

## 2021 Regional Plan: Cost Estimation Methodology and Funding Strategies

### Overview

Last month, staff presented how SANDAG will move from a Vision to a Plan and how San Diego Forward: The 2021 Regional Plan (2021 Regional Plan) reimagines the transportation system in the San Diego region.

Development of the Plan uses a data-driven planning process, with inter-reliant strategies to address three key challenges: traffic congestion and safety, social equity, and meeting our state and federal mandates. The result is a transportation system that is faster, fairer, and cleaner.

This report focuses on two key aspects of the 2021 Regional Plan: 1) the methodology used to estimate the cost to implement the reimagined transportation system; and 2) potential funding strategies that could be brought together to implement the Plan.

### A Transformational Transportation System

At the February 12, 2021 Board of Directors meeting, the SANDAG team focused on how the 2021 Regional Plan addresses worsening traffic congestion, safety, growing inequities, and aggressive state and federal mandates around climate change and air quality.

The team discussed how land use and transportation planning are required to reverse historic inequities and to prioritize access to basic needs and economic opportunities for those who have the least access. Initial performance results of the vision for the 2021 Regional Plan show that there would be a three-fold increase in the number of people from social equity focused populations (people with low-income, people of color, and seniors) who can reach a commuter rail, light rail, or *Rapid* transit stop within 0.5 miles of where they live. Today, only 16% of low-income residents can access Tier 1 employment centers within 30 minutes via transit, but that percentage doubles by 2050 with the 2021 Regional Plan fully implemented.

The team also shared with the Board that providing people with alternatives to driving will free up more roadway space for other people who still need to drive. Managing the system with the latest technology will make traffic smoother, prioritize non-solo driving, and create a safer environment for everyone. Initial modeling results show that commuters will have compelling alternatives to driving, with the Plan implemented. The result: by 2050, the percentage of commuters who choose to use transit will rise to 15%, while the percentage of commuters who choose to drive alone to work will fall to 56%.

It was also shared with the Board that state-mandated reductions in greenhouse gas (GHG) emissions weigh heavily on this Plan and that both transportation and land use strategies will be important to reduce people's reliance on the car so we can meet our state mandates for lower GHG emissions. Initial modeling and analysis of the integrated transportation system and accompanying policies show that the region can achieve its state target of reducing per capita GHG emissions by 19% (below 2005 levels) by 2035.

### Action: Discussion

A discussion of the methodology used to estimate the cost to implement the bold new transportation vision for the 2021 Regional Plan as well as potential funding strategies that could be brought together to implement the Plan by the year 2050.

### Fiscal Impact:

Funding for development of the 2021 Regional Plan is included in Overall Work Program Element Nos. 3102000 and 3102005 in the FY 2021 Program Budget

### Schedule/Scope Impact:

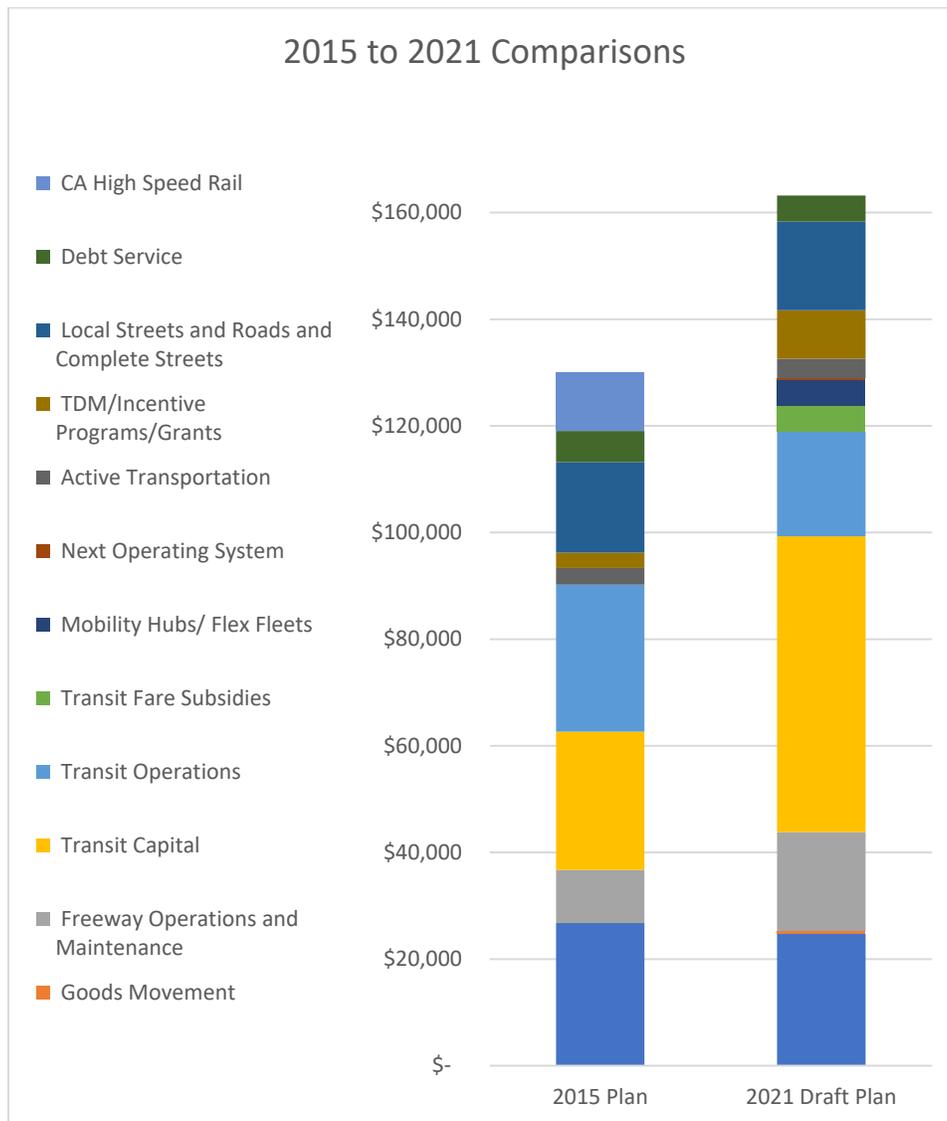
The draft 2021 Regional Plan and draft Environmental Impact Report (EIR) are expected to be released for review by the Board of Directors and public comment in spring and summer 2021, respectively.

The team discussed how land use and transportation planning are required to reverse historic inequities and to prioritize access to basic needs and economic opportunities for those who have the least access.

### ***How much will this investment cost?***

It is estimated that the total Plan will cost approximately \$163B. This is an important question that SANDAG takes seriously. For that reason, we developed a detailed cost estimation methodology which is documented in Attachment 1. To develop that methodology, staff worked with national experts, Caltrans, the Metropolitan Transit System, the North County Transit District, the County of San Diego, and local jurisdictions to apply their expertise on how much the 2021 Regional Plan would cost. Prior to developing the detailed cost estimates, the team identified all and any efficiencies that could be made at even the earliest planning stages through low-cost approaches. This involved optimizing the current system, costing out those elements, including early implementation of smart intersection signal systems, working within existing rights of way, applying technologies, evaluating assumptions from previous plans, etc. Next, detailed programmatic, capital, and operations cost estimates were applied based on industry leading practices using real project examples in the San Diego region where applicable. Finally, the team applied, tested, and evaluated the results, and phased the transportation network in such a way as to deliver the most benefits to the region as soon as possible.

Based upon that work, the cost estimate is \$14B less than reported in August 2020. The cost is lower because the team refined proposed investments based on performance results; low performing parts of the system not recommended for inclusion in the Draft Plan. By comparison, the Regional Plan approved by the SANDAG Board of Directors in 2015 had an estimated cost of \$130B. The difference between the plans is attributable to the robust multimodal nature of the approach taken in the 2021 Regional Plan which provides real choices for travelers throughout the region. The following chart breaks down the total cost of the Plan into detailed categories. Project details are available in the online Data Viewer here: [SDForward.com/envision](https://SDForward.com/envision).



\* Dollars shown above in Millions

Some key cost differences between the adopted 2015 Regional Plan and the proposed 2021 Regional Plan are:

- An 8% reduction in roadway costs through efficiencies gained by working within the existing rights-of-way, including a 22% reduction in costs related to the Managed Lanes and Managed Lane Connectors
- Several new categories of projects that will provide better interconnectivity: Mobility Hubs, Flexible Fleets, and Next Operating System
- The addition of Transit Fare Subsidies
- A 17% increase in Active Transportation investments
- New investments in Goods Movement, based on newly available funding
- Similar investments in Local Streets and Roads
- \$6 billion in expanded grants and incentive programs to strengthen connections between land use, housing, and transportation, and execute an enhanced commitment to environmental stewardship and resiliency

## ***Maximizing Space on Our Highways***

One key difference between the 2021 Regional Plan and past plans is a greater focus on making our existing highway network more efficient by maximizing use of space. The 2021 Regional Plan envisions tackling this challenge in four ways:

First, the Plan creates a system of Managed Lanes, in which general purpose lanes are repurposed – in certain places and at certain times – into lanes that are open for particular users. These users may include *Rapid* transit vehicles and other transit services enabled by Transit Leap; people who carpool; and rideshare services such as Uber and Lyft. Second, the Plan converts shoulders on highways, where it is safe to do so, into Managed Lanes. Third, the Plan identifies a limited number of places around the region where stretches of highway are physically widened – but only where absolutely necessary and within the existing corridor right-of-way. Fourth, the Plan looks at safety improvements such as curve straightening and interchange improvements to improve circulation and to enhance safety. This approach to improving our highway network saves approximately \$4 billion over previous strategies, largely because it is cheaper to repurpose existing lanes or shoulders than to build new highways or extensively widen existing ones.

Additionally, the 2021 Regional Plan contemplates major technology investments that can help maximize the efficiency of the transportation system by providing connectivity between flexible fleet services and transit. These investments in local streets and corridors can make traffic smoother as non-solo driving is prioritized and the overall transportation environment becomes safer.

## ***Programs and Policies***

The 2021 Regional Plan also includes policies and programs that serve as the “glue” to connect the whole system together, and which recognize the close relationship between the transportation system and communities in the region. Attention to how land is used is important in the Regional Plan, because the type and location of places helps determine what transportation services will be most accessible for the largest number of people and enhance mobility for everyone. As a result, the vision supports close connections between projects outlined in the 2021 Regional Plan and existing regional programs that support land use, housing, and transportation connectivity. Accompanying policies and programs are essential components of the required Sustainable Communities Strategy and the region’s ability to achieve its state GHG reduction target. Supporting these connections will help SANDAG achieve regional goals of enhancing environmental stewardship, addressing housing needs, promoting innovative approaches to transportation solutions, and addressing safety concerns. In addition to capital and operational investments, the land use pattern and accompanying policies and programs are essential components of the required Sustainable Communities Strategy and the region’s ability to achieve its state GHG reduction target. Costs related to these efforts are included in Attachment 1.

## ***Plan Funding and Context***

One key difference between a “Vision” and a “Plan” is that a plan must demonstrate that funding has been reasonably identified to pay for the projects and programs described in it. Traditionally, regional plans have assumed that some combination of 30-plus revenue sources will pay for them. The San Diego region has always excelled at leveraging state and federal funds to maximize the potential of every dollar generated locally.

However, state and federal transportation funding has declined in recent years; the federal gas tax has not changed since 1993, and fuel tax receipts have declined due to increased vehicle efficiencies. Also, while Senate Bill 1 (Beall, 2017) funding has provided additional funds through a gas tax increase and other new fees, those revenues are primarily dedicated to a backlog of existing operations and maintenance projects. Therefore, new sources of funding are needed. Attachment 2 includes all revenue sources anticipated to fund the 2021 Regional Plan, by time period.

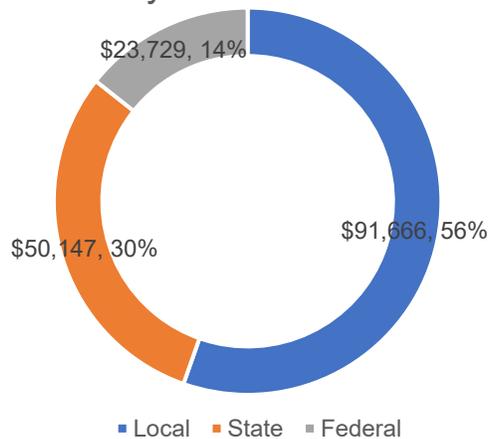
It is also important to understand that while we anticipate receiving about \$165 billion over the next three decades (we estimate slightly more revenues than project costs in order to provide additional flexibility), we do not have all these funds right now. Furthermore, a majority of the funds are tied to certain types of

projects (for example, transit infrastructure or highway operations and maintenance), and we do not have the authority to interchange them. These constraints come with specific provisions from Congress or the state Legislature. The transportation system being developed for the 2021 Regional Plan aligns with those rules.

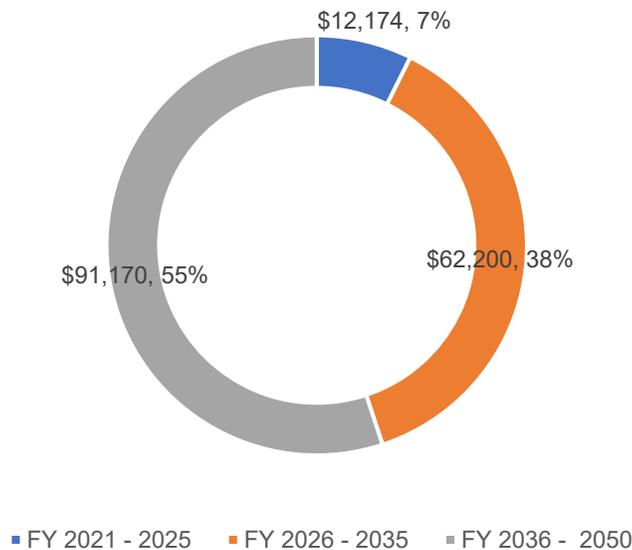
It is also important to recognize that SANDAG does not have purview over all of the funds included in the 2021 Regional Plan. The agency, therefore, must continue to work creatively to best leverage available dollars. SANDAG is constrained by when funds become available during the lifespan of the Regional Plan, and by the fact that some funds are distributed directly to SANDAG, while others are distributed directly to other agencies to maintain, operate, and rehabilitate the transportation network.

For example, the majority of the funds included in the 2021 Regional Plan are distributed directly to agencies such as Caltrans and transit agencies for highway and transit operations and maintenance, and also to the region's cities and County for their local streets and roads. Partnerships with all these agencies are critical as SANDAG implements the 2021 Regional Plan. The following two charts illustrate the funding by type (local, state, and federal sources) and by time period (2021-2025, 2026-2035, and 2036-2050).

By Fund Source



By Time Period



## Pricing and User Fees

The practice of charging travelers' fees for the transportation infrastructure they use is becoming more commonplace nationwide. This is seen as a way to optimize performance of the transportation system while managing congestion, and as a way to minimize the effect of somewhat unpredictable state and federal funding. Fees also address the need for innovative financing mechanisms to make transportation financing in the region sustainable over the long-term in order to achieve SANDAG's goal of a fast, fair, and clean transportation system; support the region's infrastructure needs (to preserve and improve the system); and promote a balanced transportation system moving forward.

Charging fees for the transportation infrastructure that people use—for example, charging users for each mile they drive on the highway—can change travel behavior. In the San Diego region, an increase in carpooling was observed on the I-15 corridor once the managed lane was opened. Fees can also encourage people to take the bus for a short trip, or take the train to work instead of driving alone. Funds raised from user fees can help the region build a complete transportation system that provides travelers with more alternatives to driving alone, wherever and whenever they need them. Once it is built, the convenience of the new system could, in effect, sustain changes in travel behavior. The result for everyone would be more mobility, less congestion, less air pollution, lowered greenhouse gas emissions, and a higher quality of life.

User fees also apply a “market-based” approach to achieving environmental, equity, and economic goals and can put a hand on the scale to redress decades of unbalanced investment in roads by making funds available for alternative modes and transit. The inclusion of user fees in the 2021 Regional Plan can encourage travelers to choose more sustainable travel options that improve mobility and access regionwide, reduce carbon emissions, and create greater transportation equity. These fees can also generate sustainable funding to implement the Regional Plan. The pricing strategies under consideration in development of the 2021 Regional Plan are:

**Managed Lanes** can charge variable tolls based on congestion levels and other operating metrics, providing a faster trip to solo drivers if they choose to pay a fee, while providing free access to emergency vehicles, transit vehicles, carpoolers, and others. This concept is not new to the region. SANDAG currently operates priced managed lanes on I-15, which allow solo drivers to receive a congestion relief benefit if they choose to pay a fee. Another managed lanes project, the I-15/SR 78 Express Lanes Direct Connector Project, is under way. This will add three miles of new express lane direct connector ramps on SR 78 in both directions that will link the existing Interstate I-15 Express Lanes. Managed lanes are popular and effective in many areas of the U.S., including in Los Angeles, which implemented its first managed lanes system on two highways in 2013.

In the 2021 Regional Plan, SANDAG would take managed lanes to a new level with a regionwide system, and use some of the revenues to reinvest in multimodal projects and programs designed to expand and improve the non-vehicle transportation network. What staff proposes will help create jobs and help people get to them. Staff is committed to ensuring that there is no disproportionate burden on low income, minority, or elderly populations. If implemented according to plan, the region's transit and other alternative transportation will be in place to provide people with alternatives to driving alone. Frequency, reliability, better choices, and safety will be defining features of our regional transportation system. Transit rates, meanwhile, will be structured so that ridership increases and access to mobility increases.

**Road Usage Charge** is a direct user fee where motorists pay for use of the roadway network based on distanced traveled. Road usage charging can be an equitable way to generate revenue. As electric and hydrogen powered personal vehicles become more affordable and revenue from fuel taxes continue to decline, road usage charging is also a way to make up for the loss in those revenues. Finally, road usage charging is a recognition that any type of vehicle, whether powered by gas or electricity or hydrogen, causes congestion and places wear and tear on transportation infrastructure. Road usage charging is an emerging strategy for rapidly growing metropolitan areas, including those in California where Caltrans has a Road User Charge pilot program underway. Oregon is also collecting a road usage charge as part of its new program, OReGO. Initial projections for road usage charge programs in San Diego County show that SANDAG could

generate about \$16 billion in revenue annually. A Road Usage Charge program could be implemented as soon as 2026.

**Ridesharing company services fees** would be per-trip fees for Transport Network Companies, which are ridesharing services such as Uber and Lyft. This includes ride-hailing and on-demand services for passengers. Fees could vary by mileage, occupancy, or other trip factors. Similar fees have been levied in other areas, including Chicago.

Transit fare subsidies and other incentives can also encourage more transit ridership and travel shifts during both peak and off-peak periods. Also, other incentives (e.g., priority parking for shared rides) can be tailored to encourage changes in travel behavior.

If discussions of pricing strategies advance, further analysis and public discussions with the SANDAG Board of Directors, stakeholders, and the general public will take place. The aim would be to further prioritize policy goals such as social equity, and tailor each pricing strategy to meet these goals.

### **Next Steps**

Prior to releasing the draft 2021 Regional Plan in May 2021, more information on the following components of the Regional Plan will be presented to the Board in April 2021:

- Social Equity
- Technology Considerations
- Alignment of State, Regional, and Local Planning

The Board will be asked to consider adoption of the 2021 Regional Plan and certification of the final environmental impact report in the fall of 2021.

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Attachments: 1. 2021 Regional Plan Cost Estimation Methodology  
2. 2021 Regional Plan Estimated Revenues

## *How SANDAG estimated costs for a bold 21st century transportation system*

Our transformative vision for a 21st century transportation system would enhance mobility for people across the San Diego region, support economic growth, and help us achieve important goals for reducing greenhouse gas emissions and protecting the environment.

The San Diego Association of Governments (SANDAG) worked with national experts, Caltrans, the Metropolitan Transit System (MTS), the North County Transit District (NCTD), the County of San Diego, and local jurisdictions to estimate how much the 2021 Regional Plan's vision would cost. This memorandum summarizes how these partners developed cost estimates for major aspects of the Plan's vision.

The total estimated cost for the Regional Plan's vision is about \$163 billion, in 2020 dollars.

### **The 5 Big Moves**

To best communicate what the 2021 Regional Plan vision would cost, this report organizes cost estimates according to five overarching strategies that define the 2021 Regional Plan. These strategies, which SANDAG has publicized over the past several months, are known as the 5 Big Moves. Together, they completely reimagine how people and goods can move throughout San Diego County in the 21st century. These strategies, discussed below along with the cost estimates attached to each, are: Complete Corridors, Transit Leap, Mobility Hubs, Flexible Fleets, and Next OS.

Pursuing the 5 Big Moves would require innovative new investments in the regional transportation network to enhance connectivity, increase safety and sustainability, and improve the everyday lives of millions of people. The vision for the 2021 Regional Plan, which synchronizes the 5 Big Moves so that the success of one depends on the success of the others, would add tremendous capacity to the transportation system and offer people compelling alternatives to driving alone. The ultimate goal is a fully integrated, world-class transportation system.

It is important to recognize that the cost for realizing one Big Move does not take away from realizing another Big Move. On the contrary, investments in one Big Move ensure the success of the others. The overall vision for success in the 2021 Regional Plan is a vision that unifies the 5 Big Moves into a coherent whole.

### **Complete Corridors**

Complete Corridors provide a variety of travel choices and use technology to manage how highways and major roads are used in real time. They provide a balance of dedicated, safe space for everyone, including freight vehicles and people who walk, bike, drive, ride transit, and use Flexible Fleets. In this sense, the success of Complete Corridors is closely aligned with the success of other 5 Big Move initiatives, including Transit Leap, Flexible Fleets, Mobility Hubs, and Next OS.

Achieving Complete Corridors would require several major initiatives along our region's highways and major roads, which are outlined below:

- Maximizing Space on Our Highways
  - Converting General Purpose Lanes to Managed Lanes
  - Converting Shoulders to Managed Lanes
  - Traditional Widening
  - Connectors and Access Ramps

- Highway Operations and Maintenance
- Active Traffic and Demand Management and Smart Intersection Improvements
- Goods Movement
- Rural Corridors
  - Curve Straightening
  - Intersection Improvements
  - Shoulder Widening
  - Other Facility Improvements

### **Maximizing Space on Our Highways**

The effort to enhance mobility must address the region’s highway network, and making it more efficient means maximizing space on highways for travelers. The Regional Plan envisions tackling this challenge in three main ways. First, the Plan creates a system of Managed Lanes, in which general purpose lanes are converted—in certain places and at certain times—into lanes that are open for particular users. These users may include Rapid transit vehicles and other public transportation services enabled by Transit Leap; people who carpool; and rideshare services such as Uber and Lyft. Second, the Plan converts shoulders on highways, where it is safe to do so, into managed lanes. Third, the Plan identifies a limited number of places around the region where stretches of highway are physically widened – but only where absolutely necessary.

SANDAG has estimated the costs associated with maximizing space on our highways using standard Caltrans worksheets. The costs are based on standard Caltrans bid items, with average historical unit costs for Caltrans District 11 (San Diego and Imperial Counties). The cost of improvements along general roadway sections are estimated based on the type (at grade, retained, on structure) and the scope (one lane, two lanes, etc.) of such improvements. These costs are broken down by mile for each type of roadway in a given project.

Per-mile cost analyses consider the following:

- Earthwork
- Pavement Structure
- Drainage
- Specialty Items
- Environmental
- Traffic Items
- Detours
- Roadway Mobilization
- Supplemental Work
- Structures (Bridges, Overpasses, etc.)
- Right-of-Way
- Support Costs
- Contingency

The costs developed for each category of highway improvements are as follows:

- Converting general purpose lanes into managed lanes: \$10.8 million per mile
- Converting shoulders into managed lanes: \$40.2 million per mile
- Physically widening highways: about \$40 million per mile<sup>1</sup>
- Connectors and Access Ramps
  - Managed Lane and Freeway Connectors: \$198 million (average per location)
  - Direct Access Ramps: \$48.8 million (average per location)

Cost Estimate: \$18.4 billion (\$2020)

### **Highway Maintenance and Operations**

Maintaining our region’s highway system, and making sure it operates efficiently every day, is vital to personal mobility, the health of our regional economy, and to meeting our state mandates for reducing greenhouse gas emissions. Therefore, the costs associated with maintaining and operating our highway system are included in the Plan, and they have been informed by the State Highway Operations and Protection Program estimates for the San Diego region.

Cost Estimate: \$18.6 billion (\$2020)

### **Active Traffic and Demand Management and Smart Intersection Systems**

As part of the San Diego Regional Transportation System Management and Operations Plan, a sketch-level estimate was completed of Active Traffic Demand Management elements for enhanced traffic management on corridors throughout the San Diego region. Unit prices for freeway, urban arterial, and rural arterial management system elements (also known as Intelligent Transportation System elements) are estimated based on recent projects with similar scopes of work. These include the I-805 / SR-94 Bus On Shoulder project; I-15 and I-80 Integrated Corridor Mobility (ICM) projects; I-880 Express Lane; and I-680 Express Lane and Backhaul. We have also considered recently completed planning-level projects. These include the Caltrans District 10 ICM Plan; the Metropolitan Transportation Commission Regional Communications Plan; and the Sacramento Area Council of Governments Smart Region Future Technology Plan.

Cost Estimate: \$4.8 billion (\$2020)

### **Goods Movement**

The smooth transport of goods into and out of our region, and the delivery of goods to cities and communities within it, fuels our economy and contributes to a high standard of living. SANDAG developed goods movement projects with Caltrans, and in close collaboration with the Port of San Diego, San Diego County Regional Airport Authority, and various agencies that operate or support goods movement corridors and facilities. These goods movement projects focus on our region’s roadways, railroads, seaports, airports, land ports of entry, and pipelines – as well as the relevant software to make this goods movement network function efficiently. Many goods movement projects share infrastructure and benefits with each of the 5 Big Moves. For example, some of the roadways used to move goods are targeted for improvements under the Complete Corridors initiative. Rail projects benefitting goods movement are targeted under Transit Leap. Also, the systems and software included in Next OS projects benefit goods movement.

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<sup>1</sup> Will vary by corridor.

Therefore, many of the costs for projects that support goods movement are reflected in the costs for each of the 5 Big Moves.

Cost Estimate: \$0.5 billion (\$2020)

### **Rural Corridors**

Improvement costs for rural travel corridors were based on costs detailed in the Interregional Tribal Transportation Study. These were initially developed using the County of San Diego's unit price list for construction projects and when applicable, along with any cost information included in the 2019 Federal Regional Transportation Plan. Additionally, construction costs assumed in the County of San Diego Transportation Impact Fee (TIF) Transportation Needs Assessment Report (September 2012) and typical unit costs were developed and used for similar projects based on the length of project, the number of intersections, or road type. These typical unit cost were then applied to the applicable projects identified for the rural corridors.

Cost Estimate: \$1.5 billion (\$2020)

### **Transit Leap**

Transit Leap would create a complete network of high-speed, high-capacity, high-frequency transit services that connect major residential areas with employment centers and attractions throughout the San Diego region. Transit Leap would include new high-speed services that cover longer distances with limited stops, and these services would be separated from vehicle traffic with bridges, tunnels, or dedicated lanes. Transit Leap also would include improvements to existing transit services such as the Trolley, COASTER, SPRINTER, and Rapid. These improvements could include additional rail tracks, more frequent service, dedicated transit lanes, and traffic signal priority to keep transit moving quickly.

Overall, Transit Leap services would connect to—and rely on—supporting infrastructure for Complete Corridors, Mobility Hubs, Flexible Fleets, and Next OS.

Estimating costs for Transit Leap considered development options for new commuter rail, light rail/Trolley, and Rapid Improvements to existing transit services. Costs were developed using the Federal Transit Administration (FTA) Capital Cost Database, which is intended for developing order-of-magnitude cost estimates for conceptual transit projects. The cost models are automatically adjusted to account for differences in regional cost levels between locations. The unit costs generated from the Capital Cost Database were compared with known actual project costs for the San Diego region, and they were adjusted as necessary. Capital transit projects include cost estimates for construction (both station and segment per mile), right-of-way acquisition, and other non-construction "soft" costs such as environmental review, planning, and design.

Some examples of transit unit costs, for reference, are:

- Guideway and track elements (at grade, below grade, or above grade)
- Stations, stops, terminals, intermodals
- Support/maintenance facilities, yards, shops, administration buildings
- Sitework and special conditions
- Systems

Transit Leap Capital Cost Estimate: \$55.5 billion (\$2020)

Operation and Maintenance costs for the life of the Plan (2021-2050) are estimated based on outputs of operating hours multiplied by the operating costs per hour for each mode of transit. The operating hours are estimated using outputs from the activity-based travel model while operating costs are estimated using current numbers from MTS and NCTD. Fare Subsidies that would buy down the cost of transit fares are also included in the operating costs. These subsidies, starting in 2029, would be to reduce fares for either all riders or various subgroups of riders like seniors, youth, or low-income.

Transit Leap Operating Cost Estimate: \$24.5 billion (\$2020)

## Mobility Hubs

Mobility Hubs are communities with a high concentration of people, destinations, and travel choices. They offer on-demand travel options and supporting infrastructure that enhance connections to high-quality Transit Leap services while helping people make short trips around the community on Flexible Fleets. Mobility Hubs can span one, two, or a few miles based on community characteristics and are uniquely designed to fulfill a variety of travel needs while strengthening sense of place.

Various Mobility Hub amenities improve the user experience while accessing Transit Leap or Flexible Fleets. Additionally, traffic calming measures make it safer to walk, bike, or use other micromobility options on neighborhood streets. Estimating the cost of Mobility Hubs included consideration of the following amenities and improvements:

- Electric vehicle charging infrastructure
- Micromobility charging and secure parking
- Interactive travel kiosks
- Passenger loading zones
- Parcel delivery lockers
- Shared mobility parking
- Complete streets improvements

Estimated costs were developed using industry costs and research from similar projects deploying these amenities and supporting technology. The cost estimates were applied across the regional Mobility Hub network, including the proposed Central Mobility Hub and other potential land acquisition costs, to derive the overall cost estimate.

Cost Estimate: \$5.6 billion (\$2020)

## Flexible Fleets

Flexible Fleets are shared, on-demand transportation services that provide convenient and personalized travel options. This includes a broad set of services from on-demand rideshare and bikeshare to neighborhood shuttles and delivery services. These fleets provide services for all types of trips 24 hours a day and seven days a week, which can reduce the need to own a car. They also provide important connections between high-speed Transit Leap services and key destinations such as work or home, making it easier for commuters to choose transit. Flexible Fleets are primarily accessible through mobile apps, and they can be operated by public and private agencies or through partnerships.

Flexible Fleet operations are estimated based on a public-private partnership model in which public agencies may partner with or contract services directly with the Flexible Fleet providers. Research on average operating costs, estimated fleet sizes, and operating service assumptions (e.g., service hours, service days) from various pilots throughout the country informed development of Flexible Fleet operation costs.

The capital cost of infrastructure improvements and amenities that are needed to support Flexible Fleet services are reflected in the Complete Corridors and Mobility Hubs sections. Costs associated with data sharing and integration of these services with existing trip planning tools are reflected in the Next OS estimates.

Cost Estimate: \$1.8 billion (\$2020)

### **Next OS**

Next OS is the “brain” of the entire transportation system. It is a digital platform that compiles information from sources like passenger vehicles, buses, ridesharing vehicles, delivery trucks, e-bikes, and scooters into a centralized data hub. Analysis of this data will improve how transportation is planned, operated, and experienced. Transportation operators will be able to better manage supply and demand by modifying how infrastructure and services are used throughout the day. The result will be a modernized transportation system with roads and transit services that operate smoothly and serve people better.

Because Next OS is the “brain” of the entire transportation system, it includes a wide variety of technological components that ensure the fast, efficient, and timely delivery of services in the transportation system. The cost estimate for Next OS includes the cost of gathering data, managing that data with systems and software, and operations.

The data hub is a critical piece of the system, and it provides a digital platform that that can analyze transportation data in real time to make transportation more integrated, more efficient, and most of all more responsive to people’s immediate needs.

Cost Estimate: \$0.2 billion (\$2020)

### **Transportation Demand Management**

Programs that manage demands on the regional transportation system would be broadened with the deployment of the 5 Big Moves under the 2021 Regional Plan. These Transportation Demand Management (TDM) Programs would include a much larger array of mobility services and supporting programs for commuters and employers such as the Regional Vanpool Program, iCommute employer services, telework resources, and incentives for taking transit and carpooling. The cost estimate for these programs is based on prior historical program costs, outputs from TDM off-model calculators, and on funding eligibility.

Cost Estimate: \$0.5 billion (\$2020)

### **Other Supporting Policies and Programs**

The vision presented in the 2021 Regional Plan recognizes the close relationship between the transportation system and how land is used in our region. As a result, the vision supports close connections between projects outlined in the Regional Plan and existing regional programs that support the environment, how land is used, promote innovative approaches to transportation solutions, and promote safety. These existing programs address sustainability and climate change targets, social equity considerations, and safety goals, all requirements of the Plan. Cost estimates for these supporting programs will take shape in coming months as the programs are refined and integrated into the Plan. Assumptions and current cost estimates are based on projections of available funding.

The following chart provides the breakdown of the program assumptions:

Program Categories	\$M (2020\$)	
Land Use	\$	1,170
Climate Action Planning	\$	612
Climate Adaptation and Resiliency	\$	1,058
Housing	\$	2,630
Transportation Demand Management Grants	\$	91
Zero Emission Vehicles and Infrastructure	\$	2,010
Vision Zero	\$	425
Parking Management	\$	148
Other	\$	500

Cost Estimate: \$8.6 billion (\$2020)

### Active Transportation

The Active Transportation network in the 2021 Regional Plan goes beyond biking improvements and represents a significant increase in investment in safety and mobility for people who travel the region by foot, bike, scooter, transit, or other means outside of a car. While the plan maintains the adopted network from the 2010 Regional Bike Plan, the costs for each of the projects have been reassessed to reflect the level of investment to make the network comfortable for users of all ages and abilities. This presents itself as infrastructure improvements to either separate motorized and nonmotorized modes or lower speeds and volumes to a level considered safe for mixing traffic modes. Building the network in this way creates an inviting environment for people who are interested in walking, biking, and other forms of micromobility but who may not have felt safe trying those forms of transportation. SANDAG’s current and historic bikeway projects were used to provide a basis for comparison for cost, since the level of investment is similar.

The full Regional Bike Plan can be found here: [sandag.org/uploads/projectid/projectid\\_353\\_10862.pdf](http://sandag.org/uploads/projectid/projectid_353_10862.pdf)

Further discussion regarding the improved safety and comfort of the network will be developed in Appendix L: Active Transportation of the Draft 2021 Regional Plan.

Cost Estimate: \$2.2 billion (\$2020)

Cost Estimate Local Bike Programs: \$1.4 billion (\$2020)

Total Active Transportation Cost Estimate: \$3.6 billion (\$2020)

### Other Plan Costs

Other plan costs include local streets and roads, local bike programs, and debt service. These costs will be further refined as the Plan is developed.

Cost Estimate Local Streets and Roads: \$14.2 billion (\$2020)

Cost Estimate Debt Service: \$4.9 billion (\$2020)

Total Regional Plan Vision Estimated Cost: \$163 billion (\$2020)

**Major Revenue Sources/Revenue Constrained Scenario (in millions of 2020\$ dollars)**

	Revenue Category	FY 2021 - 2025	FY 2026 - 2035	FY 2036 - 2050	Total
<b>Local</b>					
TransNet	Sales Tax	\$1,566	\$3,415	\$5,591	\$10,572
TransNet (Bond Proceeds)	Sales Tax	\$53	\$0	\$0	\$53
Transportation Development Act	Sales Tax	\$806	\$1,758	\$2,879	\$5,443
Developer Impact Fees	Impact Fees	\$185	\$417	\$277	\$878
City/County Local Gas Taxes	Fuel Tax	\$438	\$606	\$572	\$1,616
General Fund/Miscellaneous Local Road Funds	Miscellaneous	\$1,162	\$2,375	\$3,672	\$7,209
Toll Road Funding (SR125 Current Limits)	Tolls	\$131	\$292	\$890	\$1,314
Public Private Partnerships/Transit Oriented Developm	Value Capture	\$541	\$302	\$875	\$1,717
FasTrak Net Revenues	Tolls	\$73	\$4,151	\$8,700	\$12,924
Passenger Fares	User Fees	\$450	\$3,887	\$9,158	\$13,495
Motorist Aid Services - Toll Box Program	Fees	\$45	\$62	\$61	\$168
	Subtotal	\$5,451	\$17,263	\$32,675	\$55,390
<b>State</b>					
State Transportation Improvement Program	Fuel Tax	\$145	\$334	\$540	\$1,019
State Transit Assistance Program	Fuel Tax	\$223	\$456	\$826	\$1,506
State Highway Account for Operations/Maintenance	Fuel Tax	\$1,489	\$3,360	\$6,539	\$11,388
Cap and Trade	Carbon Tax	\$298	\$581	\$906	\$1,785
State FASTLANE	Fuel Tax	\$135	\$288	\$535	\$957
State Managed Federal Programs	Fuel Tax	\$226	\$467	\$1,021	\$1,715
High Speed Rail	Financing	\$0	\$0	\$0	\$0
Freeway Service Patrol	Fees	\$23	\$37	\$40	\$100
Road Maintenance and Rehabilitation Account (RMRA)	Fuel Tax	\$1,063	\$4,361	\$6,947	\$12,371
	Subtotal	\$3,603	\$9,885	\$17,354	\$30,842
<b>Federal</b>					
Federal Transit Administration Discretionary	Fuel Tax	\$569	\$3,417	\$5,685	\$9,671
Federal Transit Administration Formula Programs	Fuel Tax	\$618	\$1,228	\$2,018	\$3,863
CMAQ/RSTP	Fuel Tax	\$408	\$967	\$2,115	\$3,490
Federal Highway Administration Discretionary	Fuel Tax	\$44	\$91	\$119	\$254
Other Financing (Grant Anticipation Notes)	Fuel Tax	\$254	\$27	\$0	\$281
Federal Rail Administration	Fuel Tax	\$8	\$42	\$67	\$117
Corridors and Borders Infrastructure/Other Freight Fu	Fuel Tax	\$81	\$219	\$480	\$781
TIFIA Loan Proceeds	Financing	\$525	\$0	\$0	\$525
	Subtotal	\$2,507	\$5,990	\$10,486	\$18,982
<b>NEW</b>					
Future Local Revenues for Transportation	Sales Tax	\$0	\$4,482	\$6,710	\$11,192
Future MTS Local Revenues for Transportation	Sales Tax	\$0	\$3,409	\$3,805	\$7,213
TNC Fees	User Fees	\$0	\$796	\$1,383	\$2,179
Regional VMT Fee	User Fees	\$0	\$7,693	\$8,000	\$15,693
Housing Revenue (SB 795 Grants or similar)	Impact Fees	\$613	\$3,000	\$0	\$3,613
Future State Revenues for Transportation	User Fees	\$0	\$7,693	\$8,000	\$15,693
Future Federal Revenues for Transportation	Fuel Tax	\$0	\$1,991	\$2,757	\$4,747
	Subtotal	\$613	\$29,062	\$30,654	\$60,329
<b>Grand Total Revenue Sources</b>		<b>\$12,174</b>	<b>\$62,200</b>	<b>\$91,170</b>	<b>\$165,543</b>