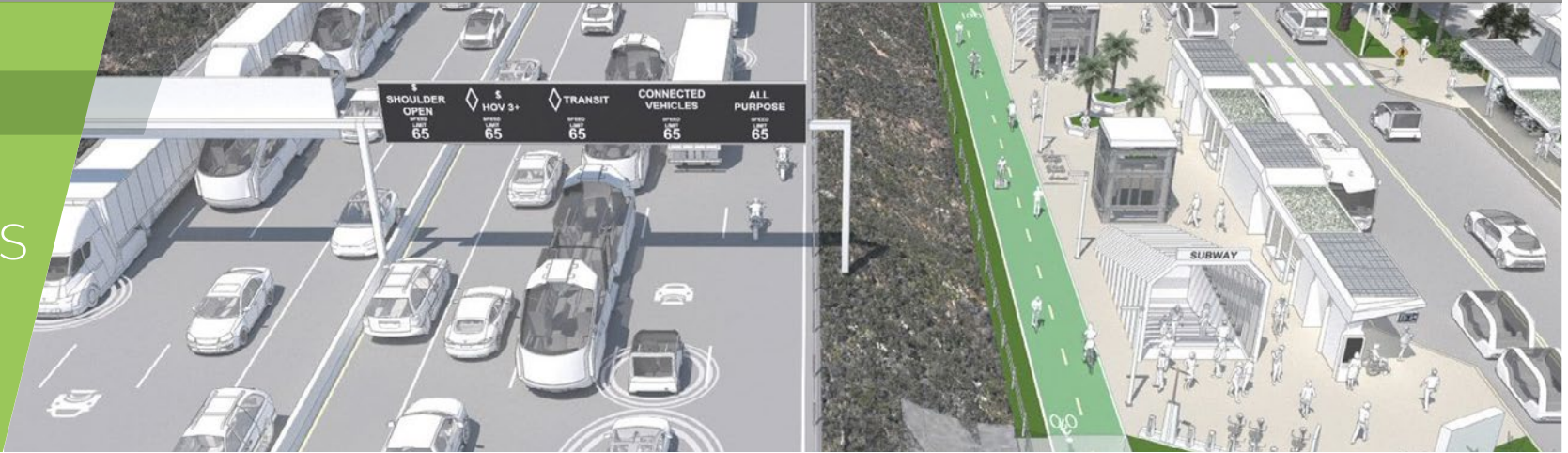


2021 Regional Plan

COMPLETE CORRIDORS



What are 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.

What are some key features and benefits?

Managed Lanes

Managed Lanes, such as those along the Interstate 15 corridor, offer priority access to people using transit, carpooling, or vanpooling. People driving alone can access these lanes for a fee. When paired with technology, this can help move more people, reduce traffic congestion, and increase transit ridership.

Active Transportation and Demand Management (ATDM)

Technology enables transportation operators to modify how infrastructure and services are used based on changing traffic conditions. This also allows operators to make more use of existing roads and offers an alternative to costly road expansion. Real-time travel information provided to people helps them to decide how, where, and when to travel to avoid congestion and dangerous driving conditions.

Smart infrastructure and connected vehicles

High-speed communication networks allow connected vehicles, smartphones, and smart roads to share data, which can help reduce collisions, increase network capacity, and improve travel times.

Priority for transit, active transportation, and shared mobility services

Smart intersections, dedicated transit and micromobility lanes, and separate space for people who walk and bike make these ways of traveling safer, faster, and more comfortable. More people choosing shared transportation options leads to better air quality. According to a Federal Highway Administration report, installing protected bike lanes can reduce crashes by up to 50%.

Curb management

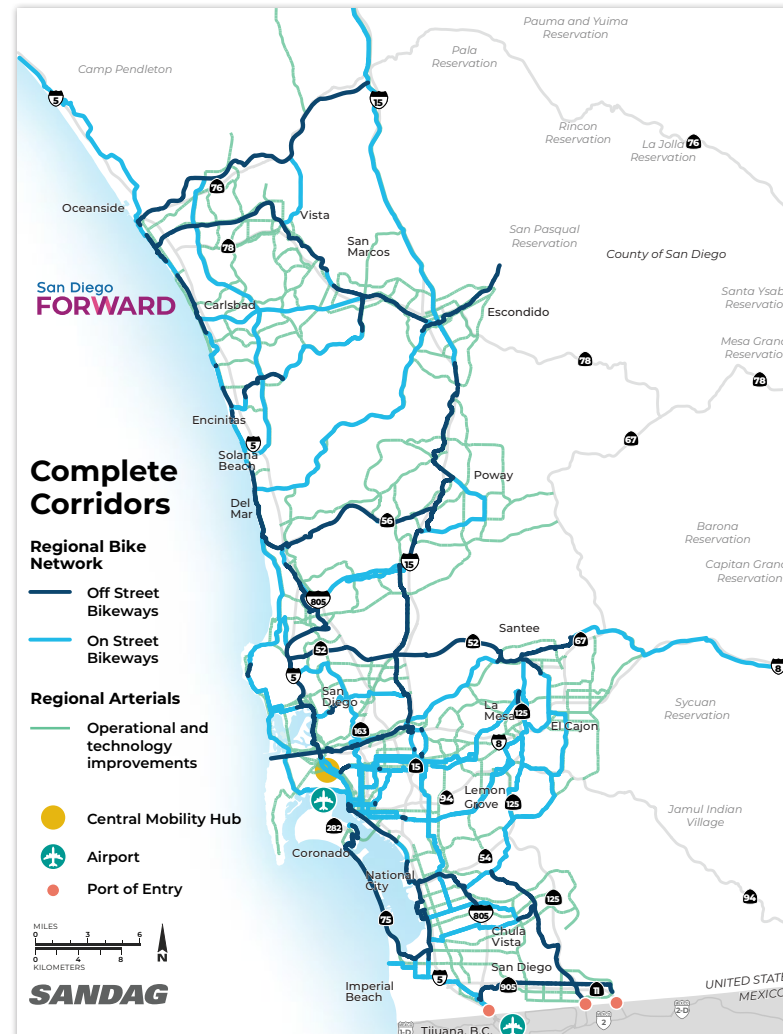
Curb space can be managed to accommodate different uses based on levels of traffic at varying times of the day. This can lead to fewer traffic jams and idling, improve safety, and help meet economic and sustainability goals.

Electric Vehicle (EV) infrastructure

Public charging and hydrogen fueling stations help support California's shift to electric vehicles and a reduction of greenhouse gas emissions.

How is SANDAG planning for Complete Corridors?

SANDAG is planning for a regional network of Complete Corridors on major roads and highways. The proposed network intertwines with the adopted regional bike network to create seamless connections within communities and across jurisdictions. Complete Corridors create a backbone for Flexible Fleets and Transit Leap services by combining infrastructure and technology solutions. The Next OS would unify Complete Corridor management systems and complement the proposed infrastructure improvements to let people choose the travel option that works best for them.



Proposed Highway Network

The proposed Complete Corridors highway network includes a fully integrated Managed Lanes network with supporting freeway connectors. Rural corridor projects include infrastructure and technology improvements for enhanced safety and evacuation.

Major Roads and Bike Network

The regional arterials network includes smart infrastructure and intersection improvements. The adopted regional bike network includes both on- and off-street improvements to create a safe and comfortable space for people to walk, bike, and ride micromobility options.

VISION FOR THE SAN DIEGO REGION

This network could serve as the framework for the 2021 Regional Plan.



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2021 Regional Plan

TRANSIT LEAP



What is Transit Leap?

Transit Leap could 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 services could connect to supporting Flexible Fleets in Mobility Hubs. New high-speed services—covering longer distances with limited stops—may be separated from vehicle traffic with bridges, tunnels, or dedicated lanes. Improvements to existing transit services—such as the Trolley, COASTER, SPRINTER, and *Rapid*—may include additional rail tracks, more frequent service, dedicated transit lanes, and traffic signal priority to keep transit moving quickly.

What are some key features?

High-speed transit

New high-speed transit lines with higher frequency and capacity could connect major employment and residential centers.

Expanded service times

More frequent service that starts earlier and runs later would be more convenient and serve more riders.

Transit priority

Shorter travel times and more reliable service could result from the addition of dedicated lanes, signal priority during peak travel hours, and bridges and tunnels that provide grade-separated routes.

Better integration

Improved integration with other services would enable more closely timed connections with minimal transfers.

Transition to electric power or alternative fuels

New and existing services could transition to electric power or alternative fuels to reduce greenhouse gas emissions.

How is SANDAG planning for Transit Leap services?

Future transit services build upon what we have today. Developed in collaboration with regional transit operators North County Transit District and Metropolitan Transit System, the proposed Transit Leap network provides practical transit choices that are viable alternatives to driving for most trips along Complete Corridor highways.



Commuter Rail / Every 5–10 min. all day

High-speed trains that serve longer regional trips.



Light Rail / Every 10 min. all day

New tram services and improved light rail services with higher frequencies, expanded service times, and faster travel times.



Next Gen Rapid / Every 10 min. all day

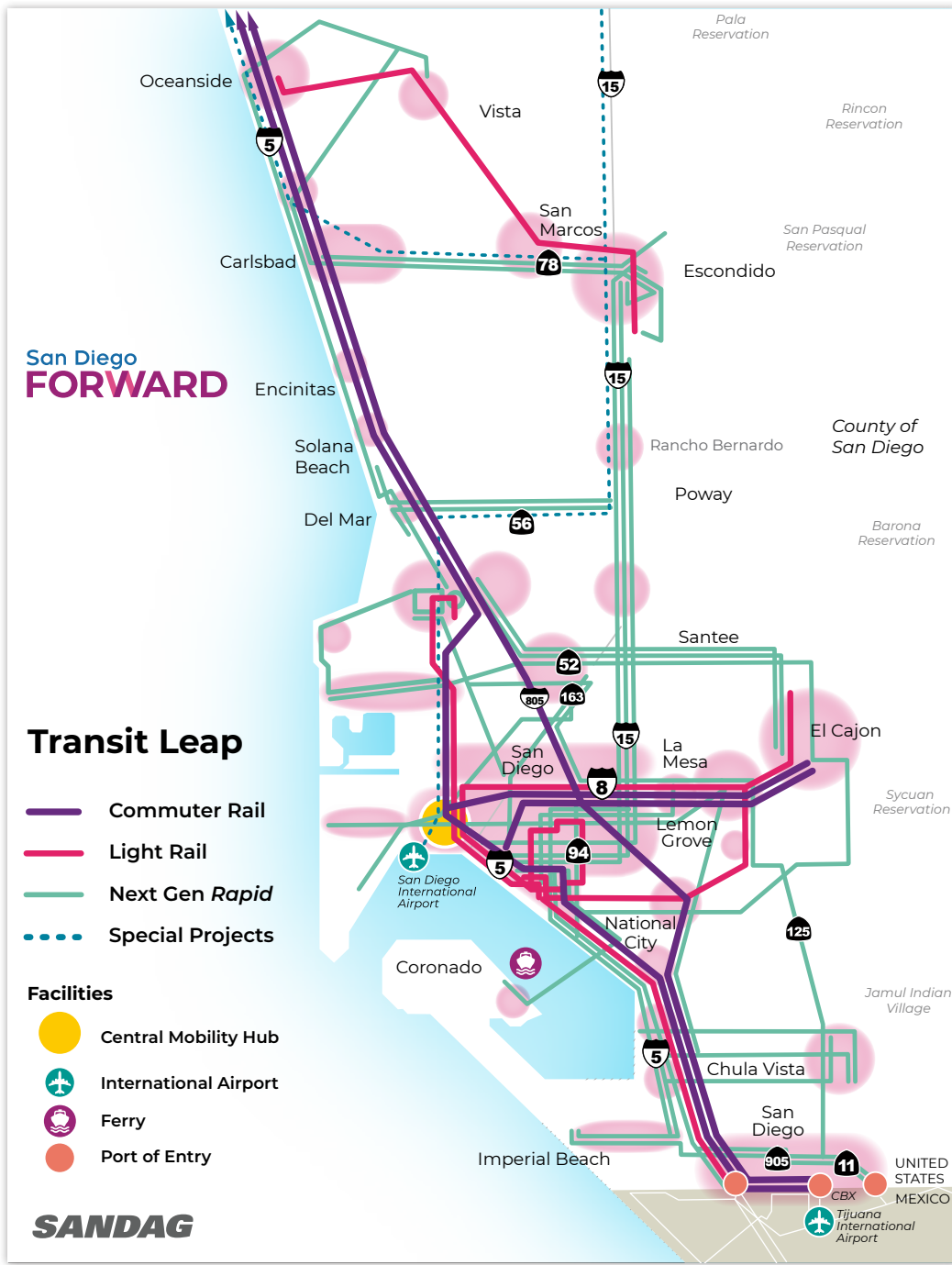
Faster and more reliable *Rapid* bus service with more comfortable, high-tech vehicles.



Local bus and microtransit services complete the Transit Leap network.



Special transit projects, such as connecting a Central Mobility Hub to the San Diego International Airport, would help people travel beyond the region for business or pleasure.



Future light rail and Next Gen Rapid could be faster, have expanded hours, and use technology to enhance riders' experiences.

How could the San Diego region benefit?

Reduced congestion

Investing in new transit and improving the convenience of existing services can increase transit ridership.

Faster transit travel times

New and enhanced high-speed services, along with better connections to other services like local buses and Flexible Fleets, would provide options that are competitive with driving.

Improved air quality

When people who otherwise drive alone choose transit instead, vehicle miles traveled and greenhouse gas emissions will decline.

Economic benefits

Transit investments yield a two-to-one economic return while helping

generate income for local businesses, workers, and neighborhoods. A shift to transit can reduce household transportation costs.

Reduced demand for parking

Increased transit ridership reduces the need for parking. As a result, parking lots and spots can be repurposed for other forms of public use, including affordable housing, high-occupancy vehicle and bike lanes, and wider sidewalks.

More equitable access

A more robust, reliable, and faster transit network would help create more equitable access to jobs, education, and healthcare. Reduced or subsidized fare programs can help ensure equitable access to services.

Vision for the San Diego Region

This network could serve as the framework for the 2021 Regional Plan.



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2021 Regional Plan

MOBILITY HUBS



What are 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.



What are some key features of Mobility Hubs?

Walking and biking infrastructure

Wider walkways, more visible crossings, and protected bikeways provide safe and comfortable spaces for people of all ages and abilities to walk, bike, scoot, use a wheelchair, and more.

Shared mobility

Flexible Fleets include on-demand rideshare, carshare, and micromobility options like scooters, e-bikes, neighborhood electric vehicles, and autonomous shuttles.

Supportive land use

A healthy mix of land uses, including jobs, housing, shopping, and recreation, supports a variety of community activities.

Supporting amenities

Amenities include interactive trip planning kiosks, public WiFi, mobile device charging, electric vehicle charging, parcel delivery lockers, mobile retail services, convenient passenger loading areas, and secure parking and e-charging for bikes and other personally owned rideables.

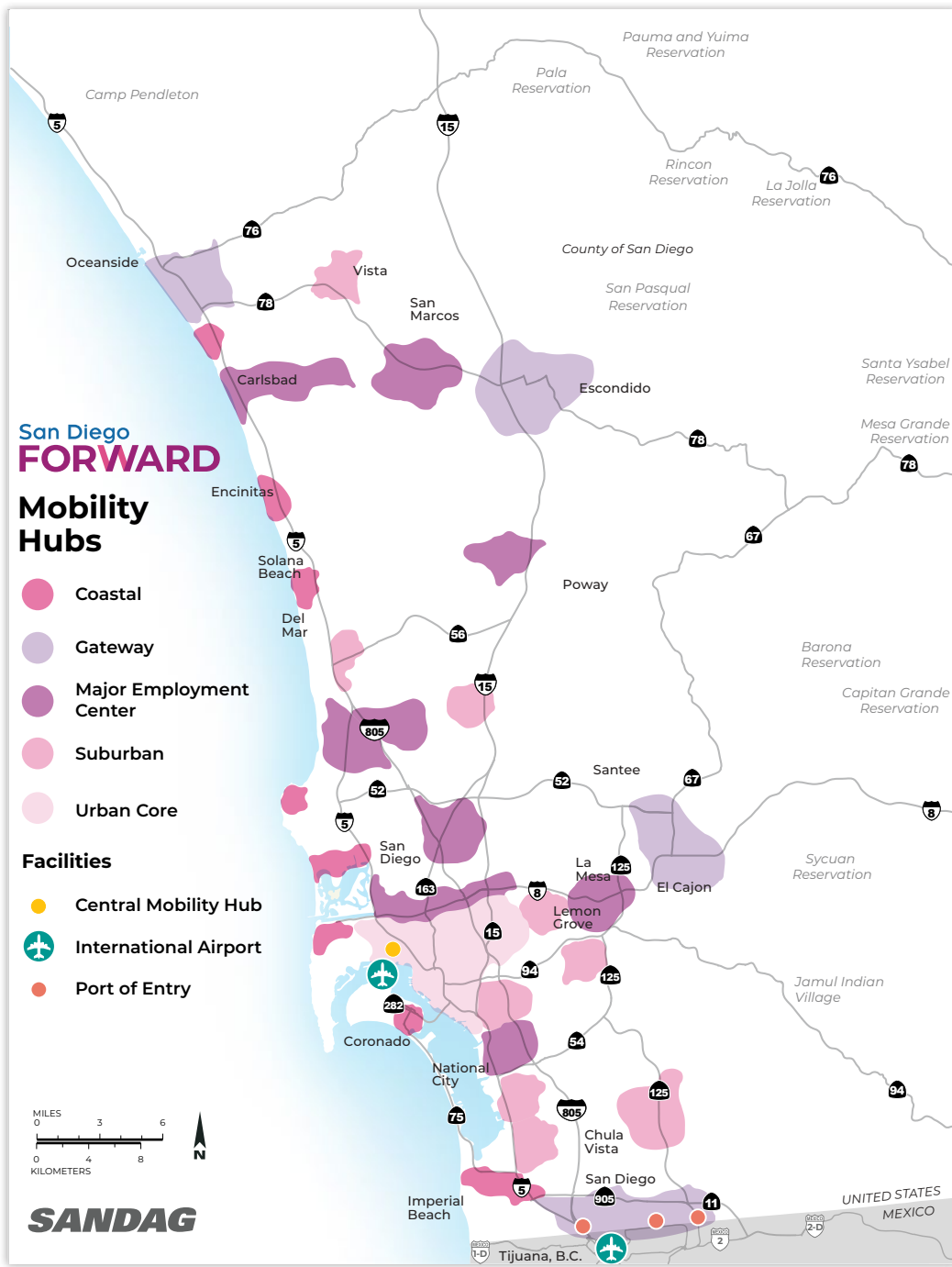
Intelligent transportation solutions

Wireless vehicle charging, smart parking solutions, infrastructure supporting automated and connected vehicles, and dynamically managed curbs harness technology in a hub.

How is SANDAG planning for Mobility Hub services?

The 2021 Regional Plan could include a network of “right-sized” Mobility Hubs near major residential, job, and activity centers. The proposed network includes our region’s urban core and 30 Mobility Hubs that were identified based on land use and employment characteristics, travel patterns, and demographics. Each Mobility Hub would make it easy to connect to and from Transit Leap services by offering on-demand Flexible Fleet choices. Mobility Hubs also integrate with

Complete Corridors to ensure walking and biking are safe experiences while prioritizing pooled ride options over single-occupant vehicles. By 2050, it is anticipated that the Mobility Hub network could serve approximately half of the region’s population and more than two-thirds of the region’s jobs. Additionally, approximately 60% of low-income households, half of all seniors, and more than half of all minority residents would have access to Mobility Hub services and amenities.



Nick Falbo, Alta Planning

NACTO

How could the San Diego region benefit?

Increased transit ridership

Studies show that increasing the concentration of homes and jobs near transit is strongly associated with higher ridership.

Neighborhood congestion relief

Nearly half of all trips in the San Diego region are three miles or less. Mobility Hubs are key to reducing reliance on personal cars for these shorter neighborhood trips.

Thriving local economy

Making it safer for people to walk, bike, or scoot to transit and other Mobility Hub destinations can help boost local retail sales.

Reduced air pollution

Electrifying shared vehicle fleets and supplying convenient charging stations can help improve air quality.

Equity

Automated vehicle fleets can help seniors and people with disabilities achieve mobility independence. Additional equity measures—like adaptive bikes and scooters, low-income payment options, and other accommodations—can help people with mobility challenges.

Vision for the San Diego Region

This network could serve as the framework for the 2021 Regional Plan.



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2021 Regional Plan

FLEXIBLE FLEETS



What are Flexible Fleets?

Flexible Fleets are shared, on-demand transportation services that provide convenient and personalized travel options. While they build on the popularity of services such as rideshare, bikeshare, and scootershare, fleets can also include neighborhood shuttles and delivery services. These fleets provide services for all types of trips, 24/7, 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 can be operated by public and private agencies or through partnerships.

What are the five Flexible Fleet categories?



Micromobility

Small, low-speed vehicles and services support short trips around a community and are a healthy alternative to driving. Micromobility can be personally owned or part of a shared fleet and can include bikes, scooters, and other rideables.



Rideshare

Multi-passenger vehicles can provide shared trips for people with a common origin and destination. Technology enabled pooled ridehailing services such as uberPOOL and Lyft Shared to thrive in addition to traditional carpools and vanpools.



Microtransit

Smaller transit vehicles can carry up to 15 passengers and use technology to provide the most efficient route between your doorstep and destination. Microtransit includes smaller, all-electric vehicles known as neighborhood electric vehicle shuttles, which are sustainable and convenient for short trips within a community.



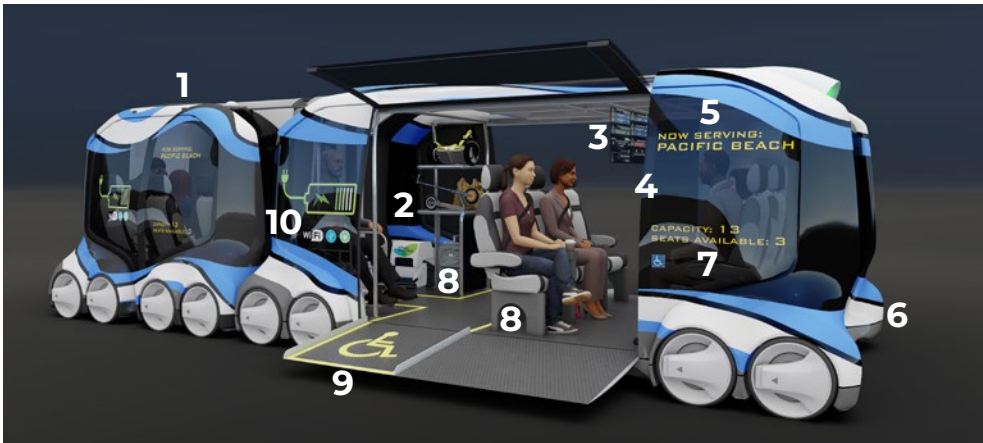
Ridehailing

On-demand vehicles are available for short- or long-distance trips. Ridehailing and carshare services will be automated in the future and could operate as subscription-based services, allowing users to reserve any type of vehicle for their trip.



Last-Mile Delivery

Semi- or fully automated vehicles, e-bikes, drones, and bots could deliver a range of goods to homes and smart lockers at Mobility Hubs. Shared vehicles can make efficient trips by carrying passengers and goods at the same time.



Future microtransit vehicle

- | | | |
|--|--|--|
| 1. Driverless vehicles link while in motion for added passenger capacity | 4. Interior privacy screens ensure a comfortable experience while sharing the ride | 7. Real-time seat availability |
| 2. Cleaning bot | 5. On-demand passenger pickup | 8. Space for personal belongings, rideables, and groceries |
| 3. Holographic travel display | 6. Optional folding rack for larger rideables | 9. Accessible boarding |
| | | 10. WiFi and mobile device charging |



Photos courtesy of FedEx, Cruise, Via, Amazon, BusBot, Lyft

How is SANDAG planning for Flexible Fleets?

Flexible Fleets would operate within and between Mobility Hubs. They could travel using priority treatments on Complete Corridors and require dedicated infrastructure to help make it safe and convenient to walk, bike, scoot, and ride transit. In the future, the Next OS would integrate Flexible Fleets into trip-planning tools, making booking and paying for services easier. SANDAG is developing regional policies to proactively plan for these services and to ensure they are deployed equitably

so that people without credit cards or smartphones can access them.

Future fleet vehicles may be autonomous and look different than what we're used to today. Without the need for a driver, vehicles will have space to accommodate mobility ambassadors to assist passengers and could feature amenities like real-time travel information, cleaning bots, and privacy screens that ensure a comfortable experience while sharing the ride.

How could the San Diego region benefit?

Better access to transit
Flexible Fleets like bikes, scooters, and shuttles provide easy and convenient connections to transit.

Convenience
The on-demand nature of Flexible Fleets let people book a ride anywhere and anytime, regardless of the trip's purpose.

Improved air quality
Shifting some drivers to Transit Leap services and Flexible Fleets could lead to more shared trips,

which will help reduce vehicle miles traveled and greenhouse gas emissions.

Reduced congestion
Flexible Fleets reduce reliance on driving for everyday trips, which can decrease the number of cars on our roads.

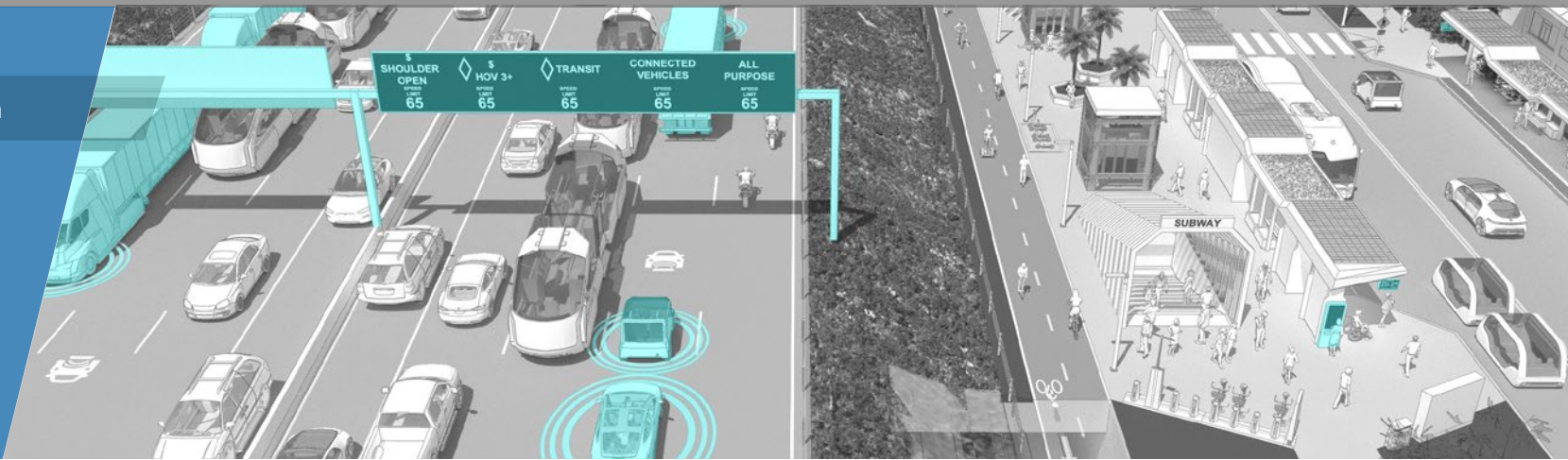
Affordability
Flexible Fleets can provide a low-cost alternative to driving a personal vehicle. Public agencies can partner with private operators to provide

subsidies or trip incentives to ensure Flexible Fleet services are affordable or free when riding transit.

Equity
Flexible Fleets offer a variety of personalized travel services such as car seats, wheelchair lifts, and accommodations for the visually impaired. These features help Flexible Fleets serve everyone.

2021 Regional Plan

NEXT OS



What is 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 could better manage supply and demand by modifying how infrastructure and services are used throughout the day. The result would be a modernized transportation system with roads and transit services that operate smoothly and serve people better.



How could we use Next OS?

Residents and businesses

Next OS provides applications and services, like interactive kiosks, to browse, book, and pay for any mobility service.

Transportation operators and service providers

Next OS supports dashboards with real-time data to optimize services and provide the best service for the public.

Planners and policymakers

Next OS helps inform decision-making with data that provide a clear perspective of how the transportation system is functioning and what improvements might be needed and where.

How is SANDAG planning for Next OS services?

Next OS is the cornerstone of the 5 Big Moves and will coordinate Complete Corridors, Transit Leap, Mobility Hubs, and Flexible Fleets to make the entire transportation system work at its best. It could include the development of four smart system platforms that align with current regional project priorities.

Smart Infrastructure

Developing a regional smart intersection system could improve safety and efficiency for different road users including freight, emergency vehicles, and people who walk, bike, and ride transit.



Smart Corridors

Integrating infrastructure and services into a multimodal management system will make it possible to dynamically manage traffic, quickly respond to incidents, and coordinate emergency evacuations.



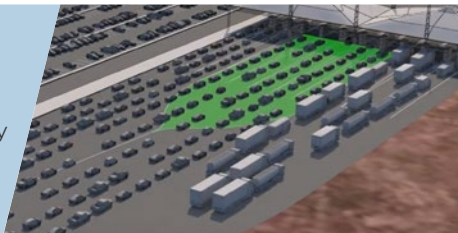
Smart Mobility

Bundling mobility options, such as transit and Flexible Fleet services, into a single trip-planning application could offer incentives and better trip-planning tools, including booking, routing, and paying across any mode.



Smart Borders

Developing a comprehensive regional border-management system will make travel and trade easier and safer through the ports of entry in the San Diego-Tijuana binational region.



How will Next OS affect how I travel?

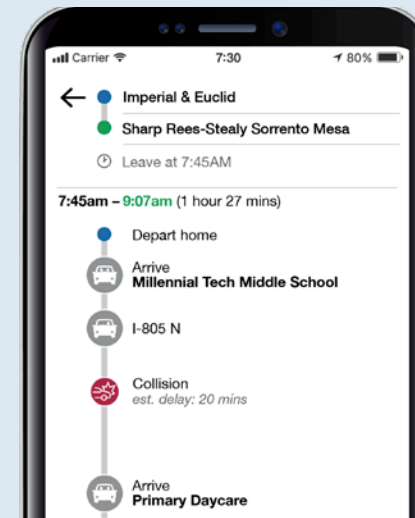
Next OS technology and the 5 Big Moves could make daily trips quicker and easier by providing better information and more compelling options for getting around. Through a single application, you'll be able to:

- Explore and compare transportation options in the San Diego region
- Pay for services like rideshare, transit, toll roads, and parking
- Receive safety alerts and emergency routing information
- Order deliveries to pick up at lockers at transit stations
- Receive reward points to use at local businesses for taking transit

Laura's journey: Next OS in action

Today, Laura has few viable commute choices. Transit options require too much time and, although her drive time is shorter, her commute is unpredictable. In the future, Laura could have more choices, better information, and an easier travel experience through the Next OS app.

Typical trip options today



Expanded trip options with Next OS

