

680 FORWARD

CCTA seeks \$395 million to move I-680 forward while aligning with federal, state, and local safety, equity, and emission goals.



INTRODUCTION

Interstate 680 (I-680) is a backbone corridor for the Bay Area that plays a critical role in the region's prosperity. It provides for the movement of goods, services, and people throughout northern California and beyond. Thousands of homes and businesses rely on this corridor for day-to-day travel and increased congestion has led to unacceptable delays. Importantly, I-680 is also a federally designated "alternative fuel corridor," which amplifies CCTA's commitment to moving the corridor forward through focused modernization and implementation of a suite of multimodal projects along the corridor.

To improve safety, smooth traffic, and increase access for all users of the transportation system, CCTA has designed a one-of-a-kind holistic approach that combines specific **transit improvements, active transportation projects, congestion relief projects, and innovative technologies** to work in harmony to improve this vital corridor. Projects featured in CCTA's 680 Forward program include:

- Zero-Emission Express Bus Service
- Part-Time Transit Lanes
- Shared Mobility Hubs
- Bike and Pedestrian Infrastructure
- Express Lane Completion
- I-680/SR-4 Interchange Improvements
- Highway Preservation and Rehabilitation
- Coordinated Adaptive Ramp Metering
- Mobility-on-Demand
- Automated Driving Systems

These combined projects will have significant environmental, equity, and economic benefits, and increased mobility options are a major interest for the local community. Reducing congestion, investing in transit, switching to alternative fueling, and improving non-motorized transportation options will positively impact climate change. Improving bicycle and pedestrian infrastructure, building mobility hubs, and investing in affordable transit will create a more socially equitable community and give disadvantaged community members more transportation options. Economic benefits will be seen in the reconfiguring of the SR-4 corridor by improving traffic operations and safety, and the use of intelligent compaction methods will reduce maintenance costs.

680 FORWARD IS THE ONLY PROGRAM IN THE BAY AREA COMPETING FOR MEGA GRANT FUNDING THAT HAS BEEN ENDORSED BY THE METROPOLITAN TRANSPORTATION COMMISSION (MTC), THE TRANSPORTATION PLANNING, FINANCING, AND COORDINATING AGENCY FOR THE NINE-COUNTY SAN FRANCISCO BAY AREA.



PUBLIC TRANSIT IMPROVEMENTS

Our recent behavioral research along the I-680 corridor made clear that a significant percentage (68%) of corridor residents would like to drive less. This means that many of the cars that we see on the corridor every day, actually don't want to be there! Drivers would rather take other modes of transportation, they just don't think it is possible for them.

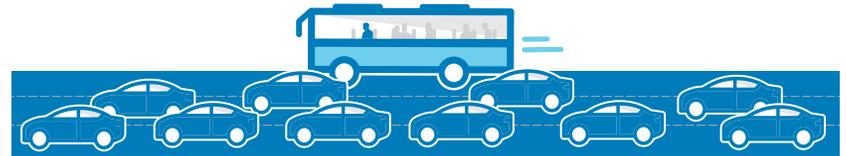
This research opened our eyes and revealed that a shift was necessary in how we plan projects. No longer can we rely only on traffic data and traditional modeling to design transportation infrastructure. We also **MUST** consult with our residents and ask thoughtful, scientific questions about why they travel the way they do and how they would like to travel.

Our research also revealed that transit is a mode many are willing to try. With this in mind we have the following transit-related projects planned for the I-680 corridor:

ZERO-EMISSION EXPRESS BUS

The I-680 corridor currently does not have train or bus service connecting the Tri-Valley area to Martinez. An express bus route on I-680 is necessary to close this gap and serve those passengers that have no other means of traveling along the corridor. This service would provide a vital connection between travelers on Amtrak's national network, and the Capitol Corridor and San Joaquin routes with regional rail service such as the Bay Area Rapid Transit (BART) and Altamont Commuter Express (ACE) rail networks.

Several key elements are necessary to make this express bus connection work, including the shared mobility hubs being planned as part of the INNOVATE 680 program. These hubs will be strategically placed along I-680 at several convenient locations such as the Bollinger Canyon Park & Ride and Walnut Creek BART. Other elements under development for this express bus service include the purchase of hydrogen fuel-cell buses, fueling stations, and shoulder improvements to support part-time transit lanes.



In addition to filling an unmet need for passengers, this service will provide additional travel options to all who live and work along the corridor, it will help **reduce congestion**, and it will **reduce vehicle miles traveled (VMT)** thereby improving the environment.

PART-TIME TRANSIT LANES

This project involves improving highway shoulders so that buses can use these lanes during peak congestion hours to help them keep on schedule. CCTA's goal with these lanes is to make transit a **more accessible** and **reliable** mode of travel.

AUTOMATED DRIVING SYSTEMS

The Automated Driving Systems project aims to deliver greater mobility access and choices to transportation-challenged, underserved communities.

In Martinez, a wheelchair accessible autonomous shuttle pilot will provide on-demand service for patients who don't have reliable transportation to County Hospital. The service is expected to result in fewer missed appointments, **fewer emergency room visits, greater use of the hospital**, and, thus, **better health outcomes**.

A second AV shuttle pilot will connect Rossmoor, a senior community in Walnut Creek, with essential goods and services in the surrounding community and provide **greater transit accessibility** and **independence** for the senior residents.

HIGHWAY CONGESTION IMPROVEMENTS

The I-680 corridor serves as the main artery through central Contra Costa County, connecting it with Solano County to the north and Alameda and Santa Clara counties to the south. It is critical to the movement of goods and people in our county and region that this highly-traveled corridor is operationally **optimized, safe, and smooth**. CCTA has three key projects in motion that are focused on improving travel along the corridor:

EXPRESS LANE COMPLETION

This project involves extending the existing express lanes from Rudgear Road in Walnut Creek to the Benicia Bridge, and will provide 25 miles of nearly continuous express lanes in the northbound direction. The goal of this express lane system is to **increase travel speeds** for those choosing to travel by carpool, vanpool, or motorcycle.

I-680/SR-4 INTERCHANGE IMPROVEMENTS

The State Route 4 (SR-4) corridor serves as the only major east-west transportation link joining the communities of Antioch, Bay Point, Pittsburg, Oakley, and Brentwood with central Contra Costa County and the Bay Area. It is critical that the interchange where SR-4 meets I-680 operates smoothly.

CCTA is working on a series of phased interchange improvements that will reconfigure the interchange, **increase safety**, provide **congestion relief**, and generally improve traffic operations within this highly-traveled area.

On this project, we utilized the intelligent compaction method during the Phase 3 asphalt installation, helping to avoid premature pavement failure. This method involves monitoring the compaction of road materials in real-time and making ongoing adjustments to ensure more uniform material density than conventional compaction methods.

Our crews also used additives to reduce the temperature of asphalt production. Lower temperatures reduces fuel and overall GHG emissions during the paving process, and results in less maintenance and a longer life span.

HIGHWAY PRESERVATION AND REHABILITATION

This project will rehabilitate pavement; upgrade guardrail; upgrade drainage systems; install lighting, traffic devices, CCTV, and fiber; construct concrete barriers; and upgrade facilities to Americans with Disabilities Act (ADA) standards. These improvements will be designed and constructed using best practices focused on sustainability, innovation, and resiliency and will incorporate advanced construction technologies and material recycling techniques.



INNOVATIVE TECHNOLOGY

CCTA's goal for the I-680 corridor is to provide a new set of easy-to-use options and tools that will improve mobility for everyone and encourage travelers to move toward **greener or shared modes** of transportation. To accomplish this CCTA is using several innovative options to help smooth traffic including:

COORDINATED ADAPTIVE RAMP METERING

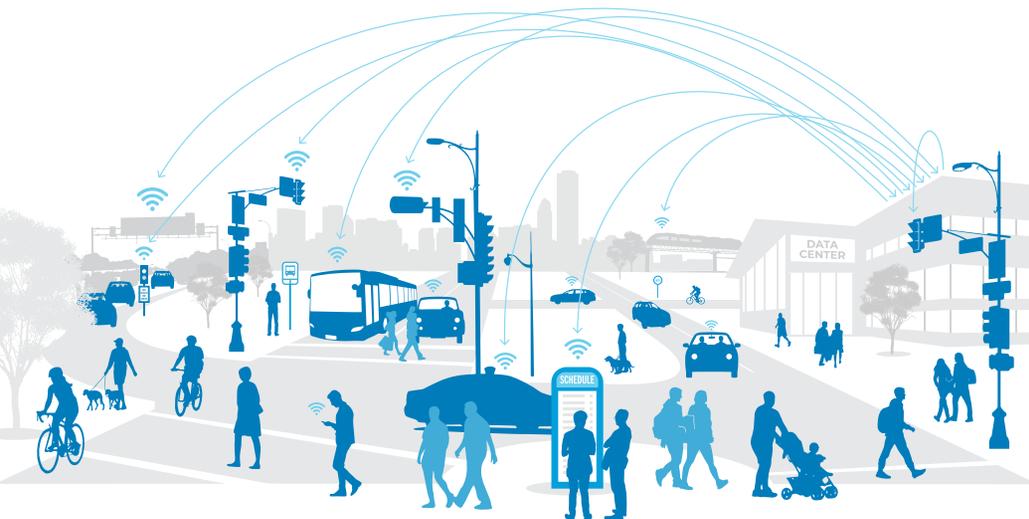
This project supports many of the projects happening on the corridor in Contra Costa. CCTA's plan is to gather operational data from high-tech infrastructure, like Integrated Corridor Management (ICM) and Adaptive Ramp Metering (ARM), to refine the transportation system through a countywide connected data center. Real-time traffic information, based on the data gathered, will prompt dynamic adjustments to ramp meters in real time.

MOBILITY ON DEMAND

Also known as MAAS, this project is a combination of public and private transportation services that provides personalized mobility options based on traveler needs, allowing you to plan, pay and receive rewards for your trip. Our team is developing a mobile application to tie together all services along the corridor and eventually countywide. For the mobile app to be successful, projects like the shared mobility hubs and express bus services utilizing the shoulder, would be in operation.

AUTOMATED DRIVING SYSTEMS

The third Automated Driving Systems pilot project will install necessary technologies along a two-mile stretch of I-680 to prepare for the future of connected and automated vehicles (CAVs). It will allow testing of a range of AVs for safe integration onto the roadway alongside traditional vehicles. Expected benefits include **fewer accidents, less traffic, and greater efficiency** of shared transport.



ALL OF THESE PROJECTS TOGETHER are anticipated to improve mobility and accessibility throughout the region while supporting California's vision to increase economic vitality and add jobs, while reducing vehicle miles traveled (VMT) and greenhouse gas emissions (GHG).

TOTAL project cost	\$944,436,000*
TOTAL funding request.....	\$394,880,000*
Requested Federal Mega funding match	42%

**Dollar amounts are approximate. Please refer to the application for exact amounts.*