

Appendix N:

Network

Development and

Performance

Free Language Assistance | Ayuda gratuita con el idioma | Libreng Tulong sa Wika
Hỗ trợ ngôn ngữ miễn phí | 免费语言协助 | 免費語言協助 | مساعدة لغوية مجانية | 무료 언어 지원 | کمک زبان رایگان
無料の言語支援 | Бесплатная языковая помощь | Assistència lingüística gratuïta | मुफ्त भाषा सहायता
Assistance linguistique gratuite | ជំនួយភាសាឥតគិតថ្លៃ | ఉచిత భాషా సహాయం | ການຊ່ວຍເຫຼືອດ້ານພາສາຟຣີ
Kaalmada Luqadda ee Bilaashka ah | Безкоштовна мовна допомога



SANDAG.org/languageassistance | 619.699.1900

Contents

| | |
|---|------|
| Network Development and Performance..... | N.2 |
| No-Build Projects | N.2 |
| Network Development | N.5 |
| Transit..... | N.8 |
| Complete Corridors | N.8 |
| Flexible Fleets | N.10 |
| Transportation System Management | N.10 |
| The Regional Arterial System | N.11 |
| Regional Arterial System Screening Criteria | N.11 |
| Project Evaluation..... | N.12 |
| Performance Measures..... | N.12 |
| Attachment N1: Data Sources Used in Network Development | N.16 |
| Attachment N2: Regional Arterial System by Jurisdiction | N.18 |
| Attachment N3: Evaluation Criteria | N.33 |
| Project Evaluation..... | N.33 |
| Project Evaluation Criteria Methodology | N.33 |
| Project Evaluation Criteria by Project Type | N.36 |
| Attachment N4: Performance Measure Results..... | N.38 |

Figures

| | |
|---|------|
| Figure N2.1: Regional Arterial System | N.32 |
|---|------|

Tables

| | |
|---|------|
| Table N.1: No-Build Projects..... | N.2 |
| Table N.2: Relationship Between Strategies | N.6 |
| Table N.3: 2025 Regional Plan Goals and Performance Measures | N.14 |
| Table N1.1: Network Development Data Sources | N.16 |
| Table N2.1: Regional Arterials by Jurisdiction | N.18 |
| Table N3.1: Project Readiness Duration Table..... | N.34 |
| Table N3.2: Anticipated Impacts Reference Table..... | N.34 |
| Table N4.1: Primary Performance Measure Results | N.38 |
| Table N4.2: Supporting Performance Measure Results | N.41 |
| Table N4.3: Corridor Travel Times (AM peak period) (in minutes) | N.47 |

Network Development and Performance

This appendix describes how the transportation system for the 2025 Regional Plan was developed and its resulting modeled performance. The network was developed through an iterative process that started with the amended 2021 Regional Plan and used recent data and partner feedback to refine the projects, programs, and policies¹. The resulting network provides a balance between the projects that the region wants with the latest state and federal mandates that SANDAG is required to meet.

No-Build Projects

Before identifying investments for the Regional Plan that support regional goals, staff first identified projects to include in the “No-Build” scenario, which includes projects that already exist as part of the current transportation network and No-Build projects. No-Build projects are projects that would be built in the region in absence of the Regional Plan because they have recently been completed or are in progress and fully funded through construction. A list of No-Build projects is included in Table N.1. Performance reporting for future years compares No-Build and Build (2025 Regional Plan) scenarios to demonstrate the contribution of the projects and programs included in the 2025 Regional Plan.

Table N.1: No-Build Projects

| Category | Project | Description | Note |
|-----------------------|---|--|--------------------|
| Active Transportation | Pershing Bikeway | Downtown, Golden Hill, Balboa Park, North Park | Completed |
| Active Transportation | Bayshore Bikeway: Barrio Logan | Barrio Logan, Downtown, 32nd Street Naval Station | Under Construction |
| Active Transportation | Border to Bayshore Bikeway | Imperial Beach, San Ysidro | Under Construction |
| Active Transportation | Imperial Avenue Bikeway | East Village, Sherman Heights, Grant Hill, Mountain View | Under Construction |
| Active Transportation | Inland Rail Trail: Phase 3 | Vista | Under Construction |
| Active Transportation | San Diego River Trail: Stadium Segment | Mission Valley, San Diego State University West | Completed |
| Active Transportation | Uptown Bikeways: Eastern Hillcrest Bikeways | Hillcrest | Under Construction |

¹ Policies and programs are described in Appendix A.

Table N.1: No-Build Projects Continued

| Category | Project | Description | Note |
|-----------------------|--|---|--------------------|
| Active Transportation | Uptown Bikeways: Washington Street and Mission Valley Bikeways | Mission Hills, Hillcrest, Mission Valley | Under Construction |
| Active Transportation | North Park/Mid-City Bikeways: University Bikeway | City Heights, Rolando, La Mesa | Under Construction |
| Active Transportation | Central Avenue Bikeway | City Heights, Normal Heights, Kensington-Talmadge | Under Construction |
| Active Transportation | North Park/Mid-City Bikeways: Howard Bikeway | North Park, City Heights | Final Design |
| Active Transportation | Coastal Rail Trail Encinitas: E Street to Chesterfield Drive (E Street–Santa Fe) | Encinitas | Final Design |
| Active Transportation | North Park/Mid-City Bikeways: Orange Bikeway | North Park, City Heights | Final Design |
| Active Transportation | Uptown Bikeways: Robinson Bikeway | Hillcrest, North Park | Final Design |
| Active Transportation | San Diego River Trail: Riverwalk Segment | Mission Valley | Under Construction |
| Active Transportation | Chollas Creek Bikeway to Bayshore Bikeway | Encanto, Southeastern San Diego, Barrio Logan, and Mid-City (select segments) | Final Design |
| Active Transportation | Coastal Rail Trail – Gilman Connector | La Jolla, City of San Diego | Final Design |
| Active Transportation | North Coast Bike Trail | Gilman Drive to San Luis Rey River Trail (select segments) | Final Design |
| Complete Corridors | I-5 North Coast Corridor (I-5/I-805 Merge to SR 78) | <ul style="list-style-type: none"> One Carpool/High Occupancy Vehicle (HOV) lane in each direction from Manchester Avenue to Palomar Airport Road. Construction Completion: 2022 One Carpool/HOV lane in each direction from Palomar Airport Road to SR 78. Construction Completion: 2023 | CAL09; Completed |
| Complete Corridors | SR 94/SR 125 Interchange/Arterial Improvements | Add auxiliary lanes | CAL68 |

Table N.1: No-Build Projects Continued

| Category | Project | Description | Note |
|--------------------|---|---|--|
| Complete Corridors | SR 52 Operational Improvements | Santo Road to I-15 eastbound auxiliary lanes | CAL536 |
| Complete Corridors | SR 11 (SR 125 to Enrico Fermi Drive) | New roadway between SR 125 and Enrico Fermi Drive | V11 (SANDAG ID: 1201101, 1201102, 1201103, 1201105) |
| Complete Corridors | SR 11/SR 905 Connectors | Southbound SR 125 to southbound SR 905 and southbound SR 125 to eastbound SR 11 | CAL325A; Completed |
| Complete Corridors | SR 125/SR 905 Connector | South to west | CC148/CAL38C; Completed January 2022 |
| Complete Corridors | SR 56 HOV Lanes–Phase I only | 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. | CAL114; Completed July 2024 |
| Transit | Rapid 227 | Otay Mesa to Imperial Beach | In service |
| Transit | Los Angeles – San Diego – San Luis Obispo (LOSSAN) Corridor Double Tracking | San Diego to Oceanside | SAN29, 30, 64, 66, 73, 114, 115, 119, 132, 183, 268, NCTD18 |
| Transit | Copper Line | The Copper Line (East County Connector) service replaced the existing Green and Orange Line Trolley Service north of El Cajon Transit Center. Riders traveling north of El Cajon transfer to the Copper Line at the El Cajon Transit Center (where both the Green and Orange Line service stops). | Opened September 2024 |
| Transit | COASTER Convention Center Station | COASTER route extension to a new station at the downtown San Diego Convention Center | Construction anticipated to start in 2025 with expected completion in 2029 |
| Goods Movement | Otay Mesa CVEF Modernization | Otay Mesa Port of Entry (POE) Commercial Vehicle Enforcement Facility (CVEF) modernization: Improvements to the CVEF to reflect GSA’s proposed Otay Mesa POE Modernization Project | Completed December 2023 |

Network Development

The 2021 Regional Plan utilized comprehensive transportation data and analysis and public and partner input, to create an integrated transportation system that would provide for more efficient and accessible regional travel and goods movement. The plan considered how and where people travel every day. At the most basic level, analyses were conducted to determine where people live, where they work, and how they get from one place to the other. Identifying these connections informed how the transportation network could best serve the daily travel patterns of people in the region.

The 2025 Regional Plan drew from the 2021 Regional Plan analyses and networks as travel patterns and the locations of major employment and activity centers have largely stayed the same since the prior plan's adoption. One caveat is the changing behavior resulting from the COVID-19 pandemic, particularly an increase in remote work. While overall travel decreased during the pandemic, travel activity has since bounced back significantly from pandemic lows, albeit with notable changes in trip-making behavior. The 2025 Regional Plan analysis is based on post-pandemic changes and effects. The 2025 Regional Plan also incorporated recent Comprehensive Multimodal Corridor Plan (CMCP) refinements.

Extensive public and partner outreach was performed during network development to identify projects and programs to meet local mobility needs. This included input from the general public, community organizations, local partner agencies, Policy Advisory Committees, and the Board of Directors. San Diego region residents told us they needed better connections between types of transportation, shuttles for short trips, safe bikeway and pedestrian paths, more electric vehicle (EV) infrastructure, completed highway connectors, and improved interchanges. Rural communities in particular need safer roads, more transit options, and solutions for emergency evacuation. These comments helped shape the resulting network of mobility projects, including adding more microtransit services to connect to transit and other common destinations, as well as adding more Rapid bus routes along with increased service on local and rural bus routes.

Along with partner feedback, updated data sets, transportation and technology trends, and updates in policy were used to refine the 2025 Regional Plan network. This incorporated a new regional growth forecast and surveys to capture post-pandemic trends in regional travel behavior, commercial vehicle trips, and more. Additional information about the travel behavior data and modeling is included in [Appendix M: Travel Demand Modeling Tools](#).

The approach to developing the 2025 Regional Plan network under each mobility strategy is described in detail below. The resulting final network is detailed in [Appendix A: Transportation Projects, Programs, Policies, and Phasing](#).

The success of each strategy relies heavily on the success of another, and the development of an integrated multimodal network was closely coordinated. Table N.2 illustrates how the mobility strategies support one another and where planning objectives and recommendations from one would influence the network development of another.

Table N.2: Relationship Between Strategies

| | Transit | Complete Corridors | Flexible Fleets | Transportation System Management |
|--------------------|--|--|---|--|
| Transit | -- | -- | Microtransit services were identified throughout the region to provide additional connections to the transit network and also serve short neighborhood trips. | Transportation System Management strategies like Transit Signal Priority (TSP) will improve the on-time performance of existing and planned transit services. Trip planning and real-time location information provided by Transportation System Management will increase the ease and comfort of using transit service. |
| Complete Corridors | Managed lanes were identified in part based on where Rapid or express bus routes are planned to provide priority for transit and keep travel times low and reliable during peak traffic periods. | -- | -- | Transportation System Management technology equipment enables better traffic operations and helps balance loads on roadway infrastructure. Technology can also disseminate information to optimize trip planning. |
| Flexible Fleets | Flexible Fleet service areas were influenced by the presence of transit stations, as these on-demand transportation services will help facilitate station access. | Microtransit can use managed lanes for faster service in some corridors. | -- | Transportation System Management includes a digital platform that compiles information from transportation sources including Flexible Fleets into a comprehensive data hub. |

Table N.2: Relationship Between Strategies Continued

| | Transit | Complete Corridors | Flexible Fleets | Transportation System Management |
|----------------------------------|---|---|--|----------------------------------|
| Transportation System Management | The locations of Transportation System Management strategies like TSP were based on locations of existing and planned transit services. Transit station amenities will also include technology elements like Wi-Fi to connect travelers with trip planning, real-time location information, and more. | Transportation System Management technology equipment that supports connected corridors and more safe, efficient movement of vehicles will be deployed along Complete Corridors. Real-time information will facilitate more dynamic operations of managed lanes and messaging to users. | The vision for Flexible Fleets is to have a singular platform on which varying modes of mobility can be booked as one ride. Transportation System Management is positioned to enable this functionality as a data platform that has availability between mobility as a service providers, infrastructure owner operators, and users. | -- |

Transit

Of all the mobility strategies, transit is the most fundamental to the region's goals for reducing traffic congestion, achieving state-mandated cuts in greenhouse gas (GHG) emissions, protecting the environment, and improving overall quality of life. The success of transit services is also intimately tied to the success of the other mobility strategies. The goals for Complete Corridors and Flexible Fleets will not be achieved without a network of high-speed, high-capacity, and frequent transit services that connect major residential areas with employment centers and basic services.

The transit network for the 2025 Regional Plan was established by considering existing routes, additional routes included in the 2021 Regional Plan, new concepts identified in recently completed CMCPs, and input from the public on the need for fast, safe, and reliable transit.

While the prior plan included a transit network relying on major infrastructure projects with lengthy development timelines, the 2025 Regional Plan has a greater emphasis on projects that can be completed more quickly. To quickly improve existing services across the region, 95 local, circulator, express, and rural bus routes will be upgraded with improved frequency and span of service (early morning and late evening). Furthermore, 48 new or upgraded Rapid routes will be available by 2035, improving options for existing riders and encouraging new ones. New rail projects have been reconsidered to ensure that the highest-performing routes are prioritized for implementation. As a result, an Airport Transit Connection and the Purple Line from Mission Valley to the U.S.-Mexico border are included as Light Rail Transit by 2050.

All of these transit routes were assessed for potentially redundant service by examining routes along the same or parallel corridors and selecting those with the greatest potential ridership and ability to serve major destinations. Additionally, passenger-serving amenities such as bathrooms, lighting, shelter, Wi-Fi, and security were incorporated into the network. Other routes that could not reasonably be built by 2050 with identified funding, such as an extension of the Purple Line to Sorrento Mesa and an extension of the LOSSAN Corridor to the U.S.-Mexico Border, are included in the Unconstrained Project List (i.e., they do not have identified funding and are considered part of a financially “unconstrained” plan).

Complete Corridors

The goal of Complete Corridors is to provide travelers with a comprehensive multimodal roadway network that uses technology to support the diverse mobility needs of people throughout the region, while also supporting the other transportation strategies. The Complete Corridors include a system of managed lanes across the region with connectors and direct access ramps that support local and regional connectivity. Rural highways, an arterial network, active transportation projects, and projects that support goods movement are also included.

To evaluate potential revisions to the managed lanes and highway networks, corridor capacities were compared with traffic volumes reported through the Caltrans Performance Measurement System tool²—using a measure known as the volume to capacity ratio and other operational performance parameters such as speed and level of service. Estimates were then developed for peak traffic volumes along the key corridors in 2050, using forecasted³ 2050 traffic volumes and the number of lanes that exist today on these corridors. Transit routes were also considered, identifying where high volumes of buses could be supported by additional managed lanes. Regular coordination with the Caltrans Managed Lanes System Plan was maintained throughout the development of the managed lanes network to ensure general consistency between the two plans.

During the public workshops, partners generally expressed a need for projects to ensure better traffic flow on freeways while aligning with the regional goals of improving air quality and reducing vehicle miles traveled (VMT). In some areas, partners were opposed to widening freeways that would negatively impact their communities. Based on this feedback, the resulting Complete Corridor network selected strategic locations for highway improvements by adding lanes, finishing highway connectors, improving existing interchanges, or converting existing lanes into managed lanes. The managed lanes network sets aside key lanes and shoulders to move more people in multi-passenger vehicles, which will reduce traffic while supporting Rapid bus routes and carpooling on these highways.

The regional active transportation network was initially developed under the Complete Corridors strategy, with the goal to provide people of all ages and abilities with safe, comfortable, and convenient ways of reaching home, work, school, shopping, recreation, and other regional destinations. The following guiding principles informed the regional active transportation improvements included in the 2025 Regional Plan:

- Consider active transportation improvements identified in CMCPs while examining overlap with the Regional Arterial System.
- Apply network density assumptions consistent with the CROW (Dutch abbreviation for Information & Technology Centre for Transport and Infrastructure) Design Manual for Bicycle Traffic.⁴
- Provide direct connections to heavy rail, light rail, and Rapid transit stops.
- Provide safe active transportation connections across, and on either side of, freeways.
- Provide connections to many regional activity centers.
- Ensure no major gaps or missing links in the regional active transportation network.

² Caltrans 2022 Performance Measurement System (PeMS) analytic modules were used to extract data for the region's urban corridors.

³ Traffic forecasts were based on annual growth rates of 0.65% and 0.42% for north-south and east-west freeways, respectively.

⁴ <https://crowplatform.com>

Complete Corridors also are essential for the movement of goods throughout our region. Goods movement projects included in the 2025 Regional Plan were identified based on priorities outlined in the [San Diego and Imperial Counties Sustainable Freight Strategy](#). Projects included in the plan contribute the most to freight sustainability because of their significant economic, environmental, and equity benefits relative to their potential implementation challenges. Improvements are focused on our region's roadways, railroads, seaports, airports, land ports of entry, and pipelines—as well as the technology to help the goods movement network function efficiently.

Flexible Fleets

Flexible Fleet services provide people with on-demand connections to regional transit services, short trips around neighborhoods, and mobility options in areas that may not have access to high-speed transit. These services will travel within and between community centers and provide people with connections to regional transit services.

Both the public and Board have shown significant interest in and support for Flexible Fleet services. The current plan includes expanded microtransit service areas which help to fill transit gaps in the network.

Microtransit offers on-demand public shuttle service for short trips within a defined service area. These services can provide a sustainable and convenient solution for short trips around communities or for expanding access to major transit stops. Microtransit can also be used to serve communities that are challenging to serve with fixed route transit. Rides are typically less than 15 minutes and vehicles can seat up to 15 passengers. Microtransit zones were identified around high-capacity transit stops or where a mix of commercial and residential density would support on-demand services for local trips within the service area.

Neighborhood electric vehicles (NEVs) are a type of microtransit. Unlike other microtransit vehicles, NEV shuttles seat fewer passengers, and can only operate along roadways that do not exceed 35 miles per hour and where roadway slopes do not exceed 20%.

Transportation System Management

The Transportation System Management investments included in the 2025 Regional Plan are based on the 2021 Regional Plan (previously referred to as Next OS), SANDAG's San Diego ITS Regional Architecture (2021), completed and underway CMCPs, completed and ongoing SANDAG Concepts of Operations (ConOps), and data from evolving technology trends since the 2021 Regional Plan. Additional areas that were considered for the 2025 Regional Plan include Freight Priority and Goods Movement Systems, Parking Management Systems, Smart Work Zone Management and Fleet Electrification, Wireless Charging and Charge Management Optimization. The updates made to Transportation System Management reflect technological advancements that enable further reach of Transportation System Management providing a more effective and equitable platform. In parallel with Transportation System Management updates, an [Emerging Technology white paper](#) was developed that also informed network updates.

Transportation System Management will continue to evolve in concert with other mobility strategies, with a strong link to Complete Corridors that encompasses many of the roadside technological devices (e.g., connected vehicle roadside units, smart intersection signal heads, and traffic signal controllers and cabinets) and Transit to improve efficiency of operations and availability of real-time information to users.

The Regional Arterial System

The Regional Arterial System (RAS) constitutes part of the local street and road network that, in conjunction with the system of highways and transit services, provides for a significant amount of mobility throughout the region. Regional arterials are longer contiguous routes that provide accessibility between communities within the region and that may also allow subregional trips to avoid freeway travel. The RAS includes roads eligible for the Regional Transportation Congestion Improvement Program included in the TransNet Ordinance and other funding. The 2025 Regional Plan network development process included a comprehensive review of the RAS segments, including the consolidation of continuous road segments, in addition to reviewing and incorporating new segments requested by local agencies. A RAS has been included as part of the Regional Transportation Plan (RTP) since 1989 and includes over 1,000 miles of roads.

Regional Arterial System Screening Criteria

To qualify for the updated RAS, arterials must meet at least one of four approved criteria shown below. The first criterion is that the arterial is already included in the existing RAS. Any additions to the network must meet one of the remaining three criteria:

- Provides parallel capacity in high-volume corridors to supplement freeways, state highways, and/or other regional arterials (Corridor)
- Provides capacity and a direct connection between freeways or other regional arterials, ensuring continuity of the freeway, state highways, and arterial network throughout the region without duplicating other regional facilities (Cross-Corridor)
- Provides all or part of the route for existing or planned regional and/or corridor transit service that provides headways of 15 minutes or less during the peak period

There are certain design characteristics that can help facilitate regional trip movements on the RAS. These characteristics include:

- Interconnection and systems management of traffic signals
- Raised or striped medians
- Limitation and separation of left-turn movements
- Limited driveway access and other access controls
- Grade separations at rail crossings
- Shoulders and bikeways to accommodate bike movement
- Pedestrian treatments at intersections
- Priority traffic signal systems for transit service

- Bypass or “queue-jumper” lanes for transit service at critical intersections
- Enhanced transit stops
- Pedestrian facilities designed according to the Regional Pedestrian Design Guidelines
- Modern roundabouts and alternate intersection design where appropriate
- Freeway interchange modifications in accordance with Caltrans standards

A complete listing of the RAS is provided in Attachment N.2, Table N.2.1.

Project Evaluation

To develop the 2025 Regional Plan revenue-constrained transportation network, SANDAG considered various factors and inputs in both the development and phasing of the projects, programs, and services included in the network. Multimodal evaluation criteria including project readiness, anticipated VMT and air quality impacts, and nearby crash history were used to develop the project list and phasing. This evaluation process focused on projects that will have significant impacts to the region and constitute a significant portion of the 2025 Regional Plan’s costs. Projects included in this process are limited to Transit and Complete Corridors with estimated costs of \$100 million or more.

The evaluation process consisted of a multi-phased approach, each with distinct areas of focus. Taken together these provide information on expected performance, logistics, and goal alignment to inform prioritization discussions.

The first phase identified projects that will help maximize benefits in the near term (by 2035) and anticipated VMT impacts. These details inform which projects support GHG emission reduction goals by the critical date of 2035 for consideration in decision-making. The second phase looked at social equity and emissions. The third phase looked at goods movement, non-single occupancy vehicle and asset conditions. The project evaluation process is further detailed in Attachment N.3: Evaluation Criteria.

Project Evaluation was just one of many considerations for project development and phasing. SANDAG considered various partner needs and incorporated direction from the Board of Directors in refining the final network.

Performance Measures

The 2025 Regional Plan transportation network was modeled together with identified policies and programs⁵ to evaluate the plan’s performance against measures consistent with regional, state, and federal goals.

⁵ Policies and programs are described in Appendix A.

To understand how changes to the transportation system can impact the region, SANDAG uses an advanced travel demand model called an activity-based model. The activity-based model simulates trips throughout the region and calculates the types of transportation options people choose, travel times, and much more. The future performance of the transportation system can be better understood from these simulated trips and are reflected through performance measures.

The 2025 Regional Plan performance measures are categorized into primary and supporting measures. Each measure is described below, and the results are detailed in Attachment N.4.

- Primary Performance Measures
 - Access to Basic Needs: percentage of the population within 15 minutes of retail or a park and percentage of the population within 30 minutes of a medical facility via different transportation modes
 - Access to Opportunities: percentage of the adult population within 30 or 45 minutes of employment centers or higher education institutions via transit
 - GHG Emission Measures: reduction in exhaust from vehicles that contribute to GHG regionwide and per person from 2005 levels
 - VMT Measures: number of vehicle miles traveled regionwide and per person
- Supporting Performance Measures
 - Access to High Schools⁶: percentage of the population within 30 minutes of a public or private high school via transit
 - Coastal Access: percentage of the population within 30 or 45 minutes of the coast via different transportation modes
 - Mode Share by Work Trips & All Trips: percentage of work trips and all trips during certain periods by different transportation modes
 - Access to Rail or Rapid Transit Stops: number and percentage of people within 0.5 miles of a rail or Rapid transit stop
 - Job Access to Rail or Rapid Transit Stops: number and percentage of jobs within 0.5 miles of a rail or Rapid transit stop
 - Access to Bike Facilities: number and percentage of people within 0.25 miles of a bike facility (i.e., class I and II, cycletrack, or bike boulevard)
 - Daily Transit Boardings: number of boardings on a typical weekday by different transit types
 - Transportation Related Physical Activity: total time (in minutes) engaged in transportation related physical activity per capita and percentage of the population engaged in 20 minutes or more of transportation related physical activity

⁶ The Access to High Schools performance measure does not include access via school bus.

- Transportation System Use Costs: percentage of income consumed by out-of-pocket transportation costs and change in percentage of income consumed by out-of-pocket transportation costs from the base year
- Average Particulate Matter (PM_{2.5}): average exposure to PM_{2.5} per person
- Average Commercial Vehicle & Truck Travel Times: average trip travel time (in minutes) for commercial vehicles and trucks to/from freight distribution hubs
- Truck Travel Time Index (TTI) by Facility Type: truck travel time index by highway or arterial
- Average Heavy Duty Truck Delay by Facility Type: average heavy duty truck delay during certain periods by highway or arterial

The primary performance measures support the plan's goals by providing insights to the anticipated impacts of the future network. Each performance measure supports multiple goal areas. For instance, the "access to basic needs" performance measure supports the "convenient and reliable movement of people and goods" goal by showing the percentage of the population that can access retail and parks in a convenient time of 15 minutes via different transportation modes. This performance measure also supports the "equitable access to essential needs and opportunities" goal by showing the percentage of the population that can access these vital needs. Table N.3 illustrates the multiple goals each primary performance measure supports.

Table N.3: 2025 Regional Plan Goals and Performance Measures

| Goal Area | Performance Measure |
|--|---|
| Convenient and reliable movement of people and goods | <ul style="list-style-type: none"> • Access to Basic Needs • Access to Opportunities • VMT Measures |
| Equitable access to essential needs and opportunities | <ul style="list-style-type: none"> • Access to Basic Needs • Access to Opportunities |
| Healthy communities and environment for everyone | <ul style="list-style-type: none"> • Access to Basic Needs • GHG Measures • VMT Measures |
| Safe transportation network for all users | The activity-based model does not predict safety performance. Safety is monitored through the Traffic Safety Dashboard which informs implementation of the Regional Vision Zero Action Plan . |

The modeled results of the performance measures are calculated regionwide and presented for three years: 2022, 2035, and 2050. The year 2022 serves as the base year and the outcomes reflect the current performance of the region's existing transportation system. The years 2035 and 2050 are significant phases in the 2025 Regional Plan when projects and programs are planned. These phase years are included twice for each performance measure to reflect the differences between the No-Build and Build network. The No-Build network is the network without any 2025 Regional Plan projects, which only includes existing and in-progress projects as detailed in Table N.1. The Build network is the revenue-constrained 2025 Regional Plan network as described in Appendix A. The differences in the performance between the No-Build network and Build network are the expected changes from the strategies included in the 2025 Regional Plan.

The performance measures are also calculated for low-income, minority, and senior populations. For more information on the analysis and results for those performance measures of the 2025 Regional Plan, see [Appendix E: Title VI Analysis and Engagement](#).

Attachment N1:

Data Sources Used in Network Development

Table N1.1: Network Development Data Sources

| Data | Source | Geography | Time Period | Note |
|--|---------------------|---|---------------------|---|
| Transportation | | | | |
| Peak Period Traffic Volumes | SANDAG | San Diego Region, Line layer | 2016 | 2016 AM and PM peak period traffic flows based on ABM2+ Series 14 |
| Person Origin and Destination by Time-of Day, Trip Purpose, Day Type | Teralytics; Replica | San Diego Region, Trips from origin census tract to destination tract | 2022 | Trip Purpose includes "To Work", "To Home", and "To Other"; Day Types include "Weekday" and "Weekend" |
| Performance Measurement System Data | Caltrans | State of California | 2022 | |
| Road Network | SANDAG | San Diego Region, Line layer | 2023 | Centerline segments for roads in the County |
| Roadway Traffic Volumes | SANDAG | San Diego Region, Line layer | 2016, 2035 and 2050 | Traffic volumes from SANDAG ABM2+ Series 14 |
| Transit (Rail and Bus), Existing | SANDAG | San Diego Region, Line layer | 2018 and 2019 | From SANDAG ABM2+ Series 14 |
| Transit Routes (Bus and Rail), Future (including ridership) | SANDAG | San Diego County, Line layer | 2035 and 2050 | 2015 and amended 2021 Regional Plan and 2019 Federal RTP |
| CMCP Transportation Networks | SANDAG | Sub-Regional | 2022-2024 | Central Mobility Hub & Connections; Kumeyaay Corridor; South Bay to Sorrento; Coast, Canyons, Trails; San Vicente; North County |
| 2021 Regional Plan Transportation Networks | SANDAG | San Diego County | 2021 | Transit Leap, Complete Corridors, Mobility Hubs, Flexible Fleets |

Table N1.1: Network Development Data Sources Continued

| Data | Source | Geography | Time Period | Note |
|--|---|--|----------------|---|
| Vehicle Miles Traveled | SANDAG | San Diego County | Base Year 2016 | From SANDAG ABM2+ Series 14 |
| Flexible Fleets Regional Scan Layers: Short Trip Density, Socioeconomics, Mobility Needs, Proximity to Transit, Limited Transit Access | Flexible Fleets Implementation Strategic Plan | San Diego County | 2022 | Likelihood Scores |
| Safety Focus Network and Systemic Safety Network | SANDAG | San Diego County | 2018-2022 | Vision Zero Action Plan products developed in parallel |
| Benefits and Feasibility Scoring Matrix | SANDAG | San Diego and Imperial counties | 2023 | San Diego and Imperial Counties Sustainable Freight Implementation Strategy |
| Regional Arterial System | SANDAG | San Diego Region, Line layer | 2021 | Network of regional arterials |
| Socioeconomic | | | | |
| CalEnviroScreen 4.0 | California Office of Environmental Health Hazard Assessment | State of California | 2021 | Cumulative Impact Score |
| Population by Income | SANDAG | San Diego County, Polygon layers by MGRA | 2016 | From SANDAG ABM2+ Series 14 |

Attachment N2:

Regional Arterial System by Jurisdiction

Table N2.1: Regional Arterials by Jurisdiction

| No. | Arterial | Limits | Jurisdiction |
|-----|------------------------|---|--------------|
| 1 | Alga Road | El Camino Real to Melrose Drive | Carlsbad |
| 2 | Aviara Parkway | Palomar Airport Road to El Camino Real | Carlsbad |
| 3 | Cannon Road | Carlsbad Boulevard to College Boulevard | Carlsbad |
| 4 | Carlsbad Boulevard | Eaton Street to La Costa Avenue | Carlsbad |
| 5 | Carlsbad Village Drive | I-5 to Carlsbad Boulevard | Carlsbad |
| 6 | College Boulevard | City of Oceanside city limits to Palomar Airport Road | Carlsbad |
| 7 | El Camino Real (S-11) | SR 78 to Olivenhain | Carlsbad |
| 8 | Faraday Avenue | Melrose Drive to College Boulevard | Carlsbad |
| 9 | La Costa Avenue | I-5 to El Camino Real | Carlsbad |
| 10 | Melrose Drive | City of Vista city limits to Rancho Santa Fe Road | Carlsbad |
| 11 | Olivenhain Road | El Camino Real to Rancho Santa Fe Road | Carlsbad |
| 12 | Palomar Airport Road | Carlsbad Boulevard to Business Park Drive | Carlsbad |
| 13 | Poinsettia Lane | Carlsbad Boulevard to Melrose Drive | Carlsbad |
| 14 | Rancho Santa Fe Road | Melrose Drive to Olivenhain Road | Carlsbad |
| 15 | Bay Boulevard | E Street to Stella Street | Chula Vista |
| 16 | Beyer Way | Main Street to City of San Diego city limits | Chula Vista |
| 17 | Bonita Road | E Flower Street to I-805 | Chula Vista |
| 18 | Broadway | C Street to Main Street | Chula Vista |
| 19 | E Street | H Street to Bonita Road | Chula Vista |
| 20 | East H Street | Hilltop Drive to Mount Miguel Road | Chula Vista |
| 21 | H Street | E Street to Hilltop Drive | Chula Vista |
| 22 | Hunte Parkway | Proctor Valley Road to Eastlake Parkway | Chula Vista |
| 23 | J Street | Marina Parkway to Broadway | Chula Vista |
| 24 | L Street | Bay Boulevard to I-805 | Chula Vista |
| 25 | La Media Road | Telegraph Canyon Road to Main Street | Chula Vista |
| 26 | Main Street | City of Chula Vista city limits to Eastlake Parkway | Chula Vista |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|--------------------------------|---|--------------|
| 27 | Marina Parkway | H Street to J Street | Chula Vista |
| 28 | Olympic Parkway | I-805 to Hunte Parkway | Chula Vista |
| 29 | Orange Avenue | Palomar Street to I-805 | Chula Vista |
| 30 | Otay Lakes Road | Bonita Road to Wueste Road | Chula Vista |
| 31 | Otay Valley Road | Main Street to East of SR 125 | Chula Vista |
| 32 | Palomar Street | Bay Boulevard to Orange Avenue | Chula Vista |
| 33 | Paseo Ranchero (Heritage Road) | East H Street to City of San Diego city limits | Chula Vista |
| 34 | Proctor Valley Road | Mt. Miguel Road to Hunte Parkway | Chula Vista |
| 35 | Telegraph Canyon Road | I-805 to Otay Lakes Road | Chula Vista |
| 36 | Willow Street | Sweetwater Road to Bonita Road | Chula Vista |
| 37 | 3rd Street | Orange Avenue to Alameda Boulevard | Coronado |
| 38 | 4th Street | Orange Avenue to Alameda Boulevard | Coronado |
| 39 | Alameda Boulevard | Ocean Boulevard to 1st Street | Coronado |
| 40 | Pomona Avenue | Silver Strand Boulevard to 4th Street | Coronado |
| 41 | SR 75 | City of San Diego city limits to City of Imperial Beach city limits | Coronado |
| 42 | Via de la Valle | Highway 101 to Jimmy Durante Boulevard | Del Mar |
| 43 | 2nd Street | Greenfield Drive to Main Street | El Cajon |
| 44 | Avocado Avenue | Main Street to Chase Avenue | El Cajon |
| 45 | Avocado Avenue | Chase Avenue to Dewitt Court | El Cajon |
| 46 | Ballantyne Street | Broadway to Main Street | El Cajon |
| 47 | Bradley Avenue | Cuyamaca Street to County of San Diego limits | El Cajon |
| 48 | Broadway | SR 67 to East Main Street | El Cajon |
| 49 | Chase Avenue | El Cajon Boulevard to Rancho Valle Court | El Cajon |
| 50 | Cuyamaca Street | City of Santee city limits to Marshall Avenue | El Cajon |
| 51 | E Main Street | Broadway to Lavala Lane | El Cajon |
| 52 | El Cajon Boulevard | Chase Avenue to West Main Street | El Cajon |
| 53 | Fletcher Parkway | City of La Mesa city limits to SR 67 | El Cajon |
| 54 | Greenfield Drive | Ballantyne Street to I-8 | El Cajon |
| 55 | Jamacha Road | Main Street to Grove Road | El Cajon |
| 56 | Marshall Avenue | Cuyamaca Street to Washington Avenue | El Cajon |
| 57 | Navajo Road | SR 125 to Fletcher Parkway | El Cajon |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|---|---|----------------|
| 58 | Washington Avenue | El Cajon Boulevard to Granite Hills Drive | El Cajon |
| 59 | West Main Street | I-8 to Marshall Avenue | El Cajon |
| 60 | El Camino Real | Olivenhain Road to Manchester Avenue | Encinitas |
| 61 | Encinitas Boulevard | Highway 101 to Rancho Santa Fe Road | Encinitas |
| 62 | Highway 101 | City of Carlsbad to City of Solana Beach | Encinitas |
| 63 | La Costa Avenue | Highway 101 to I-5 | Encinitas |
| 64 | Leucadia Boulevard | Highway 101 to El Camino Real | Encinitas |
| 65 | Manchester Avenue | El Camino Real to I-5 | Encinitas |
| 66 | Olivenhain Road | El Camino Real to Los Pinos Circle | Encinitas |
| 67 | Ash Street | Lincoln Pkwy to Washington Avenue (SR 78) | Escondido |
| 68 | Barham Drive | City of San Marcos city limits to Mission Road | Escondido |
| 69 | Centre City Parkway | Country Club Lane (I-15) to entrance of the Caltrans I-15 ramp meter lanes (Caltrans R/W) | Escondido |
| 70 | Citracado Parkway | Centre City Parkway to Auto Parkway | Escondido |
| 71 | East Valley Parkway | Broadway to Valley Center Road | Escondido |
| 72 | East Via Rancho Parkway/ Bear Valley Parkway | East Valley Parkway to Sunset Drive | Escondido |
| 73 | El Norte Parkway | Nordahl Road to East Valley Parkway | Escondido |
| 74 | El Norte Parkway | Woodland Parkway to Rees Road | Escondido |
| 75 | Felicita/17th Avenue | I-15 to SR 78 | Escondido |
| 76 | Grand Avenue/ 2nd Avenue/Valley Boulevard | West Valley Parkway to East Valley Parkway | Escondido |
| 77 | Hale Avenue | Washington Avenue to I-15 | Escondido |
| 78 | Lincoln Parkway | Broadway (SR 78) to Ash Street | Escondido |
| 79 | Mission Avenue | Andreason Drive to Centre City Parkway | Escondido |
| 80 | Mission Road | Barham Drive to Andreason Drive | Escondido |
| 81 | Valley Center Road | East Valley Parkway to County of San Diego limits | Escondido |
| 82 | Via Rancho Parkway | Del Dios Road to Sunset Drive | Escondido |
| 83 | Washington Avenue | Mission Road to El Norte Parkway | Escondido |
| 84 | West Valley Parkway | Claudan Road to Broadway | Escondido |
| 85 | SR 75 | City of Coronado city limits to City of San Diego city limits | Imperial Beach |
| 86 | 70th Street | Saranac Street to I-8 | La Mesa |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|-------------------------|---|---------------|
| 87 | 70th Street | University Avenue to Colony Road | La Mesa |
| 88 | El Cajon Boulevard | 73rd Street to I-8 | La Mesa |
| 89 | Fletcher Parkway | I-8 to City of El Cajon city limits | La Mesa |
| 90 | Grossmont Center Drive | I-8 to Fletcher Parkway | La Mesa |
| 91 | Jackson Drive | La Mesa Boulevard to City of La Mesa city limits | La Mesa |
| 92 | La Mesa Boulevard | University Avenue to I-8 | La Mesa |
| 93 | Lake Murray Boulevard | I-8 to Dallas Street | La Mesa |
| 94 | Massachusetts Avenue | SR 94 to University Avenue | La Mesa |
| 95 | Spring Street | I-8 to SR 125 | La Mesa |
| 96 | University Avenue | 69th Street to La Mesa Boulevard | La Mesa |
| 97 | Broadway | Spring Street to Lemon Grove Avenue | Lemon Grove |
| 98 | College Avenue | Livingston Street to Federal Boulevard | Lemon Grove |
| 99 | Federal Boulevard | College Avenue to SR 94 | Lemon Grove |
| 100 | Lemon Grove Avenue | Viewcrest Drive to SR 94 | Lemon Grove |
| 101 | Massachusetts Avenue | Lemon Grove Avenue to SR 94 | Lemon Grove |
| 102 | Sweetwater Road | Broadway to Troy Street | Lemon Grove |
| 103 | 30th Street | National City Boulevard to 2nd Avenue | National City |
| 104 | Euclid Avenue | Cervantes Avenue to Sweetwater Road | National City |
| 105 | Harbor Drive | City of San Diego city limits to Civic Center Drive | National City |
| 106 | National City Boulevard | Division Street to 35th Street | National City |
| 107 | Palm Avenue | I-805 to 18th Street | National City |
| 108 | Paradise Valley Road | 8th Street to City of San Diego city limits | National City |
| 109 | Plaza Boulevard | National City Boulevard to 8th Street | National City |
| 110 | Sweetwater Road | 2nd Avenue to Plaza Bonita Center Way | National City |
| 111 | College Boulevard | North River Road to City of Carlsbad city limits | Oceanside |
| 112 | El Camino Real | Douglas Drive to SR 78 | Oceanside |
| 113 | Coast Highway | I-5 to Eaton Street | Oceanside |
| 114 | Melrose Drive | North River Road to Spur Avenue | Oceanside |
| 115 | Melrose Drive | North Santa Fe Avenue to W. Bobier Drive | Oceanside |
| 116 | Mission Avenue | Coast Highway to Frazee Road | Oceanside |
| 117 | North River Road | Douglas Drive to SR 76 | Oceanside |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|-----------------------|--|----------------|
| 118 | North Santa Fe Avenue | SR 76 to Melrose Drive | Oceanside |
| 119 | Oceanside Boulevard | Coast Highway to Melrose Drive | Oceanside |
| 120 | Rancho del Oro Drive | SR 78 to SR 76 | Oceanside |
| 121 | Vandegrift Boulevard | North River Road to Camp Pendleton | Oceanside |
| 122 | Vista Way | Jefferson Street to Thunder Drive | Oceanside |
| 123 | Camino del Norte | World Trade Drive to Pomerado Road | Poway |
| 124 | Community Road | Twin Peaks Road to Scripps Poway Parkway | Poway |
| 125 | Espola Road | Summerfield Lane to Poway Road | Poway |
| 126 | Pomerado Road | Stonemill Drive to Gateway Park Road | Poway |
| 127 | Poway Road | Springhurst Drive to SR 67 | Poway |
| 128 | Scripps Poway Parkway | Springbrook Drive to Sycamore Canyon Road | Poway |
| 129 | Ted Williams Parkway | Pomerado Road to Twin Peaks Road | Poway |
| 130 | Twin Peaks Road | Pomerado Road to Espola Road | Poway |
| 131 | 1st Avenue | Harbor Drive to I-5 | San Diego City |
| 132 | 4th Avenue | Market Street to Washington Street | San Diego City |
| 133 | 5th Avenue | Market Street to Washington Street | San Diego City |
| 134 | 6th Avenue | Ash Street to SR 163 | San Diego City |
| 135 | 10th Avenue | SR 163 to Park Boulevard | San Diego City |
| 136 | 11th Avenue | G Street to SR 163 | San Diego City |
| 137 | 28th Street | I-5 to Harbor Drive | San Diego City |
| 138 | 32nd Street | Harbor Drive to Wabash Boulevard | San Diego City |
| 139 | 43rd Street | Meade Avenue to Thorn Street | San Diego City |
| 140 | 47th Street | Fairmount Avenue to I-805 | San Diego City |
| 141 | 54th Street | Collwood Boulevard to Euclid Avenue | San Diego City |
| 142 | 70th Street | Colony Road to Saranac Street | San Diego City |
| 143 | A Street | 11th Avenue to Kettner Boulevard | San Diego City |
| 144 | Adams Avenue | Park Boulevard to I-15 | San Diego City |
| 145 | Aero Drive | Linda Vista Road to I-15 | San Diego City |
| 146 | Airway Road | Caliente Avenue to Paseo De Las Americas | San Diego City |
| 147 | Ash Street | Harbor Drive to 10th Avenue | San Diego City |
| 148 | Auto Circle | Camino del Rio North to Camino del Rio South | San Diego City |
| 149 | Balboa Avenue | Grand Avenue to Garnet Avenue | San Diego City |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|---------------------------|---|----------------|
| 150 | Barnett Avenue | Lytton Street to Pacific Highway | San Diego City |
| 151 | Bernardo Center Drive | Dove Canyon Road to I-15 | San Diego City |
| 152 | Beyer Boulevard | City of Chula Vista city limits to Caliente Avenue | San Diego City |
| 153 | Beyer Way | 4th Avenue to Picador Boulevard | San Diego City |
| 154 | Black Mountain Road | Carmel Valley Road to Carroll Canyon Road | San Diego City |
| 155 | Britannia Boulevard | Otay Mesa Road to Siempre Viva Road | San Diego City |
| 156 | Broadway | Harbor Drive to 11th Avenue | San Diego City |
| 157 | Cabrillo Memorial Drive | Cochran Street to Cabrillo National Monument | San Diego City |
| 158 | Caliente Avenue | Otay Mesa Road to Beyer Boulevard | San Diego City |
| 159 | Camino de la Reina | Mission Center Road to Qualcomm Way | San Diego City |
| 160 | Camino de Rio West | Rosecrans Street to I-8 | San Diego City |
| 161 | Camino del Norte | Rancho Bernardo Road to World Trade Drive | San Diego City |
| 162 | Camino del Rio North | Mission Center Road to Fairmount Avenue | San Diego City |
| 163 | Camino del Sur | Dormouse Road to Camino del Norte | San Diego City |
| 164 | Camino Ruiz | Miramar Road to Capricorn Way | San Diego City |
| 165 | Camino Santa Fe | Sorrento Valley Boulevard to Miramar Road | San Diego City |
| 166 | Cañon Street | Rosecrans Street to Catalina Boulevard | San Diego City |
| 167 | Carmel Mountain Road | Camino del Sur to Camino del Norte | San Diego City |
| 168 | Carmel Mountain Road | Sorrento Valley Road to El Camino Real | San Diego City |
| 169 | Carmel Valley Road | Del Mar Heights Road to Dove Canyon Road | San Diego City |
| 170 | Carroll Canyon Road | I-805 to I-15 | San Diego City |
| 171 | Catalina Boulevard | Cañon Street to Cochran Street | San Diego City |
| 172 | Cesar E. Chavez Parkway | I-5 to Harbor Drive | San Diego City |
| 173 | Clairemont Drive | Clairemont Mesa Boulevard to West Mission Bay Drive | San Diego City |
| 174 | Clairemont Mesa Boulevard | I-15 to Regents Road | San Diego City |
| 175 | College Avenue | Navajo Road to Livingston Street | San Diego City |
| 176 | Collwood Boulevard | Montezuma Road to 54th Street | San Diego City |
| 177 | Convoy Street | Linda Vista Road to SR 52 | San Diego City |
| 178 | Dairy Mart Road | SR 905 to I-5 | San Diego City |
| 179 | Del Mar Heights Road | I-5 to Carmel Valley Road | San Diego City |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|---|--|----------------|
| 180 | El Cajon Boulevard | Park Boulevard to 73rd Street | San Diego City |
| 181 | El Camino Real | Via de la Valle to Carmel Mountain Road | San Diego City |
| 182 | Euclid Avenue | 54th Street to Cervantes Avenue | San Diego City |
| 183 | F Street | SR 94 to 10th Avenue | San Diego City |
| 184 | Fairmount Avenue | Mission Gorge Road to 47th Street | San Diego City |
| 185 | Fenton Parkway/ Mission City Parkway | Friars Road to Camino Del Rio North | San Diego City |
| 186 | Friars Road | Sea World Drive to Mission Gorge Road | San Diego City |
| 187 | Front Street | I-5 to Market Street | San Diego City |
| 188 | G Street | SR 94 to 10th Avenue | San Diego City |
| 189 | Garnet Avenue | Balboa Avenue to I-5 | San Diego City |
| 190 | Garnet Avenue | Mission Bay Drive to I-15 | San Diego City |
| 191 | Genesee Avenue | North Torrey Pines Road to SR 163 | San Diego City |
| 192 | Gilman Drive | La Jolla Village Drive to I-5 | San Diego City |
| 193 | Girard Avenue | Pearl Street to Torrey Pines Road | San Diego City |
| 194 | Governor Drive | I-805 to Regents Road | San Diego City |
| 195 | Grand Avenue | Mission Boulevard to Mission Bay Drive | San Diego City |
| 196 | Grape Street | North Harbor Drive to I-5 | San Diego City |
| 197 | Harbor Drive | Pacific Highway to City of National City | San Diego City |
| 198 | Hawthorn Street | I-5 to North Harbor Drive | San Diego City |
| 199 | Heritage Road | City of Chula Vista city limits to Siempre Viva Road | San Diego City |
| 200 | Imperial Avenue | Lisbon Street to Viewcrest Drive | San Diego City |
| 201 | Imperial Avenue | Park Boulevard to Lemon Grove Avenue | San Diego City |
| 202 | India Street | Laurel Street to I-5 | San Diego City |
| 203 | Ingraham Street | West Mission Bay Drive to Grand Avenue | San Diego City |
| 204 | Jackson Drive | Mission Gorge Road to Dallas Street | San Diego City |
| 205 | Kearny Villa Road | Carroll Canyon Road to I-805 | San Diego City |
| 206 | Kettner Boulevard | I-5 to India Street | San Diego City |
| 207 | La Jolla Boulevard | Pearl Street to Turquoise Street | San Diego City |
| 208 | La Jolla Parkway | Torrey Pines Road to I-5 | San Diego City |
| 209 | La Jolla Shores Drive | Torrey Pines Road to North Torrey Pines Road | San Diego City |
| 210 | La Jolla Village Drive | North Torrey Pines Road to I-805 | San Diego City |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|--------------------------------|---|----------------|
| 211 | La Media Road | Lone Star Road to Southbound Truck Route | San Diego City |
| 212 | Lake Murray Boulevard | Dallas Street to Navajo Road | San Diego City |
| 213 | Laurel Street | North Harbor Drive to India Street | San Diego City |
| 214 | Linda Vista Road | Morena Boulevard to Convoy Street | San Diego City |
| 215 | Lone Star Road | La Media Road to City of San Diego/county boundary | San Diego City |
| 216 | Lytton Street | Rosecrans Street to Barnett Avenue | San Diego City |
| 217 | Market Street | Harbor Drive to Euclid Avenue | San Diego City |
| 218 | Mercy Road | Black Mountain Road to I-15 | San Diego City |
| 219 | Mesa College Drive | I-805 to Armstrong Street | San Diego City |
| 220 | Midway Drive | West Point Loma Boulevard to Barnett Avenue | San Diego City |
| 221 | Mira Mesa Boulevard | I-805 to I-15 | San Diego City |
| 222 | Miramar Road | I-805 to I-15 | San Diego City |
| 223 | Mission Boulevard | Loring Street to West Mission Bay Drive | San Diego City |
| 224 | Mission Bay Drive | Grand Avenue to I-5 | San Diego City |
| 225 | Mission Center Road | Camino del Rio North to Friars Road | San Diego City |
| 226 | Mission Gorge Road | Fairmont Avenue to Highridge Road | San Diego City |
| 227 | Montezuma Road | Fairmount Avenue to El Cajon Boulevard | San Diego City |
| 228 | Morena Boulevard | Balboa Avenue to Taylor Street | San Diego City |
| 229 | Navajo Road | Waring Road to SR 125 | San Diego City |
| 230 | Nimitz Boulevard | I-8 to Harbor Drive | San Diego City |
| 231 | Nobel Drive | I-5 to Miramar Road | San Diego City |
| 232 | Normal Street | University Avenue to Park Boulevard | San Diego City |
| 233 | North Harbor Drive | Rosecrans Street to Grape Street | San Diego City |
| 234 | North Torrey Pines Road (S-21) | Carmel Valley Road to La Jolla Village Drive | San Diego City |
| 235 | Ocean View Hills Parkway | I-805 to Dennerly Road to Otay Mesa Road | San Diego City |
| 236 | Otay Mesa Road | Ocean View Hills Parkway to City of San Diego/county boundary | San Diego City |
| 237 | Otay Valley Road | Heritage Road to Datsun Street | San Diego City |
| 238 | Pacific Highway | Sea World Drive to Harbor Drive | San Diego City |
| 239 | Palm Avenue | 13th Street to Dennerly Road | San Diego City |
| 240 | Paradise Valley Road | Munda Road to Meadowbrook Drive | San Diego City |
| 241 | Park Boulevard | Imperial Avenue to Adams Avenue | San Diego City |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|------------------------------|---|----------------|
| 242 | Pearl Street | La Jolla Boulevard to Girard Avenue | San Diego City |
| 243 | Picador Boulevard | Beyer Way to SR 905 | San Diego City |
| 244 | Pomerado Road | I-15 (north) to Bernardo Heights Parkway | San Diego City |
| 245 | Pomerado Road | Stonemill Drive to I-15 (south) | San Diego City |
| 246 | Poway Road | I-15 to Springhurst Drive | San Diego City |
| 247 | Qualcomm Way | I-8 to Friars Road | San Diego City |
| 248 | Rancho Bernardo Road | Camino Del Sur to Summerfield Lane | San Diego City |
| 249 | Rancho Carmel Drive | Carmel Mountain Road to Ted Williams Parkway | San Diego City |
| 250 | Rancho Peñasquitos Boulevard | SR 56 to I-15 | San Diego City |
| 251 | Regents Road | Genesee Avenue to Rose Canyon | San Diego City |
| 252 | Regents Road | Rose Canyon to Clairemont Mesa Boulevard | San Diego City |
| 253 | Rosecrans Street | Pacific Highway to Cañon Street | San Diego City |
| 254 | Ruffin Road | Kearny Villa Road to Aero Drive | San Diego City |
| 255 | Sabre Springs Parkway | Ted Williams Parkway to Poway Road | San Diego City |
| 256 | San Diego Mission Road | Mission Village Drive to Fairmount Avenue | San Diego City |
| 257 | San Ysidro Boulevard | Dairy Mart Road to East Beyer Boulevard | San Diego City |
| 258 | Scripps Poway Parkway | I-15 to Springbrook Drive | San Diego City |
| 259 | Sea World Drive | West Mission Bay Drive to Morena Boulevard | San Diego City |
| 260 | Siempre Viva Road | Heritage Road to Enrico Fermi Drive | San Diego City |
| 261 | Sorrento Valley Boulevard | Sorrento Valley Road to Camino Santa Fe | San Diego City |
| 262 | Sorrento Valley Road | Carmel Mountain Road to Sorrento Valley Boulevard | San Diego City |
| 263 | Southbound Truck Route | La Media to the Border Crossing (Otay Mesa) | San Diego City |
| 264 | Sports Arena Boulevard | I-8 to Rosecrans Street | San Diego City |
| 265 | Sunset Cliffs Boulevard | I-8 to West Mission Bay Drive | San Diego City |
| 266 | Taylor Street | Pacific Highway to Morena Boulevard | San Diego City |
| 267 | Ted Williams Parkway | I-15 to Pomerado Road | San Diego City |
| 268 | Texas Street | I-8 to University Avenue | San Diego City |
| 269 | Torrey Pines Road | Girard Avenue to La Jolla Village Drive | San Diego City |
| 270 | Twain Avenue | Fairmount Avenue to Mission Gorge Road | San Diego City |
| 271 | University Avenue | SR 163 to City of La Mesa | San Diego City |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|---------------------------------------|--|------------------|
| 272 | Valencia Parkway | Division Street to Imperial Avenue | San Diego City |
| 273 | Via de la Valle | Jimmy Durante Boulevard to El Camino Real | San Diego City |
| 274 | Vista Sorrento Parkway | Mira Mesa Boulevard to Carmel Mountain Road | San Diego City |
| 275 | Waring Road | College Avenue to I-8 | San Diego City |
| 276 | Washington Street | Pacific Highway to Polk Avenue | San Diego City |
| 277 | West Bernardo Drive | I-15 to Bernardo Center Drive | San Diego City |
| 278 | West Mission Bay Drive | Mission Boulevard to I-8 | San Diego City |
| 279 | West Morena Boulevard | Frankfort Street/Morena Boulevard to Cushman Avenue/Morena Boulevard | San Diego City |
| 280 | Woodman Street | SR 54 to Imperial Avenue | San Diego City |
| 281 | Alpine Boulevard | I-8/Dunbar Lane to I-8/Willows Road | San Diego County |
| 282 | Ashwood Street | Mapleview St to Willow Road/Wildcat Canyon Road | San Diego County |
| 283 | Avocado Boulevard | Dewitt Court to SR 94 | San Diego County |
| 284 | Bear Valley Parkway | City of Escondido (north) city limits to City of Escondido (south) city limits | San Diego County |
| 285 | Bonita Road | I-805 to San Miguel Road | San Diego County |
| 286 | Borrego Springs/Yaqui Pass Road (S-3) | Palm Canyon Drive (S-22) to SR 78 | San Diego County |
| 287 | Bradley Avenue | Wing Avenue/city limits to Mollison Avenue and city limits to Pepper Drive | San Diego County |
| 288 | Buckman Springs/Sunrise Highway (S-1) | SR 94 to SR 79 | San Diego County |
| 289 | Buena Creek Road | South Santa Fe Avenue to Twin Oaks Valley Road | San Diego County |
| 290 | Camino del Norte | Rancho Bernardo Road to City of San Diego city limits | San Diego County |
| 291 | Campo Road | Spring Street to Sweetwater Springs/SR 94 | San Diego County |
| 292 | Citracado Parkway | Greenwood Place to I-15 | San Diego County |
| 293 | Cole Grade Road | SR 76 to Valley Center Road | San Diego County |
| 294 | Deer Springs Road | Twin Oaks Valley Road to I-15 | San Diego County |
| 295 | Dehesa Road | Jamacha Road to Harbison Canyon Road | San Diego County |
| 296 | Dehesa Road* | Harbison Canyon Road to Sycuan Road | San Diego County |
| 297 | Del Dios Road | Via Rancho Parkway to Paseo Delicias | San Diego County |
| 298 | Dye Road | SR 67 to San Vicente Road | San Diego County |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|---|--|------------------|
| 299 | Dye Street | SR 67 to Dye Road | San Diego County |
| 300 | East Vista Way | SR 76 to City of Vista city limits | San Diego County |
| 301 | El Norte Parkway | Rees Road to Nordahl Road | San Diego County |
| 302 | Euclid Avenue | City of National City limits to City of National City limits | San Diego County |
| 303 | Gamble Lane | Eucalyptus Avenue to City of Escondido city limits | San Diego County |
| 304 | Gopher Canyon Road | East Vista Way to Old Highway 395 | San Diego County |
| 305 | Jamacha Boulevard | SR 125 to SR 94 | San Diego County |
| 306 | Jamacha Road | City of El Cajon city limits to SR 94 | San Diego County |
| 307 | Keyes Road (southern traffic bypass) | Dye Road to SR 78 (Julian Road) | San Diego County |
| 308 | Lake Jennings Park Road | Mapleview St to I-8 | San Diego County |
| 309 | Lake Wohlford Road | Valley Center Road (north) to Valley Center Road (south) | San Diego County |
| 310 | Las Posas Road | City of San Marcos city limits to Buena Creek Road | San Diego County |
| 311 | Lone Star Road | City of San Diego city limits to Siempre Viva Road | San Diego County |
| 312 | Mapleview Street | SR 67 to Lake Jennings Road | San Diego County |
| 313 | Mar Vista Drive | City of Oceanside city limits to City of Vista city limits | San Diego County |
| 314 | Melrose Drive | City of Oceanside city limits to City of Vista city limits | San Diego County |
| 315 | Mission Road (S-13) | I-15 to SR 76 | San Diego County |
| 316 | Mountain Meadow Road | I-15/Deer Springs Road to Valley Center Road | San Diego County |
| 317 | Nordahl Road | El Norte Parkway to City of San Marcos city limits | San Diego County |
| 318 | Old Highway 80 | Buckman Springs Road to I-8 (In-ko-pah) | San Diego County |
| 319 | Old Highway 80 | SR 79 to Sunrise Highway | San Diego County |
| 320 | Old Highway 395/ Champagne/North Centre City | East Mission Road to City of Escondido city limits | San Diego County |
| 321 | Otay Lakes Road | Wueste Road to SR 94 | San Diego County |
| 322 | Otay Mesa Road | City of San Diego city limits to Lone Star Road | San Diego County |
| 323 | Pala Temecula Road | SR 76 to Riverside County limits | San Diego County |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|--|--|------------------|
| 324 | Paradise Valley Road | City of San Diego city limits to Sweetwater Road | San Diego County |
| 325 | Paseo Delicias | El Camino del Norte to Via de la Valle | San Diego County |
| 326 | Rancho Bernardo Road | City of San Diego (west) city limits to City of San Diego (east) city limits | San Diego County |
| 327 | San Felipe Road/ Overland Route (S-2) | County Route S-22 to Imperial County Line | San Diego County |
| 328 | San Felipe Road/ Montezuma Valley Road/Palm Canyon Drive | SR 79 to Imperial County line | San Diego County |
| 329 | San Vicente Road/ 10th Street | SR 67 (Main Street) to Wildcat Canyon Road | San Diego County |
| 330 | Scripps Poway Parkway | Sycamore Canyon Road to SR 67 | San Diego County |
| 331 | Siempre Viva Road | City of San Diego city limits to Lone Star Road | San Diego County |
| 332 | South Santa Fe Avenue | City of Vista city limits to City of San Marcos city limits | San Diego County |
| 333 | Sunrise Highway | SR 79 to I-8 | San Diego County |
| 334 | Sweetwater Road (Bonita) | Willow Street to City of National City limits | San Diego County |
| 335 | Sweetwater Road (Spring Valley) | Jamacha Boulevard to Broadway | San Diego County |
| 336 | Sweetwater Springs Boulevard | Jamacha Boulevard to SR 94 | San Diego County |
| 337 | Valley Center Road | SR 76 to City of Escondido city limits | San Diego County |
| 338 | Valley Center New Northern E to W Road | Cole Grade Road to Old Highway 395 | San Diego County |
| 339 | Via de la Valle | City of San Diego city limits to Paseo Delicias | San Diego County |
| 340 | Via Rancho Parkway | Del Dios Road to City of Escondido city limits | San Diego County |
| 341 | Wildcat Canyon Road* | Ashwood Street to San Vicente Road | San Diego County |
| 342 | Willow Glen Drive | Jamacha Road to Dehesa Road | San Diego County |
| 343 | Willows Road | I-8 to Viejas Casino | San Diego County |
| 344 | Winter Gardens Boulevard | SR 67 to 2nd Street | San Diego County |
| 345 | Barham Drive | Twin Oaks Valley Road to Sunrise View | San Marcos |
| 346 | Borden Road | Las Posas Road to Woodland Parkway | San Marcos |
| 347 | Buena Creek Road | Twin Oaks Valley Road to Sunny Vista Lane | San Marcos |

Table N2.1: Regional Arterials by Jurisdiction Continued

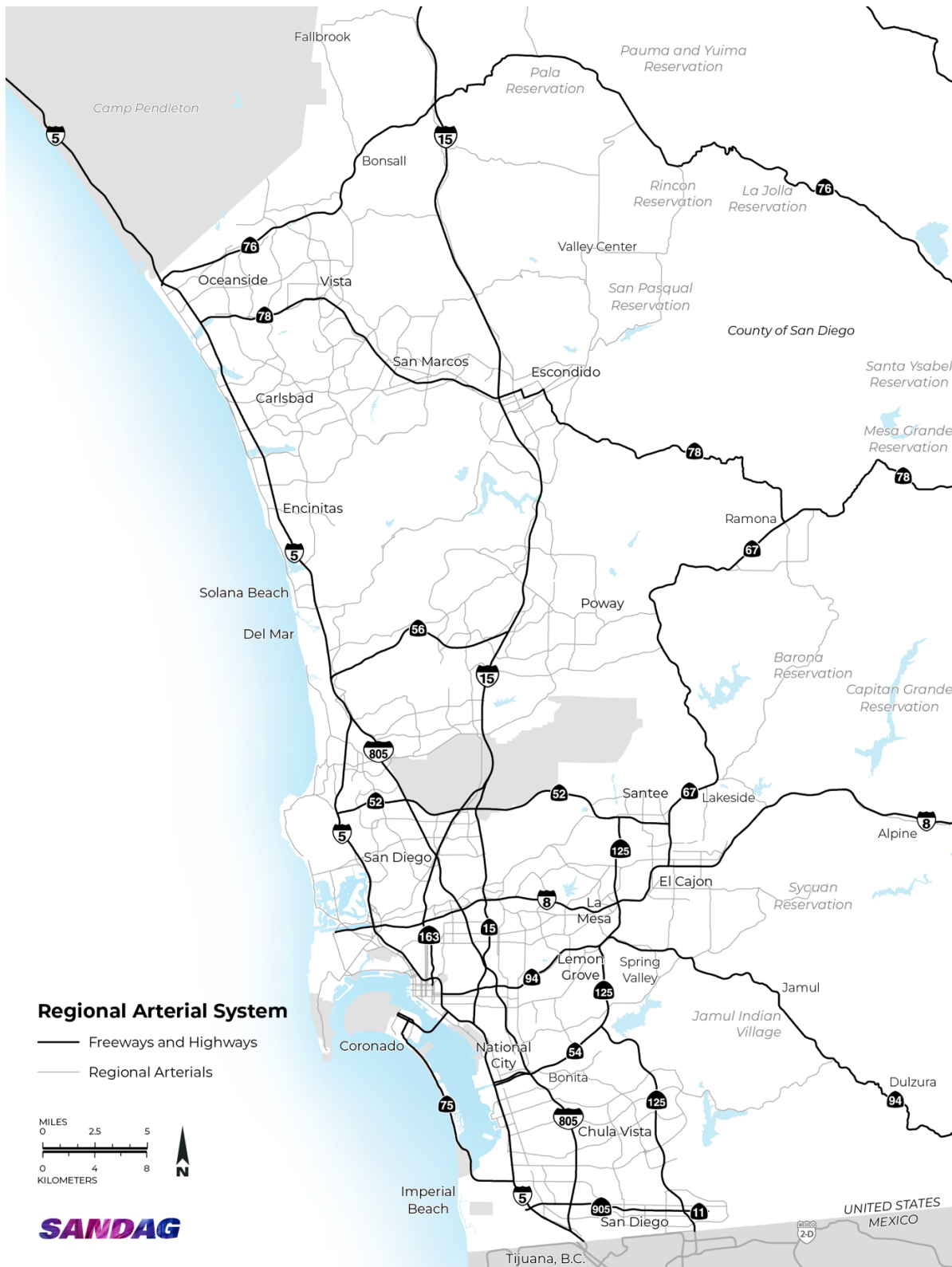
| No. | Arterial | Limits | Jurisdiction |
|-----|-------------------------------|--|--------------|
| 348 | Discovery Street | San Marcos Boulevard to Twin Oaks Valley Road | San Marcos |
| 349 | Las Posas Road | West San Marcos Boulevard to North City Limits | San Marcos |
| 350 | Mission Road | Pacific Street to Barham Drive | San Marcos |
| 351 | Rancho Santa Fe Road | Mission Road to Melrose Drive | San Marcos |
| 352 | San Elijo Road | Twin Oaks Valley Road to Rancho Santa Fe Road | San Marcos |
| 353 | San Marcos Boulevard | Business Park Drive to Mission Road | San Marcos |
| 354 | South Santa Fe Avenue | Smilax Road to Pacific Street | San Marcos |
| 355 | Twin Oaks Valley Road | Deer Springs Road to Questhaven Road | San Marcos |
| 356 | Woodland Parkway | Barham Drive to El Norte Parkway | San Marcos |
| 357 | Carlton Hills Boulevard | Mast Boulevard to Mission Gorge Road | Santee |
| 358 | Cuyamaca Street | Mast Boulevard to City of El Cajon city limits | Santee |
| 359 | Magnolia Avenue | Mast Boulevard to Prospect Avenue/ SR 67 | Santee |
| 360 | Mast Boulevard | SR 52 to Magnolia Avenue | Santee |
| 361 | Mission Gorge Road | City of San Diego city limits to Magnolia Avenue | Santee |
| 362 | Woodside Avenue | Magnolia Avenue to SR 67 | Santee |
| 363 | Highway 101 | City of Encinitas city limits to City of Del Mar city limits | Solana Beach |
| 364 | Lomas Santa Fe Avenue | I-5 to Highway 101 | Solana Beach |
| 365 | Bobier Drive | North Melrose Drive to East Vista Way (S-13) | Vista |
| 366 | Branding Iron Drive | South Melrose Drive to SR 78 | Vista |
| 367 | Business Park Drive | Sycamore Avenue to Palomar Airport Road/ San Marcos Boulevard | Vista |
| 368 | Cannon Road (Mar Vista Drive) | County of San Diego limits to SR 78 | Vista |
| 369 | Civic Center Drive | SR 78 to East Vista Way (S-13) | Vista |
| 370 | East Vista Way | Civic Center Drive to County of San Diego limits | Vista |
| 371 | Emerald Drive | Hacienda Drive to Olive Avenue | Vista |
| 372 | Hacienda Drive | City of Oceanside city limits to Vista Village Drive | Vista |
| 373 | North Melrose Drive | SR 78 to Bobier Drive | Vista |

Table N2.1: Regional Arterials by Jurisdiction Continued

| No. | Arterial | Limits | Jurisdiction |
|-----|------------------------------|--|--------------|
| 374 | North Santa Fe Avenue (S-14) | Main Street to North Melrose Drive | Vista |
| 375 | Olive Avenue | Emerald Drive to Vista Village Drive (S-13) | Vista |
| 376 | Shadowridge Drive | City of Oceanside city limits/Cannon Road to Sycamore Avenue | Vista |
| 377 | South Melrose Drive | City of Carlsbad to SR 78 | Vista |
| 378 | South Santa Fe Avenue | Main Street to County of San Diego | Vista |
| 379 | Sycamore Avenue | South Santa Fe Avenue to South Melrose Drive | Vista |
| 380 | Thibodo Road | Mar Vista Drive (Cannon Road) to Sycamore Avenue | Vista |
| 381 | Vista Village Drive | Hacienda Drive to Civic Center Drive | Vista |
| 382 | West Vista Way | Thunder Drive to Vista Village Drive | Vista |

Note: Line Nos. 296 and 341 marked by an asterisk () are included in the Regional Arterial System contingent upon being designated as a four-lane arterial by the County of San Diego.*

Figure N2.1: Regional Arterial System



Note: Some arterials are not visible in the figure due to the map extent.

Source: SANDAG

Attachment N3:

Evaluation Criteria

Project Evaluation

To develop the 2025 Regional Plan projects, programs, and services, including the phasing of these investments, SANDAG considered various factors within a project evaluation process. This evaluation process focused on projects expected to have significant impacts on the region and constitute a significant portion of the Regional Plan's costs. Projects included for evaluation were limited to Transit and Complete Corridors with estimated costs of \$100 million or more. This included small roadway segment improvements that are part of a larger corridor.

The evaluation process consisted of three phases, each with distinct areas of focus. Taken together, these provided information on expected performance, logistics, and goal alignment to inform prioritization discussions.

The first phase identified projects that will help maximize VMT reduction benefits in the near term (by 2035). These details informed which projects support GHG emission reduction goals by the critical date of 2035 for consideration in decision-making. The second phase looked at social equity and emissions. The third phase looked at goods movement, non-Single Occupancy Vehicle (SOV), and asset conditions.

The following section provides the methodology for project evaluation, and the subsequent section summarizes how the evaluation was applied to each project type.

Project Evaluation was just one of many considerations for project development and phasing. SANDAG considered the various partner needs and incorporated direction from its Board of Directors in refining the final network.

Project Evaluation Criteria Methodology

The following section provides additional detail on the three phases of the evaluation process:

Phase 1: Highest Priority for 2035

- **Project Readiness** identified projects that could be operational by 2035 if funding were available. Based on project type, this process assumed the length of time required from project start to end. SANDAG assumed that new rail projects generally require a minimum of 14 years to implement, while other projects could be implemented more quickly. As a result, this process assumed that new rail projects would not be ready for 2035 implementation. SANDAG assumed that all other projects could be implemented by 2035. The following table shows the project timelines associated with each project type.

Table N3.1: Project Readiness Duration Table

| Project Type | Years |
|--|-----------|
| New Rail | 14 years |
| Upgrades to Existing Rail | 8 years |
| Rapid Bus | 7 years |
| Maintenance Facilities | 6 years |
| Managed Lanes, Connectors, Direct Access Ramps | 5-6 years |

- **Anticipated VMT Impacts** identified which project types will help advance climate goals; specifically, SB 375 GHG target achievement. VMT is closely related to SB 375 GHG reduction calculations. Projects were categorized into 13 project types which are correlated with five VMT impact classes ranging from high increase to high decrease. Data from model outcomes and subject matter expertise were referenced to assign a class to each project type.

See Table N3.2 Anticipated Impacts Reference Table for more information on categorization for project types, project readiness, and their associated VMT impact.

Table N3.2: Anticipated Impacts Reference Table

| Project Type | Project Readiness Open by 2035 | VMT Impact |
|---|--------------------------------|---------------|
| Rapid Projects | Yes | Low Decrease |
| Light Rail Transit Projects | Yes (upgrade) No (new line) | High Decrease |
| Streetcar Project | No | Low Decrease |
| Regional Rail Projects | Yes (upgrade) | High Decrease |
| Converting General Purpose Lanes to Managed Lanes | Yes | High Decrease |
| Converting Existing Managed Lanes (HOV to HOT) | Yes | Low Increase |
| Constructing Additional Managed Lanes | Yes | High Increase |
| Interchange/Intersection improvement | Yes | Neutral |
| Managed Lane Connectors | Yes | Low Increase |

The second and third phases of the evaluation process include a suite of support considerations to help inform equitable, safe, convenient, and healthy goal areas of the 2025 Regional Plan; goods movement; and additional items to capture national performance management goal areas.

Phase 2: Social Equity and Emissions

- **Social Equity** applied subject matter expertise to assign the anticipated impact class of benefit, neutral, or burden based on project type. CalEnviroScreen 4.0 was used to identify projects located within social equity focus communities (areas with an index percentile score of 50% or higher). Projects that do not cross a social equity focus community were tagged not applicable (n/a).
- **Crash History** (Complete Corridors only) produced a high, medium, or low categorization using 2016-2020 SWITRS crash data near each project. The process identified project locations and applied a buffer distance based on the facility type. Crash data were overlaid on the buffered project area and the number of fatal and serious injury crashes were summed. The number of identified crashes was divided by the project area to account for varying project sizes.
- **Diesel Particulate Matter (Diesel PM)** provided context for air quality impacts a project may have on surrounding communities. This identified whether a project overlaps an area that is already burdened by diesel particulate pollution using CalEnviroScreen. Projects that overlap areas that have a score of 50% or greater on the CalEnviroScreen Diesel PM Indicator map were included in this selection. Projects were reviewed and assigned the diesel PM anticipated impact classification of decrease, increase, or neutral based on the project type.
- **Particulate Matter 2.5 (PM 2.5)** indicated if a project is expected to increase, decrease, or have a neutral effect on Particulate Matter 2.5 pollution. Projects were reviewed for their anticipated effects on vehicle speeds and assigned the anticipated impact category based on how those speeds contribute to PM 2.5 emissions. Tables relating speed to vehicle emission rates from the California Air Resources Board's Emission Factors (EMFAC) model were used in this qualitative analysis. Extra emphasis was given to the effect of truck speeds since emission rates are significantly higher for trucks than for passenger vehicles.

Phase 3: Additional Project Information

- **Goods Movement** (Complete Corridors only) identified projects that overlap with freight networks including critical urban freight corridors. These projects were assigned an anticipated impact of positive, neutral, or negative.
- **Transit/Non-SOV** supports the non-SOV element of the Congestion Mitigation and Air Quality Improvement Plan (CMAQ) portion of the federal performance management rule in addition to the Regional Plan "convenient" goal area by promoting sustainable transportation options. Transit system additions, enhancements, and transit supporting infrastructure (including Managed Lanes that incentivize transit and carpool) were denoted as benefiting Transit/Non-SOV travel under this evaluation element.

- **Asset Condition** identified projects that cross or are crossed by bridges that are considered in poor condition by federal performance standards. This supports federal transportation asset management performance target achievement. Project locations were compared against the National Bridge Inventory data and classified as “yes” if they cross or are crossed by a poor condition bridge, “no” if they do not, or “unknown” if the project location could not be determined. Projects that cross or are crossed by these facilities should incorporate strategies for addressing bridge needs.

Project Evaluation Criteria by Project Type

The evaluation of Transit projects and Complete Corridor projects focused on what significant impacts those projects would bring to the region. The following section provides a review of the evaluation process for major mode and project type.

Transit Projects

Rapid Projects

Rapid projects are anticipated to be operational by 2035 under the project readiness category. The anticipated VMT impact for individual projects in this service type is expected to result in a low decrease and scored as an anticipated benefit in social equity areas. When analyzing the CalEnviroScreen Diesel PM Indicator map, the Rapid projects were assigned a diesel PM anticipated impact classification of neutral. The Rapid projects indicate an expected decrease in PM 2.5 emissions.

Light Rail Transit Projects

Light Rail Transit projects that are upgrades to existing infrastructure could be operational by 2035 under the project readiness category. Light Rail Transit projects that are new rail lines are not anticipated to be operational by 2035. Both types of Light Rail Transit projects are expected to have a high decrease VMT impact and scored as a benefit within social equity areas. Diesel PM anticipated impact classification is neutral. Light Rail projects are expected to decrease PM 2.5 emissions.

Streetcar Project

Streetcar projects are not expected to be operational by 2035. The anticipated VMT impacts for streetcar service is low decrease. This project is anticipated to benefit social equity areas. In analyzing the CalEnviroScreen Diesel PM Indicator map, the anticipated diesel PM impact classification is neutral. The streetcar project is expected to decrease PM 2.5 emissions.

Regional Rail Projects

Regional Rail projects that are upgrades to existing infrastructure could be operational by 2035. The anticipated VMT impact for Regional Rail projects is a high decrease, and the projects scored as a benefit within social equity areas. Regional Rail projects are expected to remain neutral for diesel PM and decrease PM 2.5 emissions.

Complete Corridors

Converting General Purpose Lanes to Managed Lanes

Projects that convert a general-purpose lane to a managed lane could be operational by 2035 under the project readiness category. The anticipated impacts for VMT for this project type is high decrease and is expected to be a benefit for social equity areas. This project type is expected to have a negative impact to goods movement because it reduces the number of lanes available for trucks. This is expected to increase truck idling and increase diesel PM. The project is expected to have a neutral effect on PM 2.5 emissions because increased idling would be offset by decreased VMT.

Converting Existing Managed Lanes (HOV to HOT)

Projects that convert HOV lanes to HOT lanes could be operational by 2035 under the project readiness category. The anticipated impacts for VMT for this project type is low increase. It is expected to be a benefit for social equity areas as a source of revenue for other uses like transit service in the corridor. This project type is expected to have a neutral impact for goods movement because it does not change the number of lanes available to trucks. This is expected to have a neutral effect on diesel PM and PM 2.5 emissions because there would not be substantial changes in idling or VMT.

Constructing Additional Managed Lanes

Projects that construct additional managed lanes could be operational by 2035 under the project readiness category. This project type is expected to result in a high increase in VMT and be a burden for social equity areas. This project type is expected to have a positive impact on goods movement by reducing congestion in general purpose lanes, resulting in a less idling and decreased diesel PM emissions. PM 2.5 emissions are expected to be neutral due to the decreased idling offset by the increase in VMT.

Interchange and Intersection Improvements

The project readiness for projects that included interchange/intersection improvements, roadway straightening, shoulder improvements were anticipated to be completed by 2035. The VMT impacts for this project type was neutral and is expected to result in a benefit for social equity areas by improving safety and/or evacuation capacity, depending on specific project features. This project type is expected to have a positive impact for goods movement by making truck travel smoother and more efficient. This is expected to decrease diesel PM emissions. PM 2.5 emissions are expected to be neutral due to limited overall change in idling and VMT.

Managed Lane Connectors

The managed lane connector project type could be operational by 2035. They are expected to have a low increase in VMT and be a burden within social equity areas. This project type is expected to have a neutral impact for goods movement by not affecting lanes and connectors available to trucks. Diesel PM emissions are expected to be neutral. PM 2.5 emissions are expected to increase due to the increase in VMT.

Attachment N4:

Performance Measure Results

Table N4.1: Primary Performance Measure Results

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|--|----------------|---------------|---------------|------------|------------|
| Access to Basic Needs - Retail | | | | | | |
| % of population within 15 mins of retail | Walk | 71.5% | 71.1% | 73.0% | 71.1% | 73.0% |
| % of population within 15 mins of retail | Bike | 94.5% | 94.1% | 94.7% | 94.1% | 94.7% |
| % of population within 15 mins of retail | e-Bike | 96.2% | 96.0% | 96.4% | 96.1% | 96.3% |
| % of population within 15 mins of retail | Microtransit | 2.3% | 0.9% | 0.9% | 40.1% | 39.9% |
| % of population within 15 mins of retail | Transit - accessed by walk or microtransit | 71.1% | 70.7% | 71.0% | 73.3% | 74.1% |
| % of population within 15 mins of retail | Drive alone | 99.1% | 99.1% | 99.1% | 99.1% | 99.1% |
| Access to Basic Needs - Parks | | | | | | |
| % of population within 15 mins of parks | Walk | 50.5% | 50.3% | 49.7% | 50.3% | 49.7% |
| % of population within 15 mins of parks | Bike | 88.5% | 88.5% | 87.7% | 88.6% | 87.5% |
| % of population within 15 mins of parks | e-Bike | 92.7% | 93.0% | 92.3% | 92.9% | 91.9% |
| % of population within 15 mins of parks | Microtransit | 2.3% | 0.9% | 0.9% | 39.6% | 39.0% |
| % of population within 15 mins of parks | Transit - accessed by walk or microtransit | 62.5% | 62.1% | 62.1% | 65.2% | 66.2% |
| % of population within 15 mins of parks | Drive alone | 98.9% | 98.9% | 98.9% | 98.9% | 98.9% |

Table N4.1: Primary Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|---|--|----------------|---------------|---------------|------------|------------|
| Access to Basic Needs - Medical Facilities | | | | | | |
| % of population within 30 mins of medical facilities | Microtransit | 2.3% | 0.9% | 0.9% | 38.5% | 37.8% |
| % of population within 30 mins of medical facilities | Transit - accessed by walk or microtransit | 78.3% | 78.0% | 77.8% | 82.0% | 82.6% |
| % of population within 30 mins of medical facilities | Drive alone | 99.9% | 99.9% | 99.9% | 99.9% | 99.9% |
| Access to Opportunities - Employment Centers | | | | | | |
| % of adult population within 30 mins of Tier 1 employment centers | Transit - accessed by walk or microtransit | 33.1% | 34.0% | 34.8% | 40.0% | 42.6% |
| % of adult population within 45 mins of Tier 1 employment centers | Transit - accessed by walk or microtransit | 45.7% | 46.3% | 47.0% | 56.5% | 59.0% |
| % of adult population within 30 mins of Tier 2 employment centers | Transit - accessed by walk or microtransit | 62.7% | 63.2% | 63.2% | 71.4% | 72.9% |
| % of adult population within 45 mins of Tier 2 employment centers | Transit - accessed by walk or microtransit | 72.4% | 72.8% | 72.9% | 80.1% | 81.3% |
| % of adult population within 30 mins of all employment centers | Transit - accessed by walk or microtransit | 79.4% | 79.2% | 79.5% | 82.9% | 83.7% |
| % of adult population within 45 mins of all employment centers | Transit - accessed by walk or microtransit | 79.6% | 79.4% | 79.7% | 83.2% | 83.9% |

Table N4.1: Primary Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|--|----------------|---------------|---------------|------------|------------|
| Access to Opportunities - Higher Education | | | | | | |
| % of adult population within 30 mins of higher education | Transit - accessed by walk or microtransit | 68.1% | 68.9% | 69.3% | 74.5% | 75.5% |
| % of adult population within 45 mins of higher education | Transit - accessed by walk or microtransit | 75.2% | 75.4% | 75.6% | 80.3% | 81.1% |
| SB375 GHG Emission Measures | | | | | | |
| On-road CO ₂ emissions - regionwide | Tons/day | 35,073 | 37,079 | 37,502 | 35,641 | 35,621 |
| Change in on-road CO ₂ emissions from 2005 level - regionwide | Tons/day | -4,438 | -2,432 | -2,009 | -3,870 | -3,890 |
| On-road CO ₂ emissions - per capita | Pounds/day | 21.4 | 21.8 | 22.1 | 21.0 | 21.0 |
| Change in on-road CO ₂ emissions from 2005 level - per capita | Pounds/day | -4.6 | -4.2 | -3.9 | -5.0 | -5.0 |
| VMT Measures | | | | | | |
| All vehicle classes - regionwide | Miles | 77,734,073 | 83,018,163 | 84,866,310 | 80,964,109 | 81,713,116 |
| All vehicle classes - per capita | Miles | 23.68 | 24.42 | 24.97 | 23.82 | 24.04 |

Table N4.2: Supporting Performance Measure Results

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|--|----------------|---------------|---------------|------------|------------|
| Access to High Schools | | | | | | |
| % of population within 30 mins of high schools | Transit - accessed by walk or microtransit | 77.5% | 77.3% | 77.5% | 81.0% | 81.8% |
| Coastal Access | | | | | | |
| % of population within 30 mins of the coast | Microtransit | 0.8% | 0.9% | 0.9% | 6.4% | 6.3% |
| % of population within 30 mins of the coast | Transit - accessed by walk or microtransit | 21.5% | 22.5% | 22.4% | 26.9% | 27.3% |
| % of population within 30 mins of the coast | Drive alone | 93.7% | 94.0% | 94.4% | 94.6% | 94.9% |
| % of population within 45 mins of the coast | Microtransit | 0.8% | 0.9% | 0.9% | 6.4% | 6.3% |
| % of population within 45 mins of the coast | Transit - accessed by walk or microtransit | 35.1% | 36.8% | 37.2% | 46.6% | 50.8% |
| % of population within 45 mins of the coast | Drive alone | 98.6% | 98.6% | 98.7% | 98.7% | 98.7% |

Table N4.2: Supporting Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|---|--|----------------|---------------|---------------|------------|------------|
| Mode Share by Work Trips & All Trips | | | | | | |
| % of work trips during peak period | Bike & walk | 5.2% | 5.8% | 6.2% | 6.2% | 7.2% |
| % of work trips during peak period | Carpool | 8.1% | 8.1% | 8.1% | 9.2% | 9.9% |
| % of work trips during peak period | Drive alone | 84.4% | 83.6% | 83.1% | 80.9% | 78.9% |
| % of work trips during peak period | Other (TNC, Micromobility, Taxi, School bus) | 1.0% | 1.1% | 1.2% | 1.0% | 1.1% |
| % of work trips during peak period | Transit | 1.4% | 1.4% | 1.3% | 2.7% | 2.9% |
| % of work trips all day | Bike & walk | 12.5% | 13.3% | 14.2% | 13.9% | 15.2% |
| % of work trips all day | Carpool | 9.5% | 9.4% | 9.0% | 10.6% | 10.9% |
| % of work trips all day | Drive alone | 76.1% | 75.4% | 74.8% | 72.7% | 70.8% |
| % of work trips all day | Other (TNC, Micromobility, Taxi, School bus) | 0.8% | 0.9% | 1.0% | 0.8% | 0.9% |
| % of work trips all day | Transit | 1.0% | 1.0% | 1.0% | 2.0% | 2.2% |
| % of all trips | Bike & walk | 16.1% | 17.1% | 18.2% | 17.8% | 19.8% |
| % of all trips | Carpool | 33.8% | 32.0% | 31.0% | 32.6% | 31.9% |
| % of all trips | Drive alone | 47.9% | 48.8% | 48.7% | 46.2% | 44.8% |
| % of all trips | Other (TNC, Micromobility, Taxi, School bus) | 0.9% | 0.9% | 0.9% | 0.9% | 0.9% |
| % of all trips | Transit | 1.3% | 1.2% | 1.1% | 2.4% | 2.5% |

Table N4.2: Supporting Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|----------------|----------------|---------------|---------------|------------|------------|
| Access to Rail or Rapid Transit Stops | | | | | | |
| People within 0.5 miles of a rail transit stop | Number | 209,140 | 254,248 | 266,326 | 257,994 | 386,292 |
| People within 0.5 miles of a rail transit stop | Percent | 6.4% | 7.5% | 7.8% | 7.6% | 11.4% |
| People within 0.5 miles of a Rapid transit stop | Number | 226,695 | 298,204 | 311,525 | 1,074,889 | 1,110,165 |
| People within 0.5 miles of a Rapid transit stop | Percent | 6.9% | 8.8% | 9.2% | 31.6% | 32.7% |
| People within 0.5 miles of either a rail or Rapid transit stop | Number | 369,303 | 458,166 | 484,584 | 1,141,321 | 1,185,433 |
| People within 0.5 miles of either a rail or Rapid transit stop | Percent | 11.2% | 13.5% | 14.3% | 33.6% | 34.9% |
| Job Access to Rail or Rapid Transit Stops | | | | | | |
| Jobs within 0.5 miles of a rail transit stop | Number | 316,317 | 339,408 | 359,510 | 340,182 | 451,456 |
| Jobs within 0.5 miles of a rail transit stop | Percent | 14.8% | 15.2% | 15.1% | 15.2% | 19.0% |
| Job within 0.5 miles of a Rapid transit stop | Number | 273,193 | 305,895 | 330,292 | 1,003,118 | 1,066,785 |
| Job within 0.5 miles of a Rapid transit stop | Percent | 12.8% | 13.7% | 13.9% | 45.0% | 45.0% |
| Jobs within 0.5 miles of either a rail or Rapid transit stop | Number | 463,026 | 500,851 | 537,634 | 1,069,004 | 1,141,750 |

Table N4.2: Supporting Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|---------------------------|----------------|---------------|---------------|------------|------------|
| Jobs within 0.5 miles of either a rail or Rapid transit stop | Percent | 21.6% | 22.4% | 22.7% | 47.9% | 48.1% |
| Access to Bike Facilities | | | | | | |
| People within 0.25 miles of a bike facility (class I and II, cycletrack or bike boulevard) | Number | 2,367,764 | 2,581,798 | 2,572,853 | 2,661,558 | 2,958,455 |
| People within 0.25 miles of a bike facility (class I and II, cycletrack or bike boulevard) | Percent | 72.1% | 76.0% | 75.7% | 78.3% | 87.0% |
| Daily Transit Boardings | | | | | | |
| Number of boardings on a typical weekday | Rail | 122,966 | 131,796 | 128,928 | 218,184 | 256,475 |
| Number of boardings on a typical weekday | Rapid | 26,777 | 29,156 | 29,610 | 248,643 | 252,224 |
| Number of boardings on a typical weekday | Local Bus and Express Bus | 139,873 | 140,691 | 137,178 | 229,555 | 238,646 |
| Number of boardings on a typical weekday | All transit boardings | 289,617 | 301,643 | 295,715 | 696,382 | 747,345 |
| Transportation Related Physical Activity | | | | | | |
| Total time engaged in transportation related physical activity per capita | Minutes | 11.89 | 12.08 | 12.84 | 13.38 | 15.36 |
| % of population engaged in 20 mins or more of transportation related physical activity | Percent | 16.4% | 16.5% | 17.4% | 18.2% | 20.0% |

Table N4.2: Supporting Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|---|----------------|----------------|---------------|---------------|------------|------------|
| Transportation System Use Costs | | | | | | |
| % of income consumed by out-of-pocket transportation costs | N/A | 9.2% | 8.0% | 8.0% | 9.0% | 9.4% |
| Change in % of income consumed by out-of-pocket transportation costs | N/A | N/A | -1.2% | -1.2% | -0.2% | 0.2% |
| Average Particulate Matter (PM_{2.5}) | | | | | | |
| Average exposure to PM _{2.5} per capita | N/A | 4.48 | 4.77 | 4.99 | 4.66 | 4.82 |
| Average Commercial Vehicle & Truck Travel Times | | | | | | |
| Average trip travel time for commercial vehicles and trucks to/from freight distribution hubs | Minutes | 15.43 | 15.49 | 15.60 | 14.84 | 14.89 |
| Truck Travel Time Index (TTI) by Facility Type | | | | | | |
| Highway (SHS*) | N/A | 1.08 | 1.09 | 1.09 | 1.08 | 1.08 |
| Arterial | N/A | 1.20 | 1.21 | 1.21 | 1.15 | 1.15 |
| Highway (SHS) + Arterial | N/A | 1.13 | 1.14 | 1.14 | 1.11 | 1.11 |

Table N4.2: Supporting Performance Measure Results Continued

| Performance Measure and Description | Modes or Units | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|----------------|----------------|---------------|---------------|------------|------------|
| Average Heavy Duty Truck Delay by Facility Type | | | | | | |
| All day - All Heavy Duty (HHD + MHD + LHD*) | Highway (SHS) | 4,650 | 5,831 | 6,832 | 4,922 | 6,131 |
| All day - All Heavy Duty (HHD + MHD + LHD) | Arterial | 21,832 | 25,444 | 27,907 | 19,578 | 20,968 |
| AM and PM peak - All Heavy Duty (HHD + MHD + LHD) | Highway (SHS) | 4,545 | 5,642 | 6,604 | 4,743 | 5,855 |
| AM and PM peak - All Heavy Duty (HHD + MHD + LHD) | Arterial | 11,031 | 12,751 | 13,795 | 10,267 | 10,687 |

Table N4.3: Directional Corridor Travel Times – AM Peak Period (in minutes)

| Corridor and Modes | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|---|-------------------|------------------|------------------|---------------|---------------|
| Oceanside – Downtown San Diego | | | | | |
| By Transit | 62 | 49 | 49 | 40 | 38 |
| By Auto | 64 | 65 | 66 | 60 | 60 |
| By Carpool | 62 | 63 | 64 | 53 | 54 |
| Escondido – Downtown San Diego | | | | | |
| By Transit | 47 | 49 | 50 | 55 | 52 |
| By Auto | 46 | 48 | 49 | 47 | 46 |
| By Carpool | 41 | 43 | 44 | 41 | 39 |
| El Cajon – Kearny Mesa | | | | | |
| By Transit | 101 | 87 | 87 | 62 | 58 |
| By Auto | 30 | 29 | 28 | 25 | 24 |
| By Carpool | 30 | 29 | 28 | 23 | 22 |
| Mid City – UTC | | | | | |
| By Transit | 64 | 64 | 64 | 54 | 43 |
| By Auto | 29 | 29 | 29 | 25 | 25 |
| By Carpool | 29 | 29 | 29 | 21 | 21 |
| Western Chula Vista – Mission Valley | | | | | |
| By Transit | 75 | 75 | 75 | 44 | 28 |
| By Auto | 29 | 28 | 29 | 26 | 24 |
| By Carpool | 29 | 28 | 29 | 25 | 22 |
| Carlsbad – Sorrento Mesa | | | | | |
| By Transit | 37 | 30 | 30 | 26 | 26 |
| By Auto | 40 | 41 | 41 | 39 | 37 |
| By Carpool | 38 | 40 | 40 | 35 | 34 |

Table N4.3: Directional Corridor Travel Times – AM Peak Period (in minutes) Continued

| Corridor and Modes | 2022 Base Year | 2035 No Build | 2050 No Build | 2035 Build | 2050 Build |
|--|-------------------|------------------|------------------|---------------|---------------|
| Escondido – Oceanside | | | | | |
| By Transit | 57 | 57 | 57 | 57 | 57 |
| By Auto | 31 | 32 | 32 | 28 | 28 |
| By Carpool | 31 | 32 | 32 | 25 | 25 |
| San Ysidro – Downtown San Diego | | | | | |
| By Transit | 39 | 39 | 39 | 24 | 22 |
| By Auto | 25 | 26 | 26 | 23 | 23 |
| By Carpool | 25 | 26 | 26 | 22 | 20 |
| Otay Ranch – UTC | | | | | |
| By Transit | 87 | 87 | 87 | 68 | 59 |
| By Auto | 54 | 56 | 51 | 48 | 48 |
| By Carpool | 51 | 52 | 52 | 41 | 40 |
| Pala/Pauma – Oceanside Transit Center | | | | | |
| By Transit | 148 | 148 | 148 | 141 | 137 |
| By Auto | 51 | 51 | 52 | 47 | 48 |
| By Carpool | 51 | 51 | 52 | 47 | 48 |
| SR 67 (Ramona) – Downtown San Diego | | | | | |
| By Transit | 133 | 136 | 136 | 106 | 101 |
| By Auto | 77 | 78 | 78 | 74 | 72 |
| By Carpool | 75 | 77 | 77 | 72 | 69 |