1:** Traveling northbound on The Old Rd, turn right on Sierra Hwy, continue onto northbound I-5, exit at Calgrove Bl.
  - **Detour 2:** Traveling southbound on The Old Rd, turn left on Calgrove Bl, continue onto southbound I-5, exit at Sierra Hwy.
  - **Detour 3:** Traveling southbound on SR-14, continue onto northbound I-5 connector, exit at Calgrove Bl, turn left on The Old Rd, and turn right on Calgrove Bl.

#### Essential Details

- Work hours: Monday through Friday and Saturdays as needed, between 9pm to 7am and 8pm to 10am. Crews will begin to mobilize at 7pm.
- Expect speed limit reduction within the construction zone.
- Night work utilizing normal lane closures between 9pm and 7am.
- Additional closures lasting from 8pm to 10am

#### Noteworthy

Access to emergency responders will be maintained. Construction is a dynamic process, it is subject to weather conditions, and information is subject to change, visit the project website for the most up to date information and a weekly listing of ramp closures scheduled.



**Metro**<sup>®</sup>

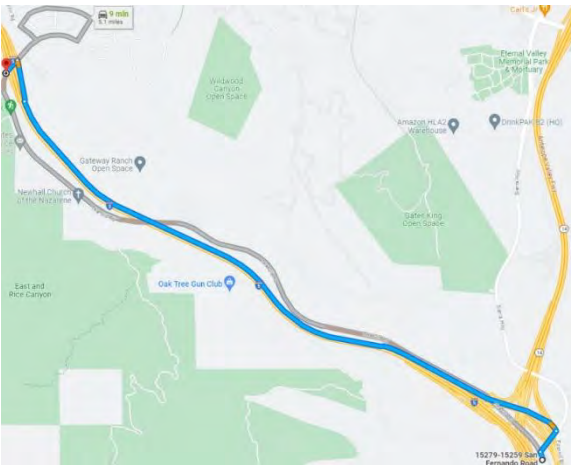
#### Contact Us

- 📞 213-922-2772
- ✉️ [i5enhancements@metro.net](mailto:i5enhancements@metro.net)
- 🌐 [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)

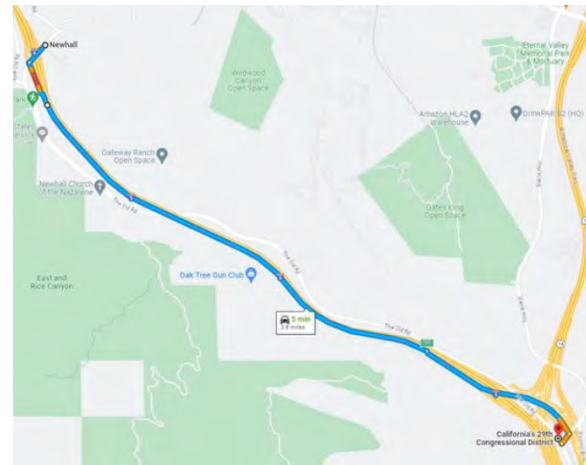


## I-5 NORTH COUNTY ENHANCEMENTS PROJECT

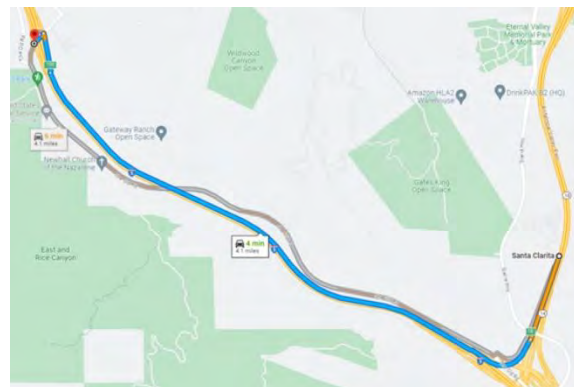
### Gavin Canyon Undercrossing Bridge Construction Detour Maps



**Detour 1:** Traveling northbound on The Old Rd, turn right on Sierra Hwy, continue onto northbound I-5, exit at Calgrove Bl.



**Detour 2:** Traveling southbound on The Old Rd, turn left on Calgrove Bl, continue onto southbound I-5, exit at Sierra Hwy.



**Detour 3:** Traveling southbound on SR-14, continue onto northbound I-5 connector, exit at Calgrove Bl, turn left on The Old Rd, and turn right on Calgrove Bl.



**Metro**

#### Contact Us

213-922-2772

i5enhancements@metro.net

metro.net/i-5-enhancements



# I-5 NORTH COUNTY ENHANCEMENTS PROJECT

## Calgrove BI Bridge Construction

### Summary

As part of the I-5 North County Enhancements Project, Metro’s contractor OHLA-USA, will be extending the existing Calgrove BI Underpass Bridge to accommodate the new high-occupancy vehicle (HOV) lanes. This bridge crosses over the Calgrove BI, located between The Old Rd and Wiley Canyon Rd.

Construction will take place along the eastbound and westbound Calgrove BI lanes. Activities will include setting of k-rail, striping, falsework installation and removal, forming, rebar installation and pouring of abutments. Local pedestrian access will be maintained.

This bridge extension is anticipated to be completed by early summer 2024.

### What to Expect & Traffic Control

Intermittent full lane closures of Calgrove BI, between The Old Rd and Wiley Canyon Rd, anticipated on **Tuesday, October 17, 2023** from **9pm to 6am**.

- **Detour 1:** Traveling on The Old Rd, turn right on Chiquella Ln or Lyons Av/Pico Canyon Rd, right on Wiley Canyon Rd, continue to Calgrove BI
- **Detour 2:** Traveling westbound on Calgrove BI, turn right on Wiley Canyon Rd, left on Lyons Av/Pico Canyon Rd, left on Chiquella Ln or The Old Rd, continue to Calgrove BI

### Essential Details

- Work hours: Monday through Friday and Saturdays as needed, between 6am to 4pm, behind k-rail and at shoulders, and 7pm to 6am.
- Intermittent traffic control during off-peak hours for construction access from The Old Rd to Wiley Canyon Rd.
- Speed limit within the construction zone on The Old Rd, Calgrove BI, and Wiley Canyon Rd is 45-miles per hour.

### Noteworthy

Construction is a dynamic process, and it is subject to weather conditions. Closure dates and information are subject to change.

Visit the project website for the most up to date information and a weekly listing of ramp closures scheduled. Access for emergency responders will be maintained.



### Contact Us

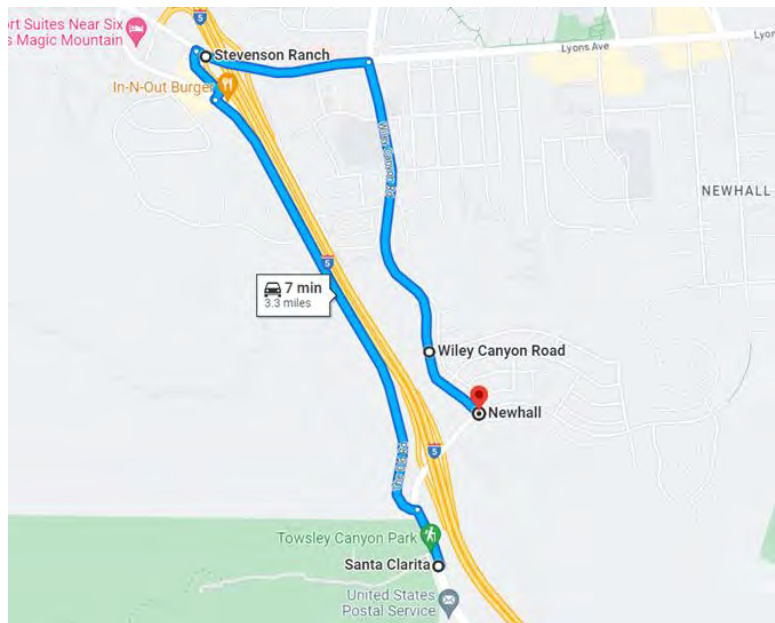
- 📞 213-922-2772
- ✉️ [i5enhancements@metro.net](mailto:i5enhancements@metro.net)
- 🌐 [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)





# I-5 NORTH COUNTY ENHANCEMENTS PROJECT

## Calgrove Bl Bridge Construction Detour Map



### Schedule & Detours

Intermittent full closures of Calgrove Bl between The Old Rd and Wiley Canyon Rd from 9pm and 6am.

- **Detour 1:** Traveling on The Old Rd, turn right on Chiquella Ln or Lyons Av/Pico Canyon Rd, right on Wiley Canyon Rd, continue to Calgrove Bl
- **Detour 2:** Traveling westbound on Calgrove Bl, turn right on Wiley Canyon Rd, left on Lyons Av/Pico Canyon Rd, left on Chiquella Ln or The Old Rd, continue to Calgrove Bl



**Contact Us**

- ☎ 213-922-2772
- ✉ [i5enhancements@metro.net](mailto:i5enhancements@metro.net)
- 🌐 [metro.net/i-5-enhancements](http://metro.net/i-5-enhancements)



Board Report

File #: 2023-0520, File Type: Informational Report

Agenda Number: 19.

PLANNING AND PROGRAMMING COMMITTEE  
SEPTEMBER 20, 2023

**SUBJECT: STATUS REPORT ON METRO VMT MITIGATION PROGRAM**

**ACTION: RECEIVE AND FILE**

**RECOMMENDATION**

RECEIVE AND FILE status report on Metro's Vehicle Miles Traveled (VMT) Mitigation Program.

**ISSUE**

Metro is developing a framework to mitigate induced Vehicle Miles Traveled (VMT) impacts from projects on the State Highway System (SHS). This work is being conducted in compliance with Caltrans' California Environmental Quality Act (CEQA) transportation impact metric determination, pursuant to Senate Bill (SB) 743, an unfunded mandate. This framework will allow Metro to mitigate any potential induced VMT impacts by investing in our own Metro VMT-reducing operations, projects, and programs, or those of our public agency partners, including active transportation, bus-only lanes, bike share expansion, increased service frequency for our transit operations or those of our partner transit agencies, and affordable housing, among others.

This report builds on the July 2023 presentation to the Board of Directors and provides further updates on the development of this framework, including the preliminary project cost increases to satisfy compliance with SB 743, using either the current Caltrans Guidance (California Induced Travel Calculator) or the Los Angeles (LA) County-specific quantification approach, with a comparative summary of the strengths and limitations of both approaches included as Attachment A. This quantification approach will identify the mitigation obligation for individual projects as well as influence the broader mitigation framework development.

**BACKGROUND**

In September 2020, Caltrans released statewide guidance for analyzing the CEQA VMT impacts of projects on the SHS. In response, Metro pursued and was awarded Fiscal Year (FY) 2021-22 Caltrans Sustainable Transportation Planning Grant Program funds, with the Board authorizing the CEO to execute a Resolution (Attachment B, File# 2021-0471). These funds were awarded to develop a VMT Mitigation Program (Program) which would analyze, identify, and quantify VMT

attributable to Metro's projects on the SHS and develop a framework to mitigate those impacts. Following Board approval of the Resolution, execution of the grant fund agreement, and procurement of a consultant, Metro Complete Streets & Highways staff, in collaboration with a comprehensive list of internal Metro, regional, and statewide stakeholders, including Metro's Office of Sustainability, began work on the Program.

The VMT Mitigation Program aims to reduce the impacts of VMT while simultaneously providing greater mobility options for the County's residents by investing in Metro VMT-reducing operations, projects, and programs, or those of our public agency partners. The approach aligns with Metro's "Modernizing the Highway Program" Board direction and the Board adopted "Objectives for Multimodal Highway Investment". Additional policies guiding the development of this Program are those advanced by the Metro Office of Sustainability, including the LA Metro Climate Action and Adaptation Plan (2019) and the goals and next steps prescribed in the "Climate Emissions Analysis: Metro's Indirect Impact on Greenhouse Gas Emissions" (2022). The current framework design is in alignment with and represents the further implementation of climate-related policies previously adopted by the Board, which recognizes that lowering per capita VMT is a central component of reducing Greenhouse Gases (GHG) from the transportation sector and thus meeting regional climate action goals.

Some of the VMT-reducing options under review and consideration include, but are not limited to improved access to transit, pedestrian, or bicycle networks; construction or improvement of bike facilities or bike boulevards; implementation or access to a commute reduction program; provision of bike-sharing and ride-sharing programs; provision of subsidized transit passes; telework options; implementation of management strategies (e.g., pricing, vehicle occupancy requirements); improved transit network coverage or hours; improved transit service frequency; Bus Rapid Transit (BRT) or bus-only lanes; e-bike subsidies; and acceleration of transit-oriented, affordable housing joint development land use projects.

Through this Program, Metro is leading efforts to measure and mitigate VMT impacts equitably and strategically in a manner that allows for public investment in VMT-reducing projects of our agency and municipal partners. Metro's ongoing, significant investment in multimodal options delivered through Propositions A and C and Measures R and M, including transit, rail, and bus service, and the strategic deployment of multimodal ExpressLanes throughout the County, have contributed to a wealth of travel options that are not available in other regions in the State and which are already reducing VMT and VMT per capita Countywide, leading to suppressed demand for road travel and changing travel patterns and relationships, in furtherance of Metro's climate policies.

## **DISCUSSION**

The development of this Program will bring transparency and efficiency to the delivery of Measure R and M highway improvement projects in collaboration with Caltrans Headquarters (HQ), Caltrans District 7, the subregional Councils of Governments, and local jurisdictions. These projects require individual environmental clearance, necessitating VMT impact analysis, and potential mitigation, consistent with Caltrans guidance. Some of these projects will be starting their environmental review

---

phase in the immediate future; therefore, the development of guidance and the ultimate adoption of the Program, including the LA County-specific quantification approach and mitigation quantification tool, will provide a timely roadmap for constructing and/or funding meaningful VMT-offsetting projects on and off the SHS, in parallel to the larger highway project implementation timeframe. Assessment of how and where VMT mitigation strategies can be located also offers the opportunity to consider direct investment in historically disadvantaged communities with decades of underinvestment, significantly advancing social equity. After this effort, the approved Program would identify and prioritize projects and programs that would provide broader VMT reductions at a local and/or regional level and facilitate funding to construct or implement them.

### **VMT Regulatory and Policy Guidance**

The first major completed deliverable is the *VMT Regulatory and Policy Guidance* memorandum (Attachment C), which summarizes a literature review related to VMT quantification and mitigation strategies. Policy guidance reviewed included VMT impact and mitigation estimation documents at the state and federal levels. This memo lists the project types currently assumed to increase (induce) or not increase VMT, summarizes several mitigation options, and closes with a review of methodological guidance to VMT quantification, including a description of the available tools, including elasticity-based methods (like the “one size fits all” California Induced Travel Calculator), travel demand models (such as the Southern California Association of Governments activity-based regional travel demand model [SCAG ABM]), and qualitative assessments when neither is useful.

The memo documents the strengths and limitations of each tool. For example, elasticity-based methods are not sensitive to land use context, geographic constraints, congestion levels, and availability of multimodal options, including transit and active transportation, with these tools viewed as a rapid response approach that could result in an over or underestimation of VMT. In comparison, travel demand models forecast VMT changes based on variables such as population and employment growth and income changes and can better reflect context sensitivity for existing land uses and the transportation network, including available high-quality transit options. A draft of this memo was shared with the Policy Working Group (PWG), which includes a comprehensive list of internal Metro, regional, and statewide stakeholders informing the policy-related aspects of the Program, including mitigation criteria, mitigation selection, and framework development. The PWG provided minor comments to the draft, which were incorporated into the final memo.

### **VMT Quantification Tools and Preferred Methodology**

The second major completed deliverable is the *VMT Quantification Tools and Preferred Methodology* memorandum (Attachment D), which builds on the previous memo. Recognizing that unique local conditions exist within LA County, a “one size fits all” approach may not account for local context and could over or underestimate VMT impacts. This precision matters not only in accurately accounting for the anticipated VMT impacts and mitigations but also in acting as responsible stewards of public funds provided by the voters. To commence this work, Metro assembled a Project Development Team (PDT) comprised of the authors of the relevant guiding documents or developers of the local modeling tool for VMT estimation. The PDT is composed of the California Governor’s Office of

---

Planning and Research (OPR), Caltrans HQ, Caltrans District 7, and SCAG.

The second memo outlines a locally refined, context-sensitive, LA County-specific quantification approach to VMT analysis, better balancing Caltrans' priorities with Metro's subregional priorities, developing stakeholder consensus on project VMT analysis, and informing the subsequent selection of VMT mitigation strategies. The memo evaluates existing VMT quantification tools, presents recommendations on travel demand model improvements, and assesses the quantification methods established by Caltrans for projects on the SHS specific to the context in LA County. This evaluation addresses Caltrans' current VMT quantification practice, which is based on the statewide application of national research on induced travel during an era where VMT experienced almost uninterrupted growth. The memo notes that the Caltrans VMT quantification tool does not consider differences between widened highways or new highways, project location or project type (General Purpose vs. High Occupancy Vehicle vs. High Occupancy Toll/ExpressLanes), nor the VMT dampening effects or synergistic benefits of existing Countywide multimodal options which are further envisioned in Metro's Long Range Transportation Plan (LRTP).

Metro convened the PDT four times from May 2022 through February 2023 to develop and present the quantification approach from concept to final proposal. In addition, Metro held two focus meetings with SCAG in June and September 2022 to address concerns regarding induced travel, with SCAG indicating general support for the approach. Furthermore, Metro held two focus meetings with Caltrans HQ in August 2022 and February 2023 to daylight concerns with the statewide VMT modeling tool and review Metro's quantification approach to try to resolve differences. In June 2023, Metro met with the Los Angeles Department of Transportation (LADOT) to discuss the proposed approach, with LADOT expressing no objections related to the work conducted. Finally, in August 2023, Metro presented the quantification approach to the PWG, with the PWG providing no comments or objections to the approach.

It should also be noted that SCAG has indicated concern with what the Caltrans VMT guidance may mean for the development of the regionwide ExpressLanes network. In response to this concern, SCAG has convened an expert panel including researchers from the University of California-Los Angeles and other academic institutions to explore if there is any difference in induced travel effects between General Purpose, High Occupancy Vehicle, and High Occupancy Toll/ExpressLanes additions. As of August 2023, the expert panel is working to finalize a research report on their findings with a target publication date of fall/winter 2023.

### Findings

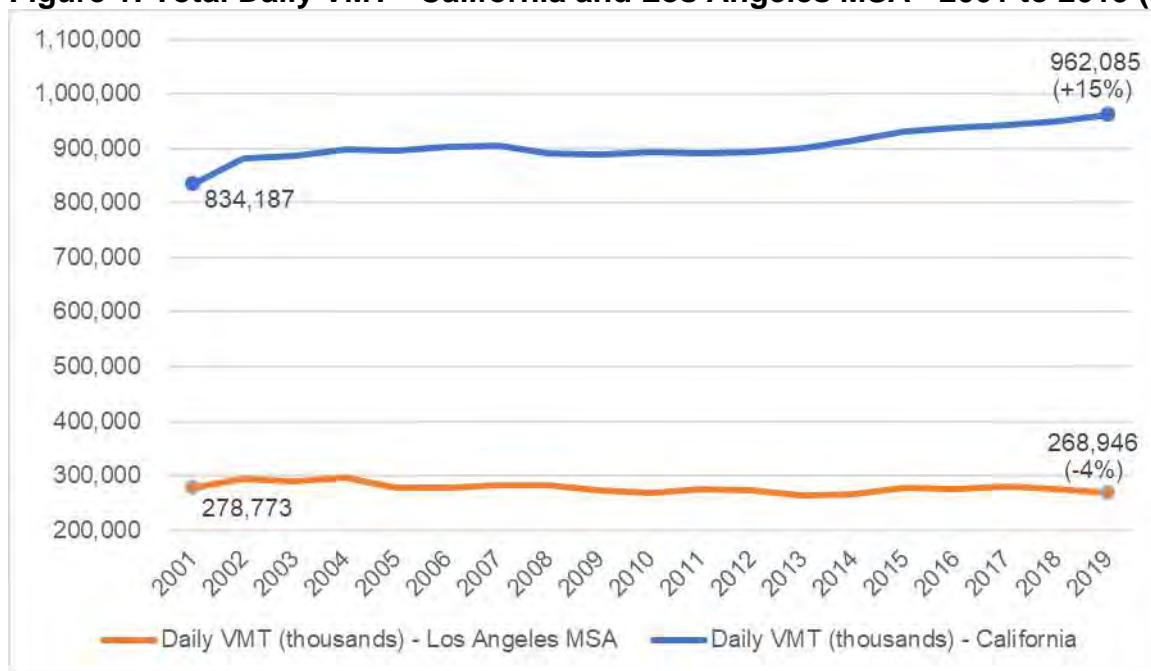
Travel in LA County and changes in local travel patterns over the last two decades are inconsistent with national trends and different than other regions in California. Based on population estimates from the United States Census and VMT estimates from the Highway Performance Monitoring System (HPMS) data between 2001-2019, the observed changes in VMT and VMT per capita in LA County differ significantly from national and statewide trends. VMT and VMT per capita in LA County are lower than national averages, the lowest in the SCAG region, and on the lower end of VMT per capita statewide, with these declining VMT trends due in part to Metro's significant investment in rail

and bus transit, with the Metro A (Blue), B (Red), C (Green), D (Purple), E (Expo), L (Gold), and K lines entering service starting in 1990, 1993, 1995, 2003, 2012, and 2022, respectively. The tables and charts that illustrate these differing relationships are presented below:

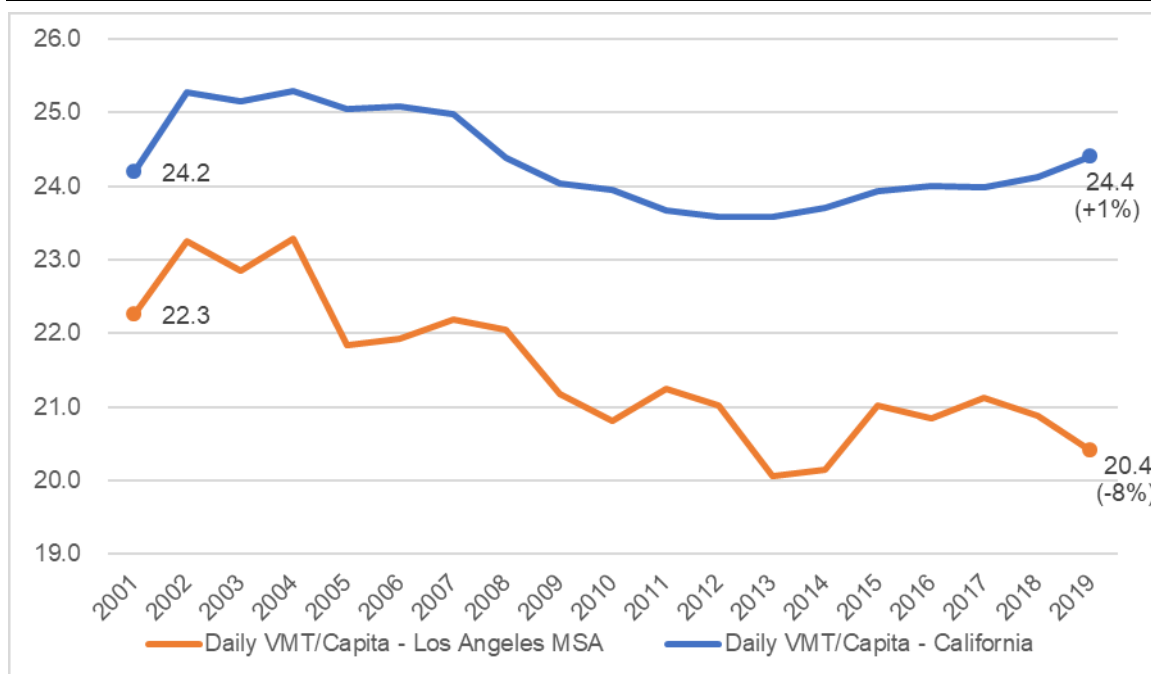
**Table 1: Comparison of HPMS and Population Data - 2001 to 2019**

|                                   | California | Los Angeles MSA |
|-----------------------------------|------------|-----------------|
| <b>Change in Total VMT</b>        | +15%       | -4%             |
| <b>Change in Total Population</b> | +14%       | +5%             |
| <b>Change in Per Capita VMT</b>   | +1%        | -8%             |

**Figure 1: Total Daily VMT - California and Los Angeles MSA - 2001 to 2019 (HPMS)**



**Figure 2: VMT Per Capita - California and Los Angeles MSA - 2001 to 2019 (Census & HPMS)**



By not fully considering the LA County context, the Caltrans approach does not account for the multimodal advances Metro has made in creating modal alternatives to vehicular travel. Building on this analysis, the memo outlines proposed refinements to VMT quantification methods applied to SHS projects at a program and project level within LA County, detailing an evidence-based, locally specific, context-sensitive quantification approach to estimating long-term induced VMT, in alignment with the California OPR and Caltrans Transportation Analysis Framework (TAF) SB 743 guidance that state that “the studies on induced travel reveal a range of elasticities” and that “knowledge of local conditions can help contextualize the calculator’s estimates”. Metro will continue to refine the quantification approach in the next 6 months to ensure that induced VMT effects are captured accurately, reflective of LA County conditions, and accounting for Metro’s current and ongoing investments in transit and multimodal transportation, offsetting the induced VMT effects of strategic ExpressLanes and mobility and safety improvement projects on the SHS.

### **Caltrans Response to Metro’s LA County-Specific Quantification Approach**

Caltrans HQ reviewed Metro’s LA County-specific quantification approach and responded to the locally-specific substantial evidence contained within. These responses were limited to addressing the proposed elasticity values, with Caltrans HQ declining to deviate from the existing statewide guidance without undertaking their further research. Metro staff continues to work with Caltrans HQ to explore the range of published academic research demonstrating divergent long-term induced VMT elasticity values (0.1 to 0.4), including those research efforts that explicitly control for reassignment/diversion effects that move vehicles off of local roadways and onto highways and do not constitute new VMT, the observed declining VMT trends in the LA County MSA over the last 20 years, and the percentage of induced VMT that comprises the closest-aligned category with the legislative intent of SB 743. Caltrans HQ also stated that they prefer reviewing methodologies on a

project-by-project basis and Metro, with concurrence from Caltrans HQ, will be conducting a more detailed analysis using Metro’s proposed LA County-specific quantification approach for evaluation of upcoming projects and for the development of mitigation strategies, both of which must be CEQA defensible.

**Project Cost Implications**

The VMT mitigation requirements for all highway projects will depend on what methodology is ultimately accepted for use in project-level analysis. An order of magnitude estimate of the mitigation requirements and the resulting financial impacts is presented below using recently published costs for VMT mitigation per daily VMT reduced and the LA County-specific quantification approach elasticity factor of 0.29 or the Caltrans preferred California Induced Travel Calculator elasticity factor of 0.75. These costs include \$860 for Transportation Demand Management (TDM) programs and \$3,000 to \$46,000 for programmatic and capital projects, including shared mobility hubs, express bus service, and Class IV two-way cycle tracks per daily VMT reduced. To use an example of a Metro project, the potential financial impacts of the Board-directed State Route (SR) 14 Traffic Safety Improvement Project are shown in the table below using the cost of \$3,000 per daily VMT reduced:

**Table 2: SR-14 Traffic Safety Improvement Project - Potential Mitigation Requirements**

| Project Cost   | LA County-Specific Qu | 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</i>                            | \$265.7 million       | \$420.6 million                      |
| <i>Mitigation Cost Difference</i>                    |                       | \$154.9 million                      |
| <i>Total Project Cost % Increase with Mitigation</i> | +58%                  | +150%                                |

Based on two projects currently under environmental review (I-680 Northbound Express Lane Completion Project in Contra Costa County and I-5 Managed Lanes Project [SR-55 to OC/LA County Line] in Orange County), Caltrans HQ has approved the circulation of the CEQA environmental documents with VMT mitigation costs equal to or exceeding the capital cost of each project, at a minimum doubling project costs based on VMT mitigation requirements.

This is compounded by the fact that the passage of Proposition A and C and Measure R and M pre-date the release of the Caltrans VMT guidance, which states that mitigation must not already be included in planning documents or previously funded. As a result, Metro is unable to leverage our broader program of VMT reducing projects, including our major transit investments, to balance or offset the VMT impacts of our highway program of projects, effectively penalizing Metro for being proactive in advancing local sales tax measures that fund alternative modes of transportation that are already reducing VMT and VMT per capita Countywide.

Importantly, while these potential mitigation requirements represent potential increases in the capital costs of any one project, these mitigation actions represent benefits regarding the multimodal



---

programs that can be created or enhanced through mitigation, increasing potential opportunities to pursue State and Federal grant funding for subsequent phases of projects. After the Board considers the implications of the divergent technical approach and potential project cost impacts, Metro staff will present this information to the PWG for their review and consideration.

## **EQUITY PLATFORM**

Staff has worked closely with the 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 pollution, 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, with ExpressLanes and HOV lanes prioritizing transit use and carpool and vanpool formation.

The Program team is evaluating the potential benefits of these VMT mitigation measures and resulting investments to Metro's updated 2022 Equity Focus Communities (EFCs) by comparing Countywide VMT patterns from the SCAG ABM Traffic Analysis Zones (TAZs) and how they relate to EFCs. This data reveals several interesting findings that can help inform where VMT mitigation actions are geographically targeted to have the greatest impact:

- The average daily home-based VMT per capita is lower in EFC-TAZs (18.4) than in Non-EFC-TAZs (23.2).
- Across all TAZs, the average daily home-based VMT per capita is just under 5 miles higher in Non-EFC TAZs than in EFC-TAZs.
- Across high VMT TAZs, defined as those that exceed the Countywide average daily VMT per capita (~20.4), that difference is less than 2 miles (24.8 for EFC-TAZs vs 23.0 for Non-EFC-TAZs).
- Over 75% of the non-EFC population resides in high-VMT TAZs, while about 27% of the EFC population resides in high-VMT TAZs.

Specifically, the data and maps (Attachments E and F) show that there are disparities in VMT per capita between EFCs and non-EFCs, including in high VMT TAZs, which will help inform where VMT mitigation actions are geographically targeted to have the greatest impact on reducing VMT while

---

avoiding over-burdening EFCs with undue responsibility to mitigate VMT. Secondly, the Program team is developing criteria for evaluating, validating, and prioritizing potential VMT mitigation options and evaluating if the criteria will ensure an equitable approach by confirming that EFCs receive their fair share of benefits and are protected from disproportionate impacts. This approach guides the policy-related aspects of the Program, including prioritization of mitigation predicated on EFC-based needs, with the viability of these priorities specifically analyzed and weighted against other evaluation criteria.

Staff has prioritized the inclusion of a diverse set of stakeholders, including Metro's Office of Sustainability, through the active involvement of both a PDT, working on the technical methodologies, and the PWG, informing the development of mitigation options and the framework structure, with both guiding the Program development. Coordination with OER is ongoing throughout the Program development, including their active participation in the PWG as well as over a dozen focus meetings or reviews of key equity-related deliverables.

Staff has built on the PDT and PWG internal and external regional and statewide stakeholder input by undertaking a comprehensive outreach strategy targeting other Countywide stakeholders, including chambers of commerce, community-based organizations, advocacy groups, councils of governments/joint powers authorities, and environmental and social justice organizations, among others, to inform the selection and prioritization of mitigation options, with this outreach effort currently underway. This outreach will conclude by the end of 2023.

## **IMPLEMENTATION OF STRATEGIC PLAN GOALS**

The Program supports the implementation of the following Strategic Plan Goals:

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

The Program will allow Metro to continue to fund important, voter-approved highway improvement projects, delivering significant investments to further the goals identified in Metro's Vision 2028 Strategic Plan, LRTP, and Goods Movement Strategic Plan, supporting a vibrant economy, goods movement efficiency, and enhanced mobility for people and goods. These projects will simultaneously result in investments in ongoing VMT and GHG reducing projects, including active transportation and safety-focused projects, consistent with Metro's Complete Streets policy.

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

Consistent application of a locally refined method provides clarity for project teams working on environmental compliance for projects on the SHS and a consistent approach against which Caltrans HQ and District 7 can conduct their review of Metro's environmental documents for SHS projects. The Program goals include directly expanding the toolbox of VMT quantification approaches and mitigation strategies available to our public sector partners throughout the County and state. The research resulting from the Program is expanding the knowledge base overall and setting the stage for Metro and its public agency partners to provide further innovation in the field.

---

5. *Provide responsive, accountable, and trustworthy governance within the Metro organization.*

The Program's goals of accurately quantifying VMT resulting from Metro's Measure R and Measure M SHS projects ensures that project impact mitigation actions and associated costs are both fair and reasonably related to expected changes in local travel patterns based on locally specific substantial evidence. This approach ensures that Metro will prioritize limited funds to provide the most value to the public while maintaining a high standard of fiscal responsibility and achieving the highest return on investment for taxpayers.

### **NEXT STEPS**

Staff will continue to report back at key milestones throughout the Program development. The final Program will be presented to the Board for consideration in early 2024. Metro will continue to work with Caltrans to evaluate project VMT impacts and develop corresponding mitigation strategies. Metro, through this Program, intends to utilize its existing transit operations, projects, and programs, and possibly those of our public agency partners, as VMT mitigation strategies for subregional highway project priorities while also coordinating and partnering with other municipal agencies to support and continue their ongoing VMT mitigation efforts. Future updates will include working with the PDT and PWG and through the broader Countywide stakeholder outreach effort to continue progress on the following critical items:

1. Development of a VMT mitigation quantification tool and guidance.
2. Further identification of eligible Metro and/or countywide programs that demonstrate CEQA-defensible and quantifiable VMT reductions.
3. Development of a series of criteria for evaluating, validating, and prioritizing potential VMT mitigation options.
4. Development of preliminary mitigation action cost estimates.
5. The development of a pilot VMT mitigation strategy, including preliminary administrative cost estimates to run the pilot.

### **ATTACHMENTS**

Attachment A - Strengths and Limitations of Caltrans Guidance and LA County-Specific Quantification Approach

Attachment B - Grant Award Resolution

Attachment C - VMT Regulatory and Policy Guidance Memorandum

Attachment D - VMT Quantification Tools and Preferred Methodology

Attachment E - Metro EFCs & TAZ VMT Data - Countywide

Attachment F - Metro EFCs & Highway Projects & Programs - Countywide

Prepared by:

Julio Perucho, Manager, Transportation Planning, Countywide Planning and Development, (213) 922-4387

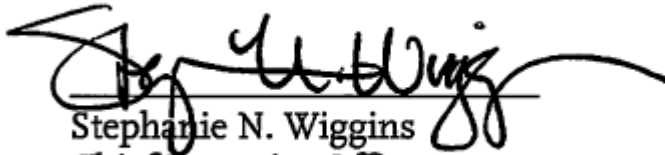
Paul Backstrom, Senior Manager, Transportation Planning, Countywide Planning and

Development, (213) 922-2183

Avital Barnea, Senior Executive Officer, Countywide Planning and Development, (213)  
547-4317

Ray Sosa, Deputy Chief Planning Officer, (213) 547-4247

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



Stephanie N. Wiggins  
Chief Executive Officer

**Attachment A: Strengths and Limitations of Caltrans Guidance and LA County-Specific Quantification Approach**

| <p align="center"><b>Caltrans Guidance<br/>(California Induced Travel Calculator)</b></p>   | <p align="center"><b>LA County-Specific Quantification Approach</b></p>   |
|---|---|
| <b>Strengths</b>  |   |
| <ol style="list-style-type: none"> <li>1. Forecasts long-term induced Vehicle Miles Traveled (VMT) changes while controlling for variables such as population/employment growth and income changes</li> <li>2. Best used to understand order-of-magnitude induced VMT impacts</li> <li>3. Caltrans' preferred methodology with broad applicability across the entire state of California</li> <li>4. Meets California Environmental Quality Act (CEQA) defensibility requirements</li> <li>5. Simple to use</li> </ol>  | <ol style="list-style-type: none"> <li>1. Combines the advantages of the Southern California Association of Governments (SCAG) Activity-Based Model (ABM) and elasticity-based methodology to calculate combined short/long-range induced VMT</li> <li>2. Calibrated/validated to LA County-specific data sources, and context, incorporating Metropolitan Statistical Area (MSA)-by-MSA VMT differences</li> <li>3. Forecasts VMT changes based on variables such as population/employment growth, automobile operating costs, and income changes</li> <li>4. Reflects context sensitivity for land use (infill vs. greenfield, high vs. low density), the transportation network (available multimodal travel options including off-peak bus service, bus rapid transit, and rail transit), congestion levels, and network effects (i.e., building a bridge)</li> <li>5. Measures VMT of passenger (light-duty) cars and trucks, aligning with legislative intent of Senate Bill (SB) 743</li> <li>6. Presumes High Occupancy Vehicle (HOV)/High Occupancy Toll (HOT)/General Purpose (GP) lanes have different induced VMT effects</li> <li>7. Provides information about a "without project" condition and cumulative impacts, required by CEQA and National Environmental Policy Act (NEPA)</li> <li>8. Provides VMT by speed bin, required for federal air quality conformity analysis</li> </ol> |
| <b>Limitations</b>  |   |
| <ol style="list-style-type: none"> <li>1. Does not provide precise, project-specific outcomes</li> <li>2. Ignores MSA-by-MSA VMT variations and declining LA County VMT trends</li> <li>3. Academic research utilizes demographic data (1973-2003) that does not reflect recent changes (COVID-19, Transportation Network Companies (TNCs), internet shopping, etc.)</li> <li>4. Does not reflect context sensitivity for land use (infill vs. greenfield, high vs. low density), the transportation network (available multimodal travel options including off-peak bus service, bus rapid transit, and rail transit), congestion levels, and network effects (i.e., building a bridge)</li> <li>5. Presumes HOV/HOT/GP lanes have the same induced VMT effect</li> <li>6. Presumes only remedy to both congestion and induced VMT is congestion pricing while ignoring other solutions (e.g., bus and rail transit, telecommuting, car/vanpooling, etc.)</li> <li>7. Does not provide information about a "without project" condition or cumulative impacts, required by CEQA and NEPA</li> <li>8. Does not provide VMT by speed bin, required for federal air quality conformity analysis</li> <li>9. Per University of California, Davis, developers of the Calculator, long-term validation likely not possible</li> </ol> | <ol style="list-style-type: none"> <li>1. Increased complexity compared to the California Induced Travel Calculator</li> <li>2. Requires additional time, resources, and technical analysis to produce results</li> <li>3. Requires additional study and concurrence by Caltrans prior to deployment</li> <li>4. Has not been CEQA tested to prove CEQA defensibility</li> </ol>  |

**LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY  
BOARD RESOLUTION AUTHORIZING THE CHIEF EXECUTIVE OFFICER TO EXECUTE  
AGREEMENTS WITH THE CALIFORNIA DEPARTMENT OF TRANSPORTATION FOR THE  
METRO VEHICLE MILES TRAVELED (VMT) MITIGATION PROGRAM**

**WHEREAS**, the Sustainable Transportation Planning Grant Program was created by the California Department of Transportation (Caltrans) to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability; and

**WHEREAS**, Metro is eligible to receive Federal and/or State funding through the Sustainable Transportation Planning Grant Program; and

**WHEREAS**, Metro was awarded a \$700,000 Sustainable Transportation Planning Grant in Fiscal Year (FY) 2021-2022 from Caltrans for the Metro Vehicle Miles Traveled (VMT) Mitigation Program; and

**WHEREAS**, a Restricted Grant Agreement is needed to be executed with Caltrans before such funds can be claimed through the Sustainable Transportation Planning Grant Program; and

**WHEREAS**, Metro wishes to delegate authorization to execute this agreement and any amendments thereto necessary to claim funds awarded through the FY 2021-22 Sustainable Transportation Planning Grant Program to the Chief Executive Officer or her designee.

**NOW, THEREFORE, BE IT RESOLVED** by the Board of Directors of the Los Angeles County Metropolitan Transportation Authority that:

1. The Chief Executive Officer (CEO) or her designee is authorized to execute all Restricted Grant Agreements and any amendments thereto with Caltrans.

**CERTIFICATION**

The undersigned, duly qualified and serving as Board Clerk of the Los Angeles County Metropolitan Transportation Authority, certifies that the foregoing is a true and correct representation of a Resolution adopted at a legally convened meeting of the Board of Directors of the Los Angeles County Metropolitan Transportation Authority held July 22, 2021.

  
COLLETTE LANGSTON  
Metro Board Clerk

DATED: 7/22/2021

# Memorandum

Date: July 25, 2022  
To: Julio Perucho, Metro  
From: Amanda Chapman and Chelsea Richer, Fehr & Peers  
Subject: **VMT Regulatory and Policy Guidance (Task 3)**

LA22-3343

## Introduction

The purpose of this memorandum is to summarize a literature review of regulatory and policy guidance related to Vehicle Miles Traveled (VMT) quantification and mitigation strategies, in the context of potential applications to highway improvement projects included in Los Angeles County Metropolitan Transportation Authority's (Metro's) Sales Tax Measures Expenditure Plans/Ordinances and corresponding subregional programs.

## Statement of Purpose

Metro, in partnership with the California Department of Transportation (Caltrans), is developing the VMT Mitigation Program to support the region's Assembly Bill (AB) 32 and Senate Bill (SB) 375 goals by reducing the impacts of VMT and correlated greenhouse gas (GHG) emissions while affording greater mobility and access for the County's residents. Aligning Metro's highway investments with the spirit of SB 743 that emphasizes multi-modal and smart growth strategies to reduce VMT, this program will allow Metro to support the region's goal of reducing VMT impacts; provide Metro, Caltrans, and other project delivery partners within the County of Los Angeles with refined tools to determine project VMT impacts more accurately; and provide feasible and enforceable VMT mitigation strategies.

## History of SB 743 Policy

Signed into law on September 27, 2013, California State SB 743 directed the Governor's Office of Planning and Research (OPR) to "prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the guidelines adopted pursuant to Section 21083 establishing criteria for determining the significance of transportation impacts of projects within transit priority areas... Upon certification of the guidelines by the



Secretary of the Natural Resources Agency pursuant to this section, automobile delay, as described solely by Level of Service (LOS) or similar measures of vehicular capacity or traffic congestion within a transit priority area, shall not support a finding of significance pursuant to this division...”

On August 11, 2015, OPR released a preliminary draft of changes to California Environmental Quality Act (CEQA), revising the Guidelines based on public comments received at that time. In October 2015, OPR and the Natural Resources Agency conducted a public workshop based on this draft.

On January 20, 2016, OPR updated the CEQA Guidelines via the *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, with the evaluation of vehicle miles traveled (VMT) recognized as “generally the most appropriate measure of transportation impacts.” OPR also stated that lead agencies may tailor their analysis to include other measures.

On November 2017, OPR proposed a new section, 15064.3, to help determine the significance of transportation impacts. This section was updated July 2, 2018, and finalized on December 28, 2018, with criteria for analyzing transportation impacts, and is seen below in the [“Thresholds of Significance”](#) section. Its purpose is to describe specific elements for considering the transportation impacts of a given project given the use of VMT as the primary measurement.

In December 2018, OPR shared its comprehensive update to the CEQA guidance per the proposed updates to analysis of GHG emissions, with a particular focus on the shift in how transportation impacts would be analyzed, among other items. This document codified that in the State of California, environmental analysis under CEQA of a project’s transportation impacts would be done through analysis of VMT. VMT was already being used to study other impacts such as air quality, GHGs, and energy use. This major shift in approach clearly prioritized projects that reduce the number of miles that cars travel and increased use of other modes. The Guidelines allowed for two years for cities and lead agencies to update their process.

Per the guidance from OPR, “a lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide.” In order to comply with the guidelines understood to become the standard in our state, environmental impact reports must evaluate vehicle trips and VMT consistent with the intent of SB 743.

### **Vehicle Miles Traveled (VMT) and Level of Service (LOS)**

The shift towards VMT reflects a major change of the State’s priorities, emphasizing the reduction of GHGs by encouraging high-occupancy, multi-modal, and active transportation modes and infill land use development, discouraging urban sprawl. The metrics with which transportation impacts are measured inherently direct the future of the built environment. SB 743 initiated the change of





primary metric from LOS to VMT; this change in the way of analyzing potential impacts necessitated new ways of considering project VMT quantification and mitigation strategies.

VMT is a measure of the number of miles traveled within a defined area and are based on the number of vehicle trips (VT) multiplied by the average trip length in miles for various trip types. It measures miles traveled (e.g., private automobiles, trucks and buses<sup>1</sup>) generated by all land uses (e.g., residential, retail, office). It can be studied by population, employment, or service population. To obtain an average VMT per service population, the total VMT is divided by the total population and employees within the area of analysis. While the total VMT is expected to increase as growth occurs in a given area, a reduction in per-capita or total VMT over time can be used as an indicator of reduced reliance on single-occupancy automobiles. Reducing VMT can help meet the State's goals of reducing GHG emissions, as mandated by AB 32 and SB 375.

LOS was used previously as the primary method for determining CEQA transportation-related impacts. LOS is a measure used to describe the condition of traffic flow, ranging from excellent conditions at LOS A to overloaded conditions at LOS F. Congested conditions and poor LOS is generally associated with the highest pollutant emission intensity.<sup>2</sup> Traditional mitigation measures to address the LOS impact often involved increasing capacity (i.e., the width of a roadway or intersection), which has the potential to induce more trips/VMT and reduce some of the emissions benefits gained from congestion relief. The concept of induced travel demand will be discussed further in this memorandum.

## Policy Guidance

This section of the memorandum discusses policy guidance related to VMT quantification and mitigation strategies, as well as project types currently assumed to increase or induce VMT, and project types currently assumed to not increase VMT. It also outlines potential challenges and considerations.

### **Caltrans' SB 743 Environmental Essentials for Project Development & Delivery**

As part of a three-part series (parts two and three forthcoming), Caltrans' *SB 743 Environmental Essentials for Project Development & Delivery* acknowledges the gaps in existing state-wide experience as of yet in avoiding and mitigating induced travel and summarizes current best-practices in planning and project delivery. It exists less as a policy document and more as general guidance given the common themes and questions Caltrans has come across in projects requiring

---

<sup>1</sup> For SB743 purposes, only automobile VMT is required to be analyzed. Total VMT including heavy trucks and buses is only required for other resource sections such as energy and air quality.

<sup>2</sup> Zhang, Kai & Batterman, Stuart & Dion, Francois. (2011). Vehicle emissions in congestion: Comparison of work zone, rush hour and free-flow conditions.



CEQA analysis since the establishment of SB 743. The following is a brief summary of the sections of this document:

1. *Balancing Transportation and Environmental Outcomes* – Caltrans as an agency must balance the need for improving the statewide transportation system, while aiming to reduce VMT and GHG emissions. Previously the agency focused on projects that primarily advanced transportation outcomes specifically, but now Caltrans has several guiding documents that reflect the current statewide environmental goals as well. Per the “plan consistency” requirement of CEQA, these documents can help proposers of projects achieve balanced outcomes and focus on projects that “can facilitate access to desired destinations, for both travelers and freight, without inducing VMT through the construction of additional capacity.”<sup>3</sup>
2. *Avoidance and Minimization in Project Alternatives* – All components of a project, from alternatives to design, should consider environmental effects, with an approach that minimizes these impacts from the purpose and needs statements onwards as opposed to assuming mitigation will be possible. If a project can endeavor to avoid these effects during scoping, project design, alternative development, and construction materials and process, the EIR process will be much more streamlined.
3. *Full Disclosure and Informed Decision-Making* – While CEQA requires the use of the best available information (such as the Transportation Analysis under CEQA [TAC] and Transportation Analysis Framework [TAF]), discussed later in this memorandum), it is also imperative that we disclose VMT as well as any other metrics and information critical to telling the whole story, and explain unknowns, assumptions, and technical challenges in a way that understandable to a broad audience.
4. *Good Faith Effort and Substantial Evidence* – Schedule pressure is not a good reason to reduce the analysis, as we must show that we took all reasonable and feasible approaches to balancing transportation and environmental needs in a project. Similarly, budget pressures are not a good reason to discount mitigation, as the cost of such must be incorporated into the total project cost. The conclusions of analysis are much better supported by demonstration of due diligence.
5. *An Overview of Significance Determinations* – While mitigation strategies should be considered a last resort more than an assumed part of a project, features or design elements can be incorporated into the project such as those that encourage mode shift away from single occupancy vehicles. Additionally, projects should be evaluated based on the VMT potentially induced by the project and its effects on land development.
6. *Mitigation Adequacy and Implementation Assurance* – Mitigation measures must be “reasonable, feasible, effective, and our commitment to their implementation needs to be

---

<sup>3</sup> SB 743 Environmental Essentials, Accessed on 3.30.22, <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/sb-743-environmental-essentials-for-project-development-and-delivery-a11y.pdf>



assured." They do not need to be confined to one jurisdiction or agency. For mitigation measures that are considered and determined ill-suited, similar analysis should be explored and conveyed.

## **VMT Impact Estimation: Regional & State Documents**

### *OPR CEQA Guidelines Update (2018)*

Following the SB 743 history shared earlier in this memorandum, OPR shared its comprehensive update to the CEQA guidance in December 2018 per the proposed updates to analysis of GHG emissions, with a particular focus on the shift in how transportation impacts would be analyzed, among other items. This document codified that in the State of California, environmental analysis under CEQA of a project's transportation impacts would be done through analysis of VMT. VMT was already being used to study other impacts such as air quality, GHGs, and energy use. This major shift in approach clearly prioritized projects that reduce the number of miles that cars travel and increased use of other modes. The Guidelines allowed for two years for cities to update their process.

### *OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (2018)*

This document includes recommendations on how to assess and analyze VMT under the 2018 CEQA Guidelines update, how to approach thresholds of significance, and consideration of mitigation measures. Referencing the California Air Resources Board (CARB) *2016 Mobile Source Strategy*, this document notes that it will not be possible to meet statewide emissions goals without reducing VMT, as well as documenting the benefits of those reductions to public health. Examples of environmental, health, and fiscal benefits are documents at [OPR's website](#).<sup>4</sup>

Thresholds of significance are often used to determine impact significance, and should be "quantitative, qualitative, or performance level of a particular environmental effect".<sup>5</sup> Section 21099 of the *California Public Resources Code* requires that these thresholds must promote reduction of GHG emissions, development of multimodal networks, and diversity of land uses. Lead agencies may define their own, and can look towards a variety of state policies to help create their thresholds (as listed in this document), but OPR itself recommends a threshold "of per capita or per employee VMT that is fifteen percent below that of existing development"<sup>6</sup>. The overall analysis should address:

---

<sup>4</sup> <https://opr.ca.gov/ceqa/sb-743/>

<sup>5</sup> Governor's Office of Planning and Research. 2018, April. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. Note, Note, the use of the term "performance level" is intended to provide guidance for impacts that may have a less direct quantitative connection to environmental harm.

<sup>6</sup> Governor's Office of Planning and Research. 2018, April. *Technical Advisory on Evaluating Transportation Impacts in CEQA*.



- Direct, indirect and cumulative effects of the transportation project (CEQA Guidelines, § 15064, subds. (d), (h))
- Near-term and long-term effects of the transportation project (CEQA Guidelines, §§ 15063, subd. (a)(1), 15126.2, subd. (a))
- The transportation project's consistency with state greenhouse gas reduction goals (Pub. Resources Code, § 21099)
- The impact of the transportation project on the development of multimodal transportation networks (Pub. Resources Code, § 21099)
- The impact of the transportation project on the development of a diversity of land uses (Pub. Resources Code, § 21099)

Screening thresholds may be used to streamline review based on a presumption of no VMT impacts. For example, projects generating less than 110 trips per day, residential and office projects in areas that already have low VMT, and projects near transit stations with certain stipulations can often be presumed to have a less-than-significant VMT impact.

Transportation projects "would need to quantify the amount of additional vehicle travel in order to assess air quality impacts, greenhouse gas emissions impacts, energy impacts, and noise impacts"<sup>7</sup> and analyze and report induced growth and change in VMT. Estimation of the VMT impacts and induced travel is necessary to understanding the full effects of the project. This should be done by estimating the "change in total VMT" method, described further in the [Methodological Guidance](#) below.

*SCAG Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (2020)*

Per requirements from SB 375, the Southern California Association of Governments (SCAG) regularly produces an RTP/SCS to convey a vision for the six-county region across many aspects, including mobility, economy, and sustainability. This document also includes projections for future growth in households, population and jobs, an important baseline from which VMT impacts may be compared against. The latest RTP/SCS, adopted in September 2020 and titled *Connect SoCal*, estimates an increase of 1.6 million households, 3.7 million people, and 1.6 million jobs from 2020-2045. It also reported that the mode split in 2016 across the region was 36% single-occupancy vehicle (SOV) across all trip types and has a goal of increasing non-SOV work trips by 3%. Other relevant goals include reducing VMT per capita by 5%, vehicle hours traveled by 9%, reducing delay per capita, and creating new jobs. Key aspects of the plan include investment in broadband to enable people to access opportunities through virtual technology, increasing job density in sub-regional centers where housing is already located, housing supportive infrastructure, accelerated electrification, shared mobility as a service, and "Go Zones", where

---

<sup>7</sup> Governor's Office of Planning and Research. 2018, April. *Technical Advisory on Evaluating Transportation Impacts in CEQA*.



mobility options are housed together, and tolls are used to reduce reliance on SOVs. The plan laid out in *Connect SoCal* is projected to decrease daily per capita VMT from 21.8 miles to 20.7 miles.

*California Air Resources Board's Mobile Source Strategy (2020)*

This document demonstrates how the State can meet several goals through the advancement of cleaner technology and alternative fuels, identifying that the transportation sector is a major contributor to GHG emissions in the state. The 2020 Strategy includes goals of 100% of California registered medium and heavy-duty to be zero-emission vehicles by 2045 where feasible, 100% of light-duty vehicle sales to be zero-emission vehicles by 2035, and 100% of off-road vehicles and equipment to be zero emission by 2035. These goals would be accomplished through the detailed plan outlined in the 2020 Strategy, including manufacturing requirements, in-use requirements, incentive programs, enforcement strategies, outreach and education, and infrastructure planning.

*CalSTA's Climate Action Plan for Transportation Infrastructure (CAPTI, 2021)*

Acknowledging the role that transportation systems and infrastructure play in GHG emissions and building on California executive orders related to reducing emissions from transportation specifically, this document outlines the recommendation to invest the state's transportation dollars to combat climate change and support public health, safety, and equity.

The CAPTI approach to highway expansion projects addresses how these projects further dependency on SOV travel, have not reduced overall congestion, and are very costly. Accordingly, a guiding investment principle for this entity is promoting projects that do not significantly increase passenger vehicle travel, alternatively emphasizing investment in multimodal options, pricing strategies, and using technology to optimize operations.<sup>8</sup>

Among the strategies CAPTI plans to employ, some relevant ones include:

- Develop and Utilize Equity Index to Assist in Evaluation or Prioritization of Caltrans Projects
- Develop and Implement the Caltrans Strategic Investment Strategy (CSIS)
- Update the 2023 State Highway System Management Plan (SHSMP) to Meaningfully Advance CAPTI Investment Framework
- Develop and Implement Caltrans Climate Action Plan (CCAP)
- Explore a statewide VMT mitigation bank
- Convene a Roadway Pricing Working Group
- Explore a "Highways to Boulevards" Conversion Pilot Program

---

<sup>8</sup> CalSTA Climate Action Plan for Transportation Infrastructure (CAPTI), 2021



### *California Air Resources Board (CARB) Climate Change Scoping Plan (2022)*

This document outlines how California can become carbon neutral by 2045. Previous plans aimed to get the state to 1990 levels of emissions or 40% below that; this plan expands on those actions to capture and store carbon and further actions to reduce emissions. To accomplish this, carbon must be edged out of use in every sector of the economy. This must be done for the benefit of everyone in the State, but particularly for the low-income communities hit hardest by environmental justice issues. Relevant to this study, a large part of the Scoping Plan includes movement towards zero-emission transportation, providing communities with enhanced options for use of active modes of travel that decrease reliance on cars, and the preservation of natural lands to help sequester carbon. Per the TAC (described below), Caltrans expects this document to be referred to when following the CEQA requirement of being consistent with other plans.

### **VMT Impact Estimation: Caltrans Documents**

#### *Caltrans Transportation Analysis under CEQA (TAC) (2020)*

This document provides guidance on how to analyze induced travel associated with transportation projects on State Highways System (SHS) specifically, reflecting a major shift in approach. It is related to the Caltrans SB 743 Transportation Analysis Framework (TAF) in that once a project has been screened to likely induce travel using the TAC, one should refer to the TAF for the process that follows. Several project types are identified in the TAC as not being affected by this guidance, as they are assumed by Caltrans not to have an impact. See the section of this document titled *Project Types Assumed Not to Increase VMT* for the complete list.

SB 743 influenced two major areas of Caltrans' activities: proposed project or plan's potential impact on the SHS, and the CEQA analysis of capacity-increasing projects on the SHS. Caltrans states here that VMT is the most appropriate metric for analysis of SHS project impacts, and has chosen to express it in absolute terms. To accomplish this analysis, quantitative methods such as forecasting and calculator tools are preferred, which are outlined in the [Methodological Guidance](#) section of this document. Qualitative methods are appropriate in specific instances, such as the application of travel demand management (TDM) strategies. Capacity-increasing projects should consider including investment in multi-modal transportation infrastructure and expansion of existing/exploration of new pricing strategies. A separate project EIR may not be necessary if it is deemed appropriate to tier from the local RTP/SCS.

Generally speaking, VMT impacts should be anticipated when a project:

- Induces travel, often via:
  - o Route changes (may increase or decrease overall VMT)
  - o Mode shift to automobile use (increases overall VMT)
  - o Longer trips (increases overall VMT)
  - o More trips (increases overall VMT)



- o Location and land use changes (increases or decreases overall VMT)

*Caltrans SB 743 Transportation Analysis Framework (TAF) (2020)*

This document provides guidance on how to determine impact significance under CEQA on the SHS. It should be consulted “when a transportation project on the SHS could lead to a measurable and substantial increase in vehicle travel.”<sup>9</sup> As a general rule, projects that result in a reduction in the cost of travel, whether time or money, leads to an increase in VMT. This increase manifests in longer trips, changes in mode choice, route changes, newly generated trips, and location and land use changes – a wider area than the project boundary itself. There are various tools for estimating this induced travel, which are discussed in the [Methodological Guidance](#) below.

*Caltrans Strategic Plan (2021)*

This document lays out goals for management and guidance of Caltrans for 2020-2024, focusing on safety, cultivating excellence, enhancing and connecting the multimodal transportation network, strengthening stewardship and driving efficiency, leading climate action, and advancing equity and livability in all communities. Strategies relevant to this effort include:

- Using operational incentives to reduce VMT through high occupancy modes, active transportation, and TDM
- Optimize and expand equitable pricing
- Establish a VMT monitoring and reduction program

*Caltrans SB 743 Review Process Summary (Internal Caltrans document, April 2022)*

This document outlines when and how to submit for SB 743 Review. In addition to the VMTDD document described below, projects must submit their VMT study methodology, induced travel study, mitigation scoping plan, and induced travel risk assessment. These analyses should include details on how the NCST calculator or travel model was used, details on tolling for pricing projects, and land-use considerations for interchange projects.

*Caltrans Vehicle-Miles Traveled Decision Document (VMTDD) (Internal Caltrans document, April 2022)*

This three-page form is used as an element of Project Initiation Documents (PIDs) to determine CEQA requirements. It includes the following questions in order to determine whether a project is anticipated to have VMT impacts:

- Are all project alternatives screened as not likely to induce travel per Section 5.1.1 of Transportation Analysis Under CEQA?

---

<sup>9</sup> Caltrans SB 743 Transportation Analysis Framework (TAF), 2020



- Do any of the project alternatives add lane-miles (mainline or aux lanes greater than 1 mile) to the SHS?
- Do any of the proposed alternatives add other capacity to the SHS (e.g., a new or widened interchange)?
- Has induced VMT been estimated, as prescribed in TAF, TAC, or other methods, for the project alternatives?
- Have VMT-reducing project elements or mitigation measures been identified?
- What is the budget for VMT mitigation? Provide the dollar figure and rationale.
- Provide estimated completion dates and points of contacts for any applicable technical studies to be produced in Project Approval & Environmental Document (PA&ED) stage and submitted to HQ.

#### *Caltrans' 2022 State Highway Operation and Protection Program (SHOPP, 2022)*

This document outlines a four-year program of projects to improve sustainability of the SHS and related infrastructure. This includes \$17.9 billion in projects over those four years, which came from the proposed list of projects from Caltrans in early 2022 and is based in asset management. Expected accomplishments from these projects include improvements to 6,347 lane miles of pavement, improvements to 9.2 million square feet of bridges, rehabilitation of 397,724 linear feet of culverts, and addressing 2,803 field elements. Several projects also promote active transportation and sustainability.

#### **Caltrans Policy Guidance Under Development**

The following guiding documents are under development. The first two have been summarized above as they are currently functioning similar to other adopted policy documents published by Caltrans; however, it is possible the guidance and policy direction contained therein may shift before formal publication. Upon formal publication, we recommend these are reviewed again to assess whether they provide further insight into the quantification of VMT:

- Caltrans SB 743 Review Process Summary
- Caltrans Vehicle-Miles Traveled Decision Document (VMTDD)
- Caltrans Mitigation Playbook (Draft July 2022)
- Caltrans When Are VMT Impacts from A Project Acceptable?
- Caltrans VMT Analysis of Auxiliary Lanes

Additional information is made available regularly on the Caltrans website ([dot.ca.gov](http://dot.ca.gov)) as guidance is developed and formalized.

#### **Project Types Assumed to and Assumed Not to Increase VMT (per Caltrans and OPR)**

The following project types are assumed to increase VMT, per the TAC:





- New general purpose (GP)/mixed flow lanes
- New high occupancy vehicle (HOV) lanes
- New peak period lanes
- New express/toll lanes
- New auxiliary lanes that serve the through traffic (over a mile long)
- New lanes through grade-separated interchanges
- Other projects adding capacity to SHS

The following project types are assumed not to increase VMT, per the TAC:

- Rehabilitation, maintenance, replacement, safety, and repair projects
- Roadside safety devices or hardware installation
- Roadway shoulder enhancements for use only by transit vehicles or bicycles or to improve traffic safety
- Addition of an auxiliary lane of less than one mile in length designed to improve roadway safety
- Installation, removal, or reconfiguration of traffic lanes that are not for through traffic
- Addition of roadway capacity on local or collector streets provided the project also substantially improves conditions for pedestrians, cyclists, and, if applicable, transit
- Conversion of existing general-purpose lanes (including ramps) to managed lanes or transit lanes, or changing lane management in a manner that would not substantially increase vehicle travel
- Addition of a new lane that is permanently restricted to use only by transit vehicles
- Reduction in number of through lanes
- Grade separation
- Installation, removal, or reconfiguration of traffic control devices
- Installation of traffic metering systems, detection systems, cameras, changeable message signs and other electronics
- Timing of signals
- Installation of roundabouts or traffic circles
- Installation or reconfiguration of traffic calming devices
- Adoption of or increase in tolls
- Initiation of new transit service
- Conversion of streets from one-way to two-way operation with no net increase in number of through lanes
- Removal or relocation of off-street or on-street parking spaces
- Adoption or modification of on-street parking or loading restrictions
- Addition of traffic wayfinding signage
- Addition of new or enhanced bike or pedestrian facilities on existing streets/highways or within existing public rights-of-way



- Addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel
- Installation of publicly available alternative fuel/charging infrastructure
- Addition of passing lanes, truck climbing lanes, or truck brake-check lanes in rural areas
- HOV bypass lanes on on-ramps
- Local and collector roads in rural areas that don't include sidewalks where there would be no pedestrian traffic to use them
- Lanes through grade-separated interchanges without additional receiving lanes downstream
- Adding vehicle storage to a ramp without further reconfiguration
- Park and Ride facilities
- Truck size and weight inspection stations

### **VMT Mitigation Estimation: Policy Summaries by Document**

#### *OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (2018)*

When capacity-increasing roadway projects induce travel, mitigation measures an agency can consider include tolling or increasing tolling, converting GP lanes to HOV or high occupancy toll (HOT), TDM programs, or implementing Intelligent Transportation Systems (ITS) for better passenger throughput. When any kind of significant impact is determined, several mitigation measures are recommended by OPR:

- Improve or increase access to transit.
- Increase access to common goods and services, such as groceries, schools, and daycare.
- Incorporate affordable housing into the project.
- Incorporate neighborhood electric vehicle network.
- Orient the project toward transit, bicycle, and pedestrian facilities.
- Improve pedestrian or bicycle networks, or transit service.
- Provide traffic calming.
- Provide bicycle parking.
- Limit or eliminate parking supply.
- Unbundle parking costs.
- Provide parking or roadway pricing, or cash-out programs.
- Implement or provide access to a commute reduction program.
- Provide car-sharing, bike sharing, and ride-sharing programs.
- Provide transit passes.
- Shifting single occupancy vehicle trips to carpooling or vanpooling, for example providing ridematching services.
- Providing telework options.



- Providing incentives or subsidies that increase the use of modes other than single-occupancy vehicle.
- Providing on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms.
- Providing employee transportation coordinators at employment sites.
- Providing a guaranteed ride home service to users of non-auto modes.

Project alternatives should also be considered for reduction in VMT (several of which are only applicable to land use development projects), including:

- Locate the project in an area of the region that already exhibits low VMT.
- Locate the project near transit.
- Increase project density.
- Increase the mix of uses within the project or within the project's surroundings.
- Increase connectivity and/or intersection density on the project site.
- Deploy management strategies (e.g., pricing, vehicle occupancy requirements) on roadways or roadway lanes.

*Caltrans VMT Program Bulletin 21-01: VMT Mitigation Funding Status & Additionality (2021)*

This document discusses VMT mitigation funding for programmed projects, those in a fiscally constrained portion of an RTP, and those in an unconstrained portion. Generally, "Caltrans' investment strategy seeks to minimize any induced traffic that would generate VMT, which would reduce or eliminate the need for mitigation."<sup>10</sup> However, when SHS projects do generate VMT, mitigation strategies must be employed per CEQA.

In order to qualify as a mitigation strategy, the investment must be able to demonstrate a negative effect on VMT and be relatively likely to come to fruition. However, the mitigation does not need to be specific to the project, such as investment in a transit project that is already on a Caltrans district or partner wish list of VMT-reducing projects. Such a project being counted as a mitigation measure must pass the "additionality test", or ensure that the funding provided via the project looking for mitigation must provide additional resources by dollars or time that would not have otherwise been available. Support for a VMT-reducing project that is already on a jurisdictional or regional wish-list is a reasonable way to mitigate SHS VMT, but not projects that are already built or not in need of support. Evaluation of funding status is key to determining whether a project on an existing list may be leveraged as mitigation for another VMT inducing project.

---

<sup>10</sup> Caltrans VMT Program Bulletin 21-01: VMT Mitigation Funding Status & Additionality (2021)



## Potential Challenges and Considerations

Several challenges currently exist when considering the guidance related to VMT quantification, owing to the fact that understanding of the metric of VMT and the implications of induced travel conceptually and temporally are still being studied and understood. Caltrans as an agency is still evolving in their approach to VMT impact assessment and mitigation expectations, and more recent documents are inconsistent with the more formalized TAC and TAF documents. While some of these documents still inform the process and may be treated during environmental review as formalized policy, several of the more recent publications are still in draft or have not yet gone through the same internal vetting process to create “one voice”, and as such there are competing guidelines at present. With final policy guidance on induced travel still forthcoming, there are persistent challenges in anticipating whether and how projects’ environmental analysis will fulfill Caltrans guidance or not.

## Methodological Guidance

This section of the memorandum discusses methodological guidance on VMT quantification and related estimation tools, mitigation methods, and strategies.

### General Quantification of VMT Methods Approach

*OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (2018)*

As explained in the CEQA guidelines update and related documents, CEQA defers to the lead agency to determine the method of analyzing impacts. This document provides suggestions regarding those methodology options, including considerations of:

- *Vehicle types* – The CEQA Guidelines specifically call out “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project”<sup>11</sup>, referring specifically to cars and light-duty trucks. Should heavy-duty trucks be included as they are combined in the input data, it is important to be consistent with their inclusion throughout the process.
- *Truncation of space and time* – analysis should not be limited to the jurisdictional area if the project may have broader reaching impacts, ensuring that the good faith effort is taken per CEQA guidelines. Projects should also look at both short and long-term effects on VMT.

When considering which VMT to count, an analysis can be trip-based (basic and traditional method of counting each leg of a journey, compiling them into home-based VMT) or tour-based (counting all legs of a journey into tours, compiling them into household VMT). It can also be

---

<sup>11</sup> Governor’s Office of Planning and Research. 2018, December 28. *CEQA Guidelines*.



assessed as “change in total VMT”, looking at the net difference on the project area VMT with and without a project.

Transit and active transportation projects are assumed not to increase VMT, nor are roadway capacity reduction projects. However, adding new roadway capacity where there is currently or may be congestion should be assumed to induce travel. The figure below shows a method of determining these impacts in many but not all scenarios. VMT impacts can also be analyzed at a programmatic level.

**To estimate VMT impacts from roadway expansion projects:**

1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
2. Determine the percent change in total lane miles that will result from the project.
3. Determine the total existing VMT over that same area.
4. Multiply the percent increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:

**[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]**

Figure 1 – Method recommended for estimating VMT impacts on roadway expansion projects. Governor’s Office of Planning and Research. 2018, April. Technical Advisory on Evaluating Transportation Impacts in CEQA.

## Methodological Discussion of Transportation Projects Known to Increase VMT

When considering projects that have multiple aspects or could be analyzed in different ways, it is valuable to consider the variation in methodological approaches that are possible. In general, a project is expected to cause an increase in VMT when travel is induced or SOV travel becomes more time or cost effective, and a project would be expected to decrease VMT when travel by car is made less attractive. However, goals of a project might be met that are also important for the region when VMT goals are not, such as an increase in VMT with a decrease in congested peak hours or a decrease in average travel time. As projects are reviewed for their VMT impacts, efficiency and maximization of existing infrastructure through better timing and tolling mechanisms should not be discounted as beneficial to the region. This is particularly relevant for ITS enhancements and projects focused on increase accessibility in infill development locations.

## VMT Estimation Tools

As noted in the TAF, there are three primary categories of tools for estimating induced travel:



- Elasticity-based methods, which look at the percent increase of VMT associated with a given percent increase in roadway lane miles.
- Travel demand models, which spatially locate socio-economic data into analysis zones and forecast trips to and from those zones based on the related data.
- Qualitative assessments, which are appropriate in limited circumstances, primarily when neither the NCST calculator (described below) nor a travel demand model is useful, such as when a project type is on the screened-out list from the TAC.

### *NCST Travel Calculator*

This tool puts into practice an elasticity-based method developed at The National Center for Sustainable Transportation at UC Davis. It calculates VMT specifically in relation to addition of new GP or HOV lanes on the SHS. Originally, it was not used for high occupancy toll lanes, managed lanes, or truck lanes, but a 2021 update has clarified that those types of projects be analyzed using the calculator as well.<sup>12</sup> It is based on statistical studies that quantify VMT for both short and long term effects.

In general, the calculator reflects the change in total VMT attributable to the project while controlling for other factors that contribute to VMT growth based on research-derived elasticities from nation-wide studies.

### *Travel Demand Models*

Models estimate travel by inputting socio-economic data into Transportation Analysis Zones (TAZs) and setting up networks that accurately reflect roadway conditions (number of lanes, availability of turns, etc.). When looking at different scenarios with a model, such as No Project and With Project, it is vital that comparable data and methods are used for inputs in both.

When utilizing a travel demand model (possibly with off-model post processing), the requirements for analyzing the full impacts of vehicle travel from a capacity-increasing project include changes in VMT due to changes in:

- Trip length (generally increases VMT)
- Mode shift (generally shifts from other modes toward automobile use, increasing VMT)
- Route choice (can act to increase or decrease VMT but is likely to decrease emissions because more direct or preferred facility routing occurs)
- Newly generated trips (generally increases VMT)

---

<sup>12</sup> Memo: Changes to NCST Tool for VMT Analysis (Nov 2021)



## Potential Challenges, Limitations, and Considerations

### *NCST Travel Calculator*

As described above, the NCST Calculator forecasts long-term VMT changes while controlling for variables such as population and employment growth, income changes, etc. This tool uses MSA-specific lane miles as baseline for elasticity calculations. However, the NCST calculator and elasticity models in general are not sensitive to land use context, geographic constraints, or the amount of existing congestion. Additionally, it produces an annual forecast, while project analysis typically requires a weekday forecast, and does not distinguish between GP and HOV/HOT lanes. As a result, use of the NCST Calculator and the elasticity approach in general should be viewed as a rapid-response but oversimplified analysis approach and could result in an over-estimation or under-estimation of induced VMT with a high degree of uncertainty, depending on project context.

### *Travel Demand Models*

Travel models forecast VMT changes based on variables such as population and employment growth, and income changes, and therefore can reflect context sensitivity for land use and the network. They can be locally calibrated and validated to observed local VMT conditions. Travel models vary in their setup, whether they are activity or trip based, and whether they are able to estimate induced travel related to highway projects. This results more often in underestimation than overestimation of induced VMT and makes them more complicated and time-intensive to run than an elasticity-based calculator. They may not include a process for capturing potential changes in trip generation or land use growth allocation depending on setup. Some limitations can be addressed by incorporating the land use feedback loop and dynamic traffic assignment module. Models also often lack commercial driving sensitivity.

## Relationship to Metro's SHS Project List

Metro's SHS Project List contains 55 projects at the writing of this memo and includes projects and programs from several sources such as Measure R, Measure M, and the 2020 Long Range Transportation Plan (LRTP). The projects and programs are currently in varying phases, ranging from pre-planning to in planning, environmental review, final design, and construction. Due in part to the variety in origin and status, the current level of detail also varies widely in these projects, which has an effect on how accurately presumptions can be made regarding potential impacts. Project types on this list include grade separations, soundwalls, interchange and ramp modifications, ITS and other technological upgrades, addition of HOV lanes, HOT lanes, or ExpressLanes, auxiliary lanes, collector-distributor roads, various efficiency and safety upgrades, and new highways.



The above guidance is intended to set the context for a review of Metro's SHS Project List in order to understand the analysis needs and starting assumptions for each type of project. For example, projects on the SHS Project List that also fall on the list of projects assumed to increase VMT may require a more extensive analysis approach to understanding induced VMT than a project that is comprised of elements on the list of Projects Assumed Not to Increase VMT (though these projects may also be subject to induced VMT analysis as the complexities between Caltrans guidance continue to evolve).

Next steps in the Metro VMT Mitigation Program project include reaching a decision on how to categorize, evaluate, and quantify the VMT impacts of projects on the SHS so that a mitigation program can be developed. Understanding the magnitude of mitigation needs is a crucial first step in development of a mitigation program for the agency. Through a series of meetings with the Project Development Team (PDT) comprised of representatives from Metro, Caltrans, OPR, and SCAG, the approach to evaluating projects on the SHS will be determined.



# Memorandum

Date: February 21, 2023  
To: Julio Perucho, Metro  
From: Anna Luo, Chelsea Richer, Ron Milam, and Jeremy Klop, Fehr & Peers  
Subject: **VMT Quantification Tools and Preferred Methodology (Task 4)**

LA22-3343

## Executive Summary

This memorandum establishes an evidence-based approach to refine the VMT quantification methods established by Caltrans for projects on the State Highway System (SHS) specific to the context in Los Angeles County. Current VMT quantification practice is based on statewide application of national research on induced travel. While these efforts and prior research are robust, travel in Los Angeles County and changes in local travel patterns over the last two decades are inconsistent with national trends and different than other regions in California. The observed changes in total Vehicle Miles Traveled (VMT) and VMT per capita in Los Angeles County outperform national and statewide trends: lower than national averages, lowest in the Southern California Association of Governments (SCAG) region, and on the lower end of VMT per capita growth statewide.<sup>1,2</sup> These trends are elaborated in this memorandum.

This memorandum outlines notable and consequential differences in induced travel effects that are unique to Los Angeles County, and which justify refinements to VMT quantification methods applied to projects on the SHS in Los Angeles County. Consistent application of this locally refined method provides clarity for project teams working on environmental compliance for projects on the SHS and a consistent approach against which Caltrans' District 7 and Headquarters can conduct their review of Metro's environmental documents for SHS projects. A locally specific VMT quantification method also ensures that project impact mitigation actions and associated costs

---

<sup>1</sup> US DOT Transportation and Health Tool, 2015. Available at <https://www7.transportation.gov/transportation-health-tool>.

<sup>2</sup> California Air Resources Board. Draft 2022 Progress Report: California's Sustainable Communities and Climate Protection Act (SB 375). Available at [https://ww2.arb.ca.gov/sites/default/files/2022-07/2022\\_SB\\_150\\_Main\\_Report\\_Draft\\_ADA.pdf](https://ww2.arb.ca.gov/sites/default/files/2022-07/2022_SB_150_Main_Report_Draft_ADA.pdf).



are both fair and reasonably related to expected changes in local travel patterns and locally specific substantial evidence.

Key issues addressed in this memo, and their corresponding recommended approaches, include:

- The types of projects that are presumed to not result in a VMT impact (i.e., screened from VMT quantification)
  - This memo recommends the addition of five types of projects to the list of projects that are presumed not to result in a VMT impact.<sup>3</sup>
- Selection of the appropriate quantification method to estimate long-term induced VMT (i.e., a simpler approach using an elasticity factor, that only works for projects with lane-mile additions, or a more complex approach using a travel demand model that works for all types of projects but may not fully capture long-term induced VMT)
  - For projects that include lane-mile additions, this memo recommends the use of a hybrid approach, using both the elasticity method and the SCAG 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Activity Based Model (SCAG 2020 ABM).
  - For projects that do not include lane-mile additions, this memo recommends the use of the SCAG 2020 ABM.
- Approach to modifying selected quantification method (i.e., local refinement of the elasticity factors used in the Caltrans-preferred National Center for Sustainable Transportation (NCST) Induced Travel Calculator (NCST Calculator) to better align the elasticity factor with CEQA statute, published research, and Los Angeles County context)
  - For program-level VMT quantification, this memo recommends using a modified elasticity factor of 0.39 for Class 1 facilities and 0.29 for Class 2 and 3 facilities, which reflects local context, is supported by multiple sources of published literature, and is consistent with the category of induced VMT that aligns most closely to the CEQA statute.
  - For project-level VMT quantification, this memo recommends further adjusting the elasticity factor to reflect differences in project location and project type, which would be derived by deploying the SCAG 2020 ABM in conjunction with the above long-term elasticity factors.

## Introduction

The Los Angeles County Metropolitan Transportation Authority (Metro), in partnership with the California Department of Transportation (Caltrans), is developing the VMT Mitigation Program to

---

<sup>3</sup> This list can be found in the Caltrans policy document *Transportation Analysis under CEQA for Projects on the State Highway System (TAC)*, 2020, pages 13-15. Available at <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/2020-09-10-1st-edition-tac-fnl-a11y-new-nov2021.pdf>.



support the region's Senate Bill (SB) 743 goals of reducing the impacts of VMT and correlated greenhouse gas (GHG) emissions while affording greater mobility and access for Los Angeles County's residents. Aligning Metro's highway investments with the legislative intent of SB 743 that emphasizes multi-modal and smart growth strategies to reduce VMT, this program will allow Metro to support the region's goal of reducing VMT impacts, provide Metro, Caltrans, and other project delivery partners within the County with refined tools to determine project VMT impacts more accurately, and provide feasible and enforceable VMT mitigation strategies.

The purpose of this memorandum is to summarize an evaluation of VMT quantification tools and present recommendations on model improvements and a suggested approach to forecast VMT, in the context of potential application to SHS improvement projects included in Metro's Sales Tax Measures Expenditure Plans/Ordinances and corresponding subregional programs. Although the CEQA Guidelines [Section 15064.3(a)] only require the evaluation of automobile VMT (light-duty cars and trucks), the quantification tool recommended by Caltrans includes all types of VMT, including medium and heavy-duty vehicles (reflecting commercial or freight activity), and applies a state-wide approach that imposes extra cost on projects in low-VMT areas. Therefore, to best respond to CEQA requirements and to calibrate the quantification to local context in the Los Angeles MSA, a modification to the Caltrans-recommended tool is warranted.<sup>4</sup>

This memorandum also provides recommended project types as additions to the induced VMT screening list outlined in the first version of the Caltrans policy document *Transportation Analysis under CEQA for Projects on the State Highway System* (TAC) as they are projects not likely to lead to measurable and substantial increases in VMT.<sup>5</sup> Per the scope of work for this effort, this memorandum is not intended to, and does not, quantify the VMT impacts of Metro's program of highways and complete streets projects.

Finally, this memorandum offers a brief discussion of alignment of this effort with other efforts underway at Metro that relate to VMT quantification, including how the proposed California Environmental Quality Act (CEQA) methodology included herein relate to other published estimates of induced travel and VMT increases over time.

## Background

In response to recent revisions to the CEQA Guidelines, CEQA case law, and guidance issued by the California Governor's Office of Planning and Research (OPR), Caltrans has determined that VMT is the most appropriate metric for determining transportation impacts for capacity-

---

<sup>4</sup> CEQA Guidelines Section 15064.3(b)(2) and (4) do provide lead agency discretion in setting a different form of the metric; however, Caltrans' policy documents do not establish the requirement to include commercial trips.

<sup>5</sup> Transportation Analysis under CEQA for Projects on the State Highway System. Caltrans, 2020. Retrieved from <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/2020-09-10-1st-edition-tac-fnl-a11y-new-nov2021.pdf>.



increasing transportation projects on the SHS. VMT impact analysis may also be required for National Environmental Policy Act (NEPA) purposes.

For roadway capacity projects on local roadways not on the SHS, lead agencies have the discretion to select their preferred metric consistent with CEQA expectations. This has traditionally been the case for NEPA projects as well. Beyond transportation impacts, VMT is also a required input for air quality, GHG, and energy impact analysis.

Induced vehicle travel effects are the underlying forces behind VMT changes associated with roadway capacity expansion projects. The concept of induced demand for VMT is well-established by transportation planning research, dating back to a 1962 paper by Anthony Downs.<sup>6</sup> However, the best approach to estimating the effects of building new lane miles, and the potential magnitude of such effects, is still widely debated.<sup>7</sup> These effects can potentially diminish expected congestion relief benefits of building new non-priced capacity improvements. Note, congestion relief is only one possible benefit gained from capacity improvements, along with the accommodation of additional travelers, improved access, and safety enhancements. The main resources on induced vehicle travel for environmental impact analysis of transportation projects are listed below.

- OPR's Technical Advisory on Evaluating Transportation Impacts in CEQA, December 2018.
  - [https://opr.ca.gov/docs/20190122-743\\_Technical\\_Advisory.pdf](https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf)
- Caltrans' Transportation Analysis Framework (TAF) First Edition: Evaluating Transportation Impacts of State Highway System Projects, September 2020.<sup>8</sup>
  - <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/2020-09-10-1st-edition-taf-fnl-a11y-new-.pdf>
- Caltrans' Transportation Analysis Under CEQA (TAC) First Edition: Evaluating Transportation Impacts of State Highway System Projects, September 2020.<sup>9</sup>
  - <https://dot.ca.gov/-/media/dot-media/programs/sustainability/documents/2020-09-10-1st-edition-tac-fnl-a11y-new-nov2021.pdf>
- CARB 2017 Scoping Plan – Identified VMT Reductions and Relationship to State Climate Goals, January 2019.
  - [https://ww2.arb.ca.gov/sites/default/files/2019-01/2017\\_sp\\_vmt\\_reductions\\_jan19.pdf](https://ww2.arb.ca.gov/sites/default/files/2019-01/2017_sp_vmt_reductions_jan19.pdf)

---

<sup>6</sup> The Law of Peak-Hour Expressway Congestion. Anthony Downs, Traffic Quarterly, 1962. Volume 16, pp393-409.. Retrieved from [https://babel.hathitrust.org/cgi/pt?id=uc1.\\$b3477&view=1up&seq=457](https://babel.hathitrust.org/cgi/pt?id=uc1.$b3477&view=1up&seq=457).

<sup>7</sup> Induced Demand: An Urban and Metropolitan Perspective. Robert Cervero, 2001. Prepared for Policy Forum: Working Together to Address Induced Demand. Retrieved from <https://escholarship.org/uc/item/5pj337gw>.

<sup>8</sup> Updates to the TAF and the TAC are periodically posted as Bulletins and Hot Topics at <https://dot.ca.gov/programs/sustainability/sb-743/sb743-resources>.

<sup>9</sup> Updates to the TAC and the TAF are periodically posted as Bulletins and Hot Topics at <https://dot.ca.gov/programs/sustainability/sb-743/sb743-resources>.



- CARB Research on Effects of Transportation and Land-Use Related Policies
  - [https://ww2.arb.ca.gov/sites/default/files/2020-06/Impact\\_of\\_Highway\\_Capacity\\_and\\_Induced\\_Travel\\_on\\_Passenger\\_Vehicle\\_Use\\_and\\_Greenhouse\\_Gas\\_Emissions\\_Policy\\_Brief.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/Impact_of_Highway_Capacity_and_Induced_Travel_on_Passenger_Vehicle_Use_and_Greenhouse_Gas_Emissions_Policy_Brief.pdf)
  - [https://ww2.arb.ca.gov/sites/default/files/2020-06/Impact\\_of\\_Highway\\_Capacity\\_and\\_Induced\\_Travel\\_on\\_Passenger\\_Vehicle\\_Use\\_and\\_Greenhouse\\_Gas\\_Emissions\\_Technical\\_Background\\_Document.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-06/Impact_of_Highway_Capacity_and_Induced_Travel_on_Passenger_Vehicle_Use_and_Greenhouse_Gas_Emissions_Technical_Background_Document.pdf)
- NEPA Travel and Land Use Forecasting
  - [https://www.environment.fhwa.dot.gov/env\\_topics/other.aspx](https://www.environment.fhwa.dot.gov/env_topics/other.aspx)
- Ronald T. Milam, et al., Closing the Induced Vehicle Travel Gap between Research and Practice, Transportation Research Record (TRR) #2653, 2017, p10-16.
  - <https://pdfs.semanticscholar.org/48aa/57a40a71f7c6ba90106f0acdbfccb37de0b2.pdf>
- Ronald T. Milam and Jerry Walters, et al. Induced Travel Technical Investigation. Caltrans TAG/TISG Induced Demand Subcommittee – Status Summary, April 24, 2016.
- Dowling Associates for the California Air Resources Board. Effects of Increased Highway Capacity on Travel Behavior, 1994.

Importantly, establishment of a VMT impact presumes the future plus project condition results in VMT levels that are higher than the existing conditions. A review of HPMS data from the past 20 years – aligning with the timeframe along which the effects of long-term induced VMT should be visible – demonstrates a different trend in the Los Angeles-Long Beach-Anaheim MSA (previously referred to as the Los Angeles, Long Beach, Pomona, Ontario MSA or simply, the Los Angeles MSA which captures both Los Angeles and Orange counties). As shown in Table 1, below, between 2001-2019, HPMS data experienced a decline in daily total VMT (-4%) despite a smaller decline in lane miles (-0.28%) and an increase in population (+5%). In contrast, California has seen an increase in lane miles, VMT, and population state-wide.

**Table 1: Comparison of HPMS and Population Data, Los Angeles MSA & California**

|  | Los Angeles MSA | California |
|--|-----------------|------------|
| <b>Change in Total Lane Miles, 2001-2019</b> | -0.28%          | +7.7%      |
| <b>Change in Total VMT, 2001-2019</b>        | -4%             | +15%       |
| <b>Change in Total Population, 2001-2019</b> | +5%             | +14%       |

Source: Fehr & Peers, 2023.

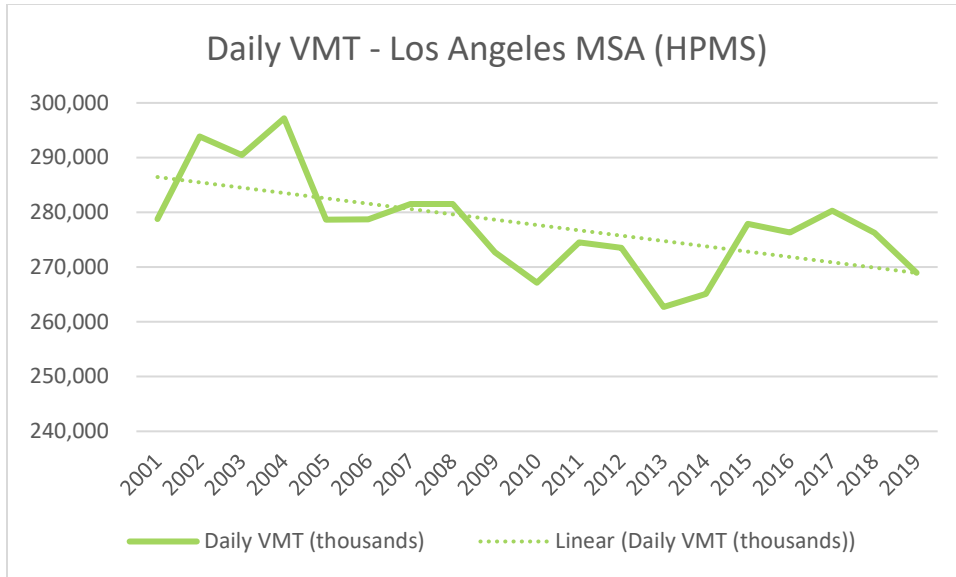


Figure 1: Daily VMT (Los Angeles MSA), 2001-2019

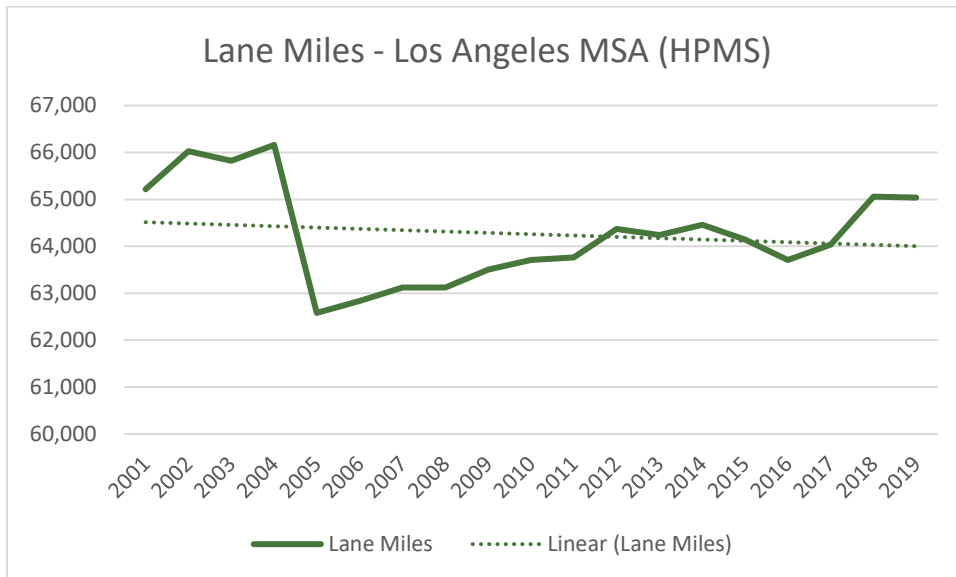


Figure 2: Total Lane Miles (Los Angeles MSA), 2001-2019

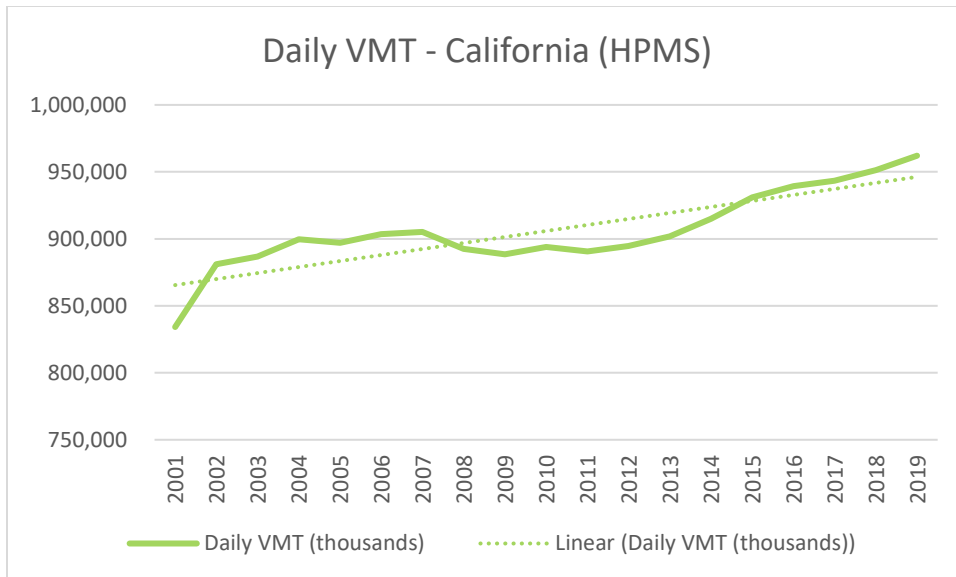


Figure 3: Daily VMT (California), 2001-2019

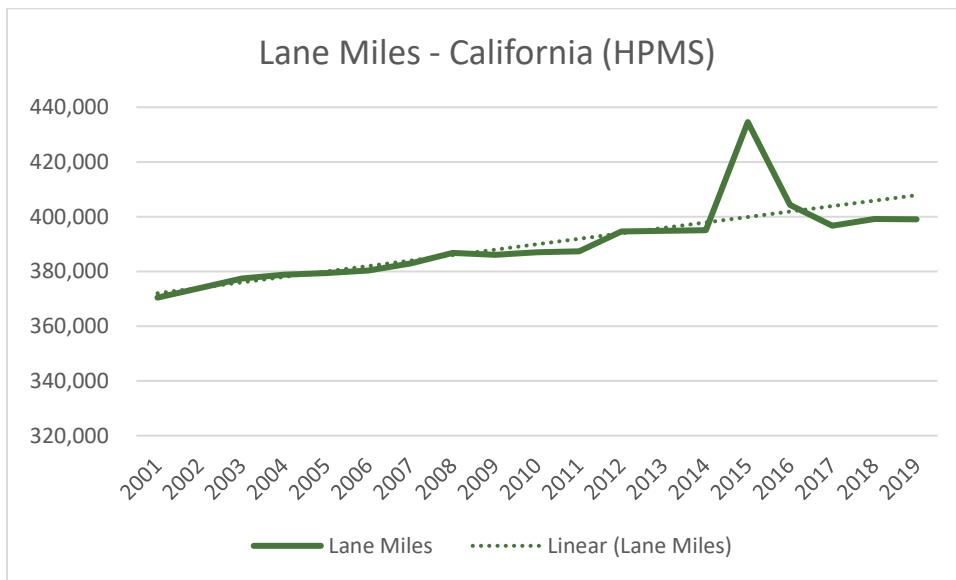


Figure 4: Total Lane Miles (California), 2001-2019

This data points to a more efficient travel pattern in Los Angeles compared to other parts of the California, as well as other parts of the US and past periods of Southern California’s history (as documented in the induced VMT literature), where rapid expansion of developed land and expansion of the vehicle transportation system to connect to those areas led to less efficient travel patterns and induced demand as a result. These notable and consequential differences in induced travel effects that are unique to Los Angeles County justify refinements to VMT quantification methods applied to projects on the SHS in Los Angeles County. The following



sections explain the locally specific quantification methodology to forecast induced VMT for Metro's highway projects based on the above documents and CEQA compliance.

## VMT Quantification Tools

As indicated in the OPR's Technical Advisory and Caltrans' Transportation Analysis Framework (TAF) and TAC, two methods are highlighted to forecast induced VMT: 1) an empirical approach using elasticities, and 2) a travel demand model.

- **Elasticity-based methods**, which produce a percent increase in VMT associated with a given percent increase in roadway lane miles. The tool that is emerging as the most commonly used is the National Center for Sustainable Transportation (NCST) Induced Travel Calculator (NCST Calculator), based on national research and published literature on the relationship between lane miles and induced VMT. Although the concept and calculation is simple, the selection of the right elasticity number is debated.<sup>10</sup> Furthermore, an elasticity-based approach cannot be deployed on projects that do not have lane-mile additions.
- **Travel demand models**, which spatially locate socio-economic data into analysis zones and forecast trips to and from those zones based on the related data. Travel demand models aim to capture complex relationships between both land use and transportation changes and can vary in terms of their levels of calibration and validation as well as their associated reasonableness and sensitivity.

Each method has its merits and limitations, and this evaluation offers an approach to understanding and potentially reconciling these two methods to perform a complete analysis satisfying the CEQA (and NEPA) expectations, specific to the context in Los Angeles County.

### NCST Calculator

The elasticity method is based on statistical studies that aim to quantify induced vehicle travel that is exclusively associated with expanding roadway capacity (i.e., adding lane miles). The elasticity of VMT to lane miles includes short-term and long-term estimates of induced travel effects. Short-term effects occur in the short period of time (1-2 years) after a roadway capacity project is open to traffic. Long-term effects tend to occur within a 10- to 20-year timeframe, although the most recent research tends to focus on 20 years. In general, the elasticities reflect the change in total VMT attributable to lane mile increases while controlling for other factors that contribute to VMT growth such as population and economic growth.

Some researchers have also included an accounting of the specific sources of induced VMT including the proportion from passenger (light-duty) versus commercial (medium and heavy-

---

<sup>10</sup> Cervero, 2001.





duty) vehicles. This accounting is relevant for CEQA purposes since different types of VMT may be required depending on the impact subject. For transportation impacts, only passenger VMT is required per CEQA Guidelines Section 15064.3(a).

Under the elasticity method, Caltrans recommends the use of the NCST Calculator (<https://travelcalculator.ncst.ucdavis.edu/>) to forecast long-term induced VMT. The process of calculating induced travel using elasticities is shown in Figure 5. The NCST Calculator includes 2016-2019 VMT and lane-mile data so the user only needs to input the baseline year (preferably the latest year), change in lane miles associated with a proposed project, and the type of functional classification (selected from a drop-down menu). For interstate highways (Class 1), the VMT forecast is based on inputs for the corresponding Metropolitan Statistical Area (MSA) and uses an elasticity of 1.0. For other freeways and expressways (Class 2) and other principal arterials (Class 3), the calculator uses county-level inputs and an elasticity of 0.75.

**To estimate VMT impacts from roadway expansion projects:**

1. Determine the total lane-miles over an area that fully captures travel behavior changes resulting from the project (generally the region, but for projects affecting interregional travel look at all affected regions).
2. Determine the percent change in total lane miles that will result from the project.
3. Determine the total existing VMT over that same area.
4. Multiply the percent increase in lane miles by the existing VMT, and then multiply that by the elasticity from the induced travel literature:

**[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]**

Figure 5: Method recommended for estimating VMT impacts on roadway expansion projects. Governor's Office of Planning and Research. 2018, April. Technical Advisory on Evaluating Transportation Impacts in CEQA.

According to the NCST, the NCST Calculator is applicable for General Purpose (GP), High Occupancy Vehicle (HOV), and high-occupancy toll (HOT) lane projects involving the addition of lanes to class 1, 2, and 3 facilities, which cover the SHS and most major arterials. For a specific map of class 1, 2, and 3 facilities, refer to the Caltrans statewide functional classification map available at the website - <https://dot.ca.gov/programs/research-innovation-system-information/office-of-highway-system-information-performance/functional-classification>. Users of the map need to zoom in closely to their study area for the map to reveal all functional classes.

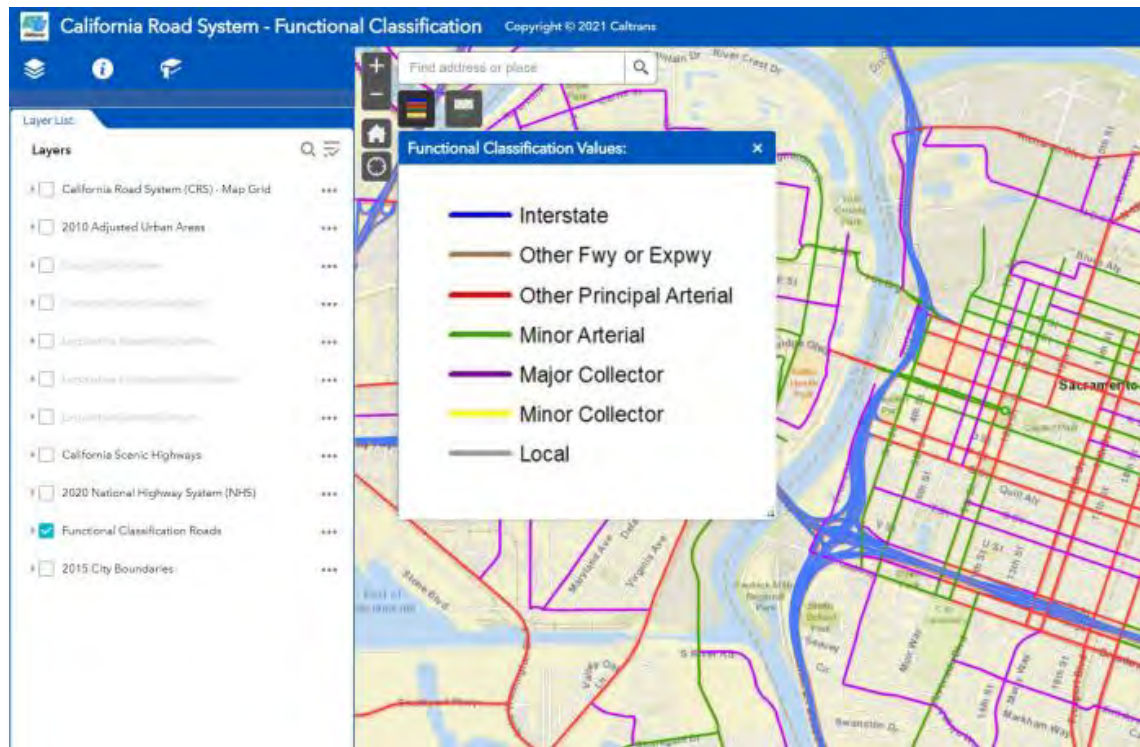


Figure 6: Caltrans Functional Classifications

The elasticities produce a forecast of total VMT attributable to a project, including all VMT (passenger and commercial). This is important because the CEQA Guidelines Section 15064.3(a) states, “For the purposes of this section, ‘vehicle miles traveled’ refers to the amount and distance of automobile travel attributable to a project.” (Emphasis added.)

Given that CEQA only requires evaluation of automobile VMT, the elasticity factor embedded within the likely overstates the VMT that would be necessary to evaluate transportation impacts associated with a project on the SHS. In addition, passenger/automobile VMT is the most closely associated with the legislative intent of SB 743, which aims to influence and encourage infill development, promote public health through active transportation, and enable California to build in a way that allows Californians to drive less.<sup>11</sup>

Modification of the elasticity factor does not solve all the limitations of using an elasticity-based approach and points to the need for a hybrid approach that also deploys a travel demand model to further refine estimates of long-term induced vehicle travel. Specifically, the limitations of the NCST Calculator are noted below.

<sup>11</sup> CEQA Transportation Impacts (SB 743). Governor’s Office of Planning and Research. Retrieved from <https://opr.ca.gov/ceqa/sb-743/>.



- Most of the data used in the research studies ranges from the 1980s to the early 2000s, although one study extended its data from 1981 to 2015. This period may not be reflective of current VMT trends and may not produce induced travel elasticities that accurately represent HOT/ExpressLane effects given their limited implementation during this time period in comparison to GP and HOV lanes.

This limitation is especially problematic for the Los Angeles MSA due to the introduction and expansion of ExpressLanes and rail transit<sup>12</sup> occurring since the early 2000s. Although one of the main research studies utilized in support of the NCST Calculator elasticities (Duranton & Turner<sup>13</sup>) concludes that extensions to public transit are not effective policies with which to combat traffic congestion or reduce VMT, this research only measured public transportation as the daily average peak service of large buses; other forms of transit such as railroads and subways were not accounted for in their estimations. In the Los Angeles MSA, it is possible the combination of rail expansion and ExpressLane implementation have resulted in different outcomes, as demonstrated by the recent HPMS data analysis in the introduction, which stands in contrast to statewide trends (and national trends) that form the basis of the studies that the NCST Calculator relies on.

- The elasticities are not sensitive to network effects associated with some roadway capacity projects such as bottlenecks that may have larger effects on travel times as well as bridges that can substantially reduce the distance between origins and destinations. Bridges that close a network gap have the greatest potential for reducing VMT due to shorter trip lengths.
- The elasticities are also not sensitive to project types (GP/HOV/HOT/Express Lanes), land use context, geographic constraints (e.g., water or topography barriers), or the amount of existing congestion. Without sensitivity to the project corridor context, the calculator results may over- or under-estimate induced VMT effects. Specifically, the Duranton & Turner study concludes that congestion pricing is the main candidate tool to curb traffic congestion and induced VMT, with HOT or ExpressLanes presently operating as congestion pricing in Los Angeles<sup>14</sup>, but no adjustments are made to account for these project types in the elasticities. This lack of sensitivity is also inconsistent with recent studies that demonstrated that the removal of HOV policies significantly increases traffic

---

<sup>12</sup> The Metro A (Blue), B (Red), C (Green), D (Purple), E (Expo), L (Gold), and K lines entered service starting in 1990, 1993, 1995, 2003, 2012, and 2022, respectively, with the Express Lane network operational in 2012.

<sup>13</sup> The Fundamental Law of Road Congestion: Evidence from US Cities, Gilles Duranton and Matthew A. Turner, *American Economic Review* 101, October 2011.

<sup>14</sup> Congestion Pricing: Examples Around the U.S. Available at [https://ops.fhwa.dot.gov/congestionpricing/resources/examples\\_us.htm](https://ops.fhwa.dot.gov/congestionpricing/resources/examples_us.htm)



congestion<sup>15</sup> and project context, including project type and project location, result in large variations in elasticities.<sup>16</sup>

- Application of elasticities at the statewide level functionally penalizes projects in low-VMT areas by imposing additional mitigation costs to the project development process. This is directly in conflict with the legislative intent of SB 743, which is intended to encourage project development in areas that have low-VMT patterns, including infill areas. Local refinement to reflect observed VMT patterns is appropriate and consistent with SB 743 and is supported by recent research that concludes that to truly minimize the bias in the elasticity measurements, it is necessary to observe MSAs on a case-by-case basis<sup>17</sup>.
- The VMT forecast represents the project-generated effect and does not include information about the No Project condition. This is one of the bigger limitations of elasticity methods because understanding what would otherwise happen without the project is required for CEQA/NEPA impact analysis and essential information for decision making.
- The VMT forecast does not include a distribution of VMT by speed bin, which is commonly needed for air quality and GHG analysis.
- The VMT forecasts do not include potential VMT effects beyond the MSA or county boundaries.
- The elasticity values were derived from research data representing a period when substantial socioeconomic changes were contributing to increasing VMT per capita (e.g., 1980s to early 2000s). This period was also prior to widespread use of transportation network companies (TNCs), substantial internet shopping, expanded food delivery, and recent COVID-19 travel disruptions.
- In uncongested suburban areas, the VMT forecasts from the calculator may be unreasonably high and would not be compatible with observed trip rates and trip lengths. Without congestion, vehicle trip rates and lengths are not influenced or suppressed in these areas. This lack of sensitivity to corridor land use and congestion context means

---

<sup>15</sup> R. Hanna, G. Kreindler, B. A. Olken (2017.) Citywide Effects of High-Occupancy Vehicle Restrictions: Evidence From “3-In-1” In Jakarta. Available at <https://dspace.mit.edu/bitstream/handle/1721.1/114521/CITYWIDE%20EFFECTS%20OF%20HIGH%20OCCUPANCY%20VEHICLE%20RESTRICTIONS.pdf>

<sup>16</sup> M. L. Anderson and L. W. Davis (2021). Estimating Induced Travel from Capacity Expansions on Congested Corridors. Available at <https://ww2.arb.ca.gov/sites/default/files/2021-04/18RD022.pdf>.

<sup>17</sup> J, Wang, G. Leovan, E. Arroyo (2022). The Fundamental Law of Road Congestion: Is it Truly Fundamental?



- that adding lane miles in a suburban area with no congestion will have the same proportional effect as adding lane miles in an urban area with multiple hours of congestion. As additional evidence to the lack of latent demand for travel in suburban environments, residential vehicle trip rates in suburban areas have been stable over time across multiple versions of the Institute of Transportation Engineers (ITE) Trip Generation Manual.
- The most recent input data for the calculator reflect 2019 conditions. Given CEQA Guidelines expectations that the baseline year is normally the year in which the notice of preparation (NOP) is released for a project, the induced vehicle travel analysis would be strengthened by using the most recent input data available. More current VMT and lane-mile estimates will become available in the future from the Caltrans Highway Performance Monitoring System (HPMS) and PeMS websites below.
    - <https://dot.ca.gov/programs/research-innovation-system-information/highway-performance-monitoring-system> <https://dot.ca.gov/programs/research-innovation-system-information/highwayperformance-monitoring-system>
    - <https://dot.ca.gov/programs/traffic-operations/mpr/pems-source>
  - Finally, Per the UC Davis NCST (the developers of the NCST Calculator) own research effort published in September 2022<sup>18</sup>, a “true validation (of the NCST calculator) may not be possible, given the long periods of time over which projects are constructed and induced travel effects occur, as well as the challenge of isolating the effect of a single capacity expansion from the effects of other capacity expansions as well as other factors in real-world settings (e.g., population changes, income changes, shifts in industries and job types, and global pandemics like we have seen with COVID-19).” This inability to validate the Calculator over the long-term time period it purports to measure could very likely result in mitigation investments that far exceed what is actually necessary to reduce a project impact to a level less than significant under CEQA.

## Travel Demand Models

Travel demand models estimate travel forecasts by inputting socio-economic data into Transportation Analysis Zones (TAZs) and setting up networks that accurately reflect roadway conditions (number of lanes, functional classification, capacity, speeds, availability of turns, etc.). When looking at different scenarios with a model, such as No Project and With Project, it is vital that comparable data and methods are used for inputs in both.

---

<sup>18</sup> Updating the Induced Travel Calculator, 2022, p22. Retrieved from <https://escholarship.org/content/qt1hh9b9mf/qt1hh9b9mf.pdf>



When utilizing a travel demand model (possibly with off-model post-processing), the full impacts of induced vehicle travel from a capacity-increasing project should include changes in VMT due to changes in:

- Trip length (generally increases VMT)
- Mode shift (generally shifts from other modes toward automobile use, increasing VMT)
- Route choice (can increase or decrease VMT but is likely to decrease emissions because more direct or preferred facility routing occurs)
- Newly generated trips (generally increases VMT)

Travel demand models forecast short-term VMT changes based on variables such as population and employment growth, and income changes, and therefore can reflect context sensitivity for land use and transportation network features. They can be locally calibrated and validated to observed local VMT conditions. Travel models vary in their setup, whether they are activity or trip based, and whether they are able to estimate induced travel related to highway projects.

Travel demand models more often underestimate rather than overestimate induced vehicle travel and are more complicated and time-intensive to run than an elasticity-based calculator. In general, a major issue related to using the travel demand model approach in impact analysis is that most models in California, and the rest of the U.S., do not have feedback processes that influence trip generation rates or land use growth allocation.<sup>19</sup> Hence, these components of the models tend to be 'fixed' versus being dynamically linked to changes in accessibility associated with a transportation network modification. Models also tend to lack dynamic validation to help users understand their level of sensitivity to small network changes. Additional processing is required to handle these limitations of a model before applying to VMT analysis, which are described in the following section.

## **Travel Demand Model Review**

For the purpose of this project, two regional travel demand models were reviewed related to the VMT analysis competence, which are Metro's Travel Demand Model (TDM) (version CBM18B) and the SCAG 2020 ABM. Additional models were considered for review, including the City of Los Angeles, City of Culver City, and City of Pasadena models, but were eliminated early due to their inconsistency with the most recent 2020 SCAG RTP/SCS and the lack of county-wide geographic coverage.

---

<sup>19</sup> For further discussion of model improvements, see page 18.



## Metro's TDM

The Metro TDM has a sophisticated mode choice procedure that estimates the mode shift due to changes in accessibility. The model assignment procedure is capable of reflecting the change in routing/path choice when the roadway congestion level varies.

From the perspective of induced travel, the Metro TDM can estimate induced travel demand due to mode shift between auto modes and other modes, and path shift (using different roadways). However, the Metro TDM does not have any module to estimate potential new trips due to a project, nor changes in origin-destination patterns of person trips due to a project. The overall travel demand (person trip tables) is initially derived from the SCAG Model (using a method that combines results from the 2016 RTP base year model and the 2020 RTP model inputs).

Given this relationship between the SCAG Model and the Metro Model, the evaluation of the Metro Model against the CEQA Guidelines is closely tied to the evaluation of the SCAG 2020 ABM, detailed further below.

## SCAG 2020 ABM

### *Model Assessment*

Based on the CEQA Guidelines, the following specific criteria were developed to assess the SCAG 2020 ABM performance related to SB 743 VMT analysis for highway projects on the SHS.

- Capable of producing regional, jurisdictional, and project-scale VMT estimates – VMT analysis for air quality, GHG emissions, energy, and transportation impacts requires comparisons to thresholds at varying scales.
- VMT estimates that do not reflect truncated trip lengths at model or political boundaries – The OPR Technical Advisory states that lead agencies should not truncate any VMT analysis because of jurisdictional or model boundaries. The intent of this recommendation is to ensure that VMT forecasts provide a full accounting of project effects.
- Model's Sensitivity in VMT changes from various model inputs, such as auto operating costs, transit services, transit fare, work from home/telecommute, freeway capacity, principal arterial capacity, household income, neighborhood household density, neighborhood bike lane density, job center parking price, and toll pricing.
- Inclusion of trip generation and land use feedback process – The TAF identified the checklist for evaluating model adequacy and stated that the travel demand model should have the capability to predict land use changes and trip generation changes resulted from transportation improvements projects.



The specific assessment findings for the SCAG 2020 ABM are contained in Table 2.

**Table 2: Assessment Summary of SCAG 2020 ABM**

| Assessment Criteria   | Assessment Results  | Notes   |
|---|---|---|
| Capable of producing regional, jurisdictional, and project-scale VMT estimates.   | Regional VMT – yes  | Scale of model may be too large for some project level applications. Subarea model calibration and validation may be required for project-scale VMT analysis.   |
|   | Jurisdictional VMT – yes  |   |
|   | Project-scale VMT – uncertain; sensitivity tests have indicated some “noise” in the model   |   |
| VMT estimates that do not truncate trip lengths at model or political boundaries. | Depends on TAZ location.  | The model includes the Counties of Los Angeles, Orange, Ventura, Riverside, and San Bernardino, but truncates trips leaving this area. TAZs central to the region will tend to have less truncation than TAZs at the model border. Other data sources such as household travel surveys or mobile device data may be required to understand the trip lengths and refine the model results. |
| Model’s sensitivity in VMT changes from various model inputs                      | The model shows reasonable sensitivity in VMT changes from the tested model inputs.<br><br>The VMT elasticity is shown to range from 0.28-0.40 for freeway capacity and 0.32-0.48 for principal arterial capacity.  | The sensitivity results were obtained from the SCAG’s <i>Travel Demand Model Sensitivity Tests Report</i> dated August 2020.<br><br>Sensitivity tests were conducted related to project type and project context and are detailed further in the following section.   |
| Inclusion of trip generation and land use feedback process                        | The trip generation module is not sensitive to travel time and cost.<br><br>No land use feedback has not been incorporated into model forecasting process at project level.<br><br>Based on these limitations, the model results reflect short-term VMT sensitivity only. | The vehicle trip generation rates can be manually adjusted into the model, or off-model processing can be applied to refine the VMT forecasts.<br><br>Follow OPR’s recommendations to incorporate the VMT effects that are caused by the subsequent land use changes.   |





## Case Study Results

To evaluate whether the SCAG 2020 ABM is sensitive to local context and project type, and in response to input from the Project Development Team (PDT), a case study was conducted to evaluate the model's sensitivity using the following two highway projects located in an urban and suburban area.

### 1. Interstate 5 (I-5) High Occupancy Vehicle (HOV) Project in Santa Clarita (Suburban)

This project adds a new HOV lane in each direction along a 14-mile I-5 segment from Newhall Pass to Parker Road. It is currently under construction.

For this case study, three scenarios were evaluated for the I-5 corridor: 1) adding a GP lane in each direction; 2) adding an HOV lane in each direction as currently under construction; and 3) adding an HOT lane in each direction along the study segment.

### 2. I-10 Express Lane Project (Urban)

This project includes the addition of Express Lanes along a 16-mile I-10 segment from I-605 to the Los Angeles County border. It is currently under the project approval/environmental document (PA/ED) phase.

For this case study, three scenarios were also evaluated for the I-10 project: 1) adding a GP lane in each direction; 2) adding an HOV lane in each direction; and 3) converting the existing HOV lane to HOT lane and adding the 2<sup>nd</sup> HOT lane in each direction as currently proposed.

As a result, the following seven scenarios were assessed for the VMT analysis using the Future Year 2045 SCAG's 2020 ABM. The socioeconomic data was held constant under all analysis scenarios.

1. Baseline Scenario (without I-5 and I-10 projects)
2. I-5 GP Scenario (add the I-5 GP lanes)
3. I-5 HOV Scenario (add the I-5 HOV lanes as currently under construction)
4. I-5 HOT Scenario (add the I-5 HOT Lanes)
5. I-10 GP Scenario (add the I-10 GP lanes)
6. I-10 HOV Scenario (add the I-10 HOV lanes)
7. I-10 HOT Scenario (add the I-10 HOT Lanes as currently proposed)



The VMT results were calculated under each scenario for the combined freeway/expressway/principal arterial roadway facility group (which are equivalent to FHWA Class 1, 2, and 3 facilities) within the counties of Los Angeles and Orange (consistent with MSA). Additionally, VMT elasticity was calculated under Scenarios 2 through 7 using the percent change in VMT divided by percent change in lane miles. The VMT results are displayed in Figure 7 and Table 3.

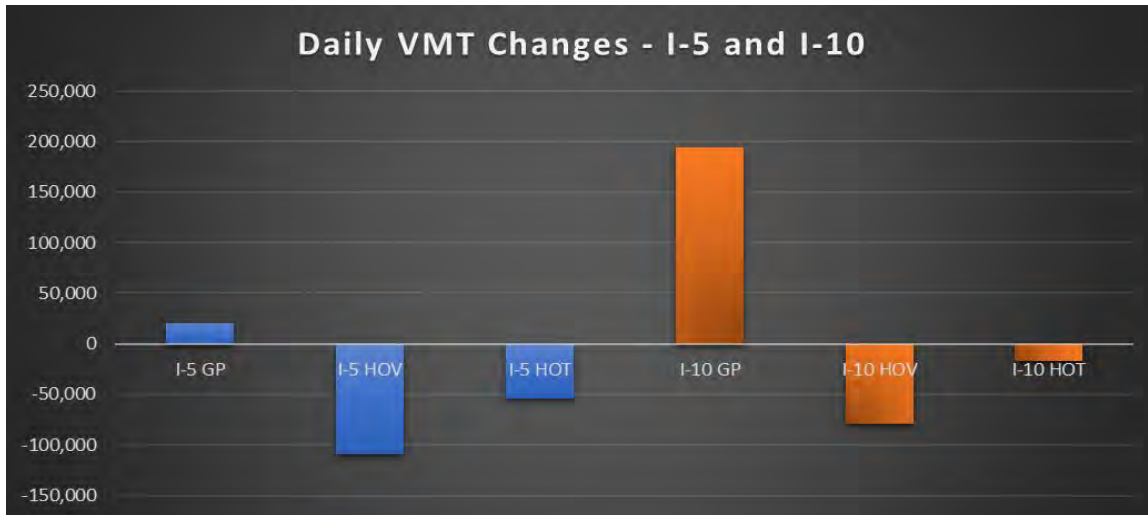


Figure 7: SCAG Model Case Study Results - Daily VMT Changes

**Table 3: Daily VMT Results in Los Angeles-Long Beach-Anaheim MSA (LA & OC Counties)**

| Scenario      | Daily VMT   | VMT Change | VMT Change % | VMT Elasticity |
|---------------|-------------|------------|--------------|----------------|
| Baseline      | 227,046,731 | -          | -            | -              |
| I-5 GP Lane   | 227,066,754 | 20,023     | 0.01%        | 0.06           |
| I-5 HOV Lane  | 226,937,209 | -109,522   | -0.05%       | -0.34          |
| I-5 HOT Lane  | 226,992,941 | -53,790    | -0.02%       | -0.17          |
| I-10 GP Lane  | 227,240,528 | 193,797    | 0.09%        | 0.48           |
| I-10 HOV Lane | 226,967,641 | -79,090    | -0.03%       | -0.20          |
| I-10 HOT Lane | 227,029,716 | -17,015    | -0.01%       | -0.04          |

Source: Fehr & Peers, 2022.

The model shows sensitivity to local context as anticipated, with a greater VMT elasticity for the I-10 corridor in a more urban setting than the I-5 corridor located in a more suburban area. Project type also resulted in a variation in VMT changes, with increased VMT when adding GP lanes (higher in an urban area with latent demand due to currently-congested conditions) and a



reduction in VMT with inclusion of HOV or HOT lanes (smaller reduction in an urban area where latent demand exists due to currently-congested conditions). Note, these location-specific and type-specific changes are likely to be different as the land use and transportation network context varies. For example, in hyper-congested environments, demand for travel may not increase with new capacity as rapidly as in areas with less congestion.<sup>20</sup> In these environments, one explanation may be that the available time budgeted for household travel is already expended or over-extended and travel time savings from new managed capacity may not be substantial enough to make a difference in back-filling the new time that was created with new trips.<sup>21</sup>

### ***Model Improvements and Application Considerations***

Currently, the SCAG 2020 ABM – and therefore the Metro Model – does not clear the TAF model checklist. The requirements described in the TAF model checklist create a high bar to clear, should an agency prefer to use a model-based approach rather than an elasticity-based approach. Current models in use in California cannot meet all the criteria on the checklist without modification. If SCAG’s 2020 ABM is preferred to produce long-term induced travel, the<sup>19</sup> following improvements to the model are recommended to address the limitations identified in Table 1 and meet the TAF model checklist for VMT analysis.

**Sensitivity to trip generation** – If a trip generation module is not sensitive to travel time and cost, the analyst can manually adjust the vehicle trip generation rates or use off-model processing to increase the VMT forecasts. For example, using an “induced demand” sub-model, trips could be added or removed from the auto trip matrix using a logit equation that compares travel times of future years to travel times of the base year to determine the scale of trip additions/reductions. Other agencies across California have explored the development of such a sub-model to address this feedback loop need but have not yet implemented an approach.

Dowling Associates (1994) conducted a travel behavior survey of residents in San Francisco and San Diego to better understand direct traveler responses to travel time changes.<sup>22</sup> This study found that a five-minute time savings would cause survey respondents to make an extra stop or change their destination for only about 4% of their trips. This paper also cites a Dutch study that found that over 90% of the observed increase in traffic volumes on a new freeway in a congested

---

<sup>20</sup> RAND and WSP. Latest Evidence on Induced Travel Demand: An Evidence Review (May 2018).

<sup>21</sup> For more information on the concept of a travel time budget, see Stopher, Ahmed & Liu (2016), available at <https://link.springer.com/article/10.1007/s11116-016-9694-6>.

<sup>22</sup> Dowling Associates for the California Air Resources Board. Effects of Increased Highway Capacity on Travel Behavior (1994).



area are the result of changes in the time a trip is made, and changes in the route taken.<sup>23</sup> Together, these indicate a limited sensitivity to new trips generated as a result of new capacity.

Adjustments may not be appropriate or necessary in suburban or rural areas where congestion is not severe enough to suppress existing vehicle trip making. In these settings, land uses are already generating vehicle trips at full demand levels (i.e., rates similar to those in the ITE Trip Generation Manual). A comparison to ITE rates could be used as evidence to determine whether an adjustment is necessary, and if so, the level of appropriate adjustment.

**Sensitivity to land use** – OPR’s recommendations can be followed to incorporate the VMT effects that are caused by the subsequent land use changes.

- Employ an expert panel, including local agencies’ land use planners, to develop a scenario of anticipated land use growth for project alternatives. This process should recognize whether land use effects are intra- or inter-regional. If population is attracted from an adjacent region, the difference in VMT per capita generation rates may also need to be addressed.
- Adjust model results to align with the short-term elasticity research. Note that this is only possible for short-term elasticities, which range from 0.1-0.60 as documented in the California Air Resources Board (CARB) research noted above. Please note that short-term VMT forecasts from travel models are not directly comparable to long-term VMT forecasts based on elasticity factors.
- Employ a land use model, running it iteratively with a travel demand model. A wide range of land use models exist but most are likely to be too time-consuming or costly to apply for an individual project. At the regional scale, options such as the University of California (UC) Davis’ UPlan regional land use model, CommunityViz, UrbanSim, and others can incorporate attractors such as highways, highway ramps, major arterial roads, minor arterial roads, transit lines, and existing land use development, assigning future regional growth to the areas around these attractors based on the strength of attraction of each feature and the distance from each feature.

**Fixed parameters for IX trips, XI trips, and medium/heavy-duty vehicle trips** – The SCAG 2020 ABM uses fixed parameters for internal-external (IX) and external-internal (XI) trips as well as medium/heavy-duty vehicle trips, which does not allow for any feedback to these variables based on changes to other model parameters. This can be rectified through model refinements and modifications.

---

<sup>23</sup> A. L. Loos, P. H. L. Bovy, and T. Van Der Hooft (1991). The M10 Amsterdam Orbital Motorway: Effects of Opening upon Travel Behavior. Available at <https://repository.tudelft.nl/islandora/object/uuid%3A7c6c408c-b90f-4524-9d99-d827dccb70f>.



**Static versus dynamic traffic assignment** – A final issue that is whether (and how) a model uses static traffic assignment (STA) instead of dynamic traffic assignment (DTA), and how that affects VMT forecasts. One research paper directly comparing STA and DTA estimates revealed how the limited sensitivity of STA over-predicts traffic volumes, which would contribute to overestimates of VMT.<sup>24</sup>

Despite the noted model limitations, a model may still be useful to understand the incremental difference between project alternatives that the NCST Calculator or other elasticity methods will not reveal. The model's forecasts of VMT can also be stratified by speed bin, which is important for emissions analysis, and disaggregated to understand the relative share of VMT that is comprised by light duty (or passenger) vehicles relevant for transportation impact determination, and the relative share of medium or heavy-duty vehicles, reflecting commercial travel. Thus, use of a travel demand model may be useful under the following conditions.

1. Comparisons between no build and build alternatives in the same analysis year are useful for impact-related decisions. This comparison can be used to estimate a short-term induced vehicle travel elasticity that can be compared against the short-term academic elasticity estimates for reasonableness.
2. The NCST Calculator is not applicable due to project type, or has greater limitations than a travel demand model based on substantial evidence about the specific characteristics of the project.
3. VMT by speed bin or vehicle type is needed to evaluate emissions for air quality, transportation, or GHG analysis.

## **Suggested Quantification Approach for Metro's VMT Mitigation Program**

Metro's SHS Project List contains 55 projects at the writing of this memo and includes projects and programs from several sources such as Measure R, Measure M, and the 2020 Long Range Transportation Plan (LRTP). The projects and programs are currently in varying phases, ranging from pre-planning to planning, environmental review, final design, and construction. Due in part to the variety in originating plan and current status, the current level of detail about each project also varies widely. Thus, there is a limit to how accurately presumptions can be made regarding potential impacts at this stage.

Project types on this list include grade separations, soundwalls, interchange and ramp modifications, Intelligent Transportation Systems (ITS) and other technological upgrades, addition

---

<sup>24</sup> Forecasting the impossible: The status quo of estimating traffic flows with static traffic assignment and the future of dynamic traffic assignment, *Research in Transportation Business & Management*, Vol. 29, pp 85-92. 2018.



of HOV lanes, HOT lanes, or Express Lanes, auxiliary lanes, collector-distributor roads, various efficiency and safety upgrades, and new highways.

Based on the assessments of VMT quantification tools and SCAG's 2020 ABM, the following quantification approaches are recommended at a program level and at a project level.

### **Program Level**

To refine the NCST Calculator results to align with the CEQA Guidelines and the legislative intent of SB 743, only the induced VMT related to automobile travel at the individual/household level should be included. Furthermore, the induced VMT elasticity factor should be more in line with the results of the SCAG model tests, which demonstrate an over-estimation of induced VMT compared to the observed VMT trends in the Los Angeles MSA.

One of the main research studies used to support the NCST Calculator's approach offers one approach to isolating the induced travel related to individual/household travel changes. Based on Duranton & Turner's analysis, changes in individual or household driving account for 9%-39% of all induced VMT associated with a 10% increase in lane miles.

Concentrating on the induced VMT effects associated only with automobile travel and applying these percentages to a 1.0 starting elasticity (the NCST Calculator's elasticity for Class 1 facilities) produces a range in elasticity values from 0.09 to 0.39 (9% of 1.0 to 39% of 1.0). Applied to a 0.75 starting elasticity (the NCST Calculator's elasticity for Class 2 and 3 facilities), the range becomes 0.07 to 0.29 (9% of 0.75 to 39% of 0.75).

An elasticity of 0.39 – the result of applying the high end of the 9%-39% range described above to the 1.0 elasticity in the NCST Calculator – is also aligned with research by Robert Cervero, who demonstrated a long-term elasticity of 0.39 based on California data and relying on a modeling methodology that accounted for the effect that previous development and roadway capacity investment had on influencing lane mile increases.<sup>25</sup> Other studies have also found an elasticity of lane-miles with respect to total VMT of 0.33 revealing a strong two-way relationship where every 10% increase in VMT, lane-miles grew by 3.3%.<sup>26</sup> Additionally, studies that estimate elasticities of demand with respect to road capacity considering all road types (and therefore controlling for reassignment/trip diversion effects) at the state or regional level find smaller induced demand effects, such that a 10% increase in capacity would result in induced demand in the range 1% to

---

<sup>25</sup> Road Expansion, Urban Growth, and Induced Travel – A Path Analysis, Robert Cervero, APA Journal, Spring 2003, Vol. 69, No. 2.

<sup>26</sup> Induced Travel Demand and Induced Road Investment: A Simultaneous Equation Analysis, Journal of Transport Economics and Policy, Vol. 36, No. 3, pp 469-490. September 2002.



4%.<sup>27, 28</sup> Finally, where the impact of road capacity that adds to the length of the road network is distinguished from lane capacity increases for the existing network, the former can be interpreted as an accessibility effect.<sup>29, 30</sup> This is associated with a smaller elasticity (approximately 0.3). Finally, these elasticity factors are also more in line with the elasticity factors produced by the SCAG Model sensitivity tests and case studies.

Therefore, a refinement to the 1.0 elasticity factor embedded in the NCST Calculator can be used to generate long-term VMT changes at the MSA level while controlling for variables such as population growth, employment growth, and income changes. Substantial evidence exists across multiple research studies, SCAG Model tests, and observed VMT data to justify an elasticity closer to 0.39 to account only for long-term induced automobile travel for Class 1 facilities and a 0.29 elasticity factor for Class 2 and 3 facilities.

For the VMT Mitigation Program, rather than using the 1.0 elasticity factor for Class I facilities, the suggested approach would start with a modified elasticity factor and incorporate further adjustments from the SCAG 2020 ABM to establish a range of induced vehicle travel using the two available quantification tools discussed in the previous section.

1. Modify Elasticity Factors in the NCST Calculator to Exclude Freight VMT and Reflect Local Conditions

As described above, medium and heavy-duty vehicle VMT is embedded within the data that underpins the NCST Calculator. These vehicle classes capture regional freight and commercial travel which supports not only the Southern California region but the rest of the US as well, is not separated out from the NCST Calculator's elasticity factors and assumptions. In recognition of the regional and national nature of this type of driving, SB 743 only requires lead agencies to consider passenger travel (light duty vehicles and trucks) when determining VMT impacts, as this type of travel is the most influenceable by lead agencies' transportation and land use planning decisions.<sup>31</sup> As such, isolating automobile VMT helps communicate what is likely to be influenced by a project, and similarly, what could be influenced by mitigation actions. The NCST Calculator currently omits this important policy distinction in its calculations.

---

<sup>27</sup> Hymel, Kent M., Kenneth A. Small, and Kurt Van Dender. 2010. "Induced demand and rebound effects in road transport." *Transportation Research Part B: Methodological* 44 (10): pp 1220-1241.

<sup>28</sup> Gonzalez, Rosa Marina, and Gustavo A. Marrero. 2012. "Induced road traffic in Spanish regions: A dynamic panel data model." *Transportation Research Part A: Policy and Practice* 46 (3): pp 435-445.

<sup>29</sup> Hsu, W-T and H. Zhang. 2014. "The fundamental law of highway congestion revisited: Evidence from national expressways in Japan." *Journal of Urban Economics* 81: 65-76.

<sup>30</sup> Pasidis, I. 2017. 'Urban transport externalities.' PhD Thesis, University of Barcelona.

<sup>31</sup> Note, total VMT is required for Air Quality, GHG, and Energy impact analysis under CEQA.



The final adjusted elasticity factor is consistent with the high end of the range for changes in VMT due to individual or household driving as presented in Duranton & Turner (2011), or 39% of the total induced VMT, for an elasticity factor of 0.39 or 0.29 depending on the facility classification. The modified VMT elasticity factors are shown in Table 4, in comparison to the original NCST elasticity factors. The modified VMT elasticity factor will then be applied to the total lane mile additions from the multi-modal highway program to calculate the induced vehicle travel.

These factors fall within the induced VMT range used by Metro's *Climate Emissions Analysis: Metro's Indirect Impact on Greenhouse Gas Emissions* (Climate Emissions Study) presented to the Board of Directors in August 2022.<sup>32</sup> The range used in that study was based on a short-term elasticity factor of 0.23 from SCAG-authored sensitivity tests and a long-term elasticity factor of 1.0 from the NCST Calculator. The Climate Emissions Study did not exclude medium or heavy-duty vehicle travel from the analysis.

**Table 4: NCST VMT Elasticities & Adjusted Elasticity Factor**

| <i>Tool</i>  | <i>Elasticity</i> | <i>Source</i>                    |
|--|-------------------|----------------------------------|
| NCST – Class 1 Facilities (Short + Long Term)  | 1.0               | NCST                             |
| NCST – Class 2 and 3 Facilities (Short + Long Term)  | 0.75              | NCST                             |
| Modified NCST - Class 1 Facilities (Short + Long Term)<br><b>VMT Only for Passenger (Light-Duty) Cars and Trucks</b>             | 0.39              | NCST, Cervero, Duranton & Turner |
| Modified NCST – Class 2 and Class 3 Facilities (Short + Long Term)<br><b>VMT Only for Passenger (Light-Duty) Cars and Trucks</b> | 0.29              | NCST, Cervero, Duranton & Turner |

The benefit of this method is that it requires a lower effort than a modeling-based approach and can be operationalized through a spreadsheet tool. However, it has the limitations noted in the previous section. Relying on this method alone may not provide a complete picture of potential VMT effects and may over-estimate the impact of induced vehicle travel by not accounting for other factors contributing to long-term traffic increases.

<sup>32</sup> LA Metro. Climate Emissions Analysis: Metro's Indirect Impact on Greenhouse Gas Emissions. August 2022. Retrieved from <https://metro.legistar.com/LegislationDetail.aspx?ID=5759433&GUID=230DEBE4-8769-4DE1-B67E-DD79194C2CA6&Options=&Search=>





## 2. SCAG's 2020 ABM

In addition, SCAG's 2020 ABM will be used to develop two model scenarios with and without the highway improvements projects, the VMT results of which will be obtained to determine the short-term induced VMT resulting from the program. As noted previously, this approach provides merits of reflecting the local context, but may underestimate induced VMT due to the revealed limitations. The results of this comparison will allow for further refinement of the elasticity factor used at the program level.

Results from the two quantification methodologies would establish a final range of induced VMT for the highway improvements projects at the program level, which will be used to develop the mitigation program that meets the program objectives and provides flexible and viable mitigation options. As noted in the introduction, this memorandum is intended to articulate the approach, and does not present the quantification results of this methodology. Task 6, development of a VMT Tool, will incorporate quantification results.

### **Project Level**

At a project level, since an elasticity-based approach (such as the modified NCST Calculator elasticity factor approach described above) is not directly applicable for many of the project types contained on Metro's project list, using a hybrid approach is likely to be more appropriate when quantification is required. The steps to estimate induced vehicle travel for a project on the SHS are described below.

#### *Step 1 – Project Screening for Quantification Needs*

The first step is to determine whether the project should be presumed to not result in a VMT impact and therefore excluded from needing to perform an induced travel analysis, following the project screening guidance provided in the TAC. The TAC states that the emphasis of this guidance is to identify those projects that will lead to a measurable and substantial increase in vehicle travel. Projects not likely to lead to a measurable and substantial increase in VMT generally should not require an induced travel analysis per OPR's Technical Advisory. While the TAC provides a list of 32 project types that are screened from induced travel analysis, it also states additional project types could be added to the screening list if they are not likely to lead to a measurable and substantial increase in VMT.

The following project types are anticipated to meet this criterion and therefore are recommended to include to the screening project list in TAC.

- A. **Auxiliary lanes:** Auxiliary lanes (also known as acceleration/deceleration lanes and speed change lanes), allow drivers to either increase or decrease their speed in an area where high-speed highway mainline traffic is not present and are supplementary



to through-traffic movement. The speed difference between the highway mainline and on- and off-ramps or surrounding streets can be significant, introducing turbulence resulting in stop-and-go traffic and increased collision rates. Regardless of length, auxiliary lanes that are designed primarily to improve safety of existing lanes by facilitating weaving may add miles but are not likely to influence travel behavior in terms of number of trips or trip distance because they do not change the fundamental availability of the roadway once the vehicle is on the mainline of the freeway.

- B. **Truck only lanes in the urban context:** Adding lane miles for trucks (commercial) travel is not likely to translate meaningfully to additional capacity for the general public such that new travel is induced. Truck only lanes serve to increase truck travel time reliability, increasing efficiency of passenger and transit vehicles on main traffic lanes by removing turbulence introduced by slower moving heavy trucks, and increase safety by removing heavy trucks from main traffic flow. Truck (commercial) travel is also insensitive to roadway capacity with this demand unable to use alternative modes in the absence of new capacity. Truck only lanes primarily serving safety-related goals rather than travel time related goals are not likely to influence travel behavior.
- C. **Operational improvements:** Projects that improve operations through and do not add through-traffic lane miles to the freeway mainline, in addition to those operational projects listed in the TAC (such as collector-distributor roads), are not likely to translate meaningfully to additional capacity. These projects may solve bottleneck issues during a peak period and address operational issues of traffic backing up onto neighborhood streets, which both have safety implications, but are not likely to induce new trip-making or change the length of trips already on the network.
- D. **Ramp reconfiguration projects:** Projects that add lane miles by reconfiguring on/off ramps but do not change the fundamental availability of the roadway once a person is on the mainline are unlikely to translate to additional capacity and induced VMT. Any additional VMT resulting from the additional length of the reconfigured ramps would be analyzed at the project level and disclosed.
- E. **Congestion pricing and lane management projects that are intended to manage traffic to reduce VMT:** While some roadway management projects are designed to maintain certain travel speeds or result in congestion reduction primarily, projects



that include pricing and high-occupancy features designed to influence travel behavior can counter-balance induced travel effects.<sup>33</sup>

Step 2 – Identify VMT Quantification Method

If induced vehicle travel quantification is required for a project on the SHS, the appropriate method will be identified based on project types, knowing an elasticity-based approach is not directly applicable to many types. A hybrid method can integrate both the SCAG 2020 ABM, and future iterations of the ABM, and the modified NCST elasticity-based methods. This approach allows the same land uses for all alternatives but should acknowledge the limitation of using fixed land use inputs. Notably, the discussion would describe which alternative the land use forecasts best reflect and how the accessibility differences between the alternatives could affect the allocation of future growth. The SCAG 2020 ABM will be used to forecast the short-term induced travel effect for the build condition of project alternatives, while the modified elasticities from the NCST calculator will be used to forecast long-term VMT effects of the project build alternatives. The elasticity will be modified to address limitations as described in Table 3 above and is anticipated to produce a low-end and high-end of a long-term induced vehicle travel range.

The details of this method are listed below.

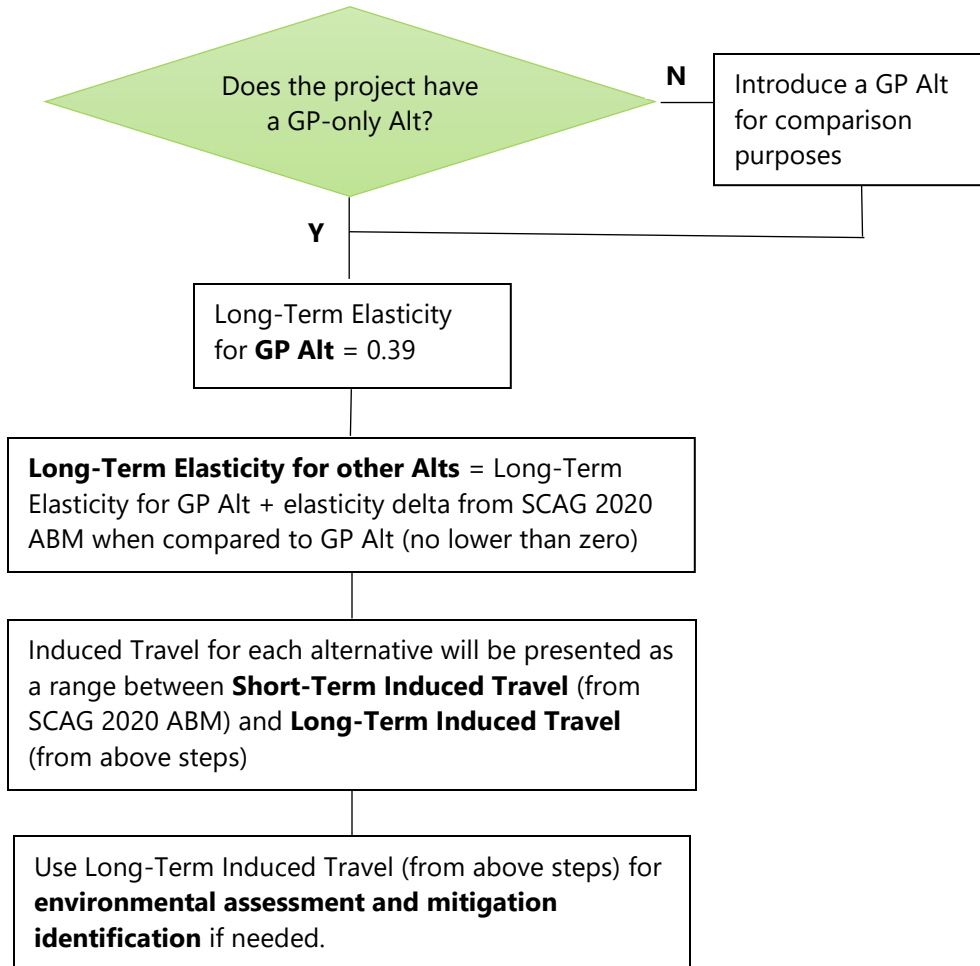
1. The SCAG 2020 ABM will be used to generate volume forecasts and VMT information for No Build and Build alternatives with a fixed set of land use forecasts.
  - Metro will inform the analyst whether these land use forecasts represent the build or no build condition.
  - Typically, project development and environmental impact analysis is only performed on projects that have already been included in a regional transportation plan, so SCAG's land use forecasts are most likely to represent build conditions.
  - The environmental document will disclose the limitations of the model with an acknowledgement that the actual land use will likely differ among alternatives. Where appropriate, the analyst can qualitatively explain how the project could affect land use and what the likely outcome would be in terms of the direction of change with respect to vehicle trips and VMT.
  - Short-term induced vehicle travel effects will be generated for each of build alternatives, using the SCAG 2020 ABM.

---

<sup>33</sup> This type of managed lane has not yet been implemented in California, but has been suggested on at least one project in Caltrans District 4, which had a Draft EIR circulated at the time of writing this memorandum. DEIR available at <https://dot.ca.gov/-/media/dot-media/district-4/documents/37-corridor-projects/sr37-draft-eir-ea-1q7600-sears-pt-mare-island-proj-vol1-a11y.pdf>, with information about the tolling scenarios described on page 2-56.



- For base year and open year with project scenarios, the Home-based Work and Home-based University/School trips should be held constant as in the corresponding No-Build scenarios, because the work and university/school locations will not change immediately due to the project.
2. A modified long-term elasticity factor will be employed to generate the long-term induced travel effect for VMT, following the steps shown in the flowchart on the next page and described below.
- A. If multiple alternatives are involved, a modified long-term elasticity of 0.39 will be used to generate the long-term induced travel for the "Base" Build Alternative, e.g., the GP Alternative. The elasticity of 0.39 was derived from the "individual and household travel" component part of induced travel only, as described above. This approach represents the GP capacity improvement projects in a typical urban area. In the event that the short term induced vehicle travel effects produced in the step above exceeds a 0.39 elasticity factor, the higher of the two values should be used to ensure all potential long-term impacts are accounted for. An example of these two cases is shown below.
  - B. The SCAG 2020 ABM results described in the earlier section (I-5 and I-10 case study analysis) showed there is a difference in the elasticity values between urban and suburban areas when determining the short-term induced travel. However, the recent UC Davis update to the NCST research and Calculator indicated no difference in long-term elasticity values for urban versus suburban context. Therefore, to consider the conservative approach, the same elasticity of 0.39 will be applied to determine the long-term induced travel for both urban and suburban projects.
  - C. For projects in which the GP Alternative is not considered, a GP scenario will be introduced only to establish the "Base" Build Alternative for comparison purpose.
  - D. For other build alternatives, such as HOV or HOT scenarios, the long-term induced travel effect for VMT will pivot from the "Base" Build Alternative's VMT estimate by applying an incremental difference between each alternative and the "Base" Build Alternative derived by evaluating the alternatives using the SCAG 2020 ABM. That incremental difference will then be applied to the "Base" Build's long-term induced travel estimate to generate the long-term induced travel effects for each other alternative.
  - E. The SCAG 2020 ABM results (short-term induced VMT) and the elasticity-factor results (long-term induced VMT) can then be reported as a range, and the environmental assessment could be based on the higher long-range VMT estimate for the purposes of identifying mitigation needs. This minimizes the risk associated with potential underestimation of induced vehicle travel.



### Elasticity Calculations for I-5 Corridor Case Study

#### Long-Term Elasticity for Alternatives

|         |   |
|---------|---|
| GP Alt  | 0.39  |
| HOV Alt | $= 0.39 - \text{Delta of Elasticity Values from SCAG 2020 ABM (GP Alt - HOV Alt)}$<br>$= 0.39 - (0.06 - (-0.34))$<br>$= 0.39 - (0.4) = \mathbf{-0.01}$<br>Since the calculated value is below zero, the long-term elasticity value is set to be zero under the HOV Alt. |
| HOT Alt | $= 0.39 - \text{Delta of Elasticity Values from SCAG 2020 ABM (GP Alt - HOT Alt)}$<br>$= 0.39 - (0.06 - (-0.17))$<br>$= 0.39 - (0.23) = \mathbf{0.16}$<br>The long-term elasticity value is set at 0.16 under the HOT Alt.  |



### Elasticity Calculations for I-10 Corridor Case Study

#### Long-Term Elasticity for Alternatives

GP Alt            0.48

HOV Alt            =0.48 – Delta of Elasticity Values from SCAG 2020 ABM (GP Alt – HOV Alt)  
                          =0.48 – (0.48 - (-0.20))  
                          =0.48 – (0.68) = **-0.20**

Since the calculated value is below zero, the long-term elasticity value is set to be zero under the HOV Alt.

HOT Alt            =0.48 – Delta of Elasticity Values from SCAG 2020 ABM (GP Alt – HOT Alt)  
                          =0.48 – (0.48 - (-0.04))  
                          =0.48 – (0.52) = **-0.04**

Since the calculated value is below zero, the long-term elasticity value is set to be zero under the HOT Alt.

For projects on the SHS, this method should be reviewed with Caltrans staff prior to application given the TAF recommendations and the potential for the TAF to continuously be updated as new information and research is published. Please note that the induced vehicle effects not captured by the travel demand model could influence the peak hour design volumes used in traffic operations analysis and the VMT by speed bin estimates used for emissions analysis. At a minimum, these limitations will be acknowledged and disclosed in the environmental documents.

To help facilitate future Caltrans reviews of the model or induced vehicle travel analysis conducted with the SCAG 2020 ABM, it is suggested that Metro conduct an early review of the model against the TAF First Edition model checklist noted above for each project as it advances through the environmental review process. The intent of this review is to demonstrate the model's ability to meet the sensitivity expectations set forth in the checklist for the specific project under study. This review can be coordinated with Caltrans Headquarters and District 7 staff to build consensus around the findings. If the review reveals any limitations of the model beyond the limitations described here, they could be addressed to help prepare the model for future applications on subsequent projects and/or incorporated into the scoping for the next major project required to apply the model.

#### Step 3 – Identify VMT Mitigation Opportunities

For projects with significant induced vehicle travel impacts, the final step is to identify appropriate mitigation strategies that match the project needs, which could be specific mitigation opportunities/strategies or through the established VMT Mitigation Program. Where possible, project features may be able to be incorporated as part of an evaluated alternative that may reduce the magnitude of VMT mitigation needed.



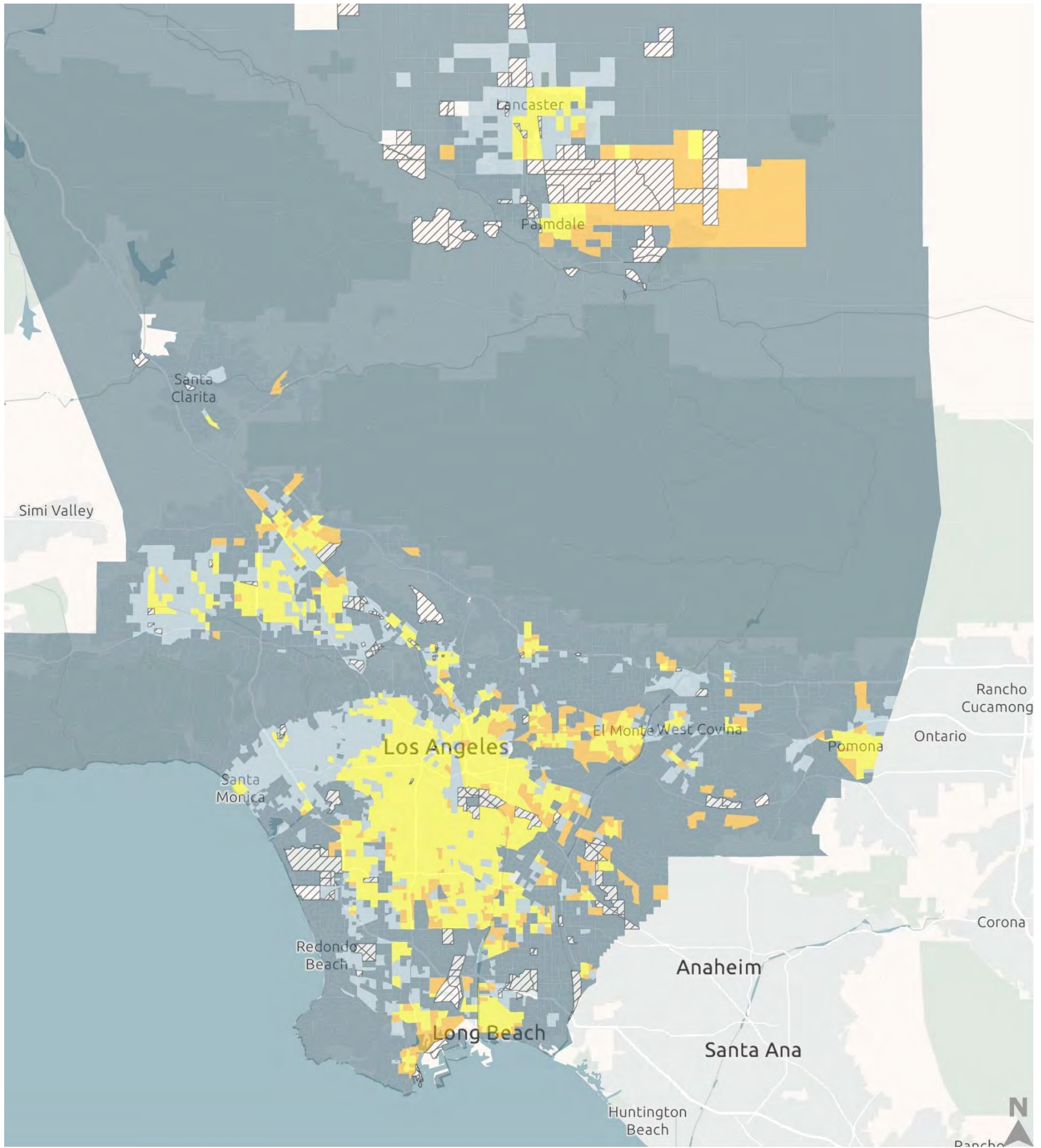
## Conclusion & Next Steps

This memorandum is intended to provide clarity on an approach to quantifying induced vehicle travel at a program level and at a project level for future environmental review of projects on the SHS in Los Angeles County. Recognizing that the policy and regulatory landscape in this space is evolving, this document outlines a hybrid approach to setting a lower and upper boundary of a range for project-related VMT impacts that is in line with recent applications of the policy guidance.

For the purposes of developing the VMT Mitigation Program, quantifying the magnitude of how much VMT mitigation may be necessary to fully mitigate Metro's SHS project list is difficult to define at this time due to lack of specific details for each potential project alternative, due to the flexibility afforded to subregions in how to scope projects. In addition, project specifics would be defined through upstream phases of project development which would include close coordination and partnership with Metro's subregional project leads and Caltrans. These upstream phases may directly incorporate VMT reduction strategies or may define a Purpose and Need that would influence project approvals regardless of the project's ability to mitigate VMT impacts. Regardless of these upstream project development activities, Metro anticipates a need for future projects to have mitigation options available to them that currently do not exist.

The forthcoming development of the VMT quantification tool in Task 6 will allow individual projects to test ways to mitigate associated VMT through quantified mitigation actions. By the conclusion of the VMT Mitigation Program, the program framework will help provide clarity in quantifying VMT impacts, pathways to mitigation on a project level, and information to help the agency make informed decisions about project alternatives and tradeoffs between the benefits of capacity increasing highway improvement projects and the cost of VMT mitigation.

Metro EFCs & TAZ VMT Data - Countywide



EFC TAZs: Home-Based VMT per Capita

Yellow Below Countywide Average

Orange Above Countywide Average

Non-EFC TAZs: Home-Based VMT per Capita

Light Blue Below Countywide Average

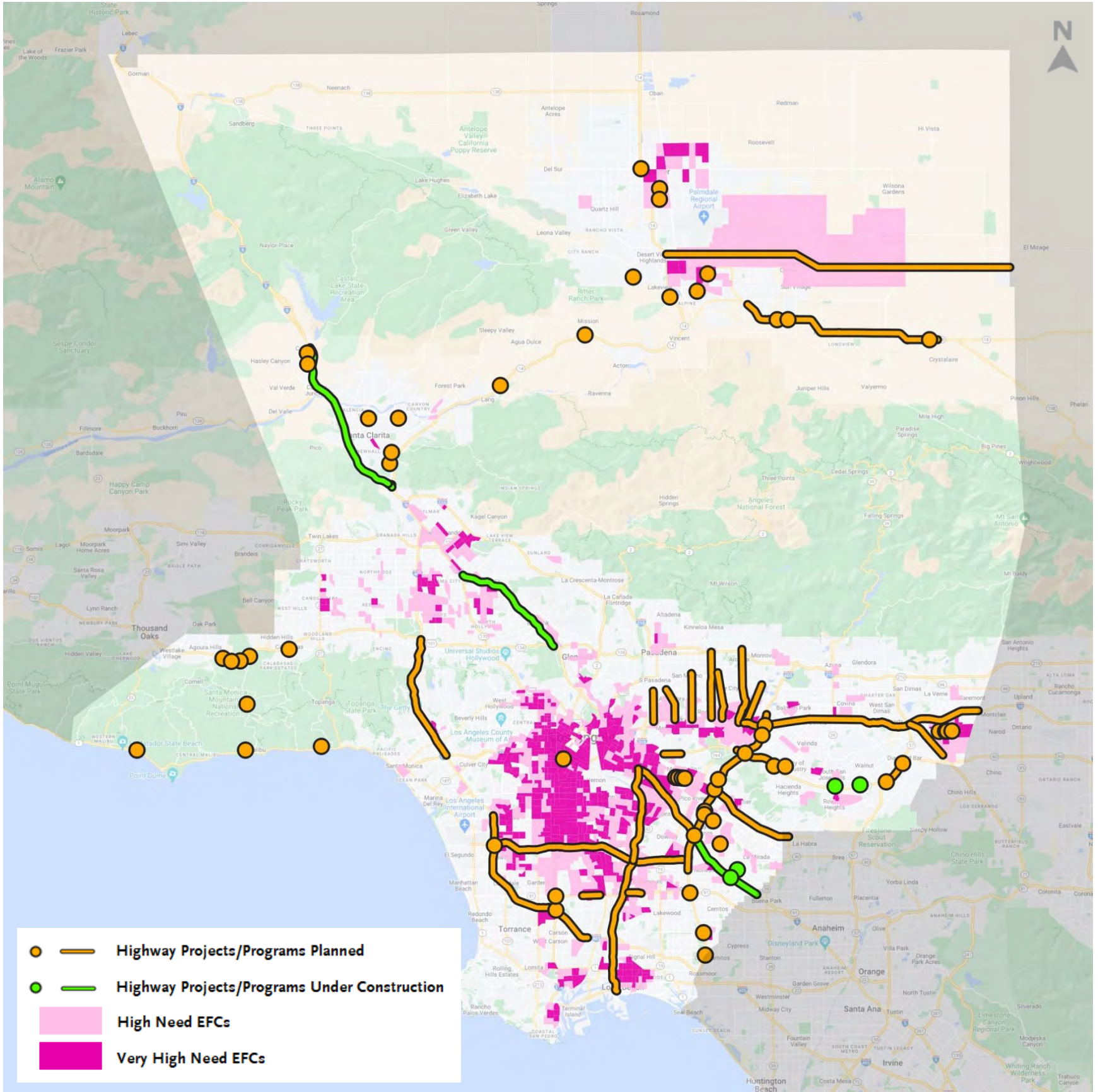
Dark Blue Above Countywide Average

No Population





### Metro EFCs & Highway Projects & Programs – Countywide





We're working on greater mobility options.

VMT MITIGATION PROGRAM

SEPTEMBER 2023



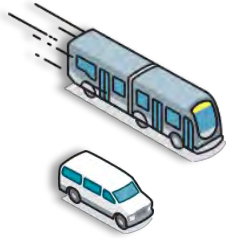
# Overview

- > **RECEIVE & FILE** to update Board on Metro VMT Mitigation Program
- > **Program Goals**
  - Understand and apply SB 743 policy to highway projects
  - Define approach to quantify potential Vehicle Miles Traveled (VMT) impacts
  - Establish VMT Mitigation Program (March 2024)
- > **Consistency with Board Directives**
  - **2021:** Modernizing the Highway Program
  - **2022:** Objectives for Multimodal Highway Investment



# Potential Mitigation Strategies

## Transit & Vanpool



**Operational:** More service hours, better service coverage  
**Programmatic:** Fare subsidies, TDM programs, expansion of vanpool and shuttle programs  
**Capital:** Bus-only lanes, bus stop improvements, more rail or bus vehicles

## Active Transportation



**Programmatic:** Bikeshare and scooter-share membership subsidies, e-bike purchase subsidies  
**Capital:** Active transportation corridors, first/last mile improvements



**Land Use:** Affordable housing; transit-oriented housing; transit-oriented mixed-use neighborhoods

## Land Use

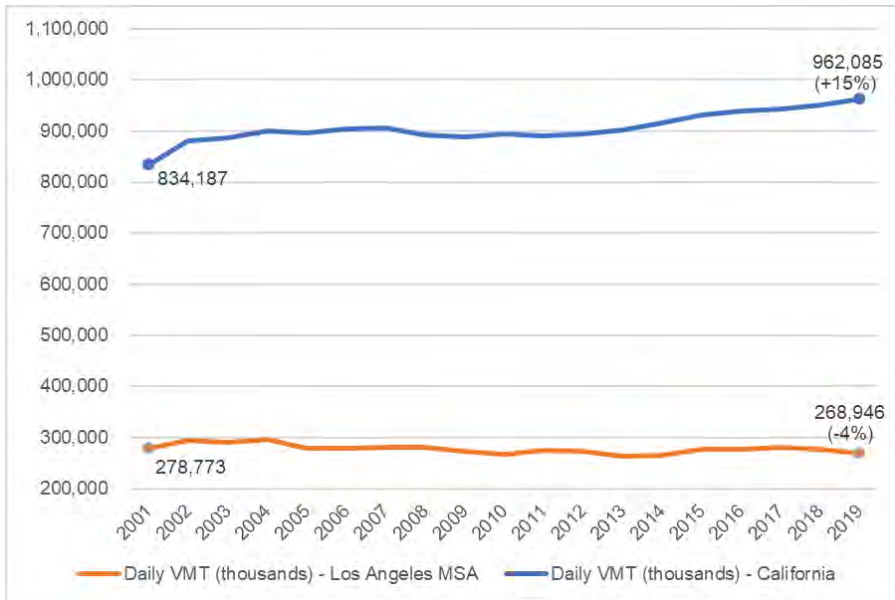


**Pricing:** Corridor/cordon pricing, VMT tax, parking pricing

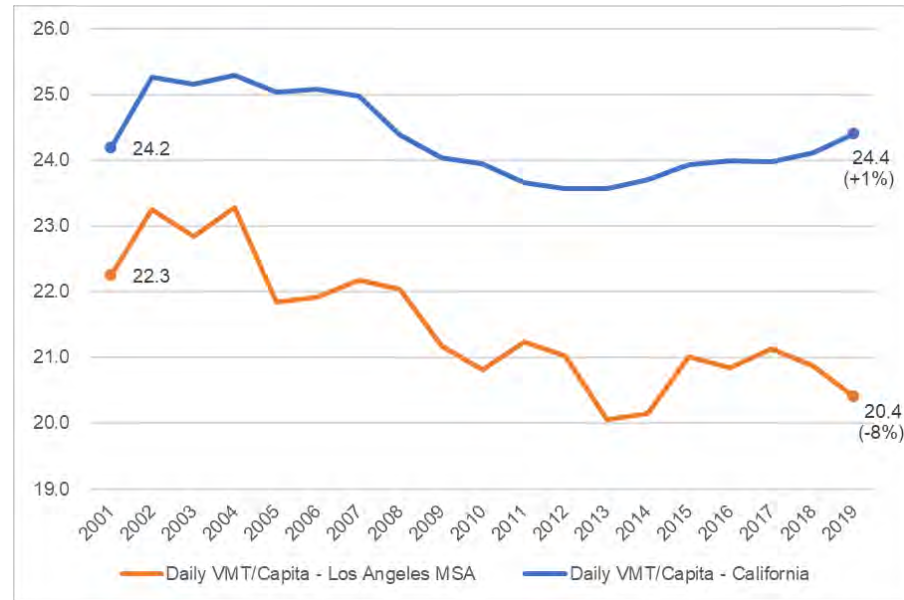
## Pricing

# Quantification Approach

## Total Daily VMT



## Per Capita VMT



# Project Cost Implications

| Project Cost                                  | LA County-Specific Quantification Approach | California Induced Travel Calculator |
|---|--|--------------------------------------|
| Estimated Capital Cost                        | \$168 million                              |                                      |
| Mitigation Cost <sup>1</sup>                  | \$97.7 million                             | \$252.6 million                      |
| Total Project Cost                            | \$265.7 million                            | \$420.6 million                      |
| Mitigation Cost Difference                    |  | <b>+ \$154.9 million</b>             |
| Total Project Cost % Increase with Mitigation | +58%                                       | +150%                                |

<sup>1</sup> Based on mitigation costs included as part of the Interstate 680 Northbound Express Lane Completion Project in Contra Costa County, CA.

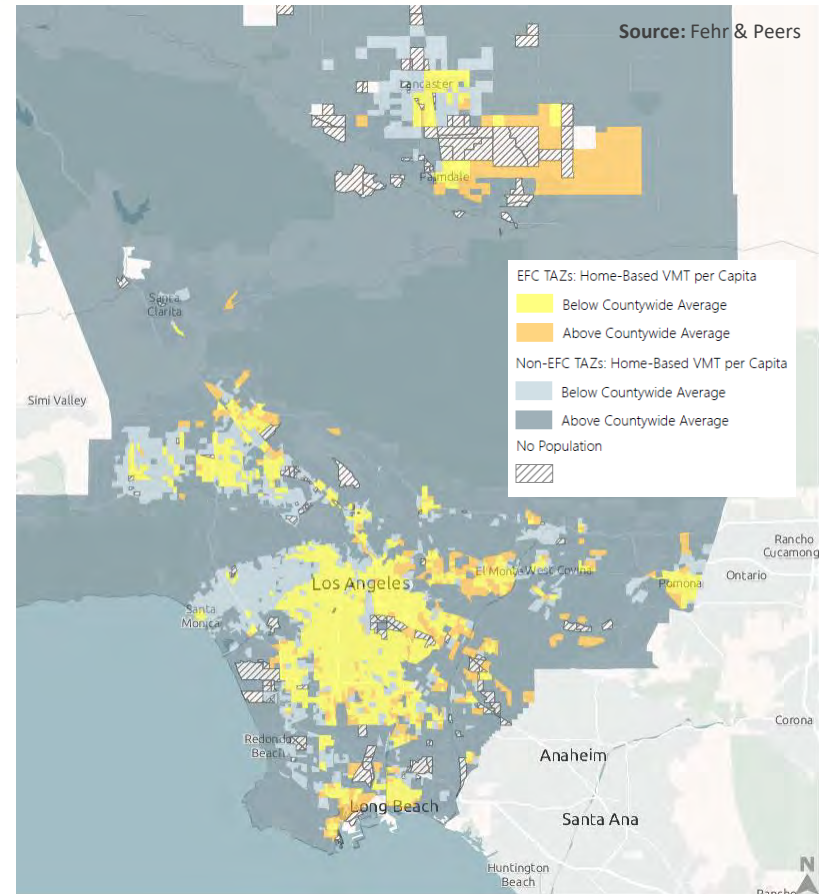
# Equity Analysis

Balancing benefits/burdens of VMT creation and VMT reduction

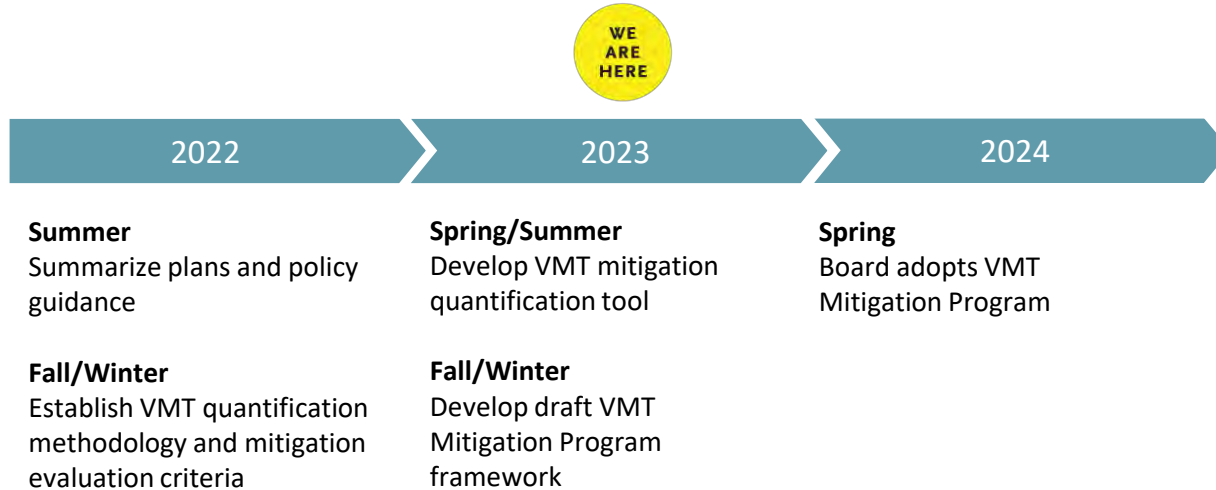
Multiple stakeholder engagement pathways

Equity is both an **outcome** and a **process** to address racial, socioeconomic, and gender disparities to ensure **fair and just access to opportunities** such as jobs, housing, education, mobility options, and healthier communities.

VMT mitigations **must** reduce VMT; they can also improve access to opportunities



# Project Schedule



ONGOING PUBLIC PARTICIPATION



## ABOUT

The Regional Council is the governing board of the Southern California Association of Governments and consists of 86 elected officials representing 191 cities, six counties, county transportation commissions, transportation corridor agencies, tribal governments and air districts in Southern California.

## HIGHLIGHTS FROM THE MEETING



### **ACTION** **\$8 MILLION AWARDED FOR HOUSING INFILL ON PUBLIC AND PRIVATE LANDS PROGRAM**

In October, the Regional Council also approved funding recommendations for the Housing Infill on Public and Private Lands (HIPP) Pilot Program, an \$8 million competitive program to support scaling up the development of available land and implementing corridor-wide or area-wide infill housing policies and initiatives. The 11 awarded projects include site assessments, site inventories, inclusionary housing programs and specific plans that unlock lands for housing with diverse housing types.

The HIPP Pilot Program is part of Programs to Accelerate Transformative Housing, funded by REAP 2.0, which supports planning and implementation to accelerate infill development, affirmatively further fair housing and reduce vehicle miles traveled.

[Read more about the HIPP projects here.](#)

### **ACTION** **\$4 MILLION IN SUSTAINABLE COMMUNITIES PROGRAM FUNDING AWARDED**

The SCAG Regional Council approved \$4 million in October to support 11 projects advancing multimodal communities and sustainable housing and land use strategies across Southern California. The [Sustainable Communities Program](#) – Civic Engagement, Equity and Environmental Justice (SCP CEEEJ), under which these awards are issued, is funded through Senate Bill 1 for multimodal communities projects and Regional Early Action Planning program (REAP 2.0) for housing and land use strategies projects. The SCP CEEEJ prioritizes strategies that close the racial equity gap, include partnerships with community-based organizations and fund or directly benefit

historically disadvantaged, underserved, underrepresented and under-resourced communities.

[Read more about the SCP CEEEJ projects here.](#)

## **ACTION**

### **REGIONAL COUNCIL AUTHORIZES OFFICE OF TRAFFIC SAFETY GRANT FUNDING**

The Regional Council approved a resolution at its October meeting authorizing SCAG to accept \$1.35 million in grant funding from the California Office of Traffic Safety (OTS). This funding will be used to continue the *Go Human* program, with plans in 2023-2024 to support localized traffic safety engagement, temporary safety demonstration projects and the distribution of Community Streets Grants across the region, as well as research and analysis to assess existing strategies and inform new ones. [Learn more about the \*Go Human\* program here.](#)

In addition, the Regional Council approved a second resolution authorizing SCAG to accept an \$886,000 OTS grant award to fund development of a regional transportation safety predictive modeling platform. This award will facilitate SCAG's efforts to take a more proactive approach toward the analysis and mitigation of safety risks on our regional multimodal transportation system, with the objective of reducing the incidence of collision-related fatalities and serious injuries.

## NEWS FROM THE PRESIDENT



## REGISTRATION NOW OPEN FOR 14TH ANNUAL SOUTHERN CALIFORNIA ECONOMIC SUMMIT

[Registration is now open](#) for SCAG's 14th annual Southern California Economic Summit, on Dec. 7 at the Sheraton Grand Los Angeles. Mark your calendars and register now to join leaders in business, planning and public policy to assess the state of the region's economy.

The program will explore the major economic factors that inform Connect SoCal 2024, SCAG's draft Regional Transportation Plan/Sustainable Communities Strategy. From generating new jobs to creating efficiency gains for commuters, shipping and travel, a strong regional transportation system has economic benefits for all of the nearly 19 million people in the region.

Register today to join leading voices for conversations on strategies to promote the long-term health of Southern California's economy. Elected officials and city managers of SCAG's member jurisdictions may attend for free.

[Learn more about the event and register to attend here.](#)

## EXECUTIVE/ADMINISTRATIVE COMMITTEE'S STRATEGIC WORK PLAN NOW AVAILABLE

SCAG President Art Brown convened the Executive/Administrative Committee (EAC) on June 29 to establish high-level goals and priorities for the year ahead. The 2023-2024 EAC Strategic Work Plan is guided by presidential priorities of rail transit recovery, goods movement and clean technology.

The approved work plan will guide policy discussions and engagement activities, including a series of Mobile Workshops scheduled to begin this fall.

Read the full report in the [October Regional Council agenda](#).

## NEWS FROM THE EXECUTIVE DIRECTOR

### REGIONAL UTILITIES SUPPORTING HOUSING CALL FOR APPLICATIONS OPEN UNTIL NOV. 6

SCAG recently opened a Call for Applications for the Regional Utilities Supporting Housing (RUSH) Pilot Program. This competitive call, open through Nov. 6, will award an estimated \$35 million to projects in any of the following categories meeting the definition of infill:

- **Planning Projects:** Plans, programs and green infrastructure plans to support increased utility capacity to support residential development identified in housing elements.
  - **Capital Projects:** Projects that address current and future utility restrictions for housing development and enable continued infill
-

housing development by upgrading infrastructure for sewer, water, stormwater and dry utilities systems.

Recordings of an Oct. 4 information session will be available soon, and [office hours with SCAG staff](#) are available to support applicants. More information on the call for applications and technical assistance opportunities are also available on [SCAG's RUSH website](#).

## **SOUTHERN CALIFORNIA AFFORDABLE HOUSING AND SUSTAINABLE COMMUNITIES PROJECTS AWARDED \$215 MILLION**

The California Strategic Growth Council recently announced the 7th cycle of its Affordable Housing and Sustainable Communities (AHSC) program, which advances building affordable housing in walkable neighborhoods with access to jobs. As part of this funding cycle, a total of \$215 million was awarded to six projects in the SCAG region that are projected to develop more than 997 new units of affordable housing in disadvantaged communities.

Overall, this cycle of the AHSC program funded a total of \$757 million for 16 projects in California.

Every year, SCAG writes letters of support for affordable housing projects applying to the AHSC program and will continue to work with local partners to bring funding to projects in Southern California.

[The full Executive Director's Report is available here.](#)

## UPCOMING MEETINGS

### OCTOBER

17<sup>th</sup> Housing Working Group  
24<sup>th</sup> Transportation Conformity Working Group  
26<sup>th</sup> Emerging Technologies Committee

### NOVEMBER

1<sup>st</sup> Executive/Administration Committee  
2<sup>nd</sup> Community, Economic and Human Development Committee  
2<sup>nd</sup> Energy and Environment Committee  
2<sup>nd</sup> Transportation Committee  
2<sup>nd</sup> Regional Council  
7<sup>th</sup> Aviation Technical Advisory Committee  
7<sup>th</sup> District Evaluation Committee  
14<sup>th</sup> Legislative/Communications and Membership Committee  
16<sup>th</sup> Technical Working Group  
16<sup>th</sup> Equity Working Group  
29<sup>th</sup> Regional Transit Technical Advisory Committee



# **NORTH LOS ANGELES COUNTY**

## **Transportation Coalition JPA**

### **AGENDA REPORT – BOARD ITEM 15**

#### **North Los Angeles County Transportation Coalition**

Date: October 16, 2023

To: Governing Board Members of the North Los Angeles County Transportation Coalition (NCTC) JPA

From: Arthur V. Sohikian, Executive Director

Subject: **Proposed NCTC 2024 Board of Governors Meeting Calendar**

**Recommended Action:** Approve Proposed NCTC JPA 2024 Board of Governors Meeting Calendar

- A.** January 22, 2024, 1pm/Antelope Valley (AVTA)
- B.** April 15, 2024, 1pm/Santa Clarita
- C.** July 8, 2024, 1pm/Antelope Valley (AVTA)
- D.** October 21, 2024, 1pm/Santa Clarita



# NORTH LOS ANGELES COUNTY

## Transportation Coalition JPA

### AGENDA REPORT – BOARD ITEM 16

#### North Los Angeles County Transportation Coalition

Date: October 16, 2023

To: Governing Board Members of the North Los Angeles County Transportation Coalition (NCTC) JPA

From: Arthur V. Sohikian, Executive Director

Subject: **NCTC JPA SCAG Policy Committee Appointment**

**Recommended Action:** *Receive and file report/Make Appointment.*

#### **Background NCTC SCAG Transportation Policy Committee Appointments**

The NCTC gets three (3) SCAG Policy Committee appointments.

Current NCTC SCAG Policy Committee Membership:

1. Richard Loa, Council Member, City of Palmdale, SCAG Transportation Committee, NCTC appointment.
2. Jason Gibbs, Mayor, City of Santa Clarita, SCAG Transportation Committee, NCTC appointment
3. NCTC Transportation Policy Committee Vacancy. This NCTC Transportation Policy Committee seat was held by City of Lancaster Council member Darrell Dorris. Mr Dorris left office on August 9, 2023.