

**2023**  
**Regional Transportation**  
**Improvement Program**  
**Amendment No. 13**

June 21, 2024



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## Chapter 2 – FINANCIAL CAPACITY ANALYSIS

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# Chapter 1

## Executive Summary



# Chapter 1

## Executive Summary

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### Overview

The 2023 Regional/Federal Transportation Improvement Program is a multibillion-dollar, five-year program of major transportation projects funded by federal, state, local, and private funding, including the TransNet local sales tax, covering FY 2023 to FY 2027. The 2023 Regional Transportation Improvement Program (RTIP) development process, which includes the air quality emissions analysis for all regionally significant projects, requires approval by the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

The 2023 RTIP is a prioritized program designed to implement the region's overall strategy for providing mobility and improving the safety, condition, and efficiency of the transportation system while reducing transportation-related air pollution. This is in support of efforts to meet federal performance-management targets, while also attaining federal and state air quality standards for the region. The 2023 RTIP incrementally implements San Diego Forward: The 2021 Regional Plan (2021 Regional Plan), the long-range transportation plan for the San Diego region approved by the Board of Directors on December 10, 2021.

Amendment No. 13 to the 2023 RTIP reflects changes to projects, which have been updated to be consistent with the revenue constrained 2021 Regional Plan. The 2023 RTIP document, published in September 2022, fully documents the RTIP development process, project listings, financial capacity analysis, the air quality conformity analysis, and the performance management analysis. This report focuses on a new regional air quality emissions analysis for conformity purposes. Although there are no funding changes in this document, the financial capacity analysis reflects funding changes in prior approved amendments to the 2023 RTIP. The final 2023 RTIP as well as all amendments are available on the SANDAG website at [sandag.org/RTIP](https://sandag.org/RTIP).

### Consistency with the Regional Plan

On January 28, 2022, the FHWA and FTA issued a finding that the SANDAG Revenue Constrained 2021 Regional Plan is in conformance with federal air quality and planning regulations. The 2023 RTIP is consistent with the Revenue Constrained 2021 Regional Plan and, as a financially constrained document, it contains only those major transportation projects listed in the Revenue Constrained 2021 Regional Plan.

### Financial Capacity Assessment

Federal regulations require the 2023 RTIP to be a revenue-constrained document with programmed projects based upon available or committed funding and/or reasonable estimates of future funding. Funding assumptions generally are based upon: (1) authorized or appropriated levels of federal and state funding from current legislation; (2) conservative projections of future federal and state funding based upon a continuation of current funding levels; (3) the most-current revenue forecasts for the TransNet Program; and (4) the planning and programming documents of the local transportation providers.

Tables 2-1a through 2-1c provide updated program summaries, including a comparison from the prior approved version. (Chapter 4 of the final 2023 RTIP discusses, in detail, the financial capacity analysis of major program areas, including discussion of available revenues). Based upon the analysis, the projects contained within the 2023 RTIP, including Amendment No. 13, are reasonable when considering available funding sources.

## Air Quality Conformity Determination

Federal metropolitan planning and air quality regulations prescribe the process for determining air quality conformity. These regulations require that the RTIP: (1) include a quantitative emission analysis of projects programmed in the RTIP, including all regionally significant projects; (2) be within the region’s emissions budgets included in the applicable State Implementation Plan (SIP); and (3) provide for the timely implementation of Transportation Control Measures (TCMs).

Table 1-1:  
2023 RTIP Amendment No. 13 San Diego Region (in \$000s) Transportation Tactics

| Transportation Tactic  | Amount             |
|--|--------------------|
| <b>Ridesharing</b>   |                    |
| Transportation Demand Management                                   | \$110,449          |
| <i>Subtotal Ridesharing:</i>                                       | <i>\$110,449</i>   |
| <b>Transit Improvements</b>  |                    |
| Mid-Coast  | \$2,171,201        |
| Major Transit - LOSSAN Corridor                                    | \$200,261          |
| BRT  | \$1,673            |
| Purple/Blue Line   | \$367              |
| Ops/Maint - Transit  | \$6,914,211        |
| <i>Subtotal Transit Improvements:</i>                              | <i>\$9,287,713</i> |
| <b>Bicycle Facilities</b>  |                    |
| Bicycle/Pedestrian Projects  | \$654,002          |
| <i>Subtotal Bicycle Facilities:</i>                                | <i>\$654,002</i>   |
| <b>Traffic Flow Improvements</b>                                   |                    |
| Transportation Management System/Intelligent Transportation System | \$208,318          |
| <i>Subtotal Traffic Flow Improvements:</i>                         | <i>\$208,318</i>   |
| Total Transportation Tactics in 2023 RTIP:                         | \$10,260,482       |
| Total All Transportation Projects in 2023 RTIP:                    | \$ 21,538,595      |
| Share of Transportation Tactics Projects in 2023 RTIP:             | 47.64%             |

Quantitative air quality emissions analyses were conducted for the years 2026, 2029, 2032, 2040, and 2050 revenue-constrained transportation scenarios, as shown in Chapter 3. The results of these analyses were distributed to the San Diego Region Conformity Working Group (CWG) on March 1, 2024, and reviewed by the CWG at its March 6, 2024, meeting.



The 2023 RTIP Amendment No. 13 meets the conditions for determining conformity with the applicable SIPs for air quality. A detailed description of the regional emissions analysis and modeling procedures is included in Appendix A, while Chapter 3 of this report summarizes the air quality conformity analysis for the 2023 RTIP No. 13 and Amended 2021 Regional Plan conformity redetermination.

The 2023 RTIP programs substantial funds for the implementation of the four TCMs (identified as Transportation Tactics) in the 1982 SIP and 2016 Regional Air Quality Strategy (RAQS), which have been fully implemented. As shown in Table 1-1, the TCMs/Transportation Tactics projects programmed for implementation total approximately \$10.2 billion, or approximately 47.64% of the total funds programmed. Included are \$110.4 million for Ridesharing, \$9.2 billion for Transit Improvements, \$654 million for Bicycle Facilities and Programs, and \$208.3 million for Traffic Flow Improvements. Based upon this analysis, the 2023 RTIP provides for the expeditious implementation of the existing TCMs in the 1982 SIP and 2016 RAQS, which remain the federally approved TCMs for the San Diego region.

## Performance Management

Moving Ahead for Progress in the 21st Century Act (2012) includes provisions for the establishment of a performance- and outcome-based program, which includes national performance goals for the Federal-Aid Highway Program in several areas. This act established new requirements for Metropolitan Planning Organizations (MPOs) to coordinate with transit providers, set performance targets, and integrate those performance targets and performance plans into their planning documents by certain dates. All subsequent federal transportation acts carry forward Performance Based Planning and Programming. The federal performance measures under the FHWA are categorized into three performance-management (PM) groups:

- PM 1: Safety
- PM 2: Transportation Asset Management
- PM 3: System Reliability, Freight, Congestion, and Air Quality

In addition to the three FHWA PM groups, the FTA has established performance measures and reporting requirements for transit asset management and transit safety. Performance metrics for transit asset management focus on the maintenance of our regional transit system in a state of good repair. Transit agencies have developed Public Transportation Agency Safety Plans that include safety targets for specified performance measures. The 2023 RTIP prioritizes investments in safety, transportation infrastructure, system reliability, freight, Congestion Mitigation and Air Quality, transit assets, and transit safety. These are expected to contribute toward the achievement of the targets in each performance management area. Further details on the investment and types of projects contributing to improving performance management areas are included in Appendix H of the 2023 RTIP.

Table 1-2  
2020 Regional Public Transportation Safety Targets

| 2020 Regional Public Transportation Safety Targets        |             |                     |              |
|---|-------------|---------------------|--------------|
| Performance Measure                                       | Fixed Route | Bus ADA/Paratransit | Rail Transit |
| Number of fatalities                                      | 0           | 0                   | 0            |
| Fatality rate by 100 thousand vehicle revenue miles (VRM) | 0           | 0                   | 0            |
| Number of injuries  | 150         | 6                   | 120          |
| Injury rate by 100 thousand VRM                           | 0.5         | 0.1                 | 1.2          |
| Number of safety events                                   | 140         | 7                   | 130          |
| Safety event rate by 100 thousand VRM                     | 0.7         | 0.1                 | 2.3          |
| System reliability  | 6,000       | 20,000              | 15,000       |

Source: SANDAG - In coordination with MTS and NCTD

MTS and NCTD Capital Improvement Programs, as well as SANDAG and multiagency-sponsored projects that address transit facilities and corridors that carry transit services, are incorporated into the RTIP.

## Public Participation

It is the policy of SANDAG to engage public participation in the development of agency planning and programming activities. SANDAG has various working groups made up of stakeholders and other members of the public. The public is provided opportunities to participate via Board and committee meetings, SANDAG public notices of document availability and public hearings, and through the SANDAG public communications program. Presentations were provided to the Interagency Technical Working Group on Tribal Transportation Issues (Tribal TWG) and Community-Based Organizations (CBOs) requesting comments; additional details are described below. The projects included in the 2023 RTIP were discussed as part of the 2021 Regional Plan public outreach efforts and a public workshop held at SANDAG. Pursuant to 23 U.S.C. 134(i), the Board released the draft 2023 RTIP for public review and comment at its meeting on July 22, 2022, ending August 27, 2022, and a public hearing was held on September 9, 2022.

These efforts also serve to satisfy the public participation process pertaining to the development of the Program of Projects for the FTA Section 5307 Urbanized Area Formula Program and FTA Section 5339 Bus and Bus Facilities Formula Program, including the provision for public notice and the time established for public review and comment.

Examples of public outreach efforts and ongoing participation include:

*Independent Taxpayer Oversight Committee (ITOC):* In conformance with the regional transportation sales tax TransNet Ordinance, the ITOC, a citizen advisory committee that oversees projects funded through the TransNet Program, was established. As the document through which SANDAG identifies TransNet-funded projects, the RTIP is reviewed by the ITOC, and its comments on the TransNet Program of Projects are conveyed to the Transportation Committee and ultimately to the Board.

*Social Equity:* For the development of the RTIP, SANDAG relied on the social equity analysis conducted through the development of the 2021 Regional Plan. Included in the process in developing the 2021 Regional Plan, SANDAG used performance measures to aid in making decisions intended to ensure compliance with Title VI requirements and environmental justice principles. This process included citizen representatives and CBO groups. For the 2023 RTIP, SANDAG conducted additional outreach to tribal organizations to solicit their input. The social equity analysis conducted can be found in Appendix H of the 2021 Regional Plan.

*Public Workshops/Outreach:* SANDAG provided information about the RTIP and solicited feedback on the projects included in the draft 2023 document to CBOs through the Regional Plan Social Equity Working Group. In July 2022, information was also provided to the Tribal TWG for solicitation and feedback on tribal funding, and to review the project information provided. In addition, as part of the development of the 2021 Regional Plan, multiple public workshops were provided in which SANDAG provided information regarding the RTIP. A series of subregional open houses and workshops, community-based outreach events, and an online comment tool provided a foundation to start developing the plan. More information on the outreach efforts for the Regional Plan can be found at [sdforward.com](http://sdforward.com).

Various workshops were held to give the community an opportunity to view maps, talk with planners, and provide comments on the draft 2021 Regional Plan.

*Expansion of Electronic Notifications:* In addition to the current list of external industry professionals, SANDAG continually strives to expand the notifications to other citizen--involved working groups. For the 2023 RTIP, SANDAG included tribal organizations and a regionwide network of CBOs representing low-income, senior, and disabled populations. The notice of the availability for the draft 2023 RTIP was also sent to Community Planning Groups. In addition, a notice for the public hearing was posted on the SANDAG website in English and Spanish. SANDAG continues to utilize social media outlets such as Facebook and Twitter to ensure maximum outreach.

To make the RTIP more accessible to the public, a public website was developed through ProjectTrak, an online application used by member agencies to enter projects and propose changes to the RTIP. This public website, available at [projecttrak.sandag.org](http://projecttrak.sandag.org), allows users to view and search the most up-to-date versions of federally approved projects included in the SANDAG RTIP as well as amendments that are under development.

Appendix K in the 2023 RTIP describes the SANDAG public participation process and includes a copy of the latest Public Participation Policy (Board Policy No. 25), which contains the section specifically addressing the RTIP development and amendment process.

*Public Participation Plan:* The Public Participation Plan (PPP) reflects the commitment of SANDAG of public participation and involvement to include all residents and stakeholders in the regional planning and decision--making process. The PPP was developed in accordance with guidelines established by the FHWA for metropolitan transportation planning (23 CFR 450.316). It fully complies with Title VI related nondiscrimination requirements and reflects the principles of social equity and environmental justice. Included in the PPP are procedures, strategies, and outcomes associated with the ten requirements listed in 23 CFR 450.316 and is available at <https://www.sandag.org/about/bylaws-and-policies>.

**Table 1-3**  
**2023 Regional Transportation Improvement Program**  
**Amendment No. 13**  
**San Diego Region (in \$000s)**

**Caltrans**

| MPO ID: CAL68                   |  |          | RTIP #:23-13               |       |       |       |       |                            |          |          |     |
|---------------------------------|--|----------|----------------------------|-------|-------|-------|-------|----------------------------|----------|----------|-----|
| Project Title:                  | SR 94/125 Interchange and Arterial Operational Improvements  |          |                            |       |       |       |       | EA NO: 14665               |          |          |     |
| Project Description:            | Interchange on SR 94 at SR 94 and SR125 Milepost begins at 1 ends at 2 - In San Diego County in and near La Mesa on Route 94 from Spring Street Undercrossing to Kenwood Drive Undercrossing and on Route 125 from Spring Street Undercrossing to 0.1 mile north of Murray Drive Undercrossing. Design and Right-Of-Way of southbound 125 to eastbound SR 94 direct connector. |          |                            |       |       |       |       | PPNO: 0356                 |          |          |     |
| Change Reason:                  | Other, Changed OTT date, no change to funding, no change to scope  |          |                            |       |       |       |       | RTP REF: CC108; T-3 (2021) |          |          |     |
| RT:94                           | Capacity Status:CI   |          | Exempt Category:Non-Exempt |       |       |       |       |                            |          |          |     |
| Est Total Cost: <b>\$34,240</b> |  |          | Open to Traffic: Jan 2028  |       |       |       |       |                            |          |          |     |
|                                 | TOTAL  | PRIOR    | 22/23                      | 23/24 | 24/25 | 25/26 | 26/27 | FUTURE                     | PE       | RW       | CON |
| <i>TransNet - MC</i>            | \$3,914  | \$2,045  | \$29                       | \$877 | \$574 | \$389 |       |                            | \$2,053  | \$1,861  |     |
| RSTP                            | \$6,000  | \$4,000  |                            |       |       |       |       | \$2,000                    | \$1,673  | \$4,327  |     |
| SB1 - LPP Formula               | \$4,000  | \$4,000  |                            |       |       |       |       |                            |          | \$4,000  |     |
| STIP-RIP AC                     | \$13,948   | \$7,948  | \$6,000                    |       |       |       |       |                            | \$13,948 |          |     |
| State Cash                      | \$26   | \$26     |                            |       |       |       |       |                            |          | \$26     |     |
| TCRP                            | \$6,352  | \$6,352  |                            |       |       |       |       |                            | \$5,000  | \$1,352  |     |
| TOTAL                           | \$34,240   | \$24,371 | \$6,029                    | \$877 | \$574 | \$389 |       | \$2,000                    | \$22,674 | \$11,566 |     |
| PROJECT LAST AMENDED 23-09      |  |          |                            |       |       |       |       |                            |          |          |     |
|                                 | TOTAL  | PRIOR    | 22/23                      | 23/24 | 24/25 | 25/26 | 26/27 | FUTURE                     | PE       | RW       | CON |
| <i>TransNet - MC</i>            | \$3,914  | \$2,045  | \$29                       | \$877 | \$574 | \$389 |       |                            | \$2,053  | \$1,861  |     |
| RSTP                            | \$6,000  | \$4,000  |                            |       |       |       |       | \$2,000                    | \$1,673  | \$4,327  |     |
| SB1 - LPP Formula               | \$4,000  | \$4,000  |                            |       |       |       |       |                            |          | \$4,000  |     |
| STIP-RIP AC                     | \$13,948   | \$7,948  | \$6,000                    |       |       |       |       |                            | \$13,948 |          |     |
| State Cash                      | \$26   | \$26     |                            |       |       |       |       |                            |          | \$26     |     |
| TCRP                            | \$6,352  | \$6,352  |                            |       |       |       |       |                            | \$5,000  | \$1,352  |     |
| TOTAL                           | \$34,240   | \$24,371 | \$6,029                    | \$877 | \$574 | \$389 |       | \$2,000                    | \$22,674 | \$11,566 |     |

**2023 Regional Transportation Improvement Program  
Amendment No. 13  
San Diego Region (in \$000s)**

**Caltrans**

|   |                    |                            |                 |              |              |              |              |               |                 |   |                 |
|---|--------------------|----------------------------|-----------------|--------------|--------------|--------------|--------------|---------------|-----------------|---|-----------------|
| <b>MPO ID: CAL114</b>   |                    | <b>RTIP #:23-13</b>        |                 |              |              |              |              |               |                 |   |                 |
| Project Title: I-5/SR 56 Interchange  |                    |                            |                 |              |              |              |              |               |                 | EA NO: 17790  |                 |
| Project Description: At I-5/SR 56 interchange - in San Diego, final environmental document for freeway to freeway interchange, associated operational improvements, and the relocation of the fiber optic cable line; connector phases are outside of TIP cycle but included in the long range plan. Phase I: Final design and construction of HOV operational lanes in the east and westbound directions on SR-56 from El Camino Real to Carmel Valley Road. |                    |                            |                 |              |              |              |              |               |                 | RTP REF: CC104 (2021)<br>SANDAG ID: 1200503,<br>1200513 |                 |
| Change Reason: Other, Changed OTT date, no change to funding, no change to scope  |                    |                            |                 |              |              |              |              |               |                 |   |                 |
| RT:5  | Capacity Status:CI | Exempt Category:Non-Exempt |                 |              |              |              |              |               |                 |   |                 |
| Est Total Cost: <b>\$40,458</b>   |                    | Open to Traffic: Jan 2025  |                 |              |              |              |              |               |                 |   |                 |
|   | <b>TOTAL</b>       | <b>PRIOR</b>               | <b>22/23</b>    | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>       | <b>RW</b>   | <b>CON</b>      |
| TransNet - MC   | \$2,091            | \$1,359                    | \$374           | \$47         | \$158        | \$153        |              |               | \$2,091         |   |                 |
| CBI   | \$1,942            | \$1,942                    |                 |              |              |              |              |               | \$1,942         |   |                 |
| DEMO - Sec 115  | \$1,000            | \$1,000                    |                 |              |              |              |              |               | \$1,000         |   |                 |
| DEMO - TEA 21   | \$375              | \$375                      |                 |              |              |              |              |               | \$375           |   |                 |
| HPP   | \$4,529            | \$4,529                    |                 |              |              |              |              |               | \$4,529         |   |                 |
| IM  | \$1,927            | \$1,927                    |                 |              |              |              |              |               | \$1,927         |   |                 |
| STP   | \$2,952            | \$2,952                    |                 |              |              |              |              |               | \$2,952         |   |                 |
| STP - Sec 112   | \$396              | \$396                      |                 |              |              |              |              |               | \$396           |   |                 |
| Local Funds   | \$23,409           | \$909                      | \$22,500        |              |              |              |              |               | \$909           |   | \$22,500        |
| <b>TOTAL</b>  | <b>\$38,621</b>    | <b>\$15,389</b>            | <b>\$22,874</b> | <b>\$47</b>  | <b>\$158</b> | <b>\$153</b> |              |               | <b>\$16,121</b> |   | <b>\$22,500</b> |

\* State contributed \$2.073M in additional funds outside of the RTIP.

|                                   |                 |                 |                 |              |              |              |              |               |                 |           |                 |
|-----------------------------------|-----------------|-----------------|-----------------|--------------|--------------|--------------|--------------|---------------|-----------------|-----------|-----------------|
| <b>PROJECT LAST AMENDED 23-07</b> |                 |                 |                 |              |              |              |              |               |                 |           |                 |
|                                   | <b>TOTAL</b>    | <b>PRIOR</b>    | <b>22/23</b>    | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>       | <b>RW</b> | <b>CON</b>      |
| TransNet - MC                     | \$2,091         | \$1,359         | \$374           | \$47         | \$158        | \$153        |              |               | \$2,091         |           |                 |
| CBI                               | \$1,942         | \$1,942         |                 |              |              |              |              |               | \$1,942         |           |                 |
| DEMO - Sec 115                    | \$1,000         | \$1,000         |                 |              |              |              |              |               | \$1,000         |           |                 |
| DEMO - TEA 21                     | \$375           | \$375           |                 |              |              |              |              |               | \$375           |           |                 |
| HPP                               | \$4,529         | \$4,529         |                 |              |              |              |              |               | \$4,529         |           |                 |
| IM                                | \$1,927         | \$1,927         |                 |              |              |              |              |               | \$1,927         |           |                 |
| STP                               | \$2,952         | \$2,952         |                 |              |              |              |              |               | \$2,952         |           |                 |
| STP - Sec 112                     | \$396           | \$396           |                 |              |              |              |              |               | \$396           |           |                 |
| Local Funds                       | \$23,409        | \$909           | \$22,500        |              |              |              |              |               | \$909           |           | \$22,500        |
| <b>TOTAL</b>                      | <b>\$38,621</b> | <b>\$15,389</b> | <b>\$22,874</b> | <b>\$47</b>  | <b>\$158</b> | <b>\$153</b> |              |               | <b>\$16,121</b> |           | <b>\$22,500</b> |

**2023 Regional Transportation Improvement Program  
Amendment No. 13  
San Diego Region (in \$000s)**

**Carlsbad, City of**

|                                |   |                           |                |              |              |              |              |               |                                  |              |                |
|--------------------------------|---|---------------------------|----------------|--------------|--------------|--------------|--------------|---------------|----------------------------------|--------------|----------------|
| <b>MPO ID: CB32</b>            |   | <b>RTIP #:23-13</b>       |                |              |              |              |              |               |                                  |              |                |
| Project Title:                 | El Camino Real Widening - Poinsettia to Camino Vida Roble   |                           |                |              |              |              |              |               | RTP REF: A-60; C-49 (2021)       |              |                |
| Project Description:           | El Camino Real from Cassia Road to Camino Vida Roble (.5 miles) - in Carlsbad, along El Camino Real from Poinsettia Lane to Camino Vida Roble, re-stripe from Poinsettia Lane to Cinnabar Way and widen El Camino Real from Cinnabar Way to Camino Vida Roble, along the northbound/east side of the roadway to provide three travel lanes, sidewalk, and a bike lane in accordance with arterial street standards. |                           |                |              |              |              |              |               | RAS (T2-2)<br>TransNet - LSI: CR |              |                |
| Change Reason:                 | Other, Changed OTT date, no change to funding, no change to scope   |                           |                |              |              |              |              |               |                                  |              |                |
| Capacity Status:               | CI  | Exempt Category:          | Non-Exempt     |              |              |              |              |               |                                  |              |                |
| Est Total Cost: <b>\$4,595</b> |   | Open to Traffic: Jun 2024 |                |              |              |              |              |               |                                  |              |                |
|                                | <b>TOTAL</b>  | <b>PRIOR</b>              | <b>22/23</b>   | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>                        | <b>RW</b>    | <b>CON</b>     |
| TransNet - LSI Carry Over      | \$3,155   | \$442                     | \$2,713        |              |              |              |              |               | \$650                            | \$500        | \$2,005        |
| Earmark Repurposing            | \$1,440   | \$490                     | \$950          |              |              |              |              |               | \$690                            |              | \$750          |
| <b>TOTAL</b>                   | <b>\$4,595</b>  | <b>\$932</b>              | <b>\$3,663</b> |              |              |              |              |               | <b>\$1,340</b>                   | <b>\$500</b> | <b>\$2,755</b> |

\* Demo ID CA366 repurposed to FHWA transfer number CAT 16-063

|                                   |                |              |                |              |              |              |              |               |                |              |                |
|-----------------------------------|----------------|--------------|----------------|--------------|--------------|--------------|--------------|---------------|----------------|--------------|----------------|
| <b>PROJECT LAST AMENDED 23-00</b> |                |              |                |              |              |              |              |               |                |              |                |
|                                   | <b>TOTAL</b>   | <b>PRIOR</b> | <b>22/23</b>   | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>      | <b>RW</b>    | <b>CON</b>     |
| TransNet - LSI Carry Over         | \$3,155        | \$442        | \$2,713        |              |              |              |              |               | \$650          | \$500        | \$2,005        |
| Earmark Repurposing               | \$1,440        | \$490        | \$950          |              |              |              |              |               | \$690          |              | \$750          |
| <b>TOTAL</b>                      | <b>\$4,595</b> | <b>\$932</b> | <b>\$3,663</b> |              |              |              |              |               | <b>\$1,340</b> | <b>\$500</b> | <b>\$2,755</b> |

|                                   |  |                           |                |              |              |              |              |               |                                  |              |                |
|-----------------------------------|--|---------------------------|----------------|--------------|--------------|--------------|--------------|---------------|----------------------------------|--------------|----------------|
| <b>MPO ID: CB59</b>               |  | <b>RTIP #:23-13</b>       |                |              |              |              |              |               |                                  |              |                |
| Project Title:                    | El Camino Real Widening - Sunny Creek to Jackspar  |                           |                |              |              |              |              |               | RTP REF: A-60; C-49 (2021)       |              |                |
| Project Description:              | El Camino Real from Sunny Creek to Jackspar (.3 miles) - In Carlsbad, on El Camino Real from Sunny Creek to Jackspar, widen along the northbound side of the El Camino Real to provide three travel lanes (currently two lanes northbound), sidewalk, and a bike lane. |                           |                |              |              |              |              |               | RAS (T2-2)<br>TransNet - LSI: CR |              |                |
| Change Reason:                    | Other, Changed OTT date, no change to funding, no change to scope  |                           |                |              |              |              |              |               |                                  |              |                |
| Capacity Status:                  | CI   | Exempt Category:          | Non-Exempt     |              |              |              |              |               |                                  |              |                |
| Est Total Cost: <b>\$5,010</b>    |  | Open to Traffic: Jun 2025 |                |              |              |              |              |               |                                  |              |                |
|                                   | <b>TOTAL</b>   | <b>PRIOR</b>              | <b>22/23</b>   | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>                        | <b>RW</b>    | <b>CON</b>     |
| TransNet - LSI                    | \$2,484  |                           | \$2,484        |              |              |              |              |               | \$700                            | \$100        | \$1,684        |
| TransNet - LSI Carry Over         | \$2,526  | \$411                     | \$2,115        |              |              |              |              |               | \$411                            |              | \$2,115        |
| <b>TOTAL</b>                      | <b>\$5,010</b>   | <b>\$411</b>              | <b>\$4,599</b> |              |              |              |              |               | <b>\$1,111</b>                   | <b>\$100</b> | <b>\$3,799</b> |
| <b>PROJECT LAST AMENDED 23-00</b> |  |                           |                |              |              |              |              |               |                                  |              |                |
|                                   | <b>TOTAL</b>   | <b>PRIOR</b>              | <b>22/23</b>   | <b>23/24</b> | <b>24/25</b> | <b>25/26</b> | <b>26/27</b> | <b>FUTURE</b> | <b>PE</b>                        | <b>RW</b>    | <b>CON</b>     |
| TransNet - LSI                    | \$2,484  |                           | \$2,484        |              |              |              |              |               | \$700                            | \$100        | \$1,684        |
| TransNet - LSI Carry Over         | \$2,526  | \$411                     | \$2,115        |              |              |              |              |               | \$411                            |              | \$2,115        |
| <b>TOTAL</b>                      | <b>\$5,010</b>   | <b>\$411</b>              | <b>\$4,599</b> |              |              |              |              |               | <b>\$1,111</b>                   | <b>\$100</b> | <b>\$3,799</b> |

**2023 Regional Transportation Improvement Program  
Amendment No. 13  
San Diego Region (in \$000s)**

**Escondido, City of**

|   |  |
|---|--|
| <b>MPO ID: ESC08</b>  | <b>RTIP #:23-13</b>  |
| <p>Project Title: Felicity Ave/Juniper Street</p> <p>Project Description: Juniper Street between Chestnut Street and Vermont Avenue; Felicity Avenue between Juniper Street and Escondido Boulevard - The first phase of this project widens Juniper Street between Felicity Avenue and Chestnut Street with Active Transportation Program grant (Juniper Safe Routes to School Project) and Transnet funding. This phase is expected to be completed during Summer 2023. A future phase is to widen Felicity Avenue from Escondido Boulevard to Juniper Street to add one lane in each direction in accordance with the Circulation Element and as needed to address the current failing level of service. Local funds are programmed in FY27/28 to begin design.. Toll Credits will be used to match federal funds for the CON phase</p> <p>Change Reason: Other, Changed OTT date, no change to funding, no change to scope</p> <p>Capacity Status:CI Exempt Category:Non-Exempt</p> | <p>RTP REF: A-27; B-34<br/>RAS (T2-3)<br/>TransNet - LSI: CR</p> |

| Est Total Cost: <b>\$4,722</b> |                | Open to Traffic: Phase 1: Oct 2023 |              | Phase 2: Jun 2030 |              |              |                |        |              |              |                |
|--------------------------------|----------------|------------------------------------|--------------|-------------------|--------------|--------------|----------------|--------|--------------|--------------|----------------|
|                                | TOTAL          | PRIOR                              | 22/23        | 23/24             | 24/25        | 25/26        | 26/27          | FUTURE | PE           | RW           | CON            |
| TransNet - LSI                 | \$212          | \$162                              | \$50         |                   |              |              |                |        |              |              | \$212          |
| TransNet - LSI Carry Over      | \$538          |                                    | \$538        |                   |              |              |                |        |              |              | \$538          |
| ATP - R                        | \$1,336        | \$1,336                            |              |                   |              |              |                |        | \$179        |              | \$1,157        |
| Local Funds                    | \$2,636        |                                    |              | \$286             | \$450        | \$500        | \$1,400        |        | \$250        | \$250        | \$2,136        |
| <b>TOTAL</b>                   | <b>\$4,722</b> | <b>\$1,498</b>                     | <b>\$588</b> | <b>\$286</b>      | <b>\$450</b> | <b>\$500</b> | <b>\$1,400</b> |        | <b>\$429</b> | <b>\$250</b> | <b>\$4,043</b> |

| PROJECT LAST AMENDED 23-05 |                |                |              |              |              |              |                |        |              |              |                |
|----------------------------|----------------|----------------|--------------|--------------|--------------|--------------|----------------|--------|--------------|--------------|----------------|
|                            | TOTAL          | PRIOR          | 22/23        | 23/24        | 24/25        | 25/26        | 26/27          | FUTURE | PE           | RW           | CON            |
| TransNet - LSI             | \$212          | \$162          | \$50         |              |              |              |                |        |              |              | \$212          |
| TransNet - LSI Carry Over  | \$538          |                | \$538        |              |              |              |                |        |              |              | \$538          |
| ATP - R                    | \$1,336        | \$1,336        |              |              |              |              |                |        | \$179        |              | \$1,157        |
| Local Funds                | \$2,636        |                |              | \$286        | \$450        | \$500        | \$1,400        |        | \$250        | \$250        | \$2,136        |
| <b>TOTAL</b>               | <b>\$4,722</b> | <b>\$1,498</b> | <b>\$588</b> | <b>\$286</b> | <b>\$450</b> | <b>\$500</b> | <b>\$1,400</b> |        | <b>\$429</b> | <b>\$250</b> | <b>\$4,043</b> |



**2023 Regional Transportation Improvement Program  
Amendment No. 13  
San Diego Region (in \$000s)**

**San Marcos, City of**

|                      |   |   |
|----------------------|---|---|
| <b>MPO ID: SM31</b>  |   | <b>RTIP #:23-13</b>   |
| Project Title:       | San Marcos Creek Specific Plan - Discovery St. Widening and Flood Control Improvements #88265   | RTP REF: A-62; C-49 (2021) RAS (T2-11)<br><i>TransNet</i> - LSI: CR |
| Project Description: | From Via Vera Cruz Rd to Bent Ave/Craven Rd - Part of San Marcos Creek Specific Plan group of projects to widen Discovery St. to four lane secondary arterial between Via Vera Cruz and Bent Ave. Improvements include construction of roadway improvements, bike lanes and trails. |   |
| Change Reason:       | Other, Changed OTT date, no change to funding, no change to scope   |   |
| Capacity Status:     | CI  | Exempt Category:Non-Exempt  |

| Est Total Cost: <b>\$13,529</b>  |                 | Open to Traffic: Nov 2023 |                |       |       |       |       |        |                |              |                 |
|----------------------------------|-----------------|---------------------------|----------------|-------|-------|-------|-------|--------|----------------|--------------|-----------------|
|                                  | TOTAL           | PRIOR                     | 22/23          | 23/24 | 24/25 | 25/26 | 26/27 | FUTURE | PE             | RW           | CON             |
| <i>TransNet</i> - Bond           | \$1,997         | \$1,998                   |                |       |       |       |       |        | \$1,457        | \$40         | \$500           |
| <i>TransNet</i> - LSI Carry Over | \$1,957         | \$1,957                   |                |       |       |       |       |        | \$537          | \$450        | \$970           |
| Local Funds                      | \$4,593         | \$2,674                   | \$1,918        |       |       |       |       |        | \$147          | \$215        | \$4,231         |
| Local RTCIP                      | \$4,982         | \$4,982                   |                |       |       |       |       |        |                |              | \$4,982         |
| <b>TOTAL</b>                     | <b>\$13,529</b> | <b>\$11,611</b>           | <b>\$1,918</b> |       |       |       |       |        | <b>\$2,141</b> | <b>\$705</b> | <b>\$10,683</b> |

| PROJECT LAST AMENDED 23-05       |                 |                 |                |       |       |       |       |        |                |              |                 |
|----------------------------------|-----------------|-----------------|----------------|-------|-------|-------|-------|--------|----------------|--------------|-----------------|
|                                  | TOTAL           | PRIOR           | 22/23          | 23/24 | 24/25 | 25/26 | 26/27 | FUTURE | PE             | RW           | CON             |
| <i>TransNet</i> - Bond           | \$1,997         | \$1,998         |                |       |       |       |       |        | \$1,457        | \$40         | \$500           |
| <i>TransNet</i> - LSI Carry Over | \$1,957         | \$1,957         |                |       |       |       |       |        | \$537          | \$450        | \$970           |
| Local Funds                      | \$4,593         | \$2,674         | \$1,918        |       |       |       |       |        | \$147          | \$215        | \$4,231         |
| Local RTCIP                      | \$4,982         | \$4,982         |                |       |       |       |       |        |                |              | \$4,982         |
| <b>TOTAL</b>                     | <b>\$13,529</b> | <b>\$11,611</b> | <b>\$1,918</b> |       |       |       |       |        | <b>\$2,141</b> | <b>\$705</b> | <b>\$10,683</b> |

**2023 Regional Transportation Improvement Program  
Amendment No. 13  
San Diego Region (in \$000s)**

**RTIP Fund Types**

| <b><u>Federal Funding</u></b> |  |
|-------------------------------|--|
| BIP/CBI                       | Border Infrastructure Program/Corridors and Borders Infrastructure Program   |
| DEMO-Sec 115                  | High Priority Demonstration Program under FY 2004 Appropriations   |
| DEMO-Sec 117/STP              | Surface Transportation Program under FHWA Administrative Program (congressionally directed appropriations)                             |
| EARREPU                       | Earmark Repurposing  |
| HPP                           | High Priority Program under SAFETEA-LU   |
| RSTP                          | Regional Surface Transportation Program  |
| STP-RL                        | Surface Transportation Program - Highway Railway Crossings Program (Section 130)   |
| CMAQ/RSTP Conversion          | Reimbursement of advanced federal funds which have been advanced with local funds in earlier years                                     |
| <b><u>State Funding</u></b>   |  |
| ATP                           | Active Transportation Program (Statewide and Regional)   |
| SB1 - LPP Formula             | Senate Bill 1 - Local Partnership Formula Program  |
| STIP-RIP                      | State Transportation Improvement Program - Regional Improvement Program  |
| TCRP                          | Traffic Congestion Relief Program  |
| <b><u>Local Funding</u></b>   |  |
| Local Funds AC                | Local Funds - Advanced Construction; mechanism to advance local funds to be reimbursed at a later fiscal year with federal/state funds |
| RTCIP                         | Regional Transportation Congestion Improvement Program   |
| TransNet-LSI                  | Prop. A Extension Local Transportation Sales Tax - Local System Improvements   |
| TransNet-LSI Carry Over       | TransNet - LSI funds previously programmed but not requested/paid in year of allocation  |
| TransNet-MC                   | Prop. A Extension Local Transportation Sales Tax - Major Corridors   |

# Chapter 2

## Financial Capacity Analysis



# Chapter 2

## Financial Capacity Analysis

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This chapter provides an analysis of the financial capacity of the San Diego region's transportation agencies to implement the programmed projects. Financial capacity is measured by a comparison of the total cost of the proposed projects against the assumed revenues and a test of the reasonableness of the revenue assumptions.

Separate analyses are provided for the state highway and local street and road projects, the Transit Program, and other transportation projects and programs. The assumptions used in the forecasts of available funding are based upon information provided in the 2022 State Transportation Improvement Program (STIP) Fund Estimate (FE) adopted by the California Transportation Commission (CTC), and other forecasts of ongoing transportation funding programs.

### Program and Revenues

Table 2-1a summarizes the revenues available by major funding sources (i.e., federal, state, and local), Table 2-1b summarizes the program using the revenues, and Table 2-1c provides the remaining revenues available for additional programming. Tables 2-1a to 2-1c include all costs and revenues for all projects in the 2023 RTIP. Amendment No. 13 includes no updates to funding but incorporates previously approved amendments which were found to be fiscally constrained.

Table 2-1a: Revenues  
San Diego Association of Governments (SANDAG)  
2023 Regional Transportation Improvement Program (in \$000s) - Amendment No. 13

Legend  
 Indicates change from prior amendment

|  | Prior Years  | 2022/2023          |                    | 2023/2024          |                    | 2024/2025          |                    | 2025/2026        |                  | 2026/2027          |                    | TOTAL               |                     |                    |
|--|--|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------|------------------|--------------------|--------------------|---------------------|---------------------|--------------------|
|  |  | Prior              | Current            | Prior              | Current            | Prior              | Current            | Prior            | Current          | Prior              | Current            | Prior               | Current             |                    |
| LOCAL  | Sales Tax  | \$4,313,365        | \$583,508          | \$583,508          | \$428,568          | \$428,568          | \$319,479          | \$319,479        | \$241,584        | \$241,584          | \$234,442          | \$234,442           | \$6,120,945         | \$6,120,945        |
|  | -- County  | \$4,313,365        | \$583,508          | \$583,508          | \$428,568          | \$428,568          | \$319,479          | \$319,479        | \$241,584        | \$241,584          | \$234,442          | \$234,442           | \$6,120,945         | \$6,120,945        |
|  | Other Local Funds  | \$809,880          | \$333,427          | \$333,427          | \$194,371          | \$194,371          | \$142,236          | \$142,236        | \$47,877         | \$47,877           | \$81,296           | \$81,296            | \$1,609,088         | \$1,609,088        |
|  | -- City General Funds  | \$777,206          | \$322,334          | \$322,334          | \$188,215          | \$188,215          | \$118,018          | \$118,018        | \$47,877         | \$47,877           | \$81,296           | \$81,296            | \$1,534,946         | \$1,534,946        |
|  | -- Street Taxes and Developer Fees                                 | \$32,674           | \$11,093           | \$11,093           | \$6,156            | \$6,156            | \$24,218           | \$24,218         |                  |                    |                    |                     | \$74,142            | \$74,142           |
|  | -- RSTP Exchange funds   |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
| Other  | \$1,033,792  | \$160,428          | \$160,428          | \$120,889          | \$120,889          | \$105,472          | \$105,472          | \$105,524        | \$105,524        | \$105,519          | \$105,519          | \$1,631,624         | \$1,631,624         |                    |
| <b>Local Total</b>                           | <b>\$6,157,037</b>   | <b>\$1,077,363</b> | <b>\$1,077,363</b> | <b>\$743,828</b>   | <b>\$743,828</b>   | <b>\$567,187</b>   | <b>\$567,187</b>   | <b>\$394,985</b> | <b>\$394,985</b> | <b>\$421,258</b>   | <b>\$421,258</b>   | <b>\$9,361,657</b>  | <b>\$9,361,657</b>  |                    |
| STATE  | State Highway Operations and Protection Program                    | \$134,267          | \$471,159          | \$471,159          | \$103,255          | \$103,255          | \$154,558          | \$154,558        | \$144,057        | \$144,057          | \$113,169          | \$113,169           | \$1,120,465         | \$1,120,465        |
|  | SHOPP (Including Augmentation)                                     | \$134,267          | \$471,159          | \$471,159          | \$103,255          | \$103,255          | \$154,558          | \$154,558        | \$144,057        | \$144,057          | \$113,169          | \$113,169           | \$1,120,465         | \$1,120,465        |
|  | SHOPP Prior  |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|  | State Transportation Improvement Program                           | \$712,311          | \$58,047           | \$58,047           | \$20,010           | \$20,010           | \$1,193            | \$1,193          | \$1,183          | \$1,183            | \$82,082           | \$82,082            | \$874,826           | \$874,826          |
|  | STIP (Including Augmentation)                                      | \$670,562          | \$58,047           | \$58,047           | \$20,010           | \$20,010           | \$1,193            | \$1,193          | \$1,183          | \$1,183            | \$82,082           | \$82,082            | \$833,077           | \$833,077          |
|  | STIP Prior   | \$41,749           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$41,749            | \$41,749           |
|  | Proposition 1 A  | \$41,843           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$41,843            | \$41,843           |
|  | Proposition 1 B  | \$653,252          |                    |                    |                    |                    | \$1,319            | \$1,319          |                  |                    | \$895              | \$895               | \$655,466           | \$655,466          |
|  | Active Transportation Program                                      | \$45,287           | \$29,448           | \$29,448           | \$50,372           | \$50,372           | \$15,606           | \$15,606         | \$10,219         | \$10,219           | \$42,489           | \$42,489            | \$193,421           | \$193,421          |
|  | Highway Maintenance (HM)   |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|  | Highway Bridge Program (HBP)                                       | \$131,987          | \$42,582           | \$42,582           | \$29,711           | \$29,711           | \$25,166           | \$25,166         | \$19,600         | \$19,600           | \$153,968          | \$153,968           | \$403,015           | \$403,015          |
|  | Road Repair and Accountability Act of 2017 (SBI)                   | \$515,958          | \$128,765          | \$128,765          | \$59,440           | \$59,440           | \$306,018          | \$306,018        | \$63,635         | \$63,635           | \$10,774           | \$10,774            | \$1,084,590         | \$1,084,590        |
|  | Traffic Congestion Relief Program (TCRP)                           | \$95,298           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$95,298            | \$95,298           |
|  | State Transit Assistance (e.g., population/revenue based, Prop 42) | \$225,279          | \$31,746           | \$31,746           | \$40,984           | \$40,984           | \$54,305           | \$54,305         | \$41,909         | \$41,909           | \$41,909           | \$41,909            | \$436,131           | \$436,131          |
| Other  | \$136,582  | \$264,213          | \$264,213          | \$23,280           | \$23,280           | \$15,702           | \$15,702           | \$22,480         | \$22,480         | \$7,901            | \$7,901            | \$470,159           | \$470,159           |                    |
| <b>State Total</b>                           | <b>\$2,692,063</b>   | <b>\$1,025,960</b> | <b>\$1,025,960</b> | <b>\$327,052</b>   | <b>\$327,052</b>   | <b>\$573,868</b>   | <b>\$573,868</b>   | <b>\$303,084</b> | <b>\$303,084</b> | <b>\$453,187</b>   | <b>\$453,187</b>   | <b>\$5,375,214</b>  | <b>\$5,375,214</b>  |                    |
| FEDERAL TRANSIT                              | 5307 - Urbanized Area Formula Program                              | \$930,663          | \$99,194           | \$99,194           | \$103,886          | \$103,886          | \$104,976          | \$104,976        | \$100,920        | \$100,920          | \$103,029          | \$103,029           | \$1,442,667         | \$1,442,667        |
|  | 5309a - Fixed Guideway Modernization                               | \$97,086           |                    |                    |                    |                    | \$479              | \$479            |                  |                    |                    |                     | \$97,565            | \$97,565           |
|  | 5309b - New and Small Starts (Capital Investment Grants)           | \$824,980          | \$100,000          | \$100,000          | \$100,000          | \$100,000          | \$41,396           | \$41,396         |                  |                    |                    |                     | \$1,066,376         | \$1,066,376        |
|  | 5309c - Bus and Bus Related Grants                                 | \$57,734           |                    |                    | \$29,330           | \$29,330           |                    |                  |                  |                    |                    |                     | \$87,064            | \$87,064           |
|  | 5310 - Mobility of Seniors and Individuals with Disabilities       | \$11,165           | \$105              | \$105              | \$4,046            | \$4,046            | \$1,456            | \$1,456          |                  |                    |                    |                     | \$16,773            | \$16,773           |
|  | 5311 - Nonurbanized Area Formula Program                           | \$12,690           | \$488              | \$488              | \$1,283            | \$1,283            | \$1,265            | \$1,265          | \$1,265          | \$1,265            | \$1,265            | \$1,265             | \$18,257            | \$18,257           |
|  | 5337 - State of Good Repair  | \$398,012          | \$62,944           | \$62,944           | \$66,791           | \$66,791           | \$68,085           | \$68,085         | \$69,187         | \$69,187           | \$70,306           | \$70,306            | \$735,326           | \$735,326          |
|  | 5339 - Bus and Bus Facilities Program                              | \$49,334           | \$11,690           | \$11,690           | \$6,039            | \$6,039            | \$6,102            | \$6,102          | \$6,166          | \$6,166            | \$6,231            | \$6,231             | \$85,563            | \$85,563           |
|  | Other  | \$99,726           | \$8,483            | \$8,483            | \$20,020           | \$20,020           |                    |                  |                  |                    |                    |                     | \$128,229           | \$128,229          |
|  | <b>Federal Transit Total</b>                                       | <b>\$2,481,389</b> | <b>\$282,905</b>   | <b>\$282,905</b>   | <b>\$331,396</b>   | <b>\$331,396</b>   | <b>\$223,760</b>   | <b>\$223,760</b> | <b>\$177,538</b> | <b>\$177,538</b>   | <b>\$180,831</b>   | <b>\$180,831</b>    | <b>\$3,677,819</b>  | <b>\$3,677,819</b> |
| FEDERAL HIGHWAY                              | Congestion Mitigation and Air Quality (CMAQ)                       | \$468,211          | \$44,843           | \$44,843           | \$41,898           | \$41,898           | \$42,736           | \$42,736         | \$43,591         | \$43,591           | \$43,591           | \$43,591            | \$684,871           | \$684,871          |
|  | Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)            | \$312,606          | \$5,000            | \$5,000            |                    |                    |                    |                  |                  |                    |                    |                     | \$317,606           | \$317,606          |
|  | GARVEE Bonds (Includes Debt Service Payments)                      |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|  | Highway Infrastructure Program (HIP)                               | \$38,730           | \$19,716           | \$19,716           |                    |                    |                    |                  |                  |                    |                    |                     | \$58,446            | \$58,446           |
|  | High Priority Projects (HPP) and Demo                              | \$88,662           | \$1,080            | \$1,080            |                    |                    |                    |                  |                  |                    |                    |                     | \$89,742            | \$89,742           |
|  | Highway Safety Improvement Program (HSIP)                          | \$2,475            | \$5,620            | \$5,620            | \$2,857            | \$2,857            | \$3,381            | \$3,381          | \$7,783          | \$7,783            |                    |                     | \$22,117            | \$22,117           |
|  | National Significant Freight & Highway Projects (FASTLANE/INFRA)   | \$49,278           |                    |                    |                    |                    | \$150,000          | \$150,000        |                  |                    |                    |                     | \$199,278           | \$199,278          |
|  | Public Lands Highway   | \$8,152            | \$816              | \$816              |                    |                    |                    |                  |                  |                    |                    |                     | \$8,968             | \$8,968            |
|  | Recreational Trails  |                    |                    |                    | \$849              | \$849              |                    |                  |                  |                    |                    |                     | \$849               | \$849              |
|  | Surface Transportation Program (Regional)                          | \$547,923          | \$49,683           | \$49,683           | \$50,870           | \$50,870           | \$52,225           | \$52,225         | \$53,525         | \$53,525           | \$53,525           | \$53,525            | \$807,750           | \$807,750          |
| Tribal Transportation Program                |  |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
| Other  | \$163,424  | \$20,381           | \$20,381           | \$77,656           | \$77,656           | \$11,518           | \$11,518           | \$5,874          | \$5,874          |                    |                    | \$278,854           | \$278,854           |                    |
| <b>Federal Highway Total</b>                 | <b>\$1,679,461</b>   | <b>\$147,138</b>   | <b>\$147,138</b>   | <b>\$174,131</b>   | <b>\$174,131</b>   | <b>\$259,861</b>   | <b>\$259,861</b>   | <b>\$110,773</b> | <b>\$110,773</b> | <b>\$97,116</b>    | <b>\$97,116</b>    | <b>\$2,468,481</b>  | <b>\$2,468,481</b>  |                    |
| FRA  | Passenger Rail Investment and Improvement Act of 2008 (PRIIA)      | \$37,440           |                    |                    | \$35,343           | \$35,343           |                    |                  |                  |                    |                    |                     | \$72,783            | \$72,783           |
|  | Other  |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
| <b>Federal Railroad Administration Total</b> | <b>\$37,440</b>  |                    |                    | <b>\$35,343</b>    | <b>\$35,343</b>    |                    |                    |                  |                  |                    |                    |                     | <b>\$72,783</b>     | <b>\$72,783</b>    |
| <b>Federal Total</b>                         | <b>\$4,198,290</b>   | <b>\$430,043</b>   | <b>\$430,043</b>   | <b>\$540,871</b>   | <b>\$540,871</b>   | <b>\$483,621</b>   | <b>\$483,621</b>   | <b>\$288,311</b> | <b>\$288,311</b> | <b>\$277,947</b>   | <b>\$277,947</b>   | <b>\$6,219,083</b>  | <b>\$6,219,083</b>  |                    |
| INNOVATIVE FINANCE                           | TIFIA (Transportation Infrastructure Finance and Innovation Act)   | \$537,484          |                    |                    |                    |                    | \$325,000          | \$325,000        |                  |                    |                    |                     | \$862,484           | \$862,484          |
|  | <b>Innovative Financing Total</b>                                  |                    |                    |                    |                    |                    | <b>\$325,000</b>   | <b>\$325,000</b> |                  |                    |                    |                     | <b>\$862,484</b>    | <b>\$862,484</b>   |
| <b>REVENUES TOTAL</b>                        | <b>\$13,584,874</b>  | <b>\$2,533,366</b> | <b>\$2,533,366</b> | <b>\$1,611,751</b> | <b>\$1,611,751</b> | <b>\$1,949,676</b> | <b>\$1,949,676</b> | <b>\$986,379</b> | <b>\$986,379</b> | <b>\$1,152,392</b> | <b>\$1,152,392</b> | <b>\$21,818,438</b> | <b>\$21,818,438</b> |                    |

Table 2-1b: Program

San Diego Association of Governments (SANDAG)  
2023 Regional Transportation Improvement Program (in \$000s) - Amendment No. 13


Legend  
Indicates change from prior amendment

|   | Funding Source  | Prior Years        | 2022/2023          |                    | 2023/2024          |                    | 2024/2025          |                  | 2025/2026        |                    | 2026/2027          |                     | TOTAL               |                    |
|---|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|------------------|------------------|--------------------|--------------------|---------------------|---------------------|--------------------|
|   |   |                    | Prior              | Current            | Prior              | Current            | Prior              | Current          | Prior            | Current            | Prior              | Current             | Prior               | Current            |
| LOCAL                                     | Sales Tax   | \$4,313,365        | \$557,355          | \$557,355          | \$396,972          | \$396,972          | \$313,750          | \$313,750        | \$171,672        | \$171,672          | \$157,403          | \$157,403           | \$5,910,517         | \$5,910,517        |
|   | -- TransNet   | \$4,313,365        | \$557,355          | \$557,355          | \$396,972          | \$396,972          | \$313,750          | \$313,750        | \$171,672        | \$171,672          | \$157,403          | \$157,403           | \$5,910,517         | \$5,910,517        |
|   | Other Local Funds   | \$809,880          | \$333,427          | \$333,427          | \$194,371          | \$194,371          | \$142,236          | \$142,236        | \$47,877         | \$47,877           | \$81,296           | \$81,296            | \$1,609,088         | \$1,609,088        |
|   | -- City General Funds   | \$777,206          | \$322,334          | \$322,334          | \$188,215          | \$188,215          | \$118,018          | \$118,018        | \$47,877         | \$47,877           | \$81,296           | \$81,296            | \$1,534,946         | \$1,534,946        |
|   | -- Street Taxes and Developer Fees                                      | \$32,674           | \$11,093           | \$11,093           | \$6,156            | \$6,156            | \$24,218           | \$24,218         |                  |                    |                    |                     | \$74,142            | \$74,142           |
|   | Other   | \$1,033,792        | \$160,428          | \$160,428          | \$120,889          | \$120,889          | \$105,472          | \$105,472        | \$105,524        | \$105,524          | \$105,519          | \$105,519           | \$1,631,624         | \$1,631,624        |
| <b>Local Total</b>                        | <b>\$6,157,037</b>  | <b>\$1,051,210</b> | <b>\$1,051,210</b> | <b>\$712,232</b>   | <b>\$712,232</b>   | <b>\$561,459</b>   | <b>\$561,459</b>   | <b>\$325,073</b> | <b>\$325,073</b> | <b>\$344,218</b>   | <b>\$344,218</b>   | <b>\$9,151,229</b>  | <b>\$9,151,229</b>  |                    |
| STATE                                     | State Highway Operations and Protection Program                         | \$134,267          | \$471,159          | \$471,159          | \$103,255          | \$103,255          | \$154,558          | \$154,558        | \$144,057        | \$144,057          | \$113,169          | \$113,169           | \$1,120,465         | \$1,120,465        |
|   | SHOPP (Including Augmentation)  | \$134,267          | \$471,159          | \$471,159          | \$103,255          | \$103,255          | \$154,558          | \$154,558        | \$144,057        | \$144,057          | \$113,169          | \$113,169           | \$1,120,465         | \$1,120,465        |
|   | State Transportation Improvement Program                                | \$712,311          | \$58,047           | \$58,047           | \$20,010           | \$20,010           | \$1,193            | \$1,193          | \$1,183          | \$1,183            | \$82,082           | \$82,082            | \$874,826           | \$874,826          |
|   | STIP (Including Augmentation)   | \$670,562          | \$58,047           | \$58,047           | \$20,010           | \$20,010           | \$1,193            | \$1,193          | \$1,183          | \$1,183            | \$82,082           | \$82,082            | \$833,077           | \$833,077          |
|   | STIP Prior  | \$41,749           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$41,749            | \$41,749           |
|   | Proposition 1A  | \$41,843           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$41,843            | \$41,843           |
|   | Proposition 1B  | \$653,252          |                    |                    |                    |                    | \$1,319            | \$1,319          |                  |                    | \$895              | \$895               | \$655,466           | \$655,466          |
|   | Active Transportation Program   | \$45,287           | \$29,448           | \$29,448           | \$50,372           | \$50,372           | \$15,606           | \$15,606         | \$10,219         | \$10,219           | \$42,489           | \$42,489            | \$193,421           | \$193,421          |
|   | Highway Maintenance (HM)  |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|   | Highway Bridge Program (HBP)  | \$131,987          | \$42,582           | \$42,582           | \$29,711           | \$29,711           | \$25,166           | \$25,166         | \$19,600         | \$19,600           | \$153,968          | \$153,968           | \$403,015           | \$403,015          |
|   | Road Repair and Accountability Act of 2017 (SBI)                        | \$515,958          | \$128,765          | \$128,765          | \$59,440           | \$59,440           | \$306,018          | \$306,018        | \$63,635         | \$63,635           | \$10,774           | \$10,774            | \$1,084,590         | \$1,084,590        |
|   | Traffic Congestion Relief Program (TCRP)                                | \$95,298           |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     | \$95,298            | \$95,298           |
|   | State Transit Assistance (STA)(e.g., population/revenue based, Prop 42) | \$225,279          | \$31,746           | \$31,746           | \$40,984           | \$40,984           | \$54,305           | \$54,305         | \$41,909         | \$41,909           | \$41,909           | \$41,909            | \$436,131           | \$436,131          |
|   | State Emergency Repair Program  |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
| Other                                     | \$136,582   | \$264,213          | \$264,213          | \$23,280           | \$23,280           | \$15,702           | \$15,702           | \$22,480         | \$22,480         | \$7,901            | \$7,901            | \$470,159           | \$470,159           |                    |
| <b>State Total</b>                        | <b>\$2,692,063</b>  | <b>\$1,025,960</b> | <b>\$1,025,960</b> | <b>\$327,052</b>   | <b>\$327,052</b>   | <b>\$573,868</b>   | <b>\$573,868</b>   | <b>\$303,084</b> | <b>\$303,084</b> | <b>\$453,187</b>   | <b>\$453,187</b>   | <b>\$5,375,214</b>  | <b>\$5,375,214</b>  |                    |
| FEDERAL TRANSIT                           | 5307 - Urbanized Area Formula Program                                   | \$930,663          | \$99,000           | \$99,000           | \$103,886          | \$103,886          | \$104,976          | \$104,976        | \$93,852         | \$93,852           | \$95,814           | \$95,814            | \$1,428,191         | \$1,428,191        |
|   | 5309a - Fixed Guideway Modernization                                    | \$97,086           |                    |                    |                    |                    | \$479              | \$479            |                  |                    |                    |                     | \$97,565            | \$97,565           |
|   | 5309b - New and Small Starts (Capital Investment Grants)                | \$824,980          | \$100,000          | \$100,000          | \$100,000          | \$100,000          | \$41,396           | \$41,396         |                  |                    |                    |                     | \$1,066,376         | \$1,066,376        |
|   | 5309c - Bus and Bus Related Grants                                      | \$57,734           |                    |                    | \$29,330           | \$29,330           |                    |                  |                  |                    |                    |                     | \$87,064            | \$87,064           |
|   | 5310 - Elderly & Persons with Disabilities Formula Program              | \$11,165           | \$105              | \$105              | \$4,046            | \$4,046            | \$1,456            | \$1,456          |                  |                    |                    |                     | \$16,773            | \$16,773           |
|   | 5311 - Nonurbanized Area Formula Program                                | \$12,690           | \$488              | \$488              | \$1,283            | \$1,283            | \$1,265            | \$1,265          | \$1,265          | \$1,265            | \$1,265            | \$1,265             | \$18,257            | \$18,257           |
|   | 5337 - State of Good Repair   | \$398,012          | \$61,944           | \$61,944           | \$66,791           | \$66,791           | \$67,770           | \$67,770         | \$68,867         | \$68,867           | \$69,981           | \$69,981            | \$733,366           | \$733,366          |
|   | 5339 - Bus and Bus Facilities Program                                   | \$49,334           | \$11,690           | \$11,690           | \$6,039            | \$6,039            | \$5,553            | \$5,553          | \$6,166          | \$6,166            | \$5,591            | \$5,591             | \$84,374            | \$84,374           |
|   | Other   | \$99,726           | \$8,483            | \$8,483            | \$20,020           | \$20,020           |                    |                  |                  |                    |                    |                     | \$128,229           | \$128,229          |
|   | <b>Federal Transit Total</b>  | <b>\$2,481,389</b> | <b>\$281,711</b>   | <b>\$281,711</b>   | <b>\$331,396</b>   | <b>\$331,396</b>   | <b>\$222,896</b>   | <b>\$222,896</b> | <b>\$170,151</b> | <b>\$170,151</b>   | <b>\$172,651</b>   | <b>\$172,651</b>    | <b>\$3,660,194</b>  | <b>\$3,660,194</b> |
| FEDERAL HIGHWAY                           | Congestion Mitigation and Air Quality (CMAQ)                            | \$468,211          | \$44,407           | \$44,407           | \$33,211           | \$33,211           | \$24,825           | \$24,825         | \$43,590         | \$43,590           | \$10,000           | \$10,000            | \$624,244           | \$624,244          |
|   | Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)                 | \$312,606          | \$5,000            | \$5,000            |                    |                    |                    |                  |                  |                    |                    |                     | \$317,606           | \$317,606          |
|   | GARVEE Bonds (Includes Debt Service Payments)                           |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|   | Highway Infrastructure Program (HIP)                                    | \$38,730           | \$19,716           | \$19,716           |                    |                    |                    |                  |                  |                    |                    |                     | \$58,446            | \$58,446           |
|   | High Priority Projects (HPP) and Demo                                   | \$88,662           | \$1,080            | \$1,080            |                    |                    |                    |                  |                  |                    |                    |                     | \$89,742            | \$89,742           |
|   | Highway Safety Improvement Program (HSIP)                               | \$2,475            | \$5,620            | \$5,620            | \$2,857            | \$2,857            | \$3,381            | \$3,381          | \$7,783          | \$7,783            |                    |                     | \$22,117            | \$22,117           |
|   | Public Lands Highway  | \$8,152            | \$816              | \$816              |                    |                    |                    |                  |                  |                    |                    |                     | \$8,968             | \$8,968            |
|   | National Significant Freight & Highway Projects (FASTLANE/INFRA)        | \$49,278           |                    |                    |                    |                    | \$150,000          | \$150,000        |                  |                    |                    |                     | \$199,278           | \$199,278          |
|   | Recreational Trails   |                    |                    |                    | \$849              | \$849              |                    |                  |                  |                    |                    |                     | \$849               | \$849              |
| Surface Transportation Program (Regional) | \$547,923   | \$49,371           | \$49,371           | \$50,865           | \$50,865           | \$52,150           | \$52,150           | \$48,847         | \$48,847         | \$67,431           | \$67,431           | \$816,587           | \$816,587           |                    |
| Other                                     | \$163,424   | \$20,381           | \$20,381           | \$77,656           | \$77,656           | \$11,518           | \$11,518           | \$5,874          | \$5,874          |                    |                    | \$278,854           | \$278,854           |                    |
| <b>Federal Highway Total</b>              | <b>\$1,679,461</b>  | <b>\$146,390</b>   | <b>\$146,390</b>   | <b>\$165,439</b>   | <b>\$165,439</b>   | <b>\$241,875</b>   | <b>\$241,875</b>   | <b>\$106,094</b> | <b>\$106,094</b> | <b>\$77,431</b>    | <b>\$77,431</b>    | <b>\$2,416,691</b>  | <b>\$2,416,691</b>  |                    |
| FRA                                       | Passenger Rail Investment and Improvement Act of 2008 (PRIIA)           | \$37,440           |                    |                    | \$35,343           | \$35,343           |                    |                  |                  |                    |                    |                     | \$72,783            | \$72,783           |
|   | Other   |                    |                    |                    |                    |                    |                    |                  |                  |                    |                    |                     |                     |                    |
|   | <b>Federal Railroad Administration Total</b>                            | <b>\$37,440</b>    |                    |                    | <b>\$35,343</b>    | <b>\$35,343</b>    |                    |                  |                  |                    |                    |                     | <b>\$72,783</b>     | <b>\$72,783</b>    |
| <b>Federal Total</b>                      | <b>\$4,198,290</b>  | <b>\$428,101</b>   | <b>\$428,101</b>   | <b>\$532,178</b>   | <b>\$532,178</b>   | <b>\$464,771</b>   | <b>\$464,771</b>   | <b>\$276,245</b> | <b>\$276,245</b> | <b>\$250,082</b>   | <b>\$250,082</b>   | <b>\$6,149,668</b>  | <b>\$6,149,668</b>  |                    |
| INNOVATIVE FINANCE                        | TIFIA (Transportation Infrastructure Finance and Innovation Act)        | \$537,484          |                    |                    |                    |                    | \$325,000          | \$325,000        |                  |                    |                    |                     | \$862,484           | \$862,484          |
|   | <b>Innovative Financing Total</b>                                       | <b>\$537,484</b>   |                    |                    |                    |                    | <b>\$325,000</b>   | <b>\$325,000</b> |                  |                    |                    |                     | <b>\$862,484</b>    | <b>\$862,484</b>   |
| <b>PROGRAM TOTAL</b>                      | <b>\$13,584,874</b>   | <b>\$2,505,272</b> | <b>\$2,505,272</b> | <b>\$1,571,463</b> | <b>\$1,571,463</b> | <b>\$1,925,097</b> | <b>\$1,925,097</b> | <b>\$904,401</b> | <b>\$904,401</b> | <b>\$1,047,488</b> | <b>\$1,047,488</b> | <b>\$21,538,595</b> | <b>\$21,538,595</b> |                    |

FY26/27 includes programming for future years and is included here for reference only

Table 2-1c: Revenues versus Program

San Diego Association of Governments (SANDAG)  
 2023 Regional Transportation Improvement Program (in \$000s) - Amendment No. 13

Legend  
 Indicates change from prior amendment

| Funding Source  |  | 2022/2023       |                 | 2023/2024       |                 | 2024/2025       |                 | 2025/2026       |                 | 2026/2027        |                  | TOTAL            |                  |
|---|--|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
|   |  | Prior           | Current         | Prior           | Current         | Prior           | Current         | Prior           | Current         | Prior            | Current          | Prior            | Current          |
| LOCAL   | Local Total  | \$26,153        | \$26,153        | \$31,596        | \$31,596        | \$5,729         | \$5,729         | \$69,911        | \$69,911        | \$77,039         | \$77,039         | \$210,428        | \$210,428        |
|   |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| STATE   | State Highway Operations and Protection Program                  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | SHOPP (Including Augmentation)                                   |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | SHOPP Prior  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | State Transportation Improvement Program                         |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | STIP (Including Augmentation)                                    |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | STIP Prior   |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Proposition 1 A  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Proposition 1 B  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Active Transportation Program                                    |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Highway Maintenance (HM)   |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Highway Bridge Program (HBP)                                     |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Road Repair and Accountability Act of 2017 (SB1)                 |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Traffic Congestion Relief Program (TCRP)                         |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| State Transit Assistance (STA)(e.g., population/revenue based, Prop |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| Other   |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| State Total   |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| FEDERAL TRANSIT   | 5307 - Urbanized Area Formula Program                            | \$194           | \$194           |                 |                 |                 |                 | \$7,067         | \$7,067         | \$7,215          | \$7,215          | \$14,476         | \$14,476         |
|   | 5309a - Fixed Guideway Modernization                             |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | 5309b - New and Small Starts (Capital Investment Grants)         |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | 5309c - Bus and Bus Related Grants                               |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | 5310 - Elderly & Persons with Disabilities Formula Program       |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | 5311 - Nonurbanized Area Formula Program                         |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | 5337 - State of Good Repair                                      | \$1,000         | \$1,000         |                 |                 | \$315           | \$315           | \$320           | \$320           | \$325            | \$325            | \$1,960          | \$1,960          |
|   | 5339 - Bus and Bus Facilities Program                            |                 |                 |                 |                 | \$549           | \$549           |                 |                 | \$640            | \$640            | \$1,189          | \$1,189          |
| Other   |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| Federal Transit Total   | \$1,194  | \$1,194         |                 |                 | \$864           | \$864           | \$7,387         | \$7,387         | \$8,180         | \$8,180          | \$17,625         | \$17,625         |                  |
| FEDERAL HIGHWAY   | Congestion Mitigation and Air Quality (CMAQ)                     | \$436           | \$436           | \$8,687         | \$8,687         | \$17,911        | \$17,911        | \$1             | \$1             | \$33,591         | \$33,591         | \$60,627         | \$60,627         |
|   | Coordinated Border Infrastructure (SAFETEA-LU Sec.1303)          |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | GARVEE Bonds (Includes Debt Service Payments)                    |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Highway Infrastructure Program (HIP)                             |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | High Priority Projects (HPP) and Demo                            |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Highway Safety Improvement Program (HSIP)                        |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | National Significant Freight & Highway Projects (FASTLANE/INFR)  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Surface Transportation Program (Regional)                        | \$312           | \$312           | \$5             | \$5             | \$74            | \$74            | \$4,678         | \$4,678         | -\$13,906        | -\$13,906        | -\$8,837         | -\$8,837         |
| Other   |  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| Federal Highway Total   | \$748  | \$748           | \$8,692         | \$8,692         | \$17,986        | \$17,986        | \$4,679         | \$4,679         | \$19,685        | \$19,685         | \$51,790         | \$51,790         |                  |
| FRA   | Passenger Rail Investment and Improvement Act of 2008 (PRIIA)    |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Other  |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Federal Railroad Administration Total                            |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| Federal Total   | \$1,942  | \$1,942         | \$8,692         | \$8,692         | \$18,850        | \$18,850        | \$12,066        | \$12,066        | \$27,865        | \$27,865         | \$69,415         | \$69,415         |                  |
| INNOVATIVE FINANCE  | TIFIA (Transportation Infrastructure Finance and Innovation Act) |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
|   | Innovative Financing Total                                       |                 |                 |                 |                 |                 |                 |                 |                 |                  |                  |                  |                  |
| <b>REVENUES - PROGRAM TOTAL</b>                                     |  | <b>\$28,095</b> | <b>\$28,095</b> | <b>\$40,288</b> | <b>\$40,288</b> | <b>\$24,579</b> | <b>\$24,579</b> | <b>\$81,978</b> | <b>\$81,978</b> | <b>\$104,904</b> | <b>\$104,904</b> | <b>\$279,843</b> | <b>\$279,843</b> |

FY26/27 includes programming for future years and is included here for reference only



# Chapter 3

## Air Quality Conformity Analysis



# Chapter 3

## Air Quality Conformity Analysis

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### San Diego Air Basin Transportation Conformity Background

On May 21, 2012, the U.S. Environmental Protection Agency (U.S. EPA) designated the San Diego air basin as a nonattainment area for the 2008 Eight-Hour Ozone National Ambient Air Quality Standard (NAAQS) and classified it as a Marginal area with an attainment date of December 31, 2015. This designation became effective on July 20, 2012. SANDAG determined conformity to the new standard on May 24, 2013, using the applicable model approved by the U.S. EPA to forecast regional emissions (EMFAC2011). The U.S. Department of Transportation (U.S. DOT), in consultation with the U.S. EPA, made its conformity determination on June 28, 2013.

Effective June 3, 2016, the U.S. EPA determined that 11 areas, including the San Diego air basin, failed to attain the 2008 ozone NAAQS by the applicable attainment date of December 31, 2015, and thus were reclassified by operation of law as Moderate nonattainment areas. States containing any portion of these new Moderate areas were required to submit State Implementation Plan (SIP) revisions to meet the statutory and regulatory requirements that apply to Moderate nonattainment areas, by January 1, 2017.

The San Diego County Air Pollution Control District (SDAPCD) submitted a SIP revision addressing Moderate area requirements to the California Air Resources Board (CARB) on December 27, 2016. CARB submitted the SIP revision document to the U.S. EPA on April 12, 2017. Effective December 4, 2017, the U.S. EPA found the motor vehicle emissions budgets for the Reasonable Further Progress milestone year of 2017 from the *2008 Eight-Hour Ozone Attainment Plan for San Diego County* adequate for transportation conformity purposes for the 2008 ozone NAAQS.

On August 23, 2019, the U.S. EPA published a final rule in the Federal Register reclassifying the San Diego air basin by operation of law from a Moderate nonattainment area for the 2008 ozone NAAQS to Serious, effective September 23, 2019 (84 FR 44238). This rulemaking changed the 2008 ozone NAAQS attainment deadline to July 20, 2021, with an attainment year of 2020.

On October 26, 2015, the U.S. EPA published in the Federal Code of Regulation a new ozone NAAQS, referred to as the 2015 ozone standard. The new standard revised the allowable ozone level to 0.070 parts per million (ppm). The 2015 ozone standard became effective on December 28, 2015. On June 4, 2018, U.S. EPA published a final rule that designated the San Diego region as nonattainment, with a classification of Moderate, for the 2015 ozone NAAQS, with an attainment deadline of August 3, 2024, and an attainment year of 2023.

At its May 24, 2019, meeting the Board adopted the *2015 Ozone National Ambient Air Quality Standard Conformity Demonstration* for the 2018 Regional Transportation Improvement Program (2018 RTIP) and 2015 Regional Plan and found the documents, as amended, in conformity with the requirements of the federal Clean Air Act (CAA) and applicable SIP. The U.S. DOT, in consultation with the U.S. EPA made its conformity determination on June 21, 2019.

On November 19, 2020, CARB adopted the *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (2020 SIP) developed by the SDAPCD, which addressed both the 2008 and 2015 ozone standards. Included in the San Diego 2020 SIP was a request for a voluntary reclassification to Severe nonattainment for both the 2008 and 2015 ozone NAAQS. The reclassification extended the timeline to meet the standards and aligned with air quality modeling. The reclassification was approved by U.S. EPA on July 2, 2021. On June 4, 2021, U.S. EPA posted on the Office of Transportation and Air Quality website the adequacy review and public comment on the 2008 and 2015 Eight-Hour Ozone Attainment Plan budgets. On October 4, 2021, U.S. EPA published in the Federal Register the adequacy finding for the on-road transportation air quality budgets in the 2020 SIP with an effective date of October 19, 2021.

Effective July 2, 2021, the U.S. EPA approved the request from CARB to reclassify the San Diego air basin ozone nonattainment area to Severe for both the 2008 and 2015 ozone NAAQS. The reclassification of the 2008 ozone NAAQS from Serious to Severe changed the attainment date from July 20, 2021, (as a Serious area) to July 20, 2027, (as a Severe area) and the attainment demonstration year from 2020 to 2026. The reclassification of the 2015 ozone NAAQS from Moderate to Severe changed the attainment date from August 3, 2024, (as a Moderate area) to August 3, 2033, (as a Severe area) and the attainment demonstration year from 2023 to 2032. On October 4, 2021, the U.S. EPA published in the Federal Register the adequacy finding for the on-road transportation air quality budgets in the 2020 SIP with an effective date of October 19, 2021. On July 12, 2021, the 2020 SIP was found complete by U.S. EPA by operation of law six months after the submittal date. On December 19, 2023, U.S. EPA published in the Federal Register the proposed rulemaking approving the 2020 SIP.

On December 10, 2021, the Board adopted San Diego Forward: The 2021 Regional Plan (2021 Regional Plan) found it along with the 2021 RTIP, as amended, in conformity with the requirements of the federal CAA and applicable SIP. The U.S. DOT, in consultation with the U.S. EPA, made its conformity determination on January 28, 2022. On October 13, 2023, the Board approved the Amendment to the 2021 Regional Plan and found the Amended 2021 Regional Plan in conformity with the requirements of the Clean Air Act and applicable SIP.

The SANDAG Board of Directors is expected to review and adopt the 2023 Regional Transportation Improvement Program (2023 RTIP) Amendment No. 13 and the Amended 2021 Regional Plan conformity redetermination (see this chapter and Appendix A) in June 2024. This conformity determination will apply the reasonable further progress emission budgets from the 2020 San Diego SIP.

## **Demonstration of Fiscal Constraint**

The 2023 RTIP Amendment No. 13 is consistent with the Amended 2021 Regional Plan. As a financially constrained document, the 2023 RTIP contains only those major transportation projects listed in the Revenue Constrained 2021 Regional Plan. Chapter 4 of the 2023 RTIP includes detailed discussion on fiscal constraint and overall financial capacity to carry out projects included in the RTIP. Tables 4.1a through 4.1c are program summaries for the 2023 RTIP. Based on the analysis, the projects contained in the 2023 RTIP are reasonable when considering available funding sources. The 2023 RTIP Amendment No. 13 makes no changes to the revenue assumptions in either the 2023 RTIP or the Amendment to the 2021 Regional Plan.

## Development of Transportation Control Measures

In 1982, SANDAG adopted four Transportation Tactics as elements of the 1982 Regional Air Quality Strategy (RAQS). These Transportation Tactics are: (1) ridesharing; (2) transit improvements; (3) traffic flow improvements; and (4) bicycle facilities and programs.

These four Transportation Tactics were subsequently approved by the SDAPCD Board and are included in the 1982 SIP for Air Quality as Transportation Control Measures (TCMs). The U.S. EPA approved this SIP revision for the San Diego Air Basin in 1983. The four TCMs have been fully implemented. Ridesharing, transit, bicycling, and traffic-flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed.

The California CAA required the preparation of a 1991 RAQS, including TCMs. During 1991 and 1992, SANDAG, in cooperation with local agencies, transit agencies, and the SDAPCD, developed a TCM Plan. SANDAG approved the TCM Plan on March 27, 1992.

On June 30, 1992, the SDAPCD amended the TCM Plan and adopted the 1991 RAQS, including the amended TCM Plan. TCMs included in the 1991 RAQS include the four Transportation Tactics described above as well as a Transportation Demand Management (TDM) program, vanpools, high-occupancy vehicle lanes, and Park & Ride facilities. On November 12, 1992, CARB gave approval to the 1991 RAQS, including the TCMs.

The 1995 Triennial RAQS Update subsequently deleted the Employee Commute Travel Reduction Program contained in the TDM program because the program was no longer required under federal law. Assembly Bill 3048 (Statutes of 1996, Chapter 777) eliminated all state requirements for mandatory trip-reduction programs. As a result, the Student Travel Reduction Program, the Non-Commute Travel Reduction Program, and the Goods Movement/Truck Operation Program proposed in the 1991 RAQS were no longer statutorily mandated and were deleted from the RAQS in 1998. The 2001, 2004, 2009, and 2016 RAQS Revisions did not make changes to measures related to mobile sources or the TCM Plan.

## Air Quality Conformity Requirements

SANDAG—as the Metropolitan Planning Organization—and the U.S. DOT must determine that the 2023 RTIP Amendment No. 13 and the Amended 2021 Regional Plan conform to the applicable SIP. Conformity to the SIP means that transportation activities will not create new air quality violations, worsen existing violations, or delay the attainment of the NAAQS.

Based upon the U.S. EPA's Transportation Conformity Rule, as amended, conformity of transportation plans and programs, including the 2023 RTIP, is determined according to the 1990 CAA Amendments [Section 176©(3)(A)] if the following is demonstrated:

- The 2023 RTIP Amendment No. 13 provides for the timely implementation of the Transportation Tactics contained in the 1991 RAQS. These tactics also are included as TCMs in the 1982 SIP.
- A quantitative analysis is conducted on the cumulative emissions of projects programmed within the 2023 RTIP including all regionally significant, capacity-increasing projects. Further, implementation of the projects and programs must meet the motor vehicle emissions budget developed by local and state air quality agencies and be approved by the U.S. EPA. The 2023 RTIP Amendment No. 13 must meet the applicable emission budgets prescribed in the 2020 Plan for Attaining the National Ambient Air Quality Standards which were found adequate for transportation conformity purposes by

the U.S. EPA effective October 19, 2021 and which were approved by the U.S. EPA effective April 1, 2024..

- In addition to the required emissions tests, consultation with transportation and air quality agencies is required. The consultation process followed to prepare the air quality conformity analysis must comply with the San Diego Transportation Conformity Procedures adopted in July 1998.
- Interagency consultation involves SANDAG, SDAPCD, Caltrans, CARB, the U.S. DOT, and the U.S. EPA, which form the San Diego Region Conformity Working Group (CWG).

Consultation is a three-tier process that:

1. Formulates and reviews drafts through a conformity working group.
2. Provides local agencies and the public with opportunities for input through existing regional advisory committees and workshops.
3. Seeks comments from affected federal and state agencies through participation in the development of draft documents and circulation of supporting materials prior to formal adoption.

SANDAG consulted with the CWG for the preparation of the new air quality analysis of the 2023 RTIP Amendment No. 13. Conformity of the Amended 2021 Regional Plan also is being redetermined for consistency purposes.

The schedule for the development of the 2023 RTIP Amendment No. 13, and criteria and procedures for determining conformity were presented to the CWG on December 6, 2023. In addition, the draft list of projects was distributed to the CWG on April 1, 2022, and the list was discussed at the April 6, 2022, CWG meeting.

The quantitative emissions analyses for the 2023 RTIP Amendment No. 13 conformity determination and Amended 2021 Regional Plan redetermination were distributed on March 1, 2024, to the CWG for an initial review and 30-day comment period. The CWG reviewed the draft air quality conformity analysis at its March 6, 2024, meeting.

The draft 2023 RTIP Amendment No. 13 and its conformity analysis and the Amended 2021 Regional Plan conformity redetermination were released for public review and comment on May 15, 2024. The following sections provide a summary of the air quality conformity analysis of the 2023 RTIP and 2021 Regional Plan in relation to the above conformity requirements.

## **Conformity Finding – Transportation Control Measures**

The first requirement of the air quality conformity finding is to provide for the expeditious implementation of adopted TCMs, which are also the Transportation Tactics included in the 1991 RAQS. These tactics are ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs.

The 1982 SIP established the TCMs, which identified general objectives and implementing actions for each tactic. Due to substantial investments since 1982, SANDAG has fully implemented the TCMs. Ridesharing, transit, bicycling, and traffic flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed. No TCMs have been removed or substituted from the SIP.

The 2023 RTIP programs substantial funds for the implementation of the four TCMs (identified as Transportation Tactics) in the 1982 SIP and 2016 RAQS, which have been fully implemented. The Transportation Tactics programmed for implementation are provided in Table 3-1, with approximately \$10.2 billion, or 47.64% of the total funds programmed. Included are \$110.4 million for Ridesharing, \$9.2 billion for Transit Improvements, \$654 million for Bicycle Facilities and Programs, and \$208.3 million for Traffic Flow Improvements. Based upon this analysis, the 2023 RTIP provides for the expeditious implementation of the existing TCMs in the 1982 SIP and 2016 RAQS, which remain the federally approved TCMs for the San Diego region.

Table 3-1: 2023 RTIP – San Diego Region (in \$000s) Transportation Tactics

| <b>Transportation Tactic</b>                                       | <b>Amount</b>        |
|--|----------------------|
| <b>Ridesharing</b>   |                      |
| Transportation Demand Management                                   | \$110,449            |
| <i>Subtotal Ridesharing:</i>                                       | <i>\$110,449</i>     |
| <b>Transit Improvements</b>  |                      |
| Mid-Coast  | \$2,171,201          |
| Major Transit - LOSSAN Corridor                                    | \$200,261            |
| BRT  | \$1,673              |
| Purple/Blue Line   | \$367                |
| Ops/Maint - Transit  | \$6,914,211          |
| <i>Subtotal Transit Improvements:</i>                              | <i>\$9,287,713</i>   |
| <b>Bicycle Facilities</b>  |                      |
| Bicycle/Pedestrian Projects  | \$654,002            |
| <i>Subtotal Bicycle Facilities:</i>                                | <i>\$654,002</i>     |
| <b>Traffic Flow Improvements</b>                                   |                      |
| Transportation Management System/Intelligent Transportation System | \$208,318            |
| <i>Subtotal Traffic Flow Improvements:</i>                         | <i>\$208,318</i>     |
| <b>Total Transportation Tactics in 2023 RTIP:</b>                  | <b>\$10,260,482</b>  |
| <b>Total All Transportation Projects in 2023 RTIP:</b>             | <b>\$ 21,538,595</b> |
| <b>Share of Transportation Tactics Projects in 2023 RTIP:</b>      | <b>47.64%</b>        |

## Conformity Finding – Quantitative Emissions Analysis

The second requirement of the conformity finding is to conduct a quantitative emissions analysis for the 2023 RTIP Amendment No. 13. The emissions analysis must show that implementation of the 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan meet the emissions budgets established in the 2020 SIP.

A quantitative emissions analysis was conducted according to the requirements established in the Transportation Conformity Rule under Section 93.122(b). Motor vehicle emissions forecasts were produced for the following analysis years: 2026, 2029, 2032, 2040, and 2050.

Severe nonattainment area classification for the 2008 Eight-Hour Ozone Standard established 2026 as the attainment year and 2023 as a reasonable further progress demonstration year. The analysis years were selected to comply with 40 CFR 93.106(a)(1) and 93.118(a). According to these sections of the Conformity Rule, analysis years must include reasonable further progress demonstration years (2023), attainment year (2026), the horizon year of the plan's forecast period (2050), and no more than ten years between analysis years (2032, 2040). Additionally, the first horizon year (2026) must be within ten years from the base year used to validate the transportation model (2016).



Severe nonattainment area classification for the 2015 Eight-Hour Ozone Standard established 2032 as the attainment year and 2026 and 2029 as reasonable further progress demonstration years. The analysis years were selected to comply with 40 CFR 93.106(a)(1) and 93.118(a). According to these sections of the Conformity Rule, analysis years must include reasonable further progress demonstration years (2026, 2029), attainment year (2032), the horizon year of the plan's forecast period (2050), and no more than ten years between analysis years (2040). Additionally, the first horizon year (2026) must be within ten years from the base year used to validate the regional transportation model (2016).

The SANDAG regional growth forecasts and transportation models, as well as the CARB emissions model, were used to generate the emissions forecasts. Transportation forecasts were developed using SANDAG's activity-based model (ABM). The ABM simulates individual and household transportation decisions that comprise their daily travel itinerary. It predicts whether, where, when, and how people travel outside their home for activities such as work, school, shopping, healthcare, and recreation. ABM outputs are used as inputs for regional emissions forecasts.

Emissions Factors, EMFAC2017 v1.0.3, was used to project the regional emissions for the 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan conformity determination. On August 24, 2020, CARB released EMFAC2017 v1.0.3 to the public. On August 15, 2019, the U.S. EPA approved EMFAC2017 for use in conformity determinations. On November 15, 2022, the U.S. EPA approved EMFAC2021 for use in conformity determinations and set a two-year grace period for continued use of EMFAC2017, expiring on November 15, 2024 (87 FR 68483). Consistent with U.S. EPA rulemaking (87 FR 68483) and 40 CFR 93.111, EMFAC2017 was used to project the regional emissions for the air quality conformity analyses of the 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan

The 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan air quality conformity analysis was conducted for the years 2026–2050. All of the capacity-increasing improvements identified in the 2023 RTIP that are on the Regional Arterial System (as defined in the Regional Plan) or the Federal Highway Administration functional classification system (other principal arterials and higher classifications) were modeled.

Table 3-2 provides a summary of the results of the quantitative emissions analysis conducted for the 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan using budgets from the 2020 SIP. The table demonstrates that the 2023 RTIP and 2021 Regional Plan meet the budgets for the 2008 and 2015 Eight-Hour Ozone Standards. Projected ROG and NO<sub>x</sub> emissions for 2026, 2029, 2032, 2040, and 2050 are below the established SIP budgets.

Table 3-2: 2023 RTIP and the Revenue Constrained 2021 Regional Plan  
 Air Quality Conformity Analysis for 2008 and 2015 Eight-Hour Ozone Standards  
 (EMFAC2017)

| Year | Average Weekday Vehicle Starts (1,000s) | Average Weekday Vehicle Miles (1,000s) | ROG                           |                        | NOx                           |                        |
|------|---|--|-------------------------------|------------------------|-------------------------------|------------------------|
|      |   |  | SIP Emissions Budget Tons/Day | ROG Emissions Tons/Day | SIP Emissions Budget Tons/Day | NOx Emissions Tons/Day |
| 2026 | 11,533                                  | 85,469                                 | 12.1                          | 11.6                   | 17.3                          | 14.9                   |
| 2029 | 11,881                                  | 86,210                                 | 11.0                          | 10.3                   | 15.9                          | 13.5                   |
| 2032 | 12,281                                  | 87,389                                 | 10.0                          | 9.2                    | 15.1                          | 12.5                   |
| 2040 | 12,972                                  | 88,610                                 | 10.0                          | 7.3                    | 15.1                          | 11.6                   |
| 2050 | 13,673                                  | 89,798                                 | 10.0                          | 6.7                    | 15.1                          | 11.9                   |

Note: Emissions budgets from the 2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County (October 2020) were found adequate for transportation conformity purposes by U.S. EPA, effective October 19, 2021, and were approved by U.S. EPA, effective April 1, 2024.

## Conclusion

Based upon an evaluation of projects and funds programmed and a quantitative emissions analysis, the 2023 RTIP Amendment No. 13 and Amended 2021 Regional Plan meet the U.S. EPA transportation conformity regulations contained within the federal guidelines published on August 15, 1997, and subsequent amendments, as well as the requirements of the federal CAA of 1990.

Appendix A  
Air Quality Planning and  
Transportation Conformity



# Appendix A: Air Quality Planning and Transportation Conformity

## Executive Summary

The San Diego Association of Governments (SANDAG), as the region's Metropolitan Planning Organization (MPO), must make a transportation air quality conformity determination for regional transportation plans (RTPs) and regional transportation improvement programs (RTIPs). The purpose of transportation conformity is to ensure that federally funded or approved activities are consistent with the State Implementation Plan (SIP). This ensures that no transportation activities will cause or contribute to new air quality violations, worsen existing violations, or delay the attainment of any relevant National Ambient Air Quality Standards (NAAQS). This report documents a demonstration of conformity for the 2008 and 2015 ozone NAAQS for the proposed 2023 Regional Transportation Improvement Program (2023 RTIP) Amendment No. 13 and a redetermination of conformity for the Amendment to the 2021 Regional Plan.

## Background

The federal Clean Air Act (CAA), last amended in 1990, requires the U.S. Environmental Protection Agency (EPA) to set NAAQS for pollutants considered harmful to public health and the environment. California has adopted state air quality standards that are more stringent than the NAAQS.<sup>1</sup> Areas with levels that violate the standard for specified pollutants are designated as Nonattainment Areas.

The U.S. EPA requires that each state containing nonattainment areas develop and adopt a SIP that meets the NAAQS by a specified attainment deadline. The San Diego County Air Pollution Control District (SDAPCD), in collaboration with the California Air Resources Board (CARB), prepares the San Diego section of the state's SIP. Once the standards are met, further plans—called Maintenance Plans—are required to demonstrate continued maintenance of the NAAQS.

SANDAG and the U.S. Department of Transportation (DOT) must determine that the 2023 RTIP Amendment No. 13 and Amendment to the 2021 Regional Plan conform to the SIP for air quality. Conformity to the SIP means that transportation activities will not create new air quality violations, worsen existing violations, or delay the attainment of the NAAQS. Conformity determinations are guided by U.S. EPA's Transportation Conformity rule (40 CFR 93.100 et seq.). This document demonstrates regional transportation conformity to the 2020 San Diego Ozone SIP (2020 SIP) for the 2008 and 2015 ozone NAAQS. The year of the SIP corresponds to the year SDAPCD developed the document.

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<sup>1</sup> While most California air quality standards are more stringent than those developed by U.S. EPA, the 2015 Eight-Hour Ozone standards are the same.

On November 19, 2020, CARB adopted the proposed San Diego Eight-Hour Ozone Attainment Plan SIP submittal, which addresses the 2008 and 2015 ozone standards. Included in the 2020 SIP is a request for a voluntary reclassification from Serious to Severe Nonattainment for the 2008 ozone standard and a voluntary reclassification from Moderate to Severe Nonattainment for the 2015 ozone standards as permitted under Section 181(b)(3). The reclassification extends the timeline to meet the standards and aligns with air quality modeling. The reclassification was approved by U.S. EPA on July 2, 2021. On June 4, 2021, U.S. EPA posted on the Office of Transportation and Air Quality website the adequacy review and public comment on the 2008 and 2015 Eight-Hour Ozone Attainment Plan budgets. On October 4, 2021, U.S. EPA published in the Federal Register the adequacy finding for the on-road transportation air quality budgets in the 2020 SIP with an effective date of October 19, 2021.

On July 12, 2021, the 2020 SIP was found complete by U.S. EPA by operation of law six months after the submittal date. On December 19, 2023, U.S. EPA published in the Federal Register the proposed rulemaking approving the 2020 SIP.

### **2008 Ozone Standard**

On May 21, 2012, the U.S. EPA designated the San Diego air basin as a Nonattainment Area for the 2008 Eight-Hour Ozone standard and classified it as a Marginal Area with an attainment date of July 20, 2015. This designation became effective on July 20, 2012.

SANDAG demonstrated conformity of the 2011 Regional Plan and 2012 RTIP to the 2008 ozone standard on May 24, 2013, using the applicable model approved by the U.S. EPA to forecast regional emissions (EMFAC2011). The U.S. DOT, in consultation with the U.S. EPA, made its conformity determination on June 28, 2013.

On June 3, 2016, the U.S. EPA determined that 11 areas, including the San Diego air basin, failed to attain the 2008 ozone NAAQS by the applicable attainment date of July 20, 2015, and thus were reclassified by operation of law as Moderate for the 2008 ozone NAAQS (81 FR 26697). States containing these new Moderate Areas were required to submit SIP revisions that met the statutory and regulatory requirements that apply to 2008 ozone nonattainment areas classified as Moderate by January 1, 2017. The 2016 SIP addressed the required revisions.

On August 23, 2019, U.S. EPA published a final rule in the Federal Register reclassifying the San Diego air basin by operation of law from a Moderate Nonattainment Area for the 2008 ozone NAAQS to Serious, effective September 23, 2019 (84 FR 44238). This rulemaking changed the 2008 ozone NAAQS attainment deadline to July 20, 2021, with an attainment year of 2020.

Effective July 2, 2021, U.S. EPA approved the request from the State of California to reclassify San Diego County ozone Nonattainment Area from Serious to Severe for the 2008 Eight-Hour Ozone Standard. The reclassification of the 2008 Eight-Hour Ozone Standard from Serious to Severe changed the attainment date from July 20, 2021, (as a Serious area) to July 20, 2027, (as a Severe area) and the attainment demonstration year from 2020 to 2026.

## **2015 Ozone Standard**

On October 26, 2015, the U.S. EPA announced a revised ozone standard, referred to as the 2015 Ozone standard (80 FR 65292). The new standard revised the allowable ozone level to 0.070 parts per million (ppm). The 2015 ozone standard became effective on December 28, 2015. On June 4, 2018, U.S. EPA published a final rule that designated the San Diego air basin as nonattainment, with a classification of Moderate, for the 2015 ozone NAAQS with an attainment deadline of August 3, 2024, and an attainment year of 2023 (83 FR 25776, effective August 3, 2018).

On May 24, 2019, the SANDAG Board of Directors adopted the 2015 Ozone National Ambient Air Quality Standard Conformity Demonstration for San Diego Forward: The Regional Plan (2015 Regional Plan) and the 2018 RTIP. The conformity demonstration found the 2015 Regional Plan and 2018 RTIP, as amended, in conformity with the requirements of the federal Clean Air Act and applicable SIP. The U.S. DOT, in consultation with U.S. EPA, made its conformity determination on June 21, 2019, indicating that all air quality conformity requirements have been met, including those for the 2015 ozone standard.

Effective July 2, 2021, U.S. EPA approved the request from the State of California to reclassify San Diego County ozone Nonattainment Area from Moderate to Severe for the 2015 Eight-Hour Ozone Standard. The reclassification of the 2015 Eight-Hour Ozone Standard from Moderate to Severe changed the attainment date from August 3, 2024, (as a Moderate area) to August 3, 2033, (as a Severe area) and the attainment demonstration year from 2023 to 2032.

## **Carbon Monoxide Standard**

The San Diego region had been designated by the U.S. EPA as a federal maintenance area for the Carbon Monoxide (CO) standard. On November 8, 2004, CARB submitted the 2004 revision to the California SIP for CO to the U.S. EPA, which extended the maintenance plan demonstration to 2018. Effective January 30, 2006, the U.S. EPA approved this maintenance plan as a SIP revision. On March 21, 2018, the U.S. EPA documented in a letter that transportation conformity requirements for CO would cease to apply after June 1, 2018. Therefore, this appendix does not include a CO conformity analysis.

## **Conformity Determinations for 2021 Regional Plan, the 2023 RTIP, and the Amendment to the 2021 Regional Plan**

On December 10, 2021, the Board approved the 2021 Regional Plan and found the 2021 Regional Plan in conformity with the requirements of the CAA and applicable SIP. U.S. DOT, in consultation with U.S. EPA, made its conformity determination on January 28, 2022. At its September 23, 2022, meeting, the Board approved the 2023 RTIP, found the 2023 RTIP in conformity with the requirements of the CAA and applicable SIP, and redetermined that the 2021 Regional Plan conformed with the requirements of the CAA and applicable SIP. U.S. DOT, in consultation with U.S. EPA, made its conformity determination on December 16, 2022. On October 13, 2023, the Board approved the Amendment to the 2021 Regional Plan and found the Amended 2021 Regional Plan in conformity with the requirements of the CAA and applicable SIP.

## Transportation Conformity: Modeling Procedures

The proposed 2023 RTIP Amendment No. 13 makes no changes to the revenue assumptions in either the 2023 RTIP or the Amendment to the 2021 Regional Plan. In addition, this conformity determination fulfills the requirement of California Senate Bill 375 (Steinberg, 2008), which requires a Sustainable Communities Strategy (SCS) to allow for compliance with Section 176 of the CAA. (California Government Code Section 65080[b][2][B][viii]).

The following sections provide an overview of models, modeling inputs, and processes used in transportation conformity.

### Growth Forecasts

Every three to five years, SANDAG produces a long-range forecast of population, housing, and employment growth for the San Diego region. The process relies upon an integrated forecasting model. The first element is the San Diego Demographic and Economic model, which provides a detailed socioeconomic forecast for the region. Next, the regionwide data are allocated to the parcel level based upon the forecasted development pattern for the 2021 Regional Plan SCS land use pattern, which must use the most recent planning assumptions considering local general plans and other factors. This includes current plans and policies of the jurisdictions and increasing density near transit and job centers, consistent with regional goals for sustainability, mobility, housing affordability, and economic prosperity. The parcel-level forecast data can be aggregated up to larger subregional areas of interest. The Series 14 Regional Growth Forecast assumptions were presented to the Board on May 25, 2018. At its July 10, 2020, meeting, the Board adopted the 6th Cycle Regional Housing Needs Assessment Plan, which allocated the regional housing needs at the subregional level.

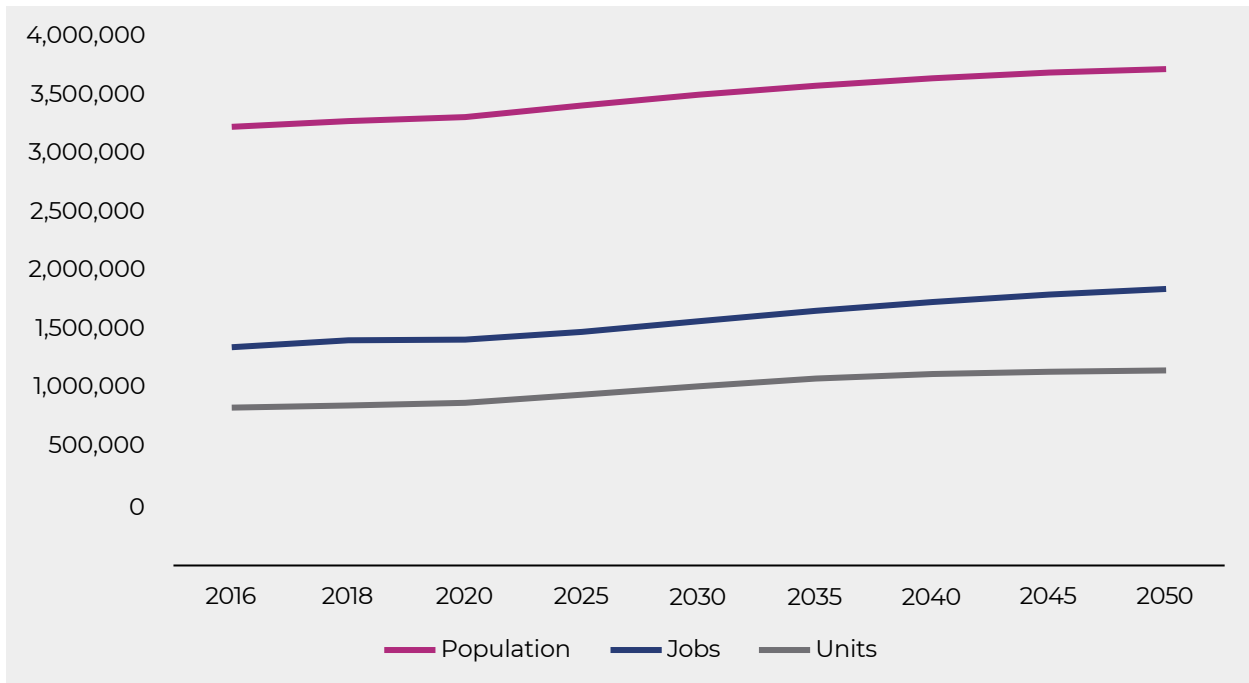
In 2022, anomalous traffic counts and employment at some large employment location sites and Traffic Analysis Zones (TAZs) were identified and corrected, and the Series 14 Regional Growth Forecast was updated to incorporate these corrections. The corrected inputs resulted in slight changes to regional employment figures and more concentrated employment across a handful of sectors at a limited number of employment locations; previously employment had been more dispersed across the region. These corrections resulted in a regional vehicle miles traveled (VMT) increase. Total regional numbers for population and housing units in the Series 14 Regional Growth Forecast were not changed by the corrected inputs.

On December 6, 2023, SANDAG consulted with the San Diego Region Conformity Working Group (CWG) on the use of the Series 14 Regional Growth Forecast, SCS land use pattern, as corrected, for the air quality conformity analyses of the 2023 RTIP conformity determination and the Amendment to the 2021 Regional Plan conformity redetermination. Previously, both the U.S. DOT and the U.S. EPA concurred that approved plans should be used as input in the air quality conformity process. Figure A.1 and Table A.1 show the regional population, jobs, and housing growth forecast for the San Diego region through 2050.



Figure A.1

**San Diego Regional Population, Jobs, and Housing Forecast**



Source: Series 14 Regional Growth Forecast SCS land use pattern, SANDAG

Table A.1

**San Diego Regional Population and Employment Forecast**

| San Diego Regional Population and Employment Forecast |            |            |
|---|------------|------------|
| Year  | Population | Employment |
| 2016  | 3,309,509  | 1,646,419  |
| 2025  | 3,470,849  | 1,762,701  |
| 2035  | 3,620,349  | 1,922,412  |
| 2050  | 3,746,077  | 2,087,208  |

Source: Series 14 Regional Growth Forecast SCS land use pattern, SANDAG

The Series 14 Regional Growth Forecast, SCS land use pattern, uses planning assumptions from the adopted general plans and community plans and policies of the 18 cities and the County. Because many of the local general plans have horizon years of 2030—20 years before the Series 14 Regional Growth Forecast horizon year—the later part of the forecast was developed in collaboration with each of the local jurisdictions through an iterative process that allowed each city to provide their projections for land uses in those later years.

The Series 14 Regional Growth Forecast SCS land use pattern thus represents in compliance with 40 CFR 93.110(a), the “latest planning assumptions” in force at the time this conformity analysis began.

## Travel Modeling

The following sections provide an overview of the SANDAG travel model and the travel model flow, spatial and temporal resolution, residents travel model, special market models, trip assignment, model inputs, data sources, and emissions modeling.

SANDAG uses an updated second-generation activity-based model (ABM2+) that incorporates the latest planning assumptions at the time the conformity analysis began per 40 CFR 93.110 to support the development of the RTP and its conformity demonstration.

An ABM simulates individual and household transportation decisions that comprise their daily travel itinerary. It predicts whether, where, when, and how people travel outside their home for activities such as work, school, shopping, healthcare, and recreation.

The SANDAG ABM2+ includes a number of methodological strengths. It predicts the travel decisions of San Diego residents at a detailed level, considering the way people schedule their day, their behavioral patterns, and the need to cooperate with other household members. When simulating a person's travel patterns, the ABM takes into consideration a multitude of personal and household attributes like age, income, gender, and employment status. The model's fine temporal and spatial resolution ensures that it can capture subtle aspects of travel behavior.

To support the 2021 Regional Plan, SANDAG enhanced the ABM2+ functionality for application to the 5 Big Moves planning efforts. These enhancements included functions to address new trends in teleworking, use of micromobility modes and transportation network companies (TNC), and new mobility options for flexible fleets and microtransit within mobility hubs.

The ABM2+ outputs are used as inputs for regional emissions forecasts. The estimates of regional transportation-related emissions analyses conducted for the conformity analyses of the 2023 RTIP and Amendment to the 2021 Regional Plan meet the requirements established in the Transportation Conformity Regulation (40 CFR §93.122[b] and §93.122[c]). These requirements relate to the procedures to determine regional transportation-related emissions, including the use of network-based travel models, methods to estimate traffic speeds and delays, and the estimation of VMT.

The ABM2+ accounts for a variety of different weekday travel markets in the region, including San Diego region resident travel, travel by Mexican residents and other travelers crossing San Diego County's borders, visitor travel, airport passengers at both the San Diego International Airport and the Cross Border Xpress (CBX) bridge to the Tijuana International Airport, and commercial travel. Many of the models used to represent demand are simulation-based models, such as activity-based or tour-based approaches, while others use an aggregate three- or four-step representations of travel. Table A.2 lists the SANDAG travel markets along several key dimensions.

There are two broad types of models and three specific types of models identified in Table A.2. Disaggregate models refer to models whose demand is generated via a stochastic simulation paradigm. Both activity-based and tour-based models are simulation-based. They rely upon a synthetic population to generate travel and stochastic processes to choose alternatives. The models output disaggregate demand in the form of tour and trip lists.

The resident travel model is an ABM, in which all tours and activities are scheduled into available time windows across the entire day. The approach recognizes that a person can be in only one place at one time, and their entire day is accounted for in the model. A tour-based treatment is used for other special travel markets, such as Mexican resident crossborder travel, visitor travel, airport passenger travel, and commercial vehicle travel. Tour-based models do not attempt to model all travel throughout the day for each person; rather, once tours are generated, they are modeled independently of each other.

A tour-based model does not attempt to schedule all travel into available time windows. Aggregate models rely upon probability accumulation processes to produce travel demand and output trip tables. The external heavy-duty truck model and certain external travel models are aggregated.

Table A.2

### SANDAG ABM2+ Travel Markets

| SANDAG ABM2+ Travel Markets   |  |                             |                     |  |
|---|--|-----------------------------|---------------------|--|
| Travel Market   | Description  | Model Type                  | Temporal Resolution | Spatial Resolution                               |
| San Diego resident travel (internal)  | Average weekday travel made by San Diego residents within San Diego County   | Disaggregate activity-based | 30-minute           | MGRA <sup>2</sup>                                |
| San Diego resident travel (internal-external)                                 | Average weekday travel by San Diego residents between San Diego County and another county (Mexico)                   | Disaggregate tour-based     | 30-minute           | Internal MGRA – external cordon TAZ <sup>3</sup> |
| Mexican resident crossborder travel (external-internal and internal-internal) | Average weekday travel by Mexican residents into, out of, and within San Diego County                                | Disaggregate tour-based     | 30-minute           | Internal MGRA – External cordon TAZ              |
| Overnight visitor   | Average weekday travel made by overnight visitors in San Diego County  | Disaggregate tour-based     | 30-minute           | MGRA   |
| Airport passenger (San Diego Airport and CBX)                                 | Average weekday travel made by air passengers and related trips such as taxis to/from airport                        | Disaggregate Trip-based     | 30-minute           | MGRA   |
| External-External   | Average weekday travel with neither origin nor destination in San Diego County                                       | Aggregate Trip-based        | 5 time periods      | External cordon TAZ                              |
| Other U.S.-Internal travel  | Average weekday external-internal trips made by non-San Diego and non-Mexican residents                              | Aggregate Trip-based        | 5 time periods      | External cordon TAZ – Internal TAZ               |
| Commercial vehicle model  | Average weekday vehicle trips made for commercial purposes (in addition to heavy trucks, includes light truck goods) | Disaggregate tour-based     | 5 time periods      | TAZ  |

<sup>2</sup> MGRA = Master Geographic Reference Area; 23,002 MGRAs in the Region

<sup>3</sup> TAZ = Transportation Analysis Zone; 4,996 TAZs in the Region

movements and service vehicles)

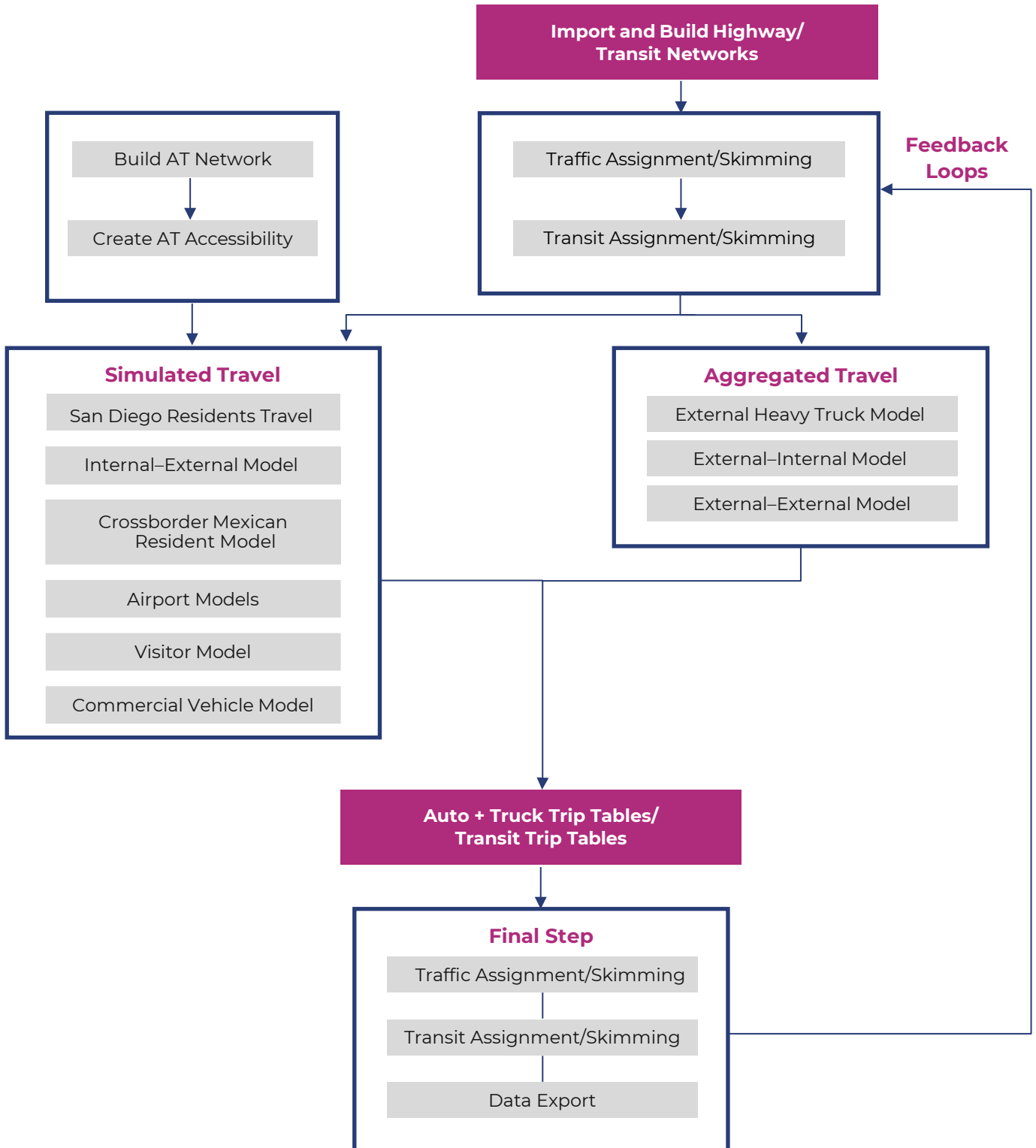
|                                 |  |                      |                |   |
|---------------------------------|--|----------------------|----------------|---|
| External heavy-duty truck model | Average weekday vehicle trips for 3 weight classes for External truck travel | Aggregate Trip-based | 5 time periods | External cordon TAZ – External cordon TAZ; External cordon TAZ – Internal TAZ |
|---------------------------------|--|----------------------|----------------|---|

### ABM2+ Model Flow

To simulate how San Diego residents, non-residents, and freight travel in the region, the SANDAG ABM2+ includes several models and steps. Figure A.2 outlines the overall flow of the SANDAG ABM2+. It starts with building an all-street-based active transportation network and creating Master Geographic Reference Area (MGRA) to MGRA and MGRA to transit access point (TAP) walk, micromobility, or microtransit equivalent accessibility files; highway and transit network building and importing into Emme (traffic modeling software licensed from INRO); then traffic and transit assignment with warm start trip tables to get the congested highway and transit skims.

After the network skims and walk access files are created, the resident travel model is executed, followed by the other disaggregate models (visitor, San Diego International Airport, CBX terminal, crossborder, and commercial vehicle) and aggregate models (external heavy truck, external-external, and external-internal). The trip tables from all the models are summed up by vehicle classes, time of day (TOD) and value of time (VOT) and are used by traffic assignment. The skims after the traffic assignment are used for the subsequent iteration in a three-feedback-loop model run. The final traffic and transit assignment and data export concludes the ABM2+ modeling procedure. The outputs from the final step are used to generate input for Emission Factors (EMFAC) emissions modeling.

Figure A.2  
**SANDAG ABM2+ Flow Chart**



## Spatial and Temporal Resolution

As indicated in Table A.2, different travel markets are operated in different model types with different spatial and temporal resolutions. The following section describes the treatment of space and time in the SANDAG ABM2+.

SANDAG ABM2+ utilizes the SANDAG MGRA zone system, which is the one of the most disaggregate zonal systems used in travel demand models in the United States. The SANDAG MGRA system used in ABM2+ consists of 23,002 zones, which are roughly equivalent to Census blocks. To avoid computational burden, SANDAG relies on a 4,996 TAZ system for roadway skims and assignment but performs transit calculations at the more detailed MGRA level, where all activity locations are tracked. The MGRA geography offers both the advantage of fine spatial resolution and consistency with network levels of service that make it ideal for tracking activity locations.

The disaggregated models function at a temporal resolution of one-half hour. These one-half hour increments begin with 3 a.m. and end with 3 a.m. the next day, though the hours between 1 a.m. and 5 a.m. are aggregated to reduce computational burden.

Temporal integrity is ensured so that no activities are scheduled with conflicting time windows except for short activities/tours that are completed within a one-half hour increment. For example, a person may have a very short tour that begins and ends within the 8 a.m. to 8:30 a.m. period as well as a second, longer tour that begins within this time period but ends later in the day.

Time periods are typically defined by their midpoint in the scheduling software. For example, in a model system using one-half hour temporal resolution, the 9 a.m. time period would capture activities of travel between 8:45 a.m. and 9:15 a.m. If there is a desire to break time periods at “round” half-hourly intervals, either the estimation data must be processed to reflect the aggregation of activity and travel data into these discrete half-hourly bins or a more detailed temporal resolution must be used, such as half-hours (which could then potentially be aggregated to “round” half-hours).

A critical aspect of the model system is the relationship between the temporal resolution used for scheduling activities and the temporal resolution of the network simulation periods. Although each activity generated by the model system is identified with a start time and end time in one-half hour increments, level-of-service matrices are only created for five aggregate time periods: (1) early a.m.; (2) a.m.; (3) midday; (4) p.m.; and (5) evening. The trips occurring in each time period reference the appropriate transport network depending on their trip mode and the midpoint trip time. All aggregated models operate on five aggregated time periods. Table B.3 lists the definition of time periods for level-of-service matrices.

Table A.3  
**Time Periods for Level-of-Service Skims and Assignment**

| Time Period for Level-of-Service Skims and Assignment |             |            |           |
|---|-------------|------------|-----------|
| Number  | Description | Begin Time | End Time  |
| 1   | Early       | 3 a.m.     | 5:59 a.m. |
| 2   | a.m. Peak   | 6 a.m.     | 8:59 a.m. |
| 3   | Midday      | 9 a.m.     | 3:29 p.m. |
| 4   | p.m. Peak   | 3:30 p.m.  | 6:59 p.m. |
| 5   | Evening     | 7 p.m.     | 2:59 a.m. |

## Resident Travel Model

The resident travel model is based on the Coordinated Travel Regional Activity-Based Modeling Platform family of ABMs. This model system is an advanced, but operational, ABM that fits the needs and planning processes of SANDAG.

The resident travel model has its roots in a wide array of analytical developments. They include discrete choice forms (multinomial and nested logit), activity duration models, time-use models, models of individual microsimulation with constraints, entropy-maximization models, etc. These advanced modeling tools are combined to ensure maximum behavioral realism, replication of the observed activity-travel patterns, and model sensitivity to key projects and policies. The model is implemented in a microsimulation framework. Microsimulation methods capture aggregate behavior through the representation of the behavior of individual decision-makers. In travel demand modeling, these decision-makers are typically households and persons.

## Decision Modeling Units

Decision-makers in the model system include both persons and households. These decision-makers are created (synthesized) for each simulation year based on tables of households and persons from Census data and forecasted TAZ-level distributions of households and persons by key socioeconomic categories. These decision-makers are used in the subsequent discrete-choice models to select a single alternative from a list of available alternatives according to a probability distribution. The probability distribution is generated from a logit model that takes into account the attributes of the decision-maker and various alternatives. The decision-making unit is an important element of model estimation and implementation and is explicitly identified for each model specified in the following sections.

To simulate trips and tours made by individuals and households, the SANDAG ABM2+ includes a total of eight person types (shown in Table A.4). The person types are mutually exclusive with respect to age, work status, and school status.

Table A.4

### Person Types

| Person Types |                               |       |             |               |
|--------------|-------------------------------|-------|-------------|---------------|
| Number       | Person-Type                   | Age   | Work Status | School Status |
| 1            | Full-time worker <sup>4</sup> | 18+   | Full-time   | None          |
| 2            | Part-time worker              | 18+   | Part-time   | None          |
| 3            | College student               | 18+   | Any         | College+      |
| 4            | Non-working adult             | 18–64 | Unemployed  | None          |
| 5            | Non-working senior            | 65+   | Unemployed  | None          |
| 6            | Driving-age student           | 16–17 | Any         | Pre-college   |
| 7            | Non-driving student           | 6–15  | None        | Pre-college   |
| 8            | Preschooler                   | 0–5   | None        | None          |

<sup>4</sup> Full-time employment is defined in the SANDAG 2016 household survey as at least 30 hours/week. Part-time is less than 30 hours/week on a regular basis.

Further, workers are stratified by their occupation to take full advantage of information provided by the land use and demographic models. Table A.5 outlines the worker categories. These models are used to segment destination choice attractiveness for work location choice based on the occupation of the worker.

The SANDAG ABM2+ assigns one of the activity types to each out-of-home location that a person travels to in the simulation (shown in Table A.6). The activity types are grouped according to whether the activity is mandatory, maintenance, or discretionary. The classification scheme of activities into the three categories helps differentiate the importance of the activities. “Mandatory” includes work and school activities. “Maintenance” includes household-related activities, such as drop-off and pick-up of children, shopping, and medical appointments. “Discretionary” includes social and recreational activities. To determine which person types can be used for generating each activity type, the model assigns eligibility requirements. For example, a full-time worker will generate mandatory work activities, while a non-working adult or senior is eligible for non-mandatory activities. The classification scheme of each activity type reflects the relative importance or natural hierarchy of the activity, where work and school activities are typically the most inflexible in the person’s daily travel itinerary.

Table A.5  
**Occupation Types**

| Occupation Types |  |
|------------------|--|
| Number           | Description                                      |
| 1                | Management, Business, Science, and Arts          |
| 2                | Services   |
| 3                | Sales and Office                                 |
| 4                | Natural Resources, Construction, and Maintenance |
| 5                | Production, Transportation, and Material Moving  |
| 6                | Military   |

Table A.6  
**Activity Types**

| Activity Types |                     |  |                |                                   |
|----------------|---------------------|--|----------------|-----------------------------------|
| Type           | Purpose             | Description  | Classification | Eligibility                       |
| 1              | Work                | Working at regular workplace or work-related activities outside the home | Mandatory      | Workers and students              |
| 2              | University          | College+   | Mandatory      | Age 18+                           |
| 3              | High School         | Grades 9–12  | Mandatory      | Age 14–17                         |
| 4              | Grade School        | Grades K–8   | Mandatory      | Age 5–13                          |
| 5              | Escorting           | Pick-up/drop-off passengers  | Maintenance    | Age 16+                           |
| 6              | Shopping            | Auto trips only  | Maintenance    | 5+ (if joint travel, all persons) |
| 7              | Other Maintenance   | Shopping away from home  | Maintenance    | 5+ (if joint travel, all persons) |
| 8              | Social/Recreational | Personal business/services and medical appointments                      | Discretionary  | 5+ (if joint travel, all persons) |
| 9              | Eat Out             | Recreation, visiting friends/family                                      | Discretionary  | 5+ (if joint travel, all persons) |
| 10             | Other Discretionary | Eating outside of home   | Discretionary  | 5+ (if joint travel, all persons) |



The ABM2+ includes 22 modes available to residents, including auto by occupancy by VOT, walk, micromobility and bike modes, and walk and drive access to local, premium, or local and premium transit modes. All auto modes are included in traffic assignment, with Kiss & Ride to transit and TNC and taxi as shared ride modes and Park & Ride to transit as drive-alone mode. All transit modes are included in transit assignment, with TNC to transit as Kiss & Ride to transit. Table A.7 lists the trip modes defined in the resident travel model.

Table A.7

### Trip Modes

| Trip Modes |  |
|------------|--|
| Number     | Mode   |
| 1          | Drive-Alone Non-Transponder                        |
| 2          | Drive-Alone Transponder                            |
| 3          | Shared Ride 2 Person                               |
| 4          | Shared Ride 3+ Person (Non-Toll)                   |
| 5          | Walk – Local Bus Only                              |
| 6          | Walk – Premium Transit Only                        |
| 7          | Walk – Local Bus and Premium Transit               |
| 8          | Park & Ride – Local Bus Only                       |
| 9          | Park & Ride – Premium Transit Only                 |
| 10         | Park & Ride – Local Bus and Premium Transit        |
| 11         | Kiss & Ride – Local Bus Only                       |
| 12         | Kiss & Ride – Premium Transit Only                 |
| 13         | Kiss & Ride – Local Bus and Premium Transit        |
| 14         | TNC to Transit – Local Bus Only                    |
| 15         | TNC to Transit – Premium Transit Only              |
| 16         | TNC to Transit – Local and Premium Transit         |
| 17         | Walk (walk, micromobility, and microtransit modes) |
| 18         | Bike   |
| 19         | Taxi   |
| 20         | TNC Single   |
| 21         | TNC Pooled   |
| 22         | School Bus (only available for school purpose)     |

To model transit flow, the ABM2+ uses three transit modes: (1) local bus only; (2) premium mode only; and (3) local bus plus premium. Each mode is by three access modes of walk, Park & Ride, Kiss & Ride (including TNC) to transit, resulting in total of nine transit trip TAP–TAP matrices. The premium modes include any non-local bus modes: Tier 1 heavy rail; Commuter Rail (COASTER); Light Rail Transit (LRT) (including Trolley, SPRINTER, and Streetcar); Bus Rapid Transit (Rapid)/Rapid Bus and Express Bus. The local bus plus premium mode includes transfer between local bus and premium modes.

The resident travel model comprises numerous interacting components, called “submodules.” It starts with generating a representative population for the San Diego region. Once a representative population is created, the model predicts long-term and medium-term decisions such as a choice of work or school location and a household’s choice of number of cars to own. Next, each person’s day is scheduled, considering the priority of various activities and interaction among the household members. Once all journeys to and from home have been scheduled, the model predicts specific travel details such as mode, the number of stops to make, where to stop, and when to depart from each stop to continue the tour. The results of resident travel model are a list of trips and tours by person by household by time of day.

The following section discusses the submodules in the order that each submodule is taken within the resident travel model.

### **Step 1: Population synthesis (build a representative population that looks like San Diego)**

The first step is to create a “synthetic” population of San Diego County. A synthetic population is a table that has a record for every individual and household with the individual’s and the household’s characteristics. For example, if there are 41,000 18-year-old males in the region in 2050, there would be approximately 41,000 records in the table for males age 18, with each record also having other characteristics, such as school enrollment and labor force participation status. Taken as a whole, this synthetic population represents the decision-makers whose travel choices the model will simulate in later steps. For each simulation year, a full population is synthesized to match the forecasted socioeconomic and housing characteristics of each part of the region at the zonal level. These forecasts, a key ABM2+ input, come from the land use model. Synthesis works by replicating a sample of Census records (each containing complete household and individual characteristics) and placing them around the region in such a way that the forecasted characteristics of each zone are matched.

### **Step 2: Work and school location (assign a work location to workers and a school location to students)**

The second step predicts where each individual will go to work or school, if applicable. The work and school location submodule simulates each worker’s choice of work location, taking into account many factors, including ease of travel and the number of employees by occupation type in each location. The submodule also simulates each student’s choice of school, considering factors that include the distance from home to school, school enrollment, and district boundaries. The results from this step affect later travel choices significantly because of the prominent role that workplace and school usually play in the itinerary of workers and students.

### **Step 3: Determine certain mobility characteristics of individuals and households**

This step predicts the number of automobiles each household owns, whether each household owns a toll transponder, and whether worker parking costs are employer-reimbursed. The submodule assigns each household zero, one, two, three, or four or more cars, taking into account a number of criteria, including household size, income, number of drivers, and how easy it is to reach destinations from the household’s place of residence. This step sets certain mobility characteristics that influence how people travel.

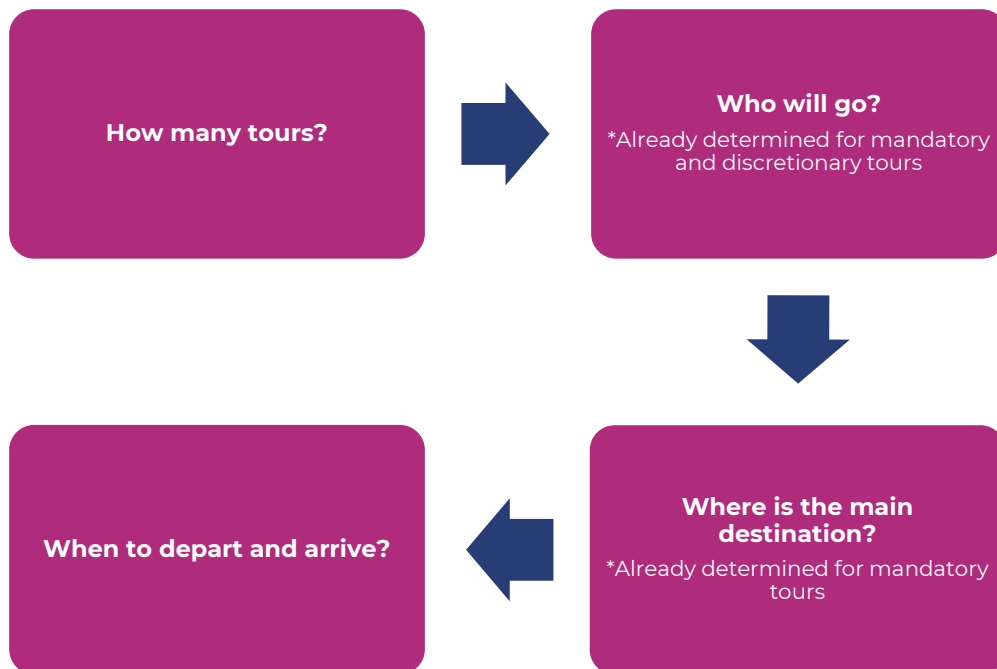
#### Step 4: Schedule the day

The fourth step begins by predicting a “daily activity” pattern for each individual. This pattern is a theme that dictates an individual’s schedule. A “mandatory” pattern means that an individual travels to work and/or school, then schedules other activities around work/school. An “at-home” pattern means that an individual’s daily schedule involves no travel in the region. A “non-mandatory” pattern means that an individual’s daily schedule involves traveling, but only to destinations other than work or school. The pattern type of other household members influences an individual’s daily pattern type. For example, if a child stays home from school, a working parent might be more likely to stay home from work as well.

Once the submodule selects an individual’s daily activity pattern, it schedules the tours that he or she will take. Recall that a tour is a journey that begins and ends at home, and it can include stops at other destinations on the way to or from the primary destination. The ABM2+ deals with three main categories of tours: (1) mandatory; (2) joint; and (3) non-mandatory. Mandatory tours have work or school as the primary destination. Joint tours involve out-of-home activities that multiple members of a household partake in together. Non-mandatory tours involve purposes other than work or school that an individual undertakes independent of other members of his or her household. The submodule schedules each tour type by predicting how many tours of that type there are, who will participate in the tour, where the main destination is, and when to depart and arrive (see Figure A.3).

Figure A.3

#### Predicting Tour Type Scheduling Details

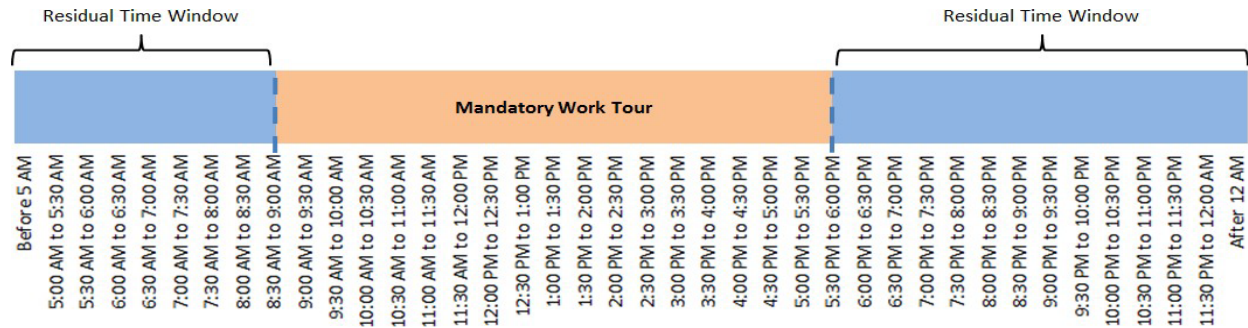


For individuals assigned a “mandatory” activity pattern, the submodule first assigns the number of work tours and/or school tours they will make. After the number of these mandatory tours has been determined, the submodule selects the time of departure from and arrival back home for each tour.

After scheduling the mandatory tours, the submodule calculates time remaining for other tours. Remaining intervals of time are called “residual time windows,” and other tours can only be scheduled in these open slots (see Figure A.4 for an example) to guarantee temporal consistency.

Figure A.4

### Tour Scheduling Windows



In time remaining after mandatory tours are scheduled, the submodule determines the number of joint tours to be made for each household. It only schedules joint tours in the time windows that overlap between individuals after it accounts for mandatory activities. After the number and purpose of these joint tours has been determined, the submodule decides which household members will participate in each joint tour and whether it must involve a combination of children and adults. The submodule then chooses a specific destination for the tour and the specific times when participants will depart from and arrive back home together. Next, “non-mandatory” tours are scheduled. For each household, the submodule decides what other tours need to be made for the purpose of household “maintenance” activities such as shopping. These tours are assigned to specific household members to carry out individually. For the person who is assigned each maintenance tour, the model selects a specific destination and schedules the tour to take place in a time window that mandatory and joint tours have left open. Finally, in what time remains, the model decides whether each individual will take non-mandatory “discretionary” tours. These low-priority tours involve activities related to recreation, eating out, and social functions, and can only take place in time windows that remain after all other tours have been scheduled.

The submodule chooses a specific destination and departure/arrival combination for each discretionary tour a person makes.

#### Step 5: Make tour- and trip-level decisions

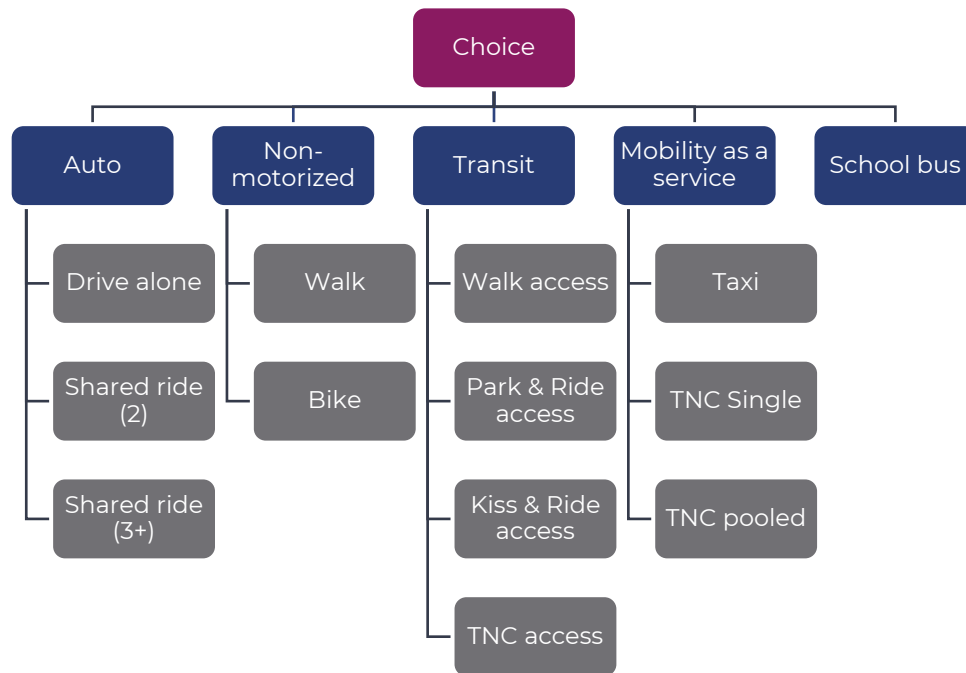
The ABM2+ then selects more detailed characteristics of each tour for every traveler. This step fills in travel details after the major aspects of the day have been scheduled. Tour characteristics that need to be determined include: primary mode of the tour, how many times to stop, where to stop, and when to depart from each stop to continue the tour.

Figure A.5 includes the available modes and mode hierarchy. After tour characteristics are set, the submodule determines the mode of each trip (conditional upon tour mode).

Recall that trips are segments of tours that have a given origin and destination. If the trip mode involves an automobile and the destination is a parking-constrained area, then the model chooses a parking location for the traveler at the trip destination.

Figure A.5

### Tour and Trip Modes



The ABM2+ has three access modes to transit (walk, Park & Ride, and Kiss & Ride including TNC to transit) and three transit sets (local bus only, premium transit only, and local bus and premium transit sets), for nine total demand classes by five TOD. These classes are assigned in slices, one at a time, to produce the total transit passenger flows on the network and total transit ridership forecasts.

### Special Market Models

Besides the resident travel model, ABM2+ includes a few special market models: crossborder; San Diego International Airport ground access; CBX terminal; visitor; external; commercial vehicle; and external heavy truck.

#### Crossborder Model

The model measures the impact of Mexican resident travel on the San Diego transport network. The model accounts for Mexican resident demand (such as auto volume, transit boarding, and toll usage) for transportation infrastructure in San Diego County. It also forecasts border crossings at each current and potential future border-crossing station. The model is based on the 2010 SANDAG Cross-Border Survey, Mexican resident border crossings and their travel patterns into and within the United States. Data were collected at the San Ysidro, Otay Mesa, and Tecate border crossing stations. In 2022, a software bug was discovered in the crossborder model that affected the number of crossings via Otay Mesa East and resulting traffic volumes on SR 11. The software bug was fixed, improving the accuracy of traffic volumes on SR 11. The fix had minor impacts on regional VMT.

### **San Diego International Airport Ground Access Model**

This model captures airport travel demand on transportation facilities in San Diego County, modeling travel to and from the airport for arriving and departing passengers. It allows SANDAG to test the impacts of various parking price and supply scenarios at the airport. The model is based on the 2008 San Diego International Airport Survey of airport passengers in which data were collected on their travel to the airport prior to their departure.

### **Cross Border Xpress Terminal Model**

The CBX terminal is a unique facility that provides access to Tijuana International Airport from the United States via a pedestrian bridge. The terminal provides a much faster border crossing than is available at either San Ysidro or Otay Mesa, especially for returning passengers. In order to use the facility, each traveler must have a Tijuana International Airport boarding pass and pay a fee to cross each direction. The terminal offers parking, rental car services, airline check-in services, duty-free shopping, and dining. It opened in December 2015.

### **Visitor Model**

The visitor model captures the demand of visitor travel on transportation facilities in San Diego County. The model is estimated based on the 2011 SANDAG Visitor Survey of airport passengers and hotel guests in which data were collected while visiting San Diego.

### **External Models**

The external travel models predict characteristics of all vehicle trips and selected transit trips crossing the San Diego County border. This includes trips that travel through the region without stopping and trips that are destined for locations within the region.

The external-external, external-internal, and internal-external trips in San Diego County were segmented into the following trip types:

- **U.S.–U.S.: External–external** trips whose production and attraction are both in the United States, but not in San Diego County.
- **US–M.X.: External–external** trips with one trip end in the United States and the other in Mexico.
- **US–S.D.: External–internal** trips with a production elsewhere in the United States and an attraction in San Diego County.
- **MX–S.D.: External–internal** trips with a production in Mexico and an attraction in San Diego County (covered by the Mexican resident crossborder model).
- **SD–U.S.: Internal–external trips** with a production in San Diego and an attraction elsewhere in the United States.
- **SD–MX: Internal–external** trips with a production in San Diego County and an attraction in Mexico.

### **External heavy truck model**

The external heavy truck model predicts truck flows into, out of, and through San Diego County. The model is based upon a dataset created by Bureau of Transportation Statistics and the Federal Highway Administration (FHA) known as the Freight Analysis Framework (FAF). The FAF integrates data from a variety of sources to create a comprehensive picture of freight movement among states and major metropolitan areas by all modes of transportation. The model utilizes FAF4 data, which is based on the 2012 Commodity Flow Survey, and provides forecasts through 2045.

### **Commercial vehicle model**

The commercial vehicle model is a disaggregated tour-based model developed in 2014. This model was based upon a local commercial vehicle survey and replaces the aggregate intraregional Heavy-Duty Truck Model (HDTM) and nonfreight commercial vehicle components of the original aggregate commercial vehicle model. The internal/external component of the HDTM was retained in the new model system but was updated to FAF4 data.

### **Trip Assignment**

The final steps of the SANDAG ABM2+ are to assign the trip demand onto the roadway and transit networks. Assignments are run for the five time periods identified in Table A.3.

### **Traffic Assignment**

The traffic assignment for the ABM2+ is a 15-class assignment with generalized cost by five times of day. Auto vehicle classes are broken out by VOT for low-, medium-, and high- income groups, respectively. The 15 classes are drive-alone non-transponder, drive-alone transponder, shared ride 2, and shared ride 3+ by VOT and heavy truck by weight class (light-heavy, medium-heavy, and heavy-heavy).

The traffic assignment model works by finding roads that provide the shortest travel impedance between each zone pair. Trips between zone pairs are then accumulated on road segments making up minimum paths. Highway impedances consider posted speed limits, signal delays, congestion delays, and costs. The model computes congestion delays for each segment based on the ratio of the traffic volume to roadway capacity. Motorists may choose different paths during peak hours, when congestion can be heavy, and off-peak hours, when roadways are typically free flowing. For this reason, traffic is assigned separately for five time periods (as defined in the Key Modeling Units section). Vehicle trip tables for each scenario reflect increased trip-making due to population growth and variations in travel patterns due to the alternative transportation facilities/networks proposed. Customized programs process outputs from traffic assignment and generate total VMTs by vehicle class, and percentage of VMTs by speed bin and by vehicle class. This information is input to the EMFAC program to generate emissions summaries.

### **Transit Assignment**

The transit assignment uses a headway-based approach, where the average headway between vehicle arrivals for each transit line is known, but exact schedules are not. Passengers and vehicles arrive at stops randomly and passengers choose their travel itineraries considering the expected average waiting time.

The Emme extended transit assignment is based on the concept of optimal strategy but extended to support a number of behavioral variants. The optimal strategy is a set of rules that define sequence(s) of walking links and boarding and alighting stops, producing the minimum expected travel time (generalized cost) to a destination. At each boarding point, the strategy may include multiple possible attractive transit lines with different itineraries. A transit strategy will often be a tree of options, not just a single path. A line is considered attractive if it reduces the total expected travel time by its inclusion. The demand is assigned to the attractive lines in proportion to their relative frequencies.

## Model Inputs

The SANDAG ABM2+ utilizes a variety of data as inputs. Besides the Series 14 Regional Growth Forecast, SCS land use pattern, inputs (used to provide existing and planned land use and demographic characteristics), there are three major inputs: highway networks used to describe existing and planned roadway facilities, transit networks used to describe existing and planned public transit service, and an active transportation network used to describe non-motorized bicycle and pedestrian facilities.

The regionally significant projects and the years they are expected to open to traffic for each analysis year are documented in Tables A.11 through A.13. The design concept and scope of projects allow adequate model representation to determine intersections with regionally significant facilities, route options, travel times, transit ridership, and land use. The VMT for federal projects that are not regionally significant are also accounted for in the regional emissions analysis.

## Highway Networks

The regional highway networks in the Amendment to the 2021 Regional Plan include all roads classified by local jurisdictions in their general plan circulation elements. These roads include freeways, expressways, and the Regional Arterial System (RAS), which consists of all conventional state highways, prime arterials, and selected major streets. In addition, some local streets are included in the networks for connectivity between TAZs.

All regionally significant projects are included in the quantitative emissions analysis for the amendment. These include all state highways, proposed national highway system routes, regionally significant arterials, and “other principal arterials” functionally classified by the FHA. These include federal and non-federal regionally significant projects.

The networks also account for programs intended to improve the operation of the highway system, including High-Occupancy Vehicle (HOV) lanes, Managed Lanes, and ramp metering. Existing and proposed toll facilities also are modeled to reflect time, cost, and capacity effects.

In addition, several Managed/HOV lanes are included in the Amendment to the 2021 Regional Plan (Tables A.11a–A.14b.). Managed Lanes offer priority access to people using transit, carpooling, motorcycles, or vanpooling along with emergency vehicles and some low-emission vehicles with appropriate decals. Additionally, one-lane HOV facilities that operate as two-person carpool lanes in earlier years transition to Managed Lanes by 2035. It is assumed that the excess capacity not utilized by carpools and transit on these facilities would be managed so that single-occupant vehicles could use these lanes under a pricing mechanism. Traffic flows would be managed so that the facility would operate at LOS D or better.

SANDAG maintains a master transportation network from which a specific year network, between 2010 and 2050, can be built.



For the air quality conformity analyses of the 2023 RTIP and Amendment to the 2021 Regional Plan, using emissions budgets from the 2020 SIP, SANDAG built and verified five highway networks (2026, 2029, 2032, 2040, and 2050) from the master transportation network.

A list of the major highway and near-term regional arterial projects included in the conformity analyses, along with information on phasing for their implementation, are included in Tables X.11a and X.14b. Locally funded, regionally significant projects have also been or are included in the air quality conformity analysis. These projects are funded with TransNet Extension funds—a 40-year, half-cent local sales tax extension approved by voters in 2004 that expires in 2048—and other local revenue sources.

## Transit Networks

SANDAG also maintains transit network datasets for existing and proposed transit systems. Most transit routes run over the same streets, freeways, HOV lanes, and ramps used in the highway networks. The only additional facilities that are added to the master transportation network for transit modeling purposes are as follows:

- Rail lines used by commuter rail, Trolleys, and streetcars
- Streets used by buses that are not part of local general plan circulation elements

Rapid service has stop spacing similar to commuter (Freeway Rapid) or light rail (Arterial Rapid) rail stations and operating characteristics midway between rail and bus service. Rapid service is provided by advanced design buses operating on HOV lanes or Managed Lanes, some at-grade transit ways, and surface streets with priority transit systems.

Bus speeds assumed in the transit networks are derived from modeled highway speeds and reflect the effects of congestion. Higher bus speeds may result in transit vehicles operating on highways with HOV lanes and HOV bypass lanes at ramp meters compared to those routes that operate on highways where these facilities do not exist.

In addition to transit travel times, transit fares are required as input to the mode choice model. A customized procedure using the traffic assignment software replicates the San Diego region's fare policies for riders (seniors, disabled, students):

- Local buses collect a flat fare of \$2.50 (COASTER Connection buses are free, some future shuttle routes charge \$1)
- Trolleys and SPRINTER charge \$2.50 for all trips
- Commuter rail (COASTER), has a zone-based fare of between \$5 and \$6.50 currently and an assumed flat fare (along with a future Tier 1 high-speed commuter rail mode) of \$6
- Express Freeway Rapid routes are assumed to charge \$5
- Rapid Bus routes are assumed to charge \$2.50

Transit fares reflect ridership costs at the time the transportation model was developed. Fares are expressed in 2010 dollars and are held constant in inflation-adjusted dollars over the forecast period.

Near-term transit route changes are drawn from the Coordinated Plan, which was produced in cooperation with the region's transit agencies. Longer-range and other transit corridor studies remain unchanged by this proposed 2023 RTIP Amendment No. 13. In addition to federal- and state-funded projects, locally funded transit projects that are regionally significant are included in this air quality conformity analysis.

## Active Transportation Networks

SANDAG maintains an all-street active transportation network including existing and planned bike projects to support bike project evaluation and impact analysis. Based on the proposed bike projects in the regional bikeway system developed through Riding to 2050: San Diego Regional Bike Plan, SANDAG generates year-specific active transportation networks and uses these networks to create accessibility measures from MGRA to MGRA for walking and biking and from TAZ to TAZ for biking modes. These active transportation accessibility measures are inputs to the SANDAG ABM2+ to simulate people's choice of travel mode and choice of bike routes.

The active transportation network has unique characteristics that account for facility type, bike treatments, and elevation change. The active transportation networks include five classification types for bike facilities in the regional bikeway system: Class I: bike paths; Class II: bike lanes; Class III: bike routes; Class IV: cycle tracks; and Class "V": bike boulevards. Class V is an internal designation and not a California vehicle code facility type. Once network coding is completed, the ABM2+ is run for the applicable scenarios: 2026, 2029, 2032, 2040, and 2050 for the 2020 SIP.

## Data Sources

Aside from network inputs, SANDAG relies on several survey datasets to estimate and calibrate the model parameters. The most important survey data are household travel. The latest household travel survey conducted for SANDAG was the 2016–2017 Household Travel Behavior Survey (HTS2016) with smartphone-based travel diaries as the primary means of travel data collection. Since 1966, consistent with the state of the practice for the California Household Travel Survey and National Household Travel Survey, SANDAG and Caltrans conduct a comprehensive travel survey of San Diego County every ten years. HTS2016 surveyed 6,139 households in San Diego County. The survey asked all households with smartphones to participate using the smartphone-based GPS travel diary and survey app (rMove) for one week and accommodated participating households without smartphones by allowing them to complete their one-day travel diary online or by calling the study call center.

As part of a joint survey effort with the Metropolitan Transportation Commission and the Southern California Association of Governments funded by California Senate Bill 1 (Beall, 2017) (SB 1), SANDAG conducted a TNC survey in 2019 to better understand TNC usage in the San Diego region. The TNC survey includes 2,800 complete persons,<sup>5</sup> 17,340 completed person-days, and 1,578 TNC trips. SANDAG used the 2019 TNC survey data to estimate TNC single and pooled in the mode choice model.

Additional data needed for the mode choice components of the ABM2+ come from a transit on-board survey. The most recent SANDAG survey of this kind is the 2015 Transit On-Board Survey (OBS2015). OBS2015 collected data on transit trip purpose, origin and destination address, access and egress mode to and from transit stops, the on/off stop for surveyed transit routes, number of transit routes used, and demographic information.

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<sup>5</sup> A complete person is when a person completes all trip surveys and the daily survey for a given travel day. A person is considered complete if they have at least one complete person-day.

Population synthesis requires two types of data: individual household and person Census records from San Diego County and aggregate data pertaining to the sociodemographic characteristics of each zone in the region. The first type of data is available from the Public Use Microdata Sample (PUMS), a representative sample of complete household and person records that is released with the Census and American Communities Survey. The second type of data is from the Census for the base year and from land use forecasts for future years.

Table A.8 lists data sources mentioned above along with other necessary sources of data. Modeling parking location choice and employer reimbursement of parking cost depends on parking survey data collected from 2010 into early 2011 as well as a parking supply inventory. The transponder-ownership sub-model requires data on transponder users. Data needed for model validation and calibration includes traffic counts, transit-boarding data, Census Transportation Planning Package (CTPP), Caltrans Performance Measurement System (PeMS), and Highway Performance Monitoring System (HPMS).

Table A.8  
**ABM2+ Input Data**

| ABM2+ Input Data  |   |
|---|---|
| SANDAG Surveys  | Outside Data Sources  |
| <ul style="list-style-type: none"> <li>Household Travel Behavior Survey (2016)</li> <li>Transit On-Board Survey (2015)</li> <li>SB 1 TNC Survey (2019)</li> <li>Commute Behavior Survey (2018)</li> <li>Taxi Passenger Survey (2009)</li> <li>Parking Inventory Survey (2010)</li> <li>Parking Behavior Survey (2010)</li> <li>Border Crossing Survey (2011)</li> <li>Visitor Survey (2011)</li> <li>Establishment Survey (2012)</li> <li>Tijuana Airport Passenger Survey (2017)</li> <li>Commercial Vehicles Survey (2011)</li> <li>Vehicle Classification &amp; Occupancy (2006)</li> <li>Beach Intercept Survey (2017)</li> </ul> | <ul style="list-style-type: none"> <li>San Diego International Airport Air Passenger Survey (2009)</li> <li>San Diego International Airport Passenger Forecasts – Airport Development Plan: San Diego International Airport (2013)</li> <li>Decennial Census Summary File-1 tabulation (2010)</li> <li>CTPP</li> <li>PUMS</li> <li>American Community Survey (2015, 2016, 2017)</li> <li>Bicycle counts (2011)</li> <li>Jurisdiction annual traffic counts (2016)</li> <li>Transponder ownership data (2012)</li> <li>Caltrans PeMS (2016)</li> <li>Caltrans HPMS (2016)</li> <li>FAF 4 (2012)</li> </ul> |

## Motor Vehicle Emissions Modeling

### Emissions Model

On November 15, 2022, the U.S. EPA approved EMFAC2021 for use in conformity determinations and set a two year grace period for continued use of EMFAC2017, expiring on November 15, 2024 (87 FR 68483). Consistent with U.S. EPA rulemaking (87 FR 68483) and 40 CFR 93.111, EMFAC2017 was used to project the regional emissions for the air quality conformity analyses of the 2023 RTIP and Amendment to the 2021 Regional Plan.

Projections of daily regional emissions were prepared for reactive organic gases (ROG) and nitrogen oxides (NOx).

The following process emissions are generated for each pollutant:

- **All pollutants:** Running exhaust, idling exhaust, starting exhaust, total exhaust
- **ROG and total organic gases:** Diurnal losses, hot-soak losses, running losses, resting losses, total losses

EMFAC2017 models multiple vehicle categories, including the following:

- Passenger cars
- Motor homes
- Medium-duty trucks
- Medium-heavy-duty trucks
- School buses
- Motor coaches
- Motorcycles
- Light-duty trucks
- Light-heavy-duty trucks
- Heavy-heavy-duty trucks
- Urban buses
- Other bus types

EMFAC2017 includes updated motor vehicle fleet information from the California Department of Motor Vehicles for 2013–2016 and a new module that improves the characterization of activity and emissions from transit buses. Additionally, it allows users to estimate emissions of natural gas-powered vehicles in addition to gasoline- and diesel-powered vehicles.

## Regional Emissions Forecasts

Regional travel demand forecasts were initiated in November 2023. Output from the ABM2+ was then summarized to create EMFAC2017 inputs for emissions modeling.

Beginning in November 2023, SANDAG prepared countywide forecasts of average weekday ROG and NO<sub>x</sub> emissions for 2026, 2029, 2032, 2040, and 2050 for the 2020 SIP using the EMFAC2017 v1.0.2 model. ROG and NO<sub>x</sub> emissions are based upon the summer season.

## 2008 Eight-Hour Ozone Standard

On October 19, 2021, the U.S. EPA found the motor vehicle emissions budgets from the 2020 SIP adequate for transportation conformity purposes for the 2008 ozone NAAQS (86 FR 54692).

Severe Nonattainment Area classification established 2026 as the attainment year and 2023 as a reasonable further progress demonstration year for the 2008 Eight-Hour Ozone Standard. The analysis years were selected to comply with 40 CFR 93.106(a)(1) and 93.118(a). According to these sections of the Conformity Rule, analysis years must include attainment year (2026), the horizon year of the plan's forecast period (2050), and no more than ten years between analysis years (2032, 2040). Additionally, the first horizon year (2023) must be within ten years from the base year used to validate the regional transportation model (2016).

## 2015 Eight-Hour Ozone Standard

On October 19, 2021, the U.S. EPA found the motor vehicle emissions budgets from the 2020 SIP adequate for transportation conformity purposes for the 2015 ozone NAAQS (86 FR 54692).

Severe Nonattainment Area classification established 2032 as the attainment year for the 2015 Eight-Hour Ozone Standard. The 2020 SIP established air quality budgets for the 2015 ozone standard. The 2020 SIP included a voluntary Nonattainment Area classification change from Moderate to Severe Nonattainment Area for the 2015 Eight-Hour Ozone Standard. The new classification established 2032 as the attainment year and 2023, 2026, and 2029 as reasonable further progress demonstration years. The analysis years were selected to comply with 40 CFR 93.106(a)(1) and 93.118(a). According to these sections of the Conformity Rule, analysis years must include reasonable further progress demonstration years (2026, 2029), attainment year (2032), the horizon year of the plan's forecast period (2050), and no more than ten years between analysis years (2040). Additionally, the first horizon year (2023) must be within ten years from the base year used to validate the regional transportation model (2016).

### Emissions Modeling Results

An emissions budget is the part of the SIP that identifies emissions levels necessary for meeting emissions reduction milestones, attainment, or maintenance demonstrations. To determine conformity of the 2023 RTIP and redetermine the conformity of the Amendment to the 2021 Regional Plan, the emission analysis described in the Regional Emissions Forecast section was used.

Table A.9 shows that the projected ROG and NOx emissions from the 2023 RTIP and Amendment to the 2021 Regional Plan are below the applicable ROG and NOx budgets from the 2020 SIP for the 2008 and 2015 ozone standards.

Table A.9

#### 2023 RTIP and Amendment to the 2021 Regional Plan 2020 SIP Conformity Analyses for the 2008 and 2015 Eight-Hour Ozone Standards (EMFAC2017)

| 2023 RTIP Amendment No. 13 and Amendment to the 2021 Regional Plan 2020 SIP Conformity Analyses for the 2008 and 2015 Eight-Hour Ozone Standards (EMFAC2017) |   |  |                               |                        |                               |                        |
|--|---|--|-------------------------------|------------------------|-------------------------------|------------------------|
| Year   | Average Weekday Vehicle Starts (1,000s) | Average Weekday Vehicle Miles (1,000s) | ROG                           |                        | NOx                           |                        |
|  |   |  | SIP Emissions Budget Tons/Day | ROG Emissions Tons/Day | SIP Emissions Budget Tons/Day | NOx Emissions Tons/Day |
| 2026   | 11,533                                  | 85,469                                 | 12.1                          | 11.6                   | 17.3                          | 14.9                   |
| 2029   | 11,881                                  | 86,210                                 | 11.0                          | 10.3                   | 15.9                          | 13.5                   |
| 2032   | 12,281                                  | 87,389                                 | 10.0                          | 9.2                    | 15.1                          | 12.5                   |
| 2040   | 12,972                                  | 88,610                                 | 10.0                          | 7.3                    | 15.1                          | 11.6                   |
| 2050   | 13,673                                  | 89,798                                 | 10.0                          | 6.7                    | 15.1                          | 11.9                   |

Note: Emissions budgets from the 2020 SIP were found adequate for transportation conformity purposes by U.S. EPA, effective October 19, 2021.

## Exempt Projects

40 CFR Section 93.126 exempts certain highway and transit projects from the requirement to determine conformity. The categories of exempt projects include safety, mass transit, air quality (ridesharing and bicycle and pedestrian facilities), and other (such as planning studies).

Table A.10 illustrates the exempt projects considered in the 2023 RTIP and Amendment to the 2021 Regional Plan. This table shows short-term exempt projects. Additional unidentified projects could be funded with revenues expected to be available from the continuation of existing state and federal programs.

Table A.10

**Exempt Projects**

| <b>Exempt Projects</b>   |   |
|--|---|
| <b>Project/Program Description</b>   |   |
| <b>Bikeway, Rail, Trail, and Pedestrian Projects</b>   |   |
| <ul style="list-style-type: none"> <li>• Bayshore Bikeway</li> <li>• Bay-to-Ranch Bikeway</li> <li>• Border to Bayshore Bikeway</li> <li>• Camp Pendleton Trail</li> <li>• Carlsbad – San Marcos Bicycle Corridor</li> <li>• Central Avenue Bikeway</li> <li>• Central Coast Bicycle Corridor</li> <li>• Central Mobility Bikeway (Coastal Rail Trail: Pacific Highway)</li> <li>• Chula Vista Greenbelt</li> <li>• Downtown to Imperial Avenue Bikeway</li> <li>• North Park/Mid-City Bikeway: Howard–Orange Bikeway</li> <li>• Clairemont – Centre City Bicycle Corridor</li> <li>• Coastal Rail Trail</li> <li>• East County Northern Bicycle Loop</li> <li>• East County Southern Bicycle Loop</li> <li>• El Camino Real Bicycle Corridor</li> <li>• El Portal Pedestrian and Bicycle Underpass</li> <li>• Encinitas – San Marcos Bicycle Corridor</li> <li>• Escondido Creek Bike Path Bridge and Bikeway</li> <li>• Coastal Rail Trail: Rose Creek</li> <li>• North Park/Mid-City Bikeways: University Bikeway</li> <li>• Inland Rail Trail</li> </ul> | <ul style="list-style-type: none"> <li>• San Diego River Trail: Stadium Segment</li> <li>• Interstate 805 Bicycle Corridor</li> <li>• Kearny Mesa – Beaches Bicycle Corridor</li> <li>• Mid-County Bikeway</li> <li>• Mira Mesa Bicycle Corridor</li> <li>• Uptown Bikeways: Washington Street and Mission Valley Bikeways</li> <li>• National City – Highland Avenue Community Corridor</li> <li>• North Park/Mid-City Bikeways</li> <li>• Oceanside – Bicycle Master Plan</li> <li>• Otay Mesa Port of Entry Pedestrian/Bicycle Facilities</li> <li>• Park Boulevard–Downtown Mobility Plan</li> <li>• Pershing Bikeway</li> <li>• San Diego Regional Bicycle Plan</li> <li>• San Diego River Trail</li> <li>• San Luis Rey River Trail</li> <li>• Santee – El Cajon Bicycle Corridor</li> <li>• SR 15 Bikeway</li> <li>• SR 52 Bikeway</li> <li>• SR 125 Bicycle Corridor</li> <li>• SR 905 Bicycle Corridor</li> <li>• Tecate International Border Crossing Pedestrian Facilities</li> <li>• Vista Way Bicycle Connector</li> </ul> |
| <b>Safety Improvement Program</b>  |   |
| <ul style="list-style-type: none"> <li>• Bridge Rehabilitation/ Preservation/Retrofit</li> <li>• Collision Reduction</li> <li>• Emergency Response</li> <li>• Hazard Elimination/Safe Routes to School</li> <li>• Highway Maintenance</li> </ul>   | <ul style="list-style-type: none"> <li>• Safety Improvement Program</li> <li>• Roadway/Roadside Preservation</li> <li>• Smart Growth Incentive Program</li> <li>• Safe Routes to Transit</li> <li>• Safe Routes to School</li> </ul>  |

## Exempt Projects

### Project/Program Description

#### Transportation Systems and Demand Management

- Traveler Information System
- Compass Card
- FasTrak®
- Freeway Service Patrol
- Vehicle Automation
- Regional Rideshare Program
- Multimodal Integration and Performance-Based Management
- Intelligent Transportation System for Transit
- ITS Operations
- Joint Transportation Operations Center
- Trolley Fiber Communication Network
- Electronic Payment Systems and Universal Transportation Account
- Various Traffic Signal Optimization/Prioritization
- Transit Infrastructure Electrification
- Employer Services and Outreach
- Flexible Fleet Pilots
- Regional Electric Vehicle Charging Incentive Program
- Commuter Services and Bike Program
- Mobility Hubs
- Active Traffic and Demand Management
- Shared Mobility Services

#### Transit Terminals

- Central Mobility Hub/Airport Intermodal Transit Center/Terminal
- San Ysidro Intermodal Transit Center/Terminal

## Implementation of Transportation Control Measures

There are four federally approved Transportation Control Measures (TCMs) that must be implemented in San Diego, which the SIP refers to as transportation tactics. They include ridesharing, transit improvements, traffic flow improvements, and bicycle facilities and programs.

These TCMs were established in the 1982 SIP, which identified general objectives and implementing actions for each tactic. The TCMs have been fully implemented.<sup>6</sup> Ridesharing, transit, bicycling, and traffic flow improvements continue to be funded, although the level of implementation established in the SIP has been surpassed.

## Interagency Consultation Process and Public Input

The consultation process followed to prepare the Air Quality Planning and Transportation Conformity Analysis for the proposed 2023 RTIP Amendment No. 13 and redetermination of conformity for the Amendment to the 2021 Regional Plan complies with the San Diego Transportation Conformity Procedures adopted in July 1998. In turn, these procedures comply with federal requirements under 40 CFR Part 93. Interagency consultation involves SANDAG (as the MPO for San Diego County), the SDAPCD, Caltrans, CARB, U.S. DOT, and U.S. EPA.

Consultation is a three-tier process that:

1. Formulates and reviews drafts through a conformity working group.
2. Provides local agencies and the public with opportunities for input through existing regional advisory committees and workshops.

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<sup>6</sup> 2020 SIP



3. Seeks comments from affected federal and state agencies through participation in the development of draft documents and circulation of supporting materials prior to formal adoption.

SANDAG consulted on the development of the air quality conformity analyses of the 2023 RTIP and Amendment to the 2021 Regional Plan on May 3, 2023 and December 6, 2023.

- At its May 3, 2023, meeting, the CWG discussed the schedule for review of the draft conformity analysis of the Amendment to the 2021 Regional Plan and the subsequent schedule for review of the draft determination of conformity for the 2023 RTIP and redetermination of conformity for the Amendment to the 2021 Regional Plan.
- At the December 6, 2023 CWG meeting Staff presented information on the schedule and conformity criteria and procedures for the draft conformity analysis of the 2023 RTIP and draft redetermination of conformity of the Amendment to the 2021 Regional Plan, including: latest emission model; emission budgets; regional growth forecast; SCS land use pattern; revenue constrained financial assumptions and revenue strategies; list of transportation projects; list of exempt projects; transportation control measures; and public involvement and outreach.
- On March 1, 2024, SANDAG distributed the draft determination of conformity for 2023 RTIP Amendment No. 13 and draft redetermination of conformity for the Amendment to the 2021 Regional Plan for interagency consultation.
- At its March 6, 2024, meeting, the CWG discussed the conformity analyses for the draft 2023 RTIP Amendment No. 13 conformity determination and draft Amendment to the 2021 Regional Plan conformity redetermination.
- The draft 2023 RTIP Amendment No. 13 conformity determination and draft Amendment to the 2021 Regional Plan conformity redetermination will be released for public comment in May 2024.
- There will be a further opportunity for public comment when the draft 2023 RTIP Amendment No. 13 conformity determination and draft Amendment to the 2021 Regional Plan conformity redetermination are brought to the SANDAG Board for consideration..

Members of the public were welcome to provide comments at CWG and Board meetings.

## **2023 RTIP Amendment No. 13 and Amendment to the 2021 Regional Plan Projects**

This section contains the capacity-increasing projects included in the 2023 RTIP Amendment No. 13 and Amendment to the 2021 Regional Plan. The tables include the conformity analysis year, project details, and estimated cost (\$2020). Tables A.11 through A.14 include the projects included in the 2023 RTIP Amendment No. 13 and the Amendment to the 2021 Regional Plan by 2020 SIP Air Quality Phasing. Table A.11 has the major goods movement, complete corridor, and transit leap projects by each regional corridor. Five projects in Table A.11 have been amended to reflect updated completion dates and conformity analysis years (Project IDs GM01, CC108, TL19, TL32, and TL37), and these projects are highlighted in Table A.11. Figure A.6 shows the location of each corridor within the region. Table A.12 lists the significant rural projects. Table A.13 includes the arterial capacity-increasing projects. Attachment 1 to Table A.13 lists the arterial capacity-increasing projects included in Table A.13 with updated open to traffic dates that resulted in changes to the applicable conformity analysis years.. Table A.14 lists additional transit projects that did not apply to the prior tables.

Figure A.6  
**Corridor Geographies**

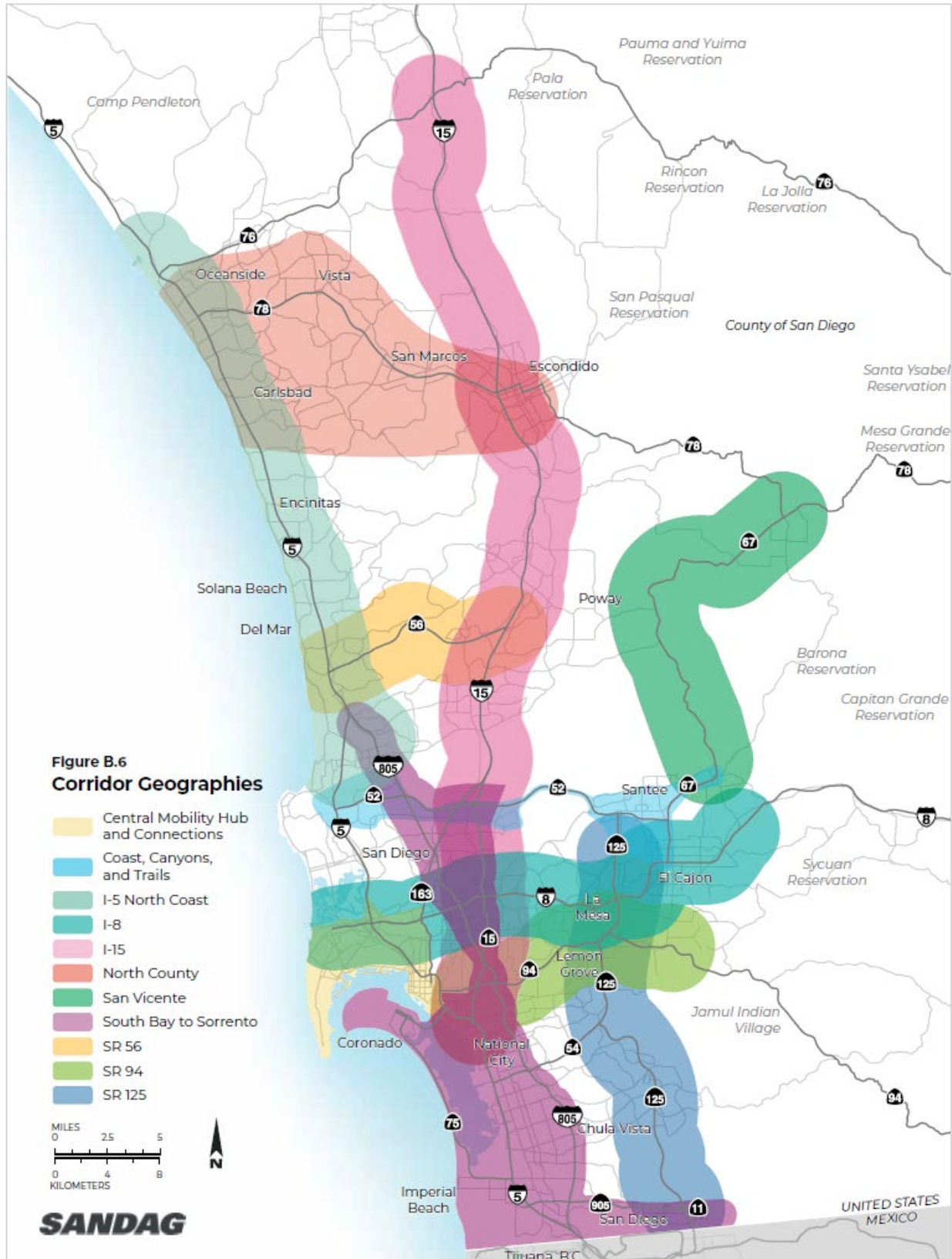


Table A.11

## Major Projects by Corridor and Air Quality Phasing

| Major Projects by Corridor and Air Quality Phasing |            |  |  |   |   |                        |
|--|------------|--|--|---|---|------------------------|
| Conformity Analysis Year                           | Project ID | Category   | Project Name   | Description   | Connecting Corridor(s)                                  | Cost (\$2020) Millions |
| <b>South Bay to Sorrento (SB2S)</b>                |            |  |  |   |   |                        |
| 2026   | GM01       | Goods Movement: Border                               | Otay Mesa Port of Entry (POE) Commercial Vehicle Enforcement Facility (CVEF) Modernization | Otay Mesa POE CVEF modernization: Improvements to the CVEF to reflect the U.S. General Services Administration's proposed Otay Mesa POE Modernization Project | N/A   | \$6                    |
| 2026   | CC045      | Complete Corridor: Managed Lane (ML)/ Goods Movement | SR 11/Otay Mesa East (OME) POE (Enrico Fermi to Mexico)                                    | -- to 4 toll lanes (T) + POE  | SR 125  | \$482                  |
| 2026   | GM02       | Goods Movement: Border                               | OME POE Pilot Programs   | Pilot programs for streamlining commercial vehicle operations for reducing wait times at OME POE  | N/A   | \$20                   |
| 2026   | GM03       | Goods Movement: Border                               | Otay Mesa Southbound Truck Route   | Improvements to the Otay Mesa POE southbound truck route, including Otay Truck Route and La Media Road  | N/A   | \$49                   |
| 2026   | GM07       | Goods Movement: Roadways                             | Regional Border Management System (RBMS) & Tolling Equipment                               | Border wait times – SR 11 tolling equipment and RBMS  | N/A   | \$35                   |
| 2026   | TL21       | Transit Leap   | <i>Rapid 12</i> Phase 1  | Spring Valley to Downtown via Southeast San Diego (light version of Rapid)  | I-15, SR 94, SR 125, Central Mobility Hub (CMH)         | \$18                   |
| 2026   | TL44       | Transit Leap   | <i>Rapid 630</i>   | Iris Trolley/Palomar to Kearny Mesa via I-5/SR 163 and City College   | I-8; I-15; SR 94; Coast, Canyons, and Trails (CCT); CMH | \$36                   |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category                                 | Project Name                      | Description   | Connecting Corridor(s) | Cost (\$2020) Millions |
|--------------------------|------------|--|-----------------------------------|---|------------------------|------------------------|
| 2026                     | TL48       | Transit Leap                             | <i>Rapid</i> 640                  | San Ysidro to Central Mobility Hub via I-5 and City College   | I-8, I-15, R 94, CMH   | \$28                   |
| 2026                     | TL53       | Transit Leap                             | <i>Rapid</i> 950 Phase 1          | Otay Mesa POE to Imperial Beach via SR 905 (light version of Rapid)   | SR 125                 | \$6                    |
| 2029                     | CC001      | Complete Corridor: ML/<br>Goods Movement | I-5 (SR 905 to H Street)          | 8 freeway lanes (F) to 6F+2ML   | N/A                    | \$51                   |
| 2029                     | CC002      | Complete Corridor: ML/<br>Goods Movement | I-5 (H Street to Pacific Highway) | 8F to 6F+4ML  | I-8, I-15, SR 94, CMH  | \$378                  |
| 2029                     | CC038      | Complete Corridor: ML                    | SR 163 (I-8 to I-805)             | 8F to 6F+2ML  | I-8, CMH               | \$36                   |
| 2029                     | CC039      | Complete Corridor: ML                    | SR 163 (I-805 to SR 52)           | 8F to 6F+2ML  | I-15, CCT              | \$27                   |
| 2029                     | GM06       | Goods Movement:<br>Roadways              | Harbor Drive 2.0                  | Designated Freight Route: Dedicated lanes (where feasible) and signal priority for truck freight along Harbor Drive between the Tenth Avenue Marine Terminal/Cesar Chavez Parkway, National City Marine Terminal, and connections to I-5; includes freight signal prioritization, queue jumps, delineators, and signage; generally aligned in the #1 lanes and median | CMH                    | \$32                   |
| 2029                     | GM08       | Goods Movement:<br>Roadways              | I-5 Working Waterfront Access     | I-5 Working Waterfront Access Bottleneck Relief between SR 94 and SR 54   | N/A                    | \$50                   |
| 2029                     | GM09       | Goods Movement:<br>Roadways              | Vesta Bridge – Phase 1            | Vesta Bridge Phase 1 and operational improvements SR 15, Main, Harbor, and 32nd Streets   | N/A                    | \$55                   |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category                        | Project Name            | Description  | Connecting Corridor(s)        | Cost (\$2020) Millions |
|--------------------------|------------|---------------------------------|-------------------------|--|-------------------------------|------------------------|
| 2029                     | TL12       | Transit Leap/<br>Goods Movement | LRT 510                 | Blue Line (San Ysidro to University Town Center [UTC], grade separations at 28th Street, 32nd Street, E Street, H Street, Palomar Street, and Blue/Orange track connections at 12th/Imperial) <sup>7</sup> | I-8, I-15, SR 94, CCT, CMH    | \$510                  |
| 2029                     | TL22       | Transit Leap                    | <i>Rapid 12 Phase 2</i> | Spring Valley to Downtown via Southeast San Diego (full version of Rapid)  | I-15, SR 94, SR 125, CMH      | \$73                   |
| 2029                     | TL25       | Transit Leap                    | <i>Rapid 41</i>         | Fashion Valley to UTC/UC San Diego via Linda Vista and Clairemont  | I-8, CCT, CMH                 | \$58                   |
| 2029                     | TL28       | Transit Leap                    | <i>Rapid 120</i>        | Kearny Mesa to Downtown via Mission Valley   | I-8, I-15, CCT, CMH           | \$109                  |
| 2029                     | TL35       | Transit Leap                    | <i>Rapid 295</i>        | Spring Valley to Clairemont via La Mesa and Kearny Mesa  | I-8, I-15, SR 94, SR 125, CCT | \$91                   |
| 2029                     | TL43       | Transit Leap                    | <i>Rapid 625</i>        | San Diego State University (SDSU) to Palomar Station via East San Diego, Southeast San Diego, National City  | I-8, I-15, SR 94              | \$197                  |
| 2029                     | TL46       | Transit Leap                    | <i>Rapid 637</i>        | North Park to 32nd Street Trolley Station via Golden Hill  | I-8, I-15, SR 94              | \$103                  |
| 2029                     | TL49       | Transit Leap                    | <i>Rapid 709</i>        | H Street Trolley Station to Millennia via H Street Corridor, Southwestern College  | SR 125                        | \$99                   |

<sup>7</sup> SANDAG will conduct a Blue Line Express Feasibility and Conceptual Engineering Study as a Near-Term Implementation Action (included in Appendix B: Implementation Actions of the Amendment to the 2021 Regional Plan).

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category   | Project Name                                     | Description  | Connecting Corridor(s)                | Cost (\$2020) Millions |
|--------------------------|------------|--|--|--|---------------------------------------|------------------------|
| 2029                     | TL59       | Transit Leap                                       | <i>Rapid</i> 950 Phase 2                         | Otay Mesa POE to Imperial Beach via SR 905 (full version of <i>Rapid</i> ) | SR 125                                | \$22                   |
| 2032                     | CC005      | Complete Corridor: ML/<br>Goods Movement           | I-5 (I-805 to SR 56)                             | 8F/14F+2HOV to 6F/12F+4ML  | I-5 North Coast Corridor (NCC), SR 56 | \$25                   |
| 2032                     | CC017      | Complete Corridor: ML/<br>Goods Movement           | I-805 (Palm Avenue to H Street)                  | 8F/8F+2ML to 6F+4ML  | N/A                                   | \$46                   |
| 2032                     | CC018      | Complete Corridor: ML/<br>Goods Movement           | I-805 (H Street to I-15)                         | 8F+2ML to 6F+4ML   | I-15, SR 94                           | \$163                  |
| 2032                     | CC019      | Complete Corridor: ML/<br>Goods Movement           | I-805 (SR 15 to I-8)                             | 8F to 6F+4ML   | I-8, I-15, SR 94                      | \$96                   |
| 2032                     | CC020      | Complete Corridor: ML/<br>Goods Movement           | I-805 (I-8 to Mesa College Drive)                | 10F to 6F+4ML  | I-8, I-15                             | \$56                   |
| 2032                     | CC021      | Complete Corridor: ML/<br>Goods Movement           | I-805 (Mesa College Drive to Balboa Avenue)      | 8F to 6F+4ML   | CCT                                   | \$58                   |
| 2032                     | CC022      | Complete Corridor: ML/<br>Goods Movement           | I-805 (Balboa Avenue. to Northbound Bypass Lane) | 8F+2ML to 6F+4ML   | CCT                                   | \$149                  |
| 2032                     | CC063      | Complete Corridor: Managed Lane Connector (MLC)    | I-5 (I-805)                                      | North to North and South to South  | N/A                                   | \$84                   |
| 2032                     | CC085      | Complete Corridor: MLC                             | I-805 (SR 52)                                    | West to North and South to East  | CCT                                   | \$149                  |
| 2032                     | CC114      | Complete Corridor: Transit Operational Improvement | I-805 (Nobel Drive)                              | North and South  | CCT                                   | \$49                   |
| 2040                     | CC069      | Complete Corridor: MLC                             | I-5 (SR 15)                                      | North to North and South to South  | I-15, SR 94                           | \$274                  |
| 2040                     | CC070      | Complete Corridor: MLC                             | I-5 (SR 15)                                      | South to North and South to North  | I-15, SR 94                           | \$274                  |
| 2040                     | CC084      | Complete Corridor: MLC                             | I-805 (SR 94)                                    | North to West and East to South  | I-15, SR 94                           | \$140                  |
| 2040                     | CC087      | Complete Corridor: MLC                             | I-805 (SR 163)                                   | North to North and South to South  | N/A                                   | \$267                  |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category                                 | Project Name                  | Description  | Connecting Corridor(s) | Cost (\$2020) Millions |
|--------------------------|------------|--|-------------------------------|--|------------------------|------------------------|
| 2040                     | CC090      | Complete Corridor: MLC                   | I-805 (I-8)                   | North to East and West to South  | I-8, I-15              | \$202                  |
| 2040                     | CC092      | Complete Corridor: MLC                   | I-805 (I-8)                   | South to East and West to North  | I-8, I-15              | \$202                  |
| 2040                     | TL02       | Transit Leap                             | Commuter Rail 582             | Sorrento Mesa to National City via UTC, Kearny Mesa, and University Heights <sup>8</sup> | I-8, I-15, SR 94, CCT  | \$12,660               |
| 2040                     | TL34       | Transit Leap                             | <i>Rapid 293</i>              | Imperial Beach to Otay Ranch via Palomar Street  | SR 125                 | \$111                  |
| 2040                     | TL45       | Transit Leap                             | <i>Rapid 635</i>              | Eastlake to Palomar Trolley via Main Street Corridor                                     | SR 125                 | \$116                  |
| 2040                     | TL47       | Transit Leap                             | <i>Rapid 638</i>              | Iris Trolley to Otay Mesa via Otay, Airway Drive, SR 905 Corridor                        | SR 125                 | \$91                   |
| 2050                     | CC016      | Complete Corridor: ML/<br>Goods Movement | I-805 (SR 905 to Palm Avenue) | 8F to 6F+4ML   | N/A                    | \$60                   |
| 2050                     | CC040      | Complete Corridor: ML                    | SR 54 (I-805 to SR 125)       | 6F to 4F+2ML   | SR 125                 | \$48                   |
| 2050                     | CC041      | Complete Corridor: ML/<br>Goods Movement | SR 905 (I-5 to Border)        | 6F to 4F+2ML   | SR 125                 | \$193                  |
| 2050                     | CC071      | Complete Corridor: MLC                   | I-5 (SR 905)                  | South to East and West to North  | N/A                    | \$202                  |
| 2050                     | CC086      | Complete Corridor: MLC                   | I-805 (SR 52)                 | North to West and East to South  | CCT                    | \$126                  |
| 2050                     | CC089      | Complete Corridor: MLC                   | I-805 (I-8)                   | North to West and East to South  | I-8, I-15              | \$202                  |
| 2050                     | CC091      | Complete Corridor: MLC                   | I-805 (I-8)                   | South to West and East to North  | I-8, I-15              | \$202                  |
| 2050                     | CC093      | Complete Corridor: MLC                   | I-805 (SR 54)                 | South to East and West to North  | N/A                    | \$219                  |

<sup>8</sup> The SB2S Comprehensive Multimodal Corridor Plan is completing a more detailed ridership analysis of the Purple Commuter Rail alignment (Route 582). The analysis is studying an alignment that would include stations in City Heights and at SDSU (west campus).



## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category                                    | Project Name                                  | Description   | Connecting Corridor(s) | Cost (\$2020) Millions |
|--------------------------|------------|---|---|---|------------------------|------------------------|
| 2050                     | CC094      | Complete Corridor: MLC                      | I-805 (SR 54)                                 | North to East and West to South   | N/A                    | \$219                  |
| 2050                     | CC095      | Complete Corridor: MLC                      | I-805 (SR 905)                                | South to West and East to North   | N/A                    | \$202                  |
| 2050                     | CC096      | Complete Corridor: MLC                      | I-805 (SR 905)                                | South to East and West to North   | N/A                    | \$202                  |
| 2050                     | CC115      | Complete Corridor: Direct Access Ramp (DAR) | SR 905 (Beyer Boulevard)                      | East  | N/A                    | \$42                   |
| 2050                     | CC116      | Complete Corridor: DAR                      | SR 905 (Siempre Viva Road)                    | North   | SR 125                 | \$42                   |
| 2050                     | GM04       | Goods Movement: Border                      | Otay Mesa POE Truck Bridge to CVEF            | Otay Mesa POE: Bridge between POE and CVEF to coincide with improvements at both facilities   | N/A                    | \$50                   |
| 2050                     | GM05       | Goods Movement: Roadways                    | Harbor Drive Multimodal Corridor Improvements | Harbor Drive Multimodal Corridor Improvements, including but not limited to: ITS systems expanding the Designated Freight Route, removing height and weight conflicts along the truck route, improvements at 28th Street and 32nd Street, pedestrian crossings and bridges, various truck improvements, bikeway accommodations, streetscape, safety, and parking improvements | CMH                    | \$192                  |
| 2050                     | TL03       | Transit Leap                                | Commuter Rail 582                             | National City to U.S. Border <sup>9</sup>   | I-15, SR 94            | \$2,977                |

<sup>9</sup> The SB2S Comprehensive Multimodal Corridor Plan is completing a more detailed ridership analysis of the Purple Commuter Rail alignment (Route 582). The analysis is studying an alignment that would include stations in City Heights and at SDSU (west campus).

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year          | Project ID | Category                              | Project Name                              | Description  | Connecting Corridor(s)     | Cost (\$2020) Millions |
|-----------------------------------|------------|---------------------------------------|---|--|----------------------------|------------------------|
| 2050                              | TL04       | Transit Leap                          | Commuter Rail 583                         | Central Mobility Hub to U.S. Border via Downtown San Diego   | I-8, I-15, SR 94, CMH      | \$7,581                |
| 2050                              | TL13       | Transit Leap                          | LRT 510                                   | Blue Line (San Ysidro to UTC, grade separations at Taylor/Ash) <sup>10</sup>   | I-8, I-15, SR 94, CCT, CMH | \$510                  |
| <b>Central Mobility Hub (CMH)</b> |            |                                       |   |  |                            |                        |
| 2029                              | CC003      | Complete Corridor: ML/ Goods Movement | I-5 (Pacific Highway to SR 52)            | 8F to 6F+4ML   | I-8, CCT                   | \$353                  |
| 2029                              | TL23       | Transit Leap                          | <i>Rapid 28</i>                           | Point Loma to Kearny Mesa via Central Mobility Hub, Linda Vista  | I-8, I-15, CCT, SB2S       | \$105                  |
| 2029                              | TL52       | Transit Leap                          | <i>Rapid 910</i>                          | Coronado to Downtown via Coronado Bridge   | I-15, SR 94, SB2S          | \$51                   |
| 2029                              | TL56       | Transit Leap                          | Airport Connection Automated People Mover | Central Mobility Hub to Airport via Car Rental Lot and Harbor Island East Basin  | I-8                        | \$1,398                |
| 2040                              | CC117      | Complete Corridor: AIRC               | Complete Corridor Elements                | Airport connectivity including Laurel Street airport entrance, Laurel Street modifications (Pacific Highway to I-15), and new I-5 freeway ramps at Laurel Street and Redwood | N/A                        | \$836                  |
| 2040                              | MHLA1      | Mobility Hubs                         | Central Mobility Hub                      | Transit station construction and site acquisition  | N/A                        | \$2,420                |

<sup>10</sup> SANDAG will conduct a Blue Line Express Feasibility and Conceptual Engineering Study as a Near-Term Implementation Action (included in Appendix B: Implementation Actions of the Amendment to the 2021 Regional Plan).

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year        | Project ID | Category               | Project Name                               | Description   | Connecting Corridor(s)      | Cost (\$2020) Millions |
|---------------------------------|------------|------------------------|--|---|-----------------------------|------------------------|
| 2040                            | TL18       | Transit Leap           | Tram 555                                   | Tram: Downtown to Logan Heights, Golden Hill, South Park, North Park, University Heights, Hillcrest           | I-8, I-15, SB2S             | \$1,175                |
| <b>State Route 125 (SR 125)</b> |            |                        |  |   |                             |                        |
| 2029                            | CC042      | Complete Corridor: ML  | SR 125 (SR 54 to Amaya Drive)              | 6F/8F to 4F/6F+2ML  | I-8, SR 94                  | \$59                   |
| 2029                            | CC112      | Complete Corridor: DAR | SR 125 (Spring Street/ SR 94)              | South   | I-8, SR 94                  | \$42                   |
| 2029                            | TL33       | Transit Leap           | <i>Rapid</i> 292 Phase 2                   | Pacific Beach to Otay Mesa via Kearny Mesa, El Cajon, Jamacha, and Otay Lakes (full version of <i>Rapid</i> ) | I-8, I-15, SR 94, CCT, SB2S | \$96                   |
| 2040                            | CC097      | Complete Corridor: MLC | SR 125 (I-8)                               | North to West and East to South   | I-8, SR 94                  | \$202                  |
| 2040                            | CC098      | Complete Corridor: MLC | SR 125 (I-8)                               | North to East and West to South   | I-8, SR 94                  | \$202                  |
| 2040                            | CC099      | Complete Corridor: MLC | SR 125 (SR 94)                             | North to West and East to South   | SR 94                       | \$203                  |
| 2050                            | CC043      | Complete Corridor: ML  | SR 125 (Amaya Drive to Mission Gorge Road) | 6F to 4F+2ML  | I-8, CCT                    | \$40                   |
| 2050                            | CC044      | Complete Corridor: ML  | SR 125 (SR 905 to SR 54)                   | 4T to 4F+2ML  | SB2S                        | \$227                  |
| 2050                            | CC100      | Complete Corridor: MLC | SR 125 (SR 52)                             | North to West and East to South   | CCT                         | \$202                  |
| 2050                            | CC101      | Complete Corridor: MLC | SR 125 (SR 54)                             | South to South and North to North   | N/A                         | \$202                  |
| 2050                            | CC102      | Complete Corridor: MLC | SR 125 (SR 54)                             | North to West and East to South   | N/A                         | \$202                  |
| 2050                            | CC113      | Complete Corridor: DAR | SR 125 (Jamacha Boulevard)                 | North and South   | N/A                         | \$49                   |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year    | Project ID | Category                                 | Project Name                     | Description  | Connecting Corridor(s) | Cost (\$2020) Millions |
|-----------------------------|------------|--|----------------------------------|--|------------------------|------------------------|
| <b>Interstate-15 (I-15)</b> |            |  |                                  |  |                        |                        |
| 2029                        | CC073      | Complete Corridor: MLC                   | I-15 (SR 78)                     | East to South and North to West  | North County Corridor  | \$147                  |
| 2032                        | TL31       | Transit Leap                             | Rapid 238                        | UC San Diego to Rancho Bernardo via Sorrento Valley and Carroll Canyon | SR 56, CCT, SB2S       | \$78                   |
| 2040                        | CC011      | Complete Corridor: ML/<br>Goods Movement | I-15 (I-5 to I-805)              | 6F to 6F+2ML   | SR 94, SB2S            | \$103                  |
| 2040                        | CC012      | Complete Corridor: ML/<br>Goods Movement | I-15 (I-805 to I-8)              | 8F+2TL to 6F+2TL+2ML   | I-8, SR 94, SB2S       | \$115                  |
| 2040                        | CC013      | Complete Corridor: ML/<br>Goods Movement | I-15 (I-8 to SR 163)             | 8F to 6F+4ML   | I-8, CCT, SB2S         | \$241                  |
| 2040                        | CC074      | Complete Corridor: MLC                   | I-15 (SR 52)                     | West to North and South to East  | CCT, SB2S              | \$181                  |
| 2040                        | CC075      | Complete Corridor: MLC                   | I-15 (SR 52)                     | North to West and East to South  | CCT, SB2S              | \$196                  |
| 2040                        | CC076      | Complete Corridor: MLC                   | I-15 (SR 52)                     | North to East and West to South  | CCT, SB2S              | \$196                  |
| 2040                        | CC077      | Complete Corridor: MLC                   | I-15 (SR 52)                     | South to West and East to North  | CCT, SB2S              | \$196                  |
| 2040                        | CC079      | Complete Corridor: MLC                   | I-15 (I-8)                       | North to West and East to South  | I-8, SB2S              | \$202                  |
| 2040                        | CC080      | Complete Corridor: MLC                   | I-15 (I-8)                       | North to East and West to South  | I-8, SB2S              | \$202                  |
| 2040                        | CC081      | Complete Corridor: MLC                   | I-15 (I-8)                       | South to West and East to North  | I-8, SB2S              | \$202                  |
| 2040                        | CC082      | Complete Corridor: MLC                   | I-15 (I-8)                       | South to East and West to North  | I-8, SB2S              | \$202                  |
| 2040                        | CC083      | Complete Corridor: MLC                   | I-805 (SR 15)                    | North to North and South to South                                      | SR 94, SB2S            | \$112                  |
| 2040                        | CC110      | Complete Corridor: DAR                   | I-15 (Clairemont Mesa Boulevard) | North and South  | N/A                    | \$49                   |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year                           | Project ID | Category                              | Project Name                   | Description   | Connecting Corridor(s)                              | Cost (\$2020) Millions |
|--|------------|---------------------------------------|--------------------------------|---|---|------------------------|
| 2040   | TL29       | Transit Leap                          | <i>Rapid 235</i>               | Escondido to Downtown San Diego via I-15 (DAR stations)   | I-8, SR 56, SR 94, CCT, North County Corridor, SB2S | \$34                   |
| 2040   | TL30       | Transit Leap                          | <i>Rapid 237</i>               | UC San Diego to Rancho Bernardo via Sorrento Valley and Mira Mesa   | SR 56, CCT, SB2S                                    | \$54                   |
| 2050   | CC014      | Complete Corridor: ML/ Goods Movement | I-15 (Valley Parkway to SR 76) | 8F to 6F+3ML  | N/A   | \$408                  |
| 2050   | CC015      | Complete Corridor: ML/ Goods Movement | I-15 (SR 76 to County Line)    | 8F to 6F+3ML  | North County Corridor                               | \$199                  |
| 2050   | CC072      | Complete Corridor: MLC                | I-15 (SR 78)                   | South to West and East to North   | North County Corridor                               | \$147                  |
| 2050   | CC078      | Complete Corridor: MLC                | I-15 (SR 56)                   | South to West and East to North   | SR 56   | \$239                  |
| <b>Interstate 5 North Coast Corridor (I-5 NCC)</b> |            |                                       |                                |   |   |                        |
| 2026   | CC046      | Complete Corridor: ML                 | I-5 (Manchester to Vandegrift) | 8F to 8F+2HOV/high-occupancy toll (HOT) <sup>11</sup>   | North County Corridor                               | \$171                  |
| 2026   | TL05       | Transit Leap/ Goods Movement          | Commuter Rail 398              | Oceanside to Downtown San Diego (includes upgrades to Pacific Surfliner/COASTER/MetroLink/ Freight LOSSAN services from Orange County to Downtown San Diego, wooden bridge replacements, add station at Downtown San Diego) | CMH   | \$1,203                |
| 2029   | TL40       | Transit Leap                          | <i>Rapid 473</i>               | Oceanside to Solana Beach to UTC/UC San Diego via Highway 101 Coastal Communities, Carmel Valley  | SR 56, CCT, North County Corridor, SB2S             | \$156                  |
| 2032   | CC004      | Complete Corridor: ML/ Goods Movement | I-5 (SR 52 to I-805)           | 8F to 6F+4ML  | CCT, SB2S   | \$190                  |

<sup>11</sup> Project is consistent with the Caltrans North Coast Corridor (Build NCC) project.

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year      | Project ID | Category   | Project Name                         | Description   | Connecting Corridor(s)       | Cost (\$2020) Millions |
|-------------------------------|------------|--|--------------------------------------|---|------------------------------|------------------------|
| 2032                          | CC111      | Complete Corridor: DAR   | I-5 (Voigt)                          | North and South   | N/A                          | \$49                   |
| 2040                          | CC007      | Complete Corridor: ML/<br>Goods Movement                             | I-5 (Via de La Valle to La Costa)    | 8F to 6F+4ML  | N/A                          | \$316                  |
| 2040                          | CC008      | Complete Corridor: ML/<br>Goods Movement                             | I-5 (La Costa to Cassidy Street)     | 8F to 6F+4ML  | North County Corridor        | \$302                  |
| 2040                          | CC009      | Complete Corridor: ML/<br>Goods Movement                             | I-5 (Cassidy Street to Harbor Drive) | 8F to 6F+4ML  | North County Corridor        | \$121                  |
| 2040                          | CC010      | Complete Corridor: ML/<br>Goods Movement                             | I-5 (Harbor Drive to County Line)    | 8F to 6F+2ML  | N/A                          | \$197                  |
| 2040                          | TL06       | Transit Leap/<br>Goods Movement                                      | Commuter Rail 398                    | Oceanside to Downtown San Diego (build Del Mar tunnel, add stations at Central Mobility Hub and Camp Pendleton, and grade separation at Leucadia Boulevard) | North County Corridor        | \$2,875                |
| 2050                          | CC104      | Complete Corridor: Interchange and Arterial Operational Improvements | I-5 (SR 56)                          | West to North and South to East   | SR 56                        | \$379                  |
| 2050                          | TL07       | Transit Leap/<br>Goods Movement                                      | Commuter Rail 398                    | Oceanside to Downtown San Diego (build Sorrento Mesa and UTC tunnels, add station at Balboa Avenue)   | SR 56, CCT                   | \$3,171                |
| <b>State Route 94 (SR 94)</b> |            |  |                                      |   |                              |                        |
| 2029                          | CC108      | Complete Corridor: Interchange and Arterial Operational Improvements | SR 94 (SR 125)                       | South to East, including auxiliary lane to Lemon Avenue   | I-8, SR 125                  | \$137                  |
| 2040                          | CC032      | Complete Corridor: ML  | SR 94 (I-5 to I-15)                  | 8F to 6F+3ML  | I-15, SB2S                   | \$39                   |
| 2040                          | CC033      | Complete Corridor: ML  | SR 94 (I-15 to I-805)                | 8F to 6F+3ML  | I-15, SB2S                   | \$23                   |
| 2040                          | CC034      | Complete Corridor: ML  | SR 94 (I-805 to SR 125)              | 8F to 6F+3ML  | I-8, I-15, SR 125, SB2S      | \$162                  |
| 2040                          | TL14       | Transit Leap   | LRT 520                              | Orange Line (El Cajon to Downtown, double/third-  | I-8, I-15, SR 125, CMH, SB2S | \$274                  |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year  | Project ID | Category                              | Project Name                              | Description   | Connecting Corridor(s)              | Cost (\$2020) Millions |
|---------------------------|------------|---------------------------------------|---|---|-------------------------------------|------------------------|
|                           |            |                                       |   | tracking and grade separations at Euclid Avenue, Broadway/Lemon Grove Avenue, Allison Avenue/ University Avenue, and Severin Drive) |                                     |                        |
| 2050                      | TL15       | Transit Leap                          | LRT 520                                   | Orange Line (El Cajon to Downtown, double/third-tracking)   | I-8, I-15, SR 125, CCT, CMH         | \$274                  |
| <b>Interstate 8 (I-8)</b> |            |                                       |   |   |                                     |                        |
| 2026                      | TL19       | Transit Leap                          | Rapid 10 Phase 1                          | La Mesa to Ocean Beach via Mid-City, Hillcrest, Old Town (light version of Rapid)   | I-15, SR 94, SR 125, CMH, SB2S      | \$36                   |
| 2029                      | TL20       | Transit Leap                          | <i>Rapid</i> 10 Phase 2                   | La Mesa to Ocean Beach via Mid-City, Hillcrest, Central Mobility Hub (full version of <i>Rapid</i> )                                | I-15, SR 94, SR 125, CMH, S2BS      | \$146                  |
| 2040                      | CC024      | Complete Corridor: ML/ Goods Movement | I-8 (I-805 to College Avenue)             | 8F to 6F+4ML  | I-15, SB2S                          | \$161                  |
| 2040                      | CC025      | Complete Corridor: ML/ Goods Movement | I-8 (College Avenue to Johnson Avenue)    | 8F to 6F+4ML  | SR 94, SR 125                       | \$281                  |
| 2040                      | CC026      | Complete Corridor: ML/ Goods Movement | I-8 (Johnson Avenue to Mollison Avenue)   | 6F to 4F+4ML  | SR 125, CCT                         | \$48                   |
| 2040                      | CC027      | Complete Corridor: ML/ Goods Movement | I-8 (Mollison Avenue to Greenfield Drive) | 4F/6F to 4F+4ML   | N/A                                 | \$106                  |
| 2040                      | TL16       | Transit Leap                          | LRT 530                                   | Green Line (Santee to Downtown, double/third-tracking and grade separations)  | I-15, SR 94, SR 125, CCT, CMH, SB2S | \$384                  |
| 2050                      | CC023      | Complete Corridor: ML/ Goods Movement | I-8 (I-5 to I-805)                        | 8F to 6F+4ML  | I-15, SB2S                          | \$179                  |
| 2050                      | CC067      | Complete Corridor: MLC                | I-5 (I-8)                                 | South to East and West to North   | CMH                                 | \$202                  |
| 2050                      | CC068      | Complete Corridor: MLC                | I-5 (I-8)                                 | North to East and West to South   | CMH                                 | \$202                  |

## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year                | Project ID | Category                                 | Project Name                     | Description   | Connecting Corridor(s)              | Cost (\$2020) Millions |
|---|------------|--|----------------------------------|---|-------------------------------------|------------------------|
| 2050                                    | TL01       | Transit Leap                             | Commuter Rail 581                | 581: Downtown to El Cajon via SDSU and La Mesa<br>581B: Central Mobility Hub to El Cajon via SDSU and La Mesa | I-15, SR 94, SR 125, CMH, SB2S      | \$9,774                |
| 2050                                    | TL17       | Transit Leap                             | LRT 530                          | Green Line (Santee to Downtown, double/third-tracking and grade separations)                                  | I-15, SR 94, SR 125, CCT, CMH, SB2S | \$384                  |
| <b>Coast, Canyons, and Trails (CCT)</b> |            |  |                                  |   |                                     |                        |
| 2026                                    | TL32       | Transit Leap                             | Rapid 292 Phase 1                | Pacific Beach to Kearny Mesa (light version of Rapid)   | I-15, SB2S                          | \$7                    |
| 2029                                    | TL24       | Transit Leap                             | <i>Rapid 30</i>                  | Balboa Station to Sorrento Mesa via Pacific Beach, La Jolla, UTC  | SB2S                                | \$189                  |
| 2029                                    | TL50       | Transit Leap                             | <i>Rapid 870</i>                 | El Cajon to UTC via Santee, SR 52, I-805  | I-8, I-15, SR 125, SB2S             | \$62                   |
| 2029                                    | TL51       | Transit Leap                             | <i>Rapid 890</i>                 | El Cajon to Sorrento Mesa via Santee, SR 52, I-805  | I-5 NCC, I-8, I-15, SR 125, SB2S    | \$107                  |
| 2032                                    | CC029      | Complete Corridor: ML                    | SR 52 (I-805 to I-15)            | 6F to 4F+3ML  | I-15                                | \$92                   |
| 2032                                    | CC030      | Complete Corridor: ML                    | SR 52 (I-15 to Mast Boulevard)   | 6F to 4F+3ML  | I-15                                | \$153                  |
| 2032                                    | CC031      | Complete Corridor: ML                    | SR 52 (Mast Boulevard to SR 125) | 4F to 4F+3ML  | N/A                                 | \$103                  |
| 2050                                    | CC028      | Complete Corridor: ML                    | SR 52 (I-5 to I-805)             | 4F to 4F+3ML  | SB2S                                | \$214                  |
| 2050                                    | CC065      | Complete Corridor: MLC                   | I-5 (SR 52)                      | South to East and West to North   | N/A                                 | \$202                  |
| 2050                                    | CC066      | Complete Corridor: MLC                   | I-5 (SR 52)                      | North to East and West to South   | N/A                                 | \$202                  |
| <b>State Route 56 (SR 56)</b>           |            |  |                                  |   |                                     |                        |
| 2040                                    | CC006      | Complete Corridor: ML/<br>Goods Movement | I-5 (SR 56 to Via de La Valle)   | 8F/10F+2HOV to 6F/8F+4ML  | I-5 NCC                             | \$37                   |



## Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year     | Project ID | Category   | Project Name                              | Description  | Connecting Corridor(s) | Cost (\$2020) Millions |
|------------------------------|------------|--|---|--|------------------------|------------------------|
| 2040                         | TL26       | Transit Leap   | <i>Rapid 103</i>                          | Solana Beach to Sabre Springs via Del Mar Heights and SR 56                        | I-15                   | \$53                   |
| 2040                         | TL27       | Transit Leap   | <i>Rapid 104</i>                          | Sorrento Valley to Sabre Springs via SR 56   | I-15, SB2S             | \$11                   |
| 2050                         | CC035      | Complete Corridor: ML  | SR 56 (I-5 to I-15)                       | 4F to 4F+3ML   | I-15                   | \$549                  |
| <b>San Vicente</b>           |            |  |   |  |                        |                        |
| 2040                         | CC050      | Complete Corridor: Rural   | SR 67 (Mapleview to Dye Road)             | Shoulder widening/straightening  | N/A                    | \$206                  |
| 2050                         | CC061      | Complete Corridor: Rural   | SR 78 (Deer Canyon Drive to Santa Ysabel) | Intersection improvements  | N/A                    | \$4                    |
| <b>North County Corridor</b> |            |  |   |  |                        |                        |
| 2026                         | TL37       | Transit Leap   | Rapid 450 Phase 1                         | Oceanside to Escondido via Palomar Airport Road and SR 78 (light version of Rapid) | I-5 NCC, I-15          | \$8                    |
| 2029                         | CC036      | Complete Corridor: ML  | SR 78 (I-5 to Twin Oaks)                  | 6F to 4F+4ML+Connectors  | N/A                    | \$507                  |
| 2029                         | CC037      | Complete Corridor: ML  | SR 78 (Twin Oaks to I-15)                 | 6F to 4F+4ML   | I-15                   | \$145                  |
| 2029                         | CC064      | Complete Corridor: MLC   | I-5 (SR 78)                               | South to East and West to North, North to East and West to South                   | N/A                    | \$352                  |
| 2029                         | TL36       | Transit Leap   | <i>Rapid 440</i>                          | Carlsbad to Escondido Transit Center via Palomar Airport Road                      | I-5 NCC, I-15          | \$71                   |
| 2029                         | TL39       | Transit Leap   | <i>Rapid 471</i>                          | Downtown Escondido to East Escondido   | I-15                   | \$85                   |
| 2029                         | TL41       | Transit Leap   | <i>Rapid 474</i>                          | Oceanside to Vista via Mission Avenue/ Santa Fe Road Corridor                      | I-5 NCC                | \$71                   |
| 2029                         | TL42       | Transit Leap   | <i>Rapid 477</i>                          | Carlsbad Village to SR 76 via College Boulevard, Plaza Camino Real                 | I-5 NCC                | \$108                  |
| 2040                         | CC105      | Complete Corridor: Interchange and Arterial Operational Improvements | I-5 (SR 78)                               | South to East and West to South  | I-5 NCC                | \$379                  |

### Major Projects by Corridor and Air Quality Phasing

| Conformity Analysis Year | Project ID | Category     | Project Name             | Description   | Connecting Corridor(s) | Cost (\$2020) Millions |
|--------------------------|------------|--------------|--------------------------|---|------------------------|------------------------|
| 2040                     | TL10       | Transit Leap | LRT 399                  | SPRINTER (Oceanside to Escondido, double-tracking and grade separations at El Camino Real, Melrose Drive, Vista Village Drive/Main Street, North Drive, Civic Center, Auto Parkway, and Mission Avenue) | I-15                   | \$376                  |
| 2040                     | TL38       | Transit Leap | <i>Rapid 450 Phase 2</i> | Oceanside to Escondido via Palomar Airport Road and SR 78 (full version of <i>Rapid</i> )   | I-5 NCC, I-15          | \$31                   |
| 2050                     | TL11       | Transit Leap | LRT 399                  | SPRINTER (Oceanside to Escondido, extension to North County Fair)   | I-5 NCC, I-15          | \$376                  |

Table A.12

**Rural Corridor Projects Air Quality Phasing**

| <b>Rural Corridor Projects Air Quality Phasing</b> |                   |                          |  |                                 |                               |  |
|--|-------------------|--------------------------|--|---------------------------------|-------------------------------|--|
| <b>Conformity Analysis Year</b>                    | <b>Project ID</b> | <b>Category</b>          | <b>Project Name</b>  | <b>Description</b>              | <b>Cost (\$2020) Millions</b> |  |
| 2040   | CC047             | Complete Corridor: Rural | I-8 (I-8 to West Willows Road)                                 | Interchange improvements        | \$11                          |  |
| 2040   | CC049             | Complete Corridor: Rural | SR 94 (SR 94 to Melody Road/Daisy Drive)                       | Intersection improvements       | \$8                           |  |
| 2040   | CC052             | Complete Corridor: Rural | SR 76 (Rice Canyon Road to Pala Reservation)                   | Straightening                   | \$60                          |  |
| 2040   | CC055             | Complete Corridor: Rural | SR 76 (SR 76 to Cole Grade Road)                               | Intersection improvements       | \$1                           |  |
| 2040   | CC057             | Complete Corridor: Rural | SR 76 (SR 76 to Pauma Reservation Road)                        | Intersection improvements       | \$1                           |  |
| 2040   | CC058             | Complete Corridor: Rural | SR 76 (Pala Casino to Rice Canyon Road)                        | Facility improvements           | \$1                           |  |
| 2040   | CC060             | Complete Corridor: Rural | SR 79 (SR 79 to Schoolhouse Canyon Road)                       | Intersection improvements       | \$1                           |  |
| 2050   | CC048             | Complete Corridor: Rural | I-8 (I-8 to East Willows Road)                                 | Interchange improvements        | \$11                          |  |
| 2050   | CC051             | Complete Corridor: Rural | SR 76 (SR 79 to Valley Center Road)                            | Facility improvements           | \$693                         |  |
| 2050   | CC053             | Complete Corridor: Rural | SR 76 (Harolds Road to Pauma Rancho)                           | Straightening                   | \$21                          |  |
| 2050   | CC054             | Complete Corridor: Rural | SR 76 (SR 76 to Pala Mission Road)                             | Intersection improvements       | \$1                           |  |
| 2050   | CC056             | Complete Corridor: Rural | SR 76 (West Reservation Boundary to East Reservation Boundary) | Shoulder widening               | \$40                          |  |
| 2050   | CC059             | Complete Corridor: Rural | SR 79 (Deer Canyon Road to San Felipe Road)                    | Shoulder widening               | \$226                         |  |
| 2050   | CC062             | Complete Corridor: Rural | SR 94 (Jamul Reservation to Tecate Road)                       | Shoulder widening/straightening | \$252                         |  |

Table A.13

**Arterial Projects Air Quality Phasing**

| Arterial Projects Air Quality Phasing |        |             |  |  |
|---------------------------------------|--------|-------------|--|--|
| Conformity Analysis Year              | TIP ID | Lead Agency | Project Name   | Description  |
| 2026                                  | CB32   | Carlsbad    | El Camino Real Widening – Poinsettia to Camino Vida Roble  | In Carlsbad, widen El Camino Real from 900 feet north of Cassia Road to Camino Vida Roble, along the northbound side of the roadway to provide three travel lanes and a bike lane in accordance with prime arterial standards. |
| 2026                                  | CB59   | Carlsbad    | El Camino Real Widening – Sunny Creek to Jackspar  | In Carlsbad, on El Camino Real from Sunny Creek to Jackspar, widen along the northbound side of the El Camino Real to provide three travel lanes (currently two lanes northbound), sidewalk, and a bike lane.                  |
| 2026                                  | ESC04  | Escondido   | Citracado Parkway II   | West Valley to Harmony Grove, widen from two to four lanes with raised medians; construct bridge over Escondido Creek.   |
| 2026                                  | ESC08  | Escondido   | Felicita Avenue/Juniper Street   | Widen from two to four lanes with left turn pockets, raised medians on Felicita; new traffic signals at Juniper and Chestnut, Juniper and 13th Avenue, Juniper and 15th Avenue; modify traffic signal at Juniper and Felicita. |
| 2026                                  | SM31   | San Marcos  | San Marcos Creek Specific Plan – Discovery Street Widening and Flood Control Improvements #88265 | From Via Vera Cruz to Bent Avenue/Craven Road, widen roadway to four-lane secondary arterial.  |

## Arterial Projects Air Quality Phasing

| Conformity Analysis Year | TIP ID  | Lead Agency      | Project Name  | Description  |
|--------------------------|---------|------------------|---|--|
| 2026                     | CB22    | Carlsbad         | Avenida Encinas – Widen from Palomar Airport Road to Embarcadero Lane | In Carlsbad, Avenida Encinas from Palomar Airport Road southerly to existing improvements adjacent to Embarcadero Lane, roadway widening to secondary arterial standards.  |
| 2026                     | CB31    | Carlsbad         | El Camino Real Widening – La Costa Avenue to Arenal Road              | In Carlsbad, along El Camino Real from 700 feet north of La Costa Avenue to Arenal Road, widening along the southbound side of the roadway to provide three travel lanes and a bike lane in accordance with prime arterial standards.  |
| 2026                     | CHV69   | Chula Vista      | Heritage Road Bridge  | Heritage Road from Main Street/Nirvana Avenue to Entertainment Circle, widen and lengthen bridge over Otay River from a four-lane to a six-lane bridge that accommodates shoulders, sidewalk, and median; project is on Heritage Road from the intersection of Main Street and Nirvana Avenue to Entertainment Circle. |
| 2026                     | CHV87   | Chula Vista      | E Street Extension from Bay Boulevard to H Street                     | Extension of E Street and F Street west of Bay Boulevard, and the realignment of Gun Powder Point Drive for Chula Vista Bayfront redevelopment. Project includes construction of a roundabout at E Street, F Street, and Gunpowder Point Drive; Class I and II bike paths; and sidewalks.                              |
| 2026                     | CNTY14A | San Diego County | South Santa Fe Avenue South   | South Santa Fe from 700 feet south of Woodland Drive to Similax Road, widening of South Santa Fe Avenue to a five-lane major road with a center left turn lane, curb, gutter, sidewalk, bike lanes, and drainage improvements from 700 feet south of Woodland Drive to Similax Road.                                   |
| 2026                     | CNTY21  | San Diego County | Bradley Avenue Widening and Overpass at SR 67                         | Widen Bradley Avenue from Magnolia Avenue to Mollison Avenue; widen from two lanes to four lanes plus sidewalks. Replace two-lane bridge over SR 67 with a six-lane bridge which accommodates turn pockets.  |
| 2026                     | CNTY34  | San Diego County | Dye Road Extension  | Dye Road to San Vicente Road – in Ramona, study, design, and construct a two-lane community collector road with intermittent turn lanes, bike lanes, curb, gutter, and pathway/walkway.  |
| 2026                     | CNTY98  | San Diego County | Otay Lakes Road   | Four-lane boulevard with raised median from the city/county boundary to Strada Piazza, and two-lane community collector with intermittent turn lanes to the east.  |

## Arterial Projects Air Quality Phasing

| Conformity Analysis Year | TIP ID | Lead Agency   | Project Name                        | Description   |
|--------------------------|--------|---------------|-------------------------------------|---|
| 2026                     | ESC24  | Escondido     | Centre City Parkway                 | Mission Road to SR 78, widen four lanes to six lanes with intersection improvements.  |
| 2026                     | NC01   | National City | Plaza Boulevard Widening            | Phase II of Plaza Boulevard from Highland Avenue to N Avenue, widen from two to three lanes, including a new traffic lane in each direction, new sidewalks, sidewalk widening, traffic signal upgrades, and interconnection at Plaza Boulevard.   |
| 2026                     | NC01   | National City | Plaza Boulevard Widening            | Phase III of Plaza Boulevard from I-805 to Euclid Avenue, widen from two to three lanes, including a new traffic lane in each direction, new sidewalks, sidewalk widening, traffic signal upgrades, and interconnection at Plaza Boulevard.   |
| 2026                     | SD102A | San Diego     | Otay Truck Route Widening (Phase 4) | Phase II (from Britannia to La Media Road) of Otay Truck Route in San Diego from Drucker Lane to La Media, add one lane (total three lanes) for trucks; from Britannia to La Media, add one lane for trucks and one lane for emergency vehicles (border patrol/fire department access); add one lane for trucks along Britannia from Britannia Court to the Otay Truck Route.         |
| 2026                     | SD190  | San Diego     | Palm Avenue/I-805 Interchange       | Improvements to the Palm Avenue Bridge over I-805, including repairs to the bridge approaches; a new Project Study Report and Preliminary Environmental Assessment Report. Phase II of the project will include widening of the bridge, realignment of existing ramps, possible addition of northbound looping entrance ramp, restriping of traffic lanes, and signal modifications.  |
| 2026                     | SD250  | San Diego     | La Media Road Improvements          | In San Diego, on La Media Road from SR 905 to Siempre Viva Road, widen La Media Road to a six-lane primary arterial from SR 905 to Airway Road, and to a five-lane major road between Airway Road and Siempre Viva Road with three southbound lanes and two northbound lanes. This project will also improve drainage at the intersection of La Media Road and Airway Road (S-15018). |

## Arterial Projects Air Quality Phasing

| Conformity Analysis Year | TIP ID | Lead Agency      | Project Name  | Description   |
|--------------------------|--------|------------------|---|---|
| 2026                     | SD34   | San Diego        | El Camino Real  | In San Diego on El Camino Real from San Dieguito Road to Via de la Valle, reconstruct and widen from two to four lanes and extend transition lane and additional grading to avoid biological impacts (CIP 52-479.0).  |
| 2026                     | SM24   | San Marcos       | Woodland Parkway Interchange and Barham Drive Widening & Street Improvements #88005 | From La Moree Road to Rancheros Drive, modify existing ramps at Woodland Parkway and Barham Drive; widen and realign SR 78 undercrossing and associated work.   |
| 2029                     | CB12   | Carlsbad         | College Boulevard Reach A   | In Carlsbad, from Badger Lane to Cannon Road, construct a new segment of College Boulevard to provide a four-lane roadway with raised median, bike lanes, and sidewalks/trails in accordance with major arterial standards.   |
| 2029                     | CNTY35 | San Diego County | Ramona Street Extension   | From Boundary Avenue to Warnock Drive – in the community of Ramona, construct new road extension, two lanes with intermittent turn lanes, bike lanes, and walkway/pathway.  |
| 2032                     | SD190  | San Diego        | Palm Avenue/I-805 Interchange   | Improvements to the Palm Avenue Bridge over I-805, including repairs to the bridge approaches; a new Project Study Report and Preliminary Environmental Assessment Report. Phase III will provide the ultimate build-out of the project which will incorporate improvements of Phase II plus the northbound and southbound entrance ramps (CIP 52-640.0). |
| 2032                     | SM10   | San Marcos       | SR 78/Similax Interchange Improvements  | Construct new interchange at Similax Road interchange and SR 78 improvements.   |

Table A.15

**Other Transit Projects Air Quality Phasing**

| <b>Other Transit Projects Air Quality Phasing</b> |                   |                 |   |                                |
|---|-------------------|-----------------|---|--------------------------------|
| <b>Conformity Analysis Year</b>                   | <b>Project ID</b> | <b>Category</b> | <b>Project Name</b>   | <b>Cost (\$2020) Millions</b>  |
| 2026  | --                | Transit Leap    | Systemwide Operations Costs   | \$2,172                        |
| 2026  | TL60              | Transit Leap    | Vehicle Purchases and Replacements (including spares)               | \$395                          |
| 2026  | TL63              | Transit Leap    | Local Bus Route Enhanced Frequencies – Ten minutes in key corridors | Included with operations costs |
| 2040  | --                | Transit Leap    | Systemwide Operations Costs   | \$5,433                        |
| 2040  | TL61              | Transit Leap    | Vehicle Purchases and Replacements (including spares)               | \$1,033                        |
| 2040  | TL64              | Transit Leap    | Local Bus Route Enhanced Frequencies – Ten minutes in key corridors | Included with operations costs |
| 2040  | TL66              | Transit Leap    | Transit Fare Subsidies  | \$982                          |
| 2050  | --                | Transit Leap    | Systemwide Operations Costs   | \$12,021                       |
| 2050  | TL62              | Transit Leap    | Vehicle Purchases and Replacements (including spares)               | \$2,196                        |
| 2050  | TL65              | Transit Leap    | Local Bus Route Enhanced Frequencies – Ten minutes in key corridors | Included with operations costs |
| 2050  | TL67              | Transit Leap    | Transit Fare Subsidies  | \$4,041                        |