

Appendix U: Cost Estimation Methodology

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Appendix U: Cost Estimation Methodology

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, help us achieve important goals for reducing greenhouse gas emissions and protecting the environment, and improve social equity.

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

The total estimated cost for the 2021 Regional Plan is \$162.5 billion in 2020 dollars.

The 5 Big Moves

To best communicate what the 2021 Regional Plan vision would cost, this appendix organizes cost estimates according to five overarching strategies that define the 2021 Regional Plan. These strategies 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 the Next Operating System (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 of the 5 Big Moves does not take away from producing another one of the 5 Big Moves. On the contrary, investments in each of the 5 Big Moves 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 the other 5 Big Move initiatives: 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
 - Selective Widening
 - Connectors and Access Ramps
- Highway Operations and Maintenance
- Active Transportation Demand Management and Smart Intersection System Improvements
- Goods Movement
- Rural Corridors
 - Curve Straightening
 - Intersection Improvements
 - Shoulder Widening
 - Other Facility Improvements

The effort to enhance mobility must address the region's highway network. Making this network more efficient means maximizing space on highways for travelers. The 2021 Regional Plan envisions tackling this challenge in three main ways. First, the 2021 Regional 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 2021 Regional Plan converts shoulders on highways, where it is safe to do so, into Managed Lanes. Third, the 2021 Regional 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 County and Imperial County).¹ The cost of improvements along general roadway sections is 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:

- Managed Lanes:
 - Converting general-purpose lanes into Managed Lanes: \$10.8 million per mile
 - Converting shoulders into Managed Lanes or selective widening: \$40.2 million per mile
 - **Total cost: \$7.706 billion (\$2020)**
- Managed Lane Connectors: \$198 million (average per location)
 - **Total cost: \$7.806 billion (\$2020)**

¹ From “2021 Regional Plan 11 Page Estimate – GP+Shoulder Lanes Conversion2019_12_30” and “2021 Regional Plan – 11 Page Estimate – Lane Conversion 2019_12_11.” 11-page estimates based on collaboration with Caltrans District 11 planning staff in 2019 and 2020 to develop specific unit costs for general purpose lane conversions (December 11, 2019) and shoulder lane conversions (December 30, 2019). Main line typical cross sections also developed for general purpose and shoulder lane conversions per the 11-page estimates.

- Connectors and Access Ramps:
 - Interchange and Arterial Operational Improvements: \$379 million (average per location)
 - **Total cost: \$0.895 billion (\$2020)**
 - Direct Access Ramps and Transit Operational Improvements: \$48.8 million (average per location)
 - **Total cost: \$0.320 billion (\$2020)**
- Airport Connectivity
 - **Total cost: \$0.836 billion (\$2020)**

Highway Operations and Maintenance

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 meeting our state mandates for reducing greenhouse gas emissions. Therefore, the costs associated with maintaining and operating our highway system are included in the 2021 Regional Plan, and they have been informed by the State Highway Operations and Protection Program estimates for the San Diego region.²

- **Total cost: \$12.330 billion (\$2020)**

Active Transportation 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 Transportation 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 2019 ICM Plan, the 2019 Metropolitan Transportation Commission Regional Communications Plan, and the Sacramento Area Council of Governments 2019 Smart Region Future Technology Plan.³

- **Total cost: \$4.774 billion (\$2020)**

² Based on SANDAG revenue estimates described in Appendix V: Funding and Revenues. The details for each fund type can be found in the "Regional Plan Revenue - Final" file developed for the 2021 Regional Plan (December 10, 2021).

³ From "2021 Regional Plan – CC SIS ATDM Costing - Technical Memorandum – Support Information for ATDM Cost Estimating" (November 1, 2019).

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 and their cost estimates 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.⁴ 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. Therefore, many of the costs for projects that support goods movement are reflected in the costs for each of the 5 Big Moves.

- **Total cost: \$0.489 billion (\$2020)**

Rural Corridors

Improvement costs for rural travel corridors were based on costs detailed in the Intraregional Tribal Transportation Study.⁵ 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 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 costs were then applied to the applicable projects identified for the rural corridors.

- **Total cost: \$1.538 billion (\$2020)**

Adopted Regional Bike Network

The Regional Bike Network in the 2021 Regional Plan goes beyond biking 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 2021 Regional Plan maintains the adopted network from the 2010 Regional Bike Plan,⁶ 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

⁴ From “2021 Regional Plan Appendix U Annual Costing_2020 and YOY” Excel workbook developed for the 2021 Regional Plan (December 10, 2021).

⁵ From the 2018 Intraregional Tribal Transportation Strategy which includes the rural corridor cost estimates (available at sandag.org/itts). The rural corridor cost estimates are also included in the cumulative Complete Corridors project costs estimated and summarized in the “2021 Regional Plan CC Cost Estimation 4-3-2020” Excel workbook.

⁶ The 2010 Regional Bike Plan can be found at sandag.org/uploads/projectid/projectid_353_10862.pdf.

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. Current and historic SANDAG bikeway projects were used to provide a basis for comparison for cost because the level of investment is similar.

Further discussion regarding the improved safety and comfort of the network is included in Appendix L: Active Transportation.

- **Total cost: \$2.929 billion (\$2020)**

Complete Corridors subtotal: \$39.625 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 would also 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 took into consideration development options for new commuter rail, light rail/Trolley, and *Rapid* improvements to existing transit services. Costs were developed using the Federal Transit Administration 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.⁷ The transit capital costs also include the costs of vehicles through the 30-year timeline of the 2021 Regional Plan.

⁷ From the “2021 Regional Plan Transit Capital Costing Tier 1 Routes,” “2021 Regional Plan Transit Capital Costing Tier 2 Routes,” and “2021 Regional Plan Transit Capital Costing Tier 3 Routes” Excel workbooks developed for the 2021 Regional Plan (March 2020).

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

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

The Transit Leap capital cost assumptions included in the 2021 Regional Plan are:

- **Total cost: \$49.507 billion (\$2020)**

The Transit Leap vehicle cost assumptions for the horizon year of the 2021 Regional Plan (2021–2050) are:

- **Total cost: \$4.282 billion (\$2020)**

Operations and Maintenance costs for the life of the 2021 Regional 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 data from MTS and NCTD.⁸

- **Total cost: \$22.963 billion (\$2020)**

Fare subsidies that would reduce the cost of transit fares are also included in the operating costs. These subsidies, starting in 2027, would reduce fares for either all riders or various groups of riders like seniors, youth, or low-income riders.

- **Total cost: \$4.676 billion (\$2020)**

Transit Leap subtotal: \$81.427 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 safely 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.

⁸ From the “2021 Regional Plan Transit Operations Costing” Excel workbook developed for the 2021 Regional Plan (December 14, 2020).

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** distributed throughout Mobility Hubs helps ensure Flexible Fleets such as on-demand shuttles remain charged for the duration of their operating period.
- **Micromobility charging and secure parking** provides people with convenient ways to store personally owned bikes, scooters, and other rideables near transit stations and alongside safe bikeways. Visible corrals for dockless micromobility are also included.
- **Interactive travel kiosks** equipped with WiFi could be sited at transit stations and throughout a Mobility Hub to offer convenient, real-time trip planning and Flexible Fleet booking options.
- **Passenger loading zones** provide space for the safe pick-up and drop-off of people using pooled rideshare, microtransit, and other on-demand Flexible Fleets.
- **Parcel delivery lockers** offer transit riders and other Mobility Hub users a convenient way to pick up or ship a small package without using a personal vehicle.
- **Shared mobility parking** for services like carshare help ensure these options for temporarily using a vehicle for errands are visible, safe, and easily accessible by people of all ages and abilities.
- **Complete streets improvements** within Mobility Hubs such as pedestrian, micromobility, and other traffic-calming treatments help complement the Adopted Regional Bike Network.

Estimated costs were developed using a mix of current average industry costs and research from similar projects in North America deploying these amenities and supporting technologies. Estimates account for equipment, construction, engineering, design, and associated project management costs typically related to deploying these technology-driven amenities.^{9,10} The cost estimates were applied across the regional Mobility Hub network, including the proposed Central Mobility Hub¹¹ and other potential land acquisition costs, to derive the overall cost estimate. Complete streets estimates for each Mobility Hub derived from a base cost per mile.^{12,13}

⁹ From "2021 Regional Plan Mobility Hub and Flexible Fleets Costing" Excel workbook developed for the 2021 Regional Plan (May 20, 2020).

¹⁰ From "2021 Regional Plan Mobility Hub Amenities Costing Outline" document developed for the 2021 Regional Plan (March 25, 2020).

¹¹ From "2021 Regional Plan Central Mobility Hub Costing" Excel workbook developed for the 2021 Regional Plan (October 8, 2020).

¹² From "2021 Regional Plan Bike Program Historic Costs" Excel workbook developed for the 2021 Regional Plan (March 21, 2021).

¹³ From "2021 Regional Plan Bikeway Cost per Mile" Excel workbook developed for the 2021 Regional Plan (March 26, 2020).

Mobility Hub Amenities:

- **Total cost: \$0.683 billion (\$2020)**

Central Mobility Hub and Other Land Acquisitions:

- **Total cost: \$2.486 billion (\$2020)**

Complete Streets Improvements:

- **Total cost: \$2.476 billion (\$2020)**

Mobility Hubs subtotal: \$5.645 billion (\$2020)

Flexible Fleets Operations

Flexible Fleets are shared, on-demand transportation services that provide convenient and personalized travel options, including 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, 7 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 or contract services directly with the Flexible Fleet providers. Estimating the cost of Flexible Fleets included the following:

- Average operating costs for shared micromobility, microtransit, and neighborhood electric vehicle shuttles. This includes costs associated with purchasing or leasing vehicles, vehicle maintenance, and software licensing fees.
- Operating service assumptions for shared micromobility, microtransit, and neighborhood electric vehicle shuttle services. This includes the estimated fleet vehicles, anticipated service hours and service days.

The Flexible Fleet operating costs were developed using publicly available data from Flexible Fleet pilots conducted in North America in the last several years including locally operated services like the Carlsbad Connector, FRED, and shared micromobility.¹⁴

Costs associated with commuter rideshare services such as SANDAG Vanpool Program subsidies and incentives for carpool are reflected in the Supporting Policies and Programs section. The capital cost of infrastructure improvements and amenities that are

¹⁴ From “2021 Regional Plan Mobility Hub and Flexible Fleets Costing” Excel workbook developed for the 2021 Regional Plan (April 14, 2020).

needed to support Flexible Fleet services like parcel delivery lockers, shared mobility parking, and complete streets improvements are reflected in the Complete Corridors and Mobility Hubs sections. Costs associated with data sharing and integration of Flexible Fleet services with existing trip planning tools are reflected in the Next OS estimates.¹⁵

Flexible Fleet Operations subtotal: \$1.792 billion (\$2020)

Next OS Elements

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 can analyze transportation data in real time to make transportation more integrated, efficient, and most of all, more responsive to people’s immediate needs.

Costs for Next OS include data hub development, development of applications to support six key use cases, and operations. Data hub and application development estimates include software and licensing, cloud, data warehousing, and acquiring third-party data. On-going costs are estimated on an annual basis. Cost estimates also include major and minor system refreshes.¹⁶

The six Next OS use cases that served as the basis for the cost estimates are: Mobility as a Service, Next Generation of the Integrated Corridor Management System, Regional Border Management System, Curb Management System, Transit Optimization, and a regional Smart Intersection System.

Next OS subtotal: \$0.232 billion (\$2020)

¹⁵ See “2021 Regional Plan Mobility Hub and Flexible Fleets Costing” Excel workbook developed for the 2021 Regional Plan (May 20, 2020); “Next OS Estimate R7” Excel workbook developed for the 2021 Regional Plan (April 14, 2020); and “Technical Memorandum – Support Information for ATDM Cost Estimating” Complete Corridor cost Excel workbook (November 1, 2019).

¹⁶ From “2021 Regional Plan - Next OS Costs Estimate” Excel workbook developed for the 2021 Regional Plan (December 10, 2021).

Supporting Policies and Programs

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 SANDAG 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 funding eligibility.

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 2021 Regional Plan and regional programs which benefit the environment, support how land is used, promote innovative approaches to transportation solutions, and promote safety. These new and existing programs address habitat conservation, sustainability and climate change targets, social equity considerations, and safety goals, all requirements of the Regional Plan. Assumptions and current cost estimates are based on projections of available funding. Appendix B: Implementation Actions includes additional information on each policy and program area. Table U.1 provides the breakdown of the program assumptions.

Table U.1: Program Assumptions

Program Assumptions	
Program Categories	\$M (\$2020)
Land Use and Habitat	\$2,622
Climate Action Planning	\$438
Climate Adaptation and Resilience	\$868
Housing	\$2,630
Transportation Demand Management Grants	\$548
Zero-Emission Vehicles and Infrastructure	\$2,010
Vision Zero	\$425
Parking Management	\$148

Supporting Policies and Programs subtotal: \$9.689 billion (\$2020)

Local Projects

Other plan costs include local streets and roads, local bike programs, and debt service. These costs will be further refined as the 2021 Regional Plan is developed.

Local Streets and Roads:

- **Total cost: \$14.393 billion (\$2020)**

Local Bike Projects:

- **Total cost: \$1.430 billion (\$2020)**

Local Projects subtotal: \$15.823 billion (\$2020)¹⁷

Debt Service subtotal: \$8.304 billion (\$2020)¹⁸

Total Regional Plan Vision estimated cost: \$162.538 billion (\$2020)

Tables U.2 and U.3 summarize the transportation expenditures included in the investment plan in both 2020 and escalated (year-of-expenditure) dollars, respectively. Escalated dollars estimate the future costs of projects during the period they would be constructed.¹⁹

¹⁷ Based on SANDAG revenue estimates described in Appendix V: Funding and Revenues. The details for each fund type can be found in the "Regional Plan Revenue - Final" file developed for the 2021 Regional Plan (December 10, 2021).

¹⁸ Based on SANDAG revenue estimates described in Appendix V: Funding and Revenues. The details for each fund type can be found in the "Regional Plan Revenue - Final" file developed for the 2021 Regional Plan (December 10, 2021).

¹⁹ Escalation rate of 1.93% annually applied (starting in 2021) from the ten-year moving average Engineering News Record Los Angeles Construction Cost Index.

Table U.2: Major Estimated Expenditures by Mode (in millions of 2020 dollars)

Major Estimated Expenditures by Mode (in millions of 2020 dollars)					
Expenditure Category	Subcategory	FY 2021–2025	FY 2026–2035	FY 2036–2050	Total
Complete Corridors	Managed Lanes	\$766	\$3,969	\$2,971	\$7,706
	Managed Lane Connectors	\$73	\$4,355	\$3,378	\$7,806
	Interchange and Arterial Operational Improvements	\$137	\$379	\$379	\$895
	Direct Access Ramps and Transit Operational Improvements	\$4	\$184	\$132	\$320
	Airport Connectivity	\$0	\$836	\$0	\$836
	Highway Operations and Maintenance	\$1,747	\$4,110	\$6,473	\$12,330
	Active Transportation Demand Management/Smart Intersection Systems	\$681	\$2,865	\$1,228	\$4,774
	Goods Movement	\$110	\$137	\$242	\$489
	Rural Corridors	\$0	\$289	\$1,248	\$1,538
	Adopted Regional Bike Network	\$135	\$792	\$2,003	\$2,929
	SUBTOTAL	\$3,654	\$17,917	\$18,055	\$39,625
Transit Leap	Capital	\$1,542	\$21,786	\$26,179	\$49,507
	Vehicles	\$466	\$1,274	\$2,541	\$4,282
	Operations	\$2,551	\$6,636	\$13,776	\$22,963
	Transit Fare Subsidies	\$0	\$752	\$3,923	\$4,676
	SUBTOTAL	\$4,559	\$30,449	\$46,419	\$81,427
Mobility Hubs	Mobility Hub Amenities	\$152	\$247	\$285	\$683
	Central Mobility Hub and Other Land Acquisitions	\$0	\$2,486	\$0	\$2,486
	Complete Streets Improvements	\$0	\$1,857	\$619	\$2,476
	SUBTOTAL	\$152	\$4,590	\$904	\$5,645

Major Estimated Expenditures by Mode (in millions of 2020 dollars)

Expenditure Category	Subcategory	FY 2021–2025	FY 2026–2035	FY 2036–2050	Total
Flexible Fleets	Flexible Fleet Operations	\$161	\$538	\$1,094	\$1,792
Next OS	Next OS Elements	\$58	\$61	\$113	\$232
Programs	Supporting Policies and Programs	\$1,360	\$4,434	\$3,894	\$9,689
Local Projects	Local Streets and Roads	\$2,041	\$4,821	\$7,531	\$14,393
	Local Bike Projects	\$238	\$477	\$715	\$1,430
	SUBTOTAL	\$2,279	\$5,298	\$8,246	\$15,823
Debt Service	Debt Service	\$1,538	\$3,087	\$3,679	\$8,304
GRAND TOTAL		\$13,761	\$66,373	\$82,404	\$162,538

Totals may not add up due to rounding

Table U.3: Major Estimated Expenditures by Mode (in millions of escalated dollars)

Major Estimated Expenditures by Mode (in millions of escalated dollars)					
Expenditure Category	Subcategory	FY 2021–2025	FY 2026–2035	FY 2036–2050	Total
Complete Corridors	Managed Lanes	\$827	\$4,849	\$4,698	\$10,374
	Managed Lane Connectors	\$79	\$5,569	\$5,302	\$10,951
	Interchange and Arterial Operational Improvements	\$147	\$494	\$554	\$1,195
	Direct Access Ramps and Transit Operational Improvements	\$4	\$224	\$214	\$442
	Airport Connectivity	\$0	\$1,089	\$0	\$1,089
	Highway Operations and Maintenance	\$1,851	\$5,031	\$10,082	\$16,964
	Active Transportation Demand Management/Smart Intersection Systems	\$733	\$3,731	\$2,130	\$6,594
	Goods Movement	\$117	\$168	\$377	\$662
	Rural Corridors	\$0	\$377	\$2,166	\$2,542
	Adopted Regional Bike Network	\$143	\$969	\$3,119	\$4,231
	SUBTOTAL	\$3,901	\$22,501	\$28,641	\$55,043
Transit Leap	Capital	\$1,662	\$27,329	\$40,461	\$69,451
	Vehicles	\$494	\$1,560	\$3,958	\$6,012
	Operations	\$2,703	\$8,123	\$21,456	\$32,282
	Transit Fare Subsidies	\$0	\$947	\$6,110	\$7,058
	SUBTOTAL	\$4,858	\$37,959	\$71,985	\$114,803
Mobility Hubs	Mobility Hub Amenities	\$161	\$302	\$444	\$907
	Central Mobility Hub and Other Land Acquisitions	\$0	\$3,043	\$0	\$3,043
	Complete Streets Improvements	\$0	\$2,273	\$964	\$3,237
	SUBTOTAL	\$161	\$5,618	\$1,408	\$7,187

Flexible Fleets	Flexible Fleet Operations	\$170	\$658	\$1,703	\$2,532
Next OS	Next OS Elements	\$60	\$75	\$169	\$303
Programs	Supporting Policies and Programs	\$1,441	\$5,428	\$6,065	\$12,934
Local Projects	Local Streets and Roads	\$2,162	\$5,902	\$11,729	\$19,793
	Local Bike Projects	\$252	\$583	\$1,113	\$1,949
	SUBTOTAL	\$2,415	\$6,485	\$12,843	\$21,743
Debt Service	Debt Service	\$1,616	\$3,802	\$5,536	\$10,954
GRAND TOTAL		\$14,621	\$82,527	\$128,351	\$225,499

Totals may not add up due to rounding