

# PANDEMIC RECOVERY AND BEYOND

## Resilient Transit, Shared Mobility



### Transit and the Future of Resilient, Equitable Communities

Transit systems are essential for many people’s livelihoods, and a cornerstone to sustainable and equitable communities. Public transit often serves as the main mode of transportation for the nearly one-in-ten American households that do not own a car, a need that is comparable whether located in a predominantly urban or rural county.

Even for residents who do have a car, high-quality transit can serve as a convenient, affordable or simply preferable way to get around.

In California, all of these different riders take a total of approximately 1.27 billion passenger trips a year (pre-pandemic), supported by more than 200 transit-service providers statewide.

In addition to ridership levels, the strength of our transit systems can be measured by their financial capacities. California’s overall budget for public transit prior to the pandemic was several billion dollars, with the majority of funding for operations coming from fare revenues – which were especially hard hit by the pandemic shutdown. Local riders and local dollars will ultimately be crucial for transit’s future as we move into this period of recovery and beyond.

As the pandemic has made all too clear, our transportation networks and our community’s health are inextricably intertwined. Policies and investments are needed at all levels to ensure that critical transit and shared-mobility services are maintained and enhanced to support economic opportunities, affordable and equitable mobility options, and California’s goals for improving air quality and reducing greenhouse-gas emissions.

*We must take steps to preserve transit systems, provide safe and healthy options, and improve the reach, quality and reliability of these mobility services.*

*Strong public transit is key to building healthier, more resilient cities and crucial to more equitable urban economies.*

# Shifts in Transportation Patterns

The pandemic's impacts on transportation patterns have ranged from a decrease in transit ridership to more bicycling and walking to a sharp decline in commute and other types of car trips. Aided by the opening of more bike lanes and the closure of streets for pedestrians, biking and walking has significantly increased across the country. However, due to suspensions of transit routes and schedules, as well as the increase of telework, many people have also switched from riding transit to driving single-occupancy vehicles.

Government responses through policy and investment decisions can help communities retain the positive aspects of these shifts, such as increases in active transportation, improved air quality and reductions in greenhouse gas emissions, while promoting public transit and other shared modes as we move into transportation's post-pandemic future.

Many cities have experienced a wide range of impacts on transportation modes as a result of the pandemic.

## VMT Initially Decreases, Then Rises and Returns to "Normal."

While VMT across the nation initially declined significantly in April 2020 compared to 2019 (80% in Southern California, for example), Southern California Association of Governments officials found that, by August 2020, VMT had rebounded to pre-pandemic levels while the recovery of transit use did not — suggesting possible traffic-congestion problems as the economy fully reopens.

C2SMART suggests this may signify a shift in transportation preferences from transit to single-occupancy cars. A survey by IBM's Institute for Business Value found that 17% of respondents intended to use their car more as a result of COVID, and one in four expressed their intention to use it as their exclusive mode of transportation in the future.



**Faster Speeds, More Severe Crashes.** Using school-zone cameras to monitor vehicle speeds, New York City saw a 75% increase in speeding tickets following its stay-at-home order. Although reduced traffic meant fewer crashes, the fatality rate per crash increased — most likely as a result of motorists driving faster on less crowded streets.

**Bikesharing and Walking Increases.** Bikesharing declined after stay-at-home orders, but began rebounding as people turned to bikes and pedestrian activities. Reflecting seasonal weather, bikeshare ridership increased in March–April 2021 over 2020. The average ride is also longer (up from 13 to 19 minutes); and in places like New York City, rides are more frequent during weekdays (more for commuting, less often for recreation). Bikesharing can also help with transit's first-/last-mile issues.

**Transit Drops, Rebounds Slowly.** Many communities initially took steps at the start of the pandemic to limit non-essential travel and redirect some of the remaining demand to alternative or personal modes of transportation. As a result, transit ridership fell significantly, by 53.3% nationwide (67% in San Francisco and 42.5% in Los Angeles).

As efforts to battle COVID have progressed, riders are gradually returning, although not back to pre-pandemic levels — depending on the restoration of the number, location and frequency of routes (and, in some places, expansion) and the pace at which people are willing to ride again.

One model of the possible effects of COVID on travel behavior in New York City estimated changed preferences may mean that only 73% of transit ridership would return after the pandemic, with car trips increasing by as much as 142% of pre-pandemic levels (although C2SMART cautions using this as an example for other cities). Besides transportation choices, ridership will vary on how many workers return to work or keep telecommuting.

# Charting Our Course Past COVID

As the pandemic compelled governments at the local, regional and state level to implement physical-distancing measures, cities have needed to maintain public transit for essential workers to sustain basic economic activities and community services during the pandemic and now as our economy and society begin to recover.

Because transit is vital for many people's livelihood and mobility, we must identify and implement steps to preserve these systems, provide safe and healthy options, and improve their reach, quality and reliability as we rebound from this crisis. Beyond the pandemic, strong public transit will continue to be key to building healthier, more resilient cities in the long run, and crucial to more equitable urban economies.

**Maintaining Essential Operations in the Near Term.** A year-and-a-half after the start of the pandemic, transit impacts and responses have varied drastically across urban and rural communities.

LA Metro is up to 500,000 daily boardings as of March 2021, less than one-half of its pre-pandemic ridership. LA Metro is projected to help restore ridership to pre-pandemic levels by September 2021, thanks in part to a portion of its \$1.6 billion from the American Rescue Plan and to other agency projects.

In response to the pandemic's impacts, Santa Clara Valley Transit Authority (VTA) began running bus lines with physical-distancing that reduced passenger capacities and adjusted most routes. VTA estimates a 6% increase in ridership as a result, up to 80% of pre-pandemic levels.

Lake Transit cut back in April 2020, reducing service hours and suspending three routes. In Bakersfield, Golden Empire Transit reduced its weekend schedule and furloughed 30 employees. Other rural transit agencies such as Lassen Transit's Rural Bus service began offering two new routes, including an express route in October 2020, and has not limited existing services or altered routes. Meanwhile, Fresno Area Express (FAX) started giving free rides in March 2021 to encourage riders to return.

**Restoring Transit Ridership Will Take Time.** Agencies understand that their transit systems will require support and time to recover from the pandemic. Recovery progress will likely be slow.

In the Bay Area, BART's ridership is at 16% of pre-pandemic levels (and 43% in LA), according to the National Transit Database. It is estimated that it may take several years for ridership on BART — and other systems around the nation — to fully rebound to pre-pandemic levels.



BART will equip all of its trains with new MERV 14 air filters to improve circulation this summer, and restore service to "near pre-pandemic levels" by August 2021, when trains will again run on stations every 15 minutes (instead of 30 minutes) and have 26 more trains on the tracks.

BART will also offer 50% discounts on Clipper Card fares in September 2021 as a way to incentivize riders and expects to be back at near 100% pre-pandemic service this fall. Meanwhile, Muni (San Francisco's citywide light-rail, bus and cable-car system) projects service levels to reach 87% of pre-pandemic levels by 2023, assuming no new funding sources.

Sacramento RT's systemwide ridership for March 2021 was 45.5% of the same period last year. Year-to-date operating costs were \$9 million under budget, with revenues \$2 million below budget. It is expecting to see more riders on its bus, light rail and paratransit services as California re-opens this summer.

By April 2021, Sacramento RT and VTA in San José were running much of their pre-pandemic light-rail service, although ending it earlier than previously. LA Metro is running its rail lines close to pre-pandemic schedules, but the Friday and Saturday late-night service was stopped, while schedules on Metrolink, the region's commuter rail system, have recovered little in the past year.

In the early months of the pandemic, LA Metro reduced its bus service by 20% — current ridership is about 55% of pre-pandemic levels. They are now working to restore service and, in some cases, increase frequency on popular routes. To do that, LA Metro will need more bus drivers, and is looking to hire 800 new part-time drivers by September 2021, in line with its goal for restoring full service by that time.



LA Metro will also working to implement its NextGen Bus Plan, designed to persuade more commuters to pick the bus over a car by running more buses with fewer stops on many routes, especially targeting those who take shorter trips.

**Overcoming Transit's Financial Hardships.** U.S. transit agencies experienced an 86% decrease in fare revenue in April 2020 compared to April 2019, according to an EBP study conducted for the American Public Transportation Association. Even with emergency pandemic relief from the federal government, U.S. transit agencies face a \$39.3 billion projected shortfall through the end of 2023, according to the APTA.

For a California example, the pandemic is expected to cost BART more than \$1 billion in revenue losses through FY 2022.

About two-thirds (65%) of transit agencies were forced to cut service in 2020, and now four in 10 are looking at more service cuts to close their budget gaps. More than a quarter of them (28%) have delayed, deferred or cancelled capital projects. The agencies' financial hardships have in turn also hurt businesses in the public-transit industry — with an average 40% reduction in business activity as a result of the pandemic.

Recovery measures must be drafted and implemented quickly to ensure the financial sustainability of transit companies, according to the World Bank, particularly as the global economy has slowed significantly during the pandemic.

Expressing optimism, nonetheless, Washington, DC Metro's general manager Paul Wiedefeld believes transit will ultimately return stronger than before because everyday life in urban environments needs transit.

## Long-Term Funding Strategies

**Local.** Some cities have taken financial matters into their own hands with ballot measures to increase taxes to pay for transit. In 2016, Bay Area voters passed Measure RR, which created a 1/8-cent sales tax to help fund Caltrain service. In Washington, voters renewed the Seattle Transportation Benefit District, which funds a large portion of the region's bus network through a 0.15% city sales tax. Other cities have passed similar measures, including San Mateo's Measure W (2018) and LA's Measure M (2016).



**State.** The California Transit Association recommends increasing cap-and-trade proceeds for transit, including doubling the current investment in the Transit and Intercity Rail Capital Program (to 20% of cap-and-trade proceeds) and the Low-Carbon Transit Operations Program (to 10%), increasing cap-and-trade funds for zero-emission buses, and earmarking a portion of new funding sources — such as the VMT "Road User Charge" vehicle-licensing fees, HOT lanes and bonds — to transit.

State governments can empower local governments to advance new funding options to maintain and expand transit service and promote infrastructure and affordable housing near transit. This includes changes to Infrastructure Financing District law, CEQA incentives for higher-density housing and mixed-use development close to transit stations or exemption of certain projects from environmental review, lower voter thresholds for local sales-tax measures, allowing transit agencies to develop complementary infrastructure and include transit-oriented projects on their property.

**Federal.** In addition to state and local funding strategies, more federal funding is needed to fill the gap. The federal government can help by fully funding existing and new Full Funding Grant Agreements and establishing capacity for new projects. Through pandemic-relief funding in December 2020, the Federal Transit Administration received \$14 billion for existing transit programs and services; and in March 2021, the American Rescue Plan provided an additional \$32.2 billion for transportation. The latest bipartisan infrastructure proposal calls for \$49 billion for public transit.

**People-First Federal Funding.** Congress is considering legislation that would shift the focus of federal transportation funding from principles around lowering a transit agency's operating costs to a more people-first approach that emphasizes frequent service and reliability — which ultimately boosts both ridership and the system's bottom line.

The proposed \$80-billion Stronger Communities through Better Transit Act would fund operational costs in a way that increases service frequency, adds more bus and train routes, and reduces wait times; provides additional hours of service that people who work early or late shifts need; and expands new frequent service to low-income neighborhoods and underserved communities.

# Recommendations for Recovery

Experts suggest a few strategies that could streamline transit's recovery, and consequently support the revival of the overall economy. In response to the COVID-induced interruption of revenue streams, transit agencies curtailed and adjusted services to reduce costs, while seeking additional funding to maintain the continuity of essential operations. At the same time, they adopted public-health protocols to stabilize current ridership and restore passenger confidence in hopes of bringing ridership back to pre-pandemic levels.

**Public-Health Protocols for Cleaner, Safer Transit.** Daily cleaning of the system is a necessity. In addition to regular nightly cleaning of vehicles, agencies have implemented additional deep cleanings using bleach and other chemical solutions to disinfect.

Transit agencies have also improved communications to give riders clear guidelines on maintaining social distance and wearing masks, and some implemented back-door boarding to reduce contact between passengers and drivers.



In Southern California, Culver City Bus, Foothill Transit and Santa Monica Big Blue Bus eliminated fares and mandated rear-door boarding (except those in wheelchairs) to ensure a safe distance between passengers and drivers. In major urban areas in China, transit agencies opened all windows and shut down air-conditioning systems on buses.

Transit agencies can also require temperature checks and masks (at least until vaccination rates are higher) for staff and passengers. Transit workers must all be well equipped with protective gear. Like other frontline workers, transit employees should receive bonus pay.

**Contact-Tracing Technology.** Some transit agencies are relying on digital platforms to help locate potentially contagious individuals and those in contact with them. Beijing's subway set up a system of online



pre-trip reservations and voluntary on-board check-ins (with QR codes) to help improve traceability and reduce passenger density as cities reopen.

**Ridership Management.** Implement clear rules and incentives for businesses with large commuting workforces to continue telework, shift employees to every-other-day schedules, and use time-altered shifts to reduce peak demand. Local and state governments should require employers to implement transit-management plans and help to coordinate them.

Some cities limited rider capacity on buses and trains and added buses on essential routes to reduce crowding, while Bus Rapid Transit stations and subway station entrances in China are controlled to minimize platform crowding.

**Suspending and Modifying Routes.** Nationally, some small transit agencies had to temporarily shut down. Larger systems, like those in Los Angeles, Seattle, Oakland and Alameda County, remained open, although they operated at reduced levels by modifying schedules and suspending less populous routes. New York City's MTA suspended early-morning subway service from 1:00 am to 5:00 am, so that the system could be completely disinfected every 24 hours.

**Open Street Space for Buses.** Implement an emergency and permanent network of dedicated bus lanes, interconnected with bicycle infrastructure to link with key destinations and institutions, to keep transit moving efficiently. Paris implemented emergency bus and bike lanes — known as “coronapistes” — to give people more commuting options.

**Offer Free or Discounted Fares.** Bus ridership is now at more than 80% of pre-pandemic levels in Kansas City, the first city to implement



zero-fare transit in March 2020. Not charging fares from the start of the crisis helped keep riders on buses, and helped keep services near what they were before the pandemic started.

Fresno Area Express (FAX), which served 10.5 million passengers in 2019, began offering free rides in March 2021 through the Zero Fare Clean Air Act to boost ridership with support from the Measure C 1/2-cent county sales tax and federal emergency-relief funds.

LA Metro is considering a free-fare system pilot that would launch in January 2022 and run through June 2023, with a first phase that allows low-income passengers to ride buses and trains for free. About 70% of current riders would qualify and save up to \$1,200 each annually. The next phase would extend free fares to the county's K-12 students, beginning in August 2022.

The Sacramento Rapid Transit District (SacRT) has been giving students free rides, while San Francisco offers free Muni fares for youth ages 5 to 18 from the city's low- and moderate-income households.

Shorter-term or intermittent free/discounted fares might be strategically feasible over time for some agencies. In the Bay Area, for example, BART will offer some half-price fares for the month following a return to pre-pandemic service levels this fall to attract riders.

**Opening Transit Up to New Riders.** In 2018, the Sacramento Regional Transit District launched SmarT Ride in Citrus Heights to help provide convenient (curb-to-curb) and affordable on-demand service and a new source of independence for those who would otherwise not take transit. The service relies on small, neighborhood-friendly shuttle buses (dubbed "Uber Pool for the transit world") to easily maneuver on residential streets.

Prior to introducing SmarT Ride in Citrus Heights, an average of 30 riders a day were using Dial-A-Ride service in the city. SmarT Ride quickly increased its ridership to 250 per day there and expanded to two more cities, and doubled ridership to 500 per day.

Since its inception, SmarT Ride has expanded to eight other zones for corner-to-corner service, including areas added in the past few months.



**Occupancy Requirements for Cars.** Traffic can be cut by 40% overnight by introducing occupancy requirements, such as carpooling to enter downtown areas or business districts. During the pandemic, fewer people will be eager to carpool; however, a pricing model where single-occupancy vehicles pay higher fees than carpooling vehicles — like those used on highways in Texas, Virginia, California and other states — could produce results.

**Update Rideshare.** Revise rideshare formulas based on time spent in downtown areas instead of the existing drop charge. This change would provide an incentive for greater efficiency with fewer vehicles, and free up much needed roadway space for transit.

**Embrace Remote Work.** Telecommuting is an eco-alternative to transit ridership, and going forward it may be the default option for employees and their employers once the pandemic is over.

However, for people who must commute to their workplace, cities can encourage e-scooters, e-bikes and other active transportation by dedicating more streets exclusively to non-automobile travel — as in the "slow streets" movement we're seeing in places in cities throughout California.

## Improving Transit Lanes as SF Re-opens

This spring, the City of San Francisco started adding HOV lanes for transit and high-occupancy vehicles on stretches of three-lane streets that run through Golden Gate Park, the Richmond District and Cow Hollow to temporarily limit cars to two lanes to help reduce transit travel times.

Open to transit, taxis and cars with two or more occupants, the HOV lanes would be enforced only on weekdays (5 am-8 pm).

SF Muni implemented the first "temporary emergency transit lanes" in June 2020, which proved successful in maintaining or improving transit-service reliability during the pandemic.

The agency is considering making some of these transit-only lanes permanent and expanding them to other parts of the city.

# The Future of Shared Mobility

When the pandemic first hit, Uber and Lyft reported an 81% decrease in demand, and the two companies reported \$8.5 billion and \$2.6 billion in losses, respectively.

Across U.S. cities that use Uber's services the most — Chicago, Los Angeles, New York City and the San Francisco Bay Area — average vehicle miles travelled dropped by 50% compared to pre-pandemic levels as of April 2020 as consumers began to favor private, single-occupancy or single-household vehicle options over shared options.

In an effort to recoup losses from the precipitous decline in rideshare services, transportation network companies (TNCs) such as Uber and Lyft shifted their business models to meal, grocery and product delivery services, or to subscription-based plans to reduce reliance of profits on a trip-by-trip basis.

**Supportive Infrastructure.** TNC providers are diversifying their business model in communities where government leaders are seen as proactively adopting policies and implementing infrastructure supportive of shared-mobility options such as bikes and e-scooters.

**Health Measures.** Similar to public transit's response to COVID health and safety concerns, TNC providers conduct regular and more frequent cleaning of shared scooters, bicycles and vehicles; and rideshare services have responded by installing partitions, self-cleaning surfaces and contactless systems.

**Microtransit Rebounds.** In some instances, TNCs report that microtransit services have rebounded quicker than other shared-mobility options. Riders indicate they feel safer riding with only one or two other people on the vehicles than they do on public buses, and when they don't have to wait at bus stops or stations with other people. Microtransit services may expand to other areas where requests for this service have increased dramatically and fixed-route demand has not returned.



The UC Berkeley Transportation Sustainability Research Center, in partnership with the Local Government Commission, has developed a new toolkit on microtransit and many other shared-mobility policies.

**The Rise of Bikeshare.** In large metropolitan areas, investments in shared micromobility options as an alternative to traditional rideshare options have increased. Many cities nationwide added new bicycles to their bikeshare programs or plan to do so in the near future.

A number of those programs, seeking to bridge existing equity gaps in bikeshare access in low-income neighborhoods and communities of color that the pandemic only underscored, have also taken steps to expand bike distribution, reduce fees, add payment options, and better target outreach.

The use of privately owned options has also boomed in place of shared-mobility options. Bike purchases increased 65%, with electric bicycle sales up 145% in 2020 compared to 2019.

**Emerging Modes.** COVID impacts will be long felt by shared-mobility providers, including a slow return to the use of shared-mobility features such as pooled rideshare and the rise in use of autonomous vehicles (as users prefer to have contactless transportation options).

Ultimately, the pandemic has significantly altered the way that public transit and shared-mobility providers operate to deliver the most essential services in the safest manner possible. The survival and future success of transit services depend on public transit and shared-mobility providers working together to create a system with a mix of services that better meet the need and demand in the U.S.

# Equity and Access

**More Equitable Shared Mobility.** As new mobility services expand in communities across California, it's critical for local leaders to work with providers to ensure these new services are equitable and accessible to a wide range of users in the community. Older adults, low-income individuals, rural communities and communities of color have historically been less likely to have access to and use shared mobility.

In particular, service providers should improve mobility options that benefit low-income populations and people with disabilities. By focusing on services to those most in need, private shared-mobility providers, working in concert with public agencies, not only fill a gap in traditional transit, but may also be able to access public funding to sustain essential services to those who need it most.

## **Bikesharing and Carsharing for Low-income Communities.**

A common barrier to equitable mobility is ensuring that the coverage of mobility services include low-income and historically underserved neighborhoods. Sacramento's Our Community CarShare program placed eight EVs (free for up to three hours a week per user) and charging stations in three low-income housing projects to serve up to 2,000 residents.

Sacramento also requires that at least 20% of its available bikeshare bikes and scooters are distributed to opportunity areas each morning.

In Philadelphia, Indego was the first bikeshare provider established with the explicit goal of addressing racial and economic disparities in bike-sharing, with one-third of their bike docks placed in low-income and underserved neighborhoods. Indego also allows food-stamp recipients to buy a \$5/month all-access pass; and for those who lack or aren't comfortable with digital payments, it has an easy cash-payment option.

In Washington, DC, Capital Bikeshare provides financial assistance to ensure their service is accessible to everyone regardless of income, or whether or not they have a credit card. Their Community Partners Program offers low-

## **Voucher Pilot Drives Clean-Mobility Options**

Funded by California Climate Investments, Clean Mobility Options funds zero-emission carsharing, car/vanpooling, bike- and scooter-sharing, on-demand shuttles and microtransit, and ride-on-demand services in California's underserved communities. The voucher pilot has awarded 21 nonprofits, local agencies and tribal governments up to \$1 million each for shared-mobility projects aimed at overcoming transportation challenges faced by residents in their communities.



income users a \$5 annual membership for unlimited rides, along with a free helmet, an introduction to using bikeshare, and a free city cycling class.

**ADA Accessibility.** In Portland, Adaptive Biketown increases biking access for people with disabilities. The program includes a mix of tandem bikes, hand cycles and foot-powered trikes that allow people with various disabilities a range of options for greater mobility. The staff help fit first-time renters to their bikes, and save those measurements for future rentals.

## **Right-sizing Transportation to Improve Community Mobility.**

From route planning to on-demand ride services and everything in between, advances in transportation technology are giving rise to a suite of new tools (like microtransit) that can help increase transportation access and improve mobility.

Microtransit typically uses multi-passenger/pooled shuttles and vans to provide on-demand and fixed-schedule services with either dynamic or fixed routing. Unlike a standard bus, microtransit vehicles receive real-time requests, and use navigation technology to update routes based on traffic conditions and passenger destinations. Microtransit seeks to generate the most-efficient shared trips possible and increase coverage without sacrificing frequency, accessibility or affordability.

**Microtransit Strengthens Transit Networks.** Microtransit can be useful to public transit agencies in a number of different ways, such as replacing existing underperforming bus routes and freeing up resources for main-line routes, without sacrificing overall service coverage.

- ▶ It can act as a first-mile/last-mile system, enabling riders to make better use of other high-capacity transit networks around them.
- ▶ The flexibility of microtransit allows the service to both relieve stress from crowded routes during peak hours and provide efficient demand-responsive, late-night service during less-busy hours.
- ▶ Microtransit can offer a cost-effective solution for public agencies to provide paratransit service.

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