



5 BIG MOVES // COMPLETE CORRIDORS / TRANSIT LEAP / MOBILITY HUBS / FLEXIBLE FLEETS / NEXT OS

## Frequently Asked Questions about Complete Corridors

Learn more at [SDForward.com/CompleteCorridors](http://SDForward.com/CompleteCorridors)

### GENERAL – COMPLETE CORRIDORS

***The Complete Corridors concept seems to only make driving a little bit better. Is there a greater benefit?***

The goal of the Complete Corridors concept is to create a balanced transportation system with infrastructure and technology improvements that benefit all modes of transportation. With dedicated space for bikes, pedestrians, ridesharing, and transit, the transportation system is safer and more efficient while improving our region's air quality and reducing greenhouse gas emissions. As more people use transit or other alternative modes, space on roadways is freed up for people who need to drive as well as the movement of goods and services. As we design local roadways to accommodate all users, they also become safer for everyone.

***How do Complete Corridors impact existing highway infrastructure? Does this mean potentially widening freeways?***

A primary goal of Complete Corridors is to make the most of our existing infrastructure by using technology to manage how the system is used in real time. Highway improvements and new infrastructure may be needed in some areas, and we know that continuing to add freeway lanes without other investments will not address congestion.

***What is realistic for advancing the Complete Corridors concept in the short-term?***

The I-15 Express Lanes and improvements on I-5 North Coast Corridor are examples of Complete Corridor elements that already exist or are underway in our region. There are some technology-focused Complete Corridor solutions that could be implemented more quickly and at a lower cost than major infrastructure projects. For example, current technology solutions could be applied to manage how lanes are used by dedicating lanes to HOVs, commercial trucks, or transit during peak periods. The same technology can adjust speed limits and warn drivers of incidents in advance to reduce accidents and delays on the freeway.

### LAND USE

***How do you incentivize development patterns and land use change to complement transportation investments?***

Since 2005, SANDAG has offered competitive grants through the *TransNet* Smart Growth Incentive Program for comprehensive public infrastructure projects and planning activities that facilitate compact, mixed-use, transit-oriented development and increase housing near public transit. Throughout development of the 2021 Regional Plan, SANDAG will consider ways to build upon this work including the development of Mobility Hubs.

## BEHAVIOR CHANGE/MODE SHIFT

### ***How do we influence behavior change and get more people out of cars and into alternative modes?***

We are seeing an unprecedented speed of change in technology and people are responding to these changes very quickly. The rise of e-hailing, bikeshare, and the increased use of micromobility are indicators that - with the right alternatives to driving alone, and infrastructure to support them - there is a willingness to change behavior. Cost, travel time, and convenience are just some of the factors people weigh when considering how and when to travel. For more people to choose alternative modes, those travel choices need to be competitive with driving alone.

### ***What are some solutions that work for families and people with children?***

The 5 Big Moves will create transportation options. Many ideas that we are considering could benefit families and people with children, including:

- Dedicated high quality infrastructure and safe routes to school for people biking and walking
- Co-located services, such as daycare at employment centers, to reduce trips
- A transit system that works for all trips, not just commutes
- Providing options to driving alone so that roadways are less congested for people who must drive

## SOCIAL EQUITY

### ***How will you ensure that the transportation system of the future works for all users, including seniors, people with disabilities, limited mobility, and low-income populations?***

The private sector is playing a larger role in the transportation future, and public agencies need to coordinate with the private sector and develop policy and incentive programs to ensure future services work for everyone. For Complete Corridors, this means looking at transportation infrastructure holistically and considering access to the system for all. The Transit Leap provides better and faster service for people who cannot or opt not to drive a car, and Flexible Fleets will make it easier for everyone to access transit and travel around their communities without a private car.

## ELECTRIC VEHICLES

### ***How are electric vehicles part of the solution to climate change? What is the impact to the grid?***

Electric vehicles provide a clean alternative to gasoline and diesel vehicles, the largest source of greenhouse gas emissions in the San Diego region. The electricity grid powering these vehicles continues to get cleaner; electricity in the San Diego region is currently more than 45% renewable and the State of California has a goal for 100% carbon-free electricity by 2045. SANDAG is working closely with SDG&E to understand how to manage the demands EV charging places on the grid. Incentivizing people to charge during the middle of the day, when renewables are plentiful, is one way to support the grid and make sure the cleanest electricity is used for electric vehicles.

### ***How does wireless electric vehicle charging work?***

Wireless electric vehicle charging is based on inductive charging, which involves electricity being transferred between two magnetic coils via the air gap between the ground and the vehicle. Initial applications are designed for parking spaces while the technology is being developed to operate on roadways.

## ACTIVE TRANSPORTATION

### ***What role does active transportation play in Complete Corridors and the 5 Big Moves?***

Active transportation is an important part of the Complete Corridors concept and the 5 Big Moves. Complete Corridors provide dedicated space for all modes, including people biking and walking and other Flexible Fleets. To meet the region's climate goals, vehicle-miles traveled (VMT) need to be reduced, meaning vehicle trips need to be replaced with biking, walking transit, and shared rides.

### ***How will “smart intersections” communicate to active transportation users and pedestrians?***

Smart intersections provide improved situational awareness by using a system of sensors and technology to communicate to people driving, walking, and biking. All modes will be alerted of possible conflicts as they approach an intersection, thus reducing accidents and improving safety for everyone. Smart intersections also can give priority to bikes, pedestrians, and transit, making these modes safer and more convenient.

## PRICING

***What is congestion pricing? How is it implemented?*** Congestion pricing is a tool for reducing demand during peak times and making more efficient use of infrastructure. It also can create a new source of funding for more transportation solutions. Congestion pricing is based on the economic principle that when people have to pay the true cost for something, they use it more efficiently. In the San Diego region, the I-15 Express Lanes employ congestion pricing for single occupancy vehicles, while carpools, vanpools, transit, clean air vehicles, and motorcycles can use the lanes for free. Even a relatively small reduction in the number of vehicles on a congested roadway can improve a throughput, significantly reducing delays for everyone.<sup>1</sup> Additional work needs to be done to determine how it could be implemented in the San Diego region.

### ***Does congestion pricing penalize people for driving when that may be their only option?***

No. Complete Corridors will take a holistic look at the transportation system to ensure that transit, ridesharing, and other alternative modes are available before a corridor is priced.

## CONNECTED/AUTONOMOUS VEHICLES

### ***Will autonomous vehicles replace buses in the future?***

Public transit will continue to be the most efficient way to move many people. Automation could change the form of public transit in the future. Technology will allow for public transportation vehicles, like buses, to take new forms and different sizes to operate more efficiently and better meet the needs of riders. For example, a fleet of smaller demand-responsive transit vehicles can serve less-traveled routes where larger buses aren't needed or are too costly to operate.

### ***How do you ensure passenger safety on AV shuttles/transit without a driver/authority on the vehicle?***

As we start to think about how autonomous transit vehicles could be integrated into the transportation system, we need to consider safety with the absence of a driver. Human assistants or transit ambassadors could provide customer service and respond to safety incidents with law enforcement. Additionally, the use of sensors or cameras could act as a deterrent to criminal behavior.

<sup>1</sup> [http://www.transformca.org/sites/default/files/Pricing\\_Roads\\_Advancing\\_Equity\\_Combined\\_FINAL\\_190314.pdf](http://www.transformca.org/sites/default/files/Pricing_Roads_Advancing_Equity_Combined_FINAL_190314.pdf)

***How do you model the benefits of collision avoidance technology from connected/autonomous vehicles?***

Across the U.S., academic institutes and government agencies are conducting research and enhancing modeling tools to better understand the potential impacts of connected/autonomous vehicles. While these tools are still in their infancy, some early simulations have demonstrated that a partially-automated fleet of vehicles could increase freeway capacity by 10 to 25%.

**TRANSIT*****How will high-speed transit connect with the existing system? Is high-speed transit a rail service or on the roadway?***

SANDAG envisions that high-speed rail could be grade separated (below ground in tunnels or above ground on structure). Mobility Hubs will play an important part in how these high-speed services are integrated with the existing system. Mobility Hubs will provide the location in which services will come together to facilitate seamless and fast transfers between systems and modes.

***Will transit availability and pricing also be dynamically managed in the Complete Corridors?***

Yes, transit availability could be flexed with more frequent service during peak hours and less service during the fringe hours (late evenings and early mornings). SANDAG is evaluating dynamic pricing strategies and programs that encourage transit usage.

**MANAGED LANES*****Will SANDAG expand upon/make more connections to the existing I-15 Express Lanes?***

SANDAG envisions that the managed lane network will be expanded to create a seamless system wide network that will be able to accommodate more people throughput to alleviate congestion and provide more transportation choices across the region.

***How do you enforce flex lanes?***

Technology can assist with flex lane enforcement. Data that is collected through sensors or through GPS devices can assist with efficient enforcement.

**CURB MANAGEMENT/PARKING*****What is smart parking?***

Smart parking uses technology to manage the supply of parking efficiently. For example, smart parking can provide drivers with the location of available parking spots. This reduces the number of vehicles that are circling looking for parking.

***How could curb space be dynamically managed? Can off-hour deliveries be part of the solution?***

Curb space has many competing demands -- bike lanes, delivery trucks, transit stops, parking for Flexible Fleet vehicles, pick-up and drop-off for ride-share vehicles such as Uber and Lyft, and personal vehicles seeking parking spaces. To accommodate all these needs, curbs will have to be managed flexibly. Technology can be used to collect data to better understand the curb needs, and then use that data to flexibly manage the curb. This could include more passenger pick-up and drop-off zones, specified times of day for commercial deliveries, and dedicated space for Flexible Fleets. For example, the curb lane could be used to move people on buses and Flexible Fleets during peak hours. After the peak commute period, there could be priority for commercial vehicles in certain areas. At lunchtime the curb could be used for food trucks, and after hours the curb could be used for parking and passenger pick-up and drop-off to welcome people to nearby restaurants and entertainment zones.

## GOODS MOVEMENT

### ***How is goods movement considered in these concepts?***

Complete Corridors will deliver benefits to all users of the transportation system, including goods movement. For example, through the application of Active Transportation Demand Management (ATDM) tools, drivers will have more reliable travel times, which will give commercial drivers more certainty in on-time deliveries of goods and services and allow them to better plan their routes or departure times.

## CLIMATE CHANGE AND RESILIENCY

### ***How will you prioritize projects based on GHG targets?***

The greenhouse gas (GHG) reduction targets assigned to SANDAG by the California Air Resources Board require us to reduce GHG emissions by 19 percent per capita by 2035 compared to 2005 levels. The 2021 Regional Plan must demonstrate how we reach these targets by reducing vehicle-miles traveled, not through changes in vehicle technology. This means projects that promote a switch from solo driving to transit, shared rides, and active transportation will be needed in the near-term.

### ***How can Complete Corridors assist during natural disasters?***

Complete Corridors will include technology that allows for the exchange of real-time information between infrastructure, vehicles, and people. This information can be used at times of natural disasters to communicate to travelers on available or designated routes, provide lane management technology to improve directional throughput, or modal options during evacuation conditions.