CHAPTER 05

EMERGING MOBILITY IN SAN JOSÉ TODAY

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

EMERGING MOBILITY IN SAN JOSÉ TODAY

After we established existing general transportation conditions, we honed in on emerging mobility. The following section presents a series of maps analyzing the distribution of emerging mobility services, and their availability to equity priority groups. As in the prior chapter, we focused on BIPOC residents and households experiencing poverty, with limited educational attainment, and limited English proficiency. The purpose of this analysis is to understand who is being served and who is not to identify opportunities to bridge the gap between community needs and emerging mobility services.

As seen in Chapter 4, emerging mobility services are generally more accessible to those in higher-income and predominantly white neighborhoods.

Source: Nelson\Nygaard

SHARED MOBILITY

WHAT IS SHARED MOBILITY?

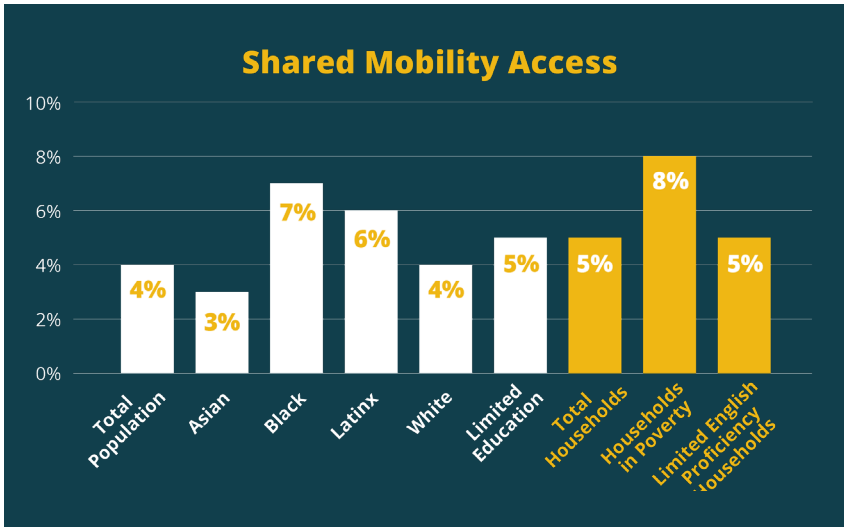
Shared mobility services are a range of transportation options that require people to share publicly or privately-owned vehicles and devices with others. Share mobility include emerging services and traditional ones, such as public transit. There are a variety of shared mobility services operating in San José today, including:

- VTA light rail and bus
- Uber and Lyft shared ride-hail options
- Zipcar and Getaround car share
- Bay Wheels bike share
- Shared electric vehicle charging infrastructure
- Several scooter share companies.

The co-existence of these services allows people to use one of the services, or a combination of them, to get where they need to go.

Shared mobility vehicles and the infrastructure that might support them, such as electric vehicle charging stations, are made available to the public for short term use for a fee. Shared mobility vehicles can be checked out via an app and are available for pick up and drop off in a number of neighborhoods. Users must meet age requirements and have a driver's license. To participate, users' driver's records are screened and, depending on the service, they may be required to complete a safety training.

The vehicles are typically owned by a company but in some cases, such as Getaround, the operator enables individual car owners to rent their vehicle through their platform, much as Airbnb does for homes. This analysis focuses on services owned and operated by a private company.



SHARED MOBILITY OPTIONS

What did we find?

San José's bike share system, which is operated by Lyft and is part of the regional bike share system known as Bay Wheels, is both station-based and dockless. The map to the right focuses on station-based bike share and car share services. Bike share stations and carshare services are largely concentrated in the greater Downtown. These services may provide cleaner mobility options for individuals and families. However, only 4% of the city's population lives within an eighth of a mile[22] of a bike share or car share station limiting their access.

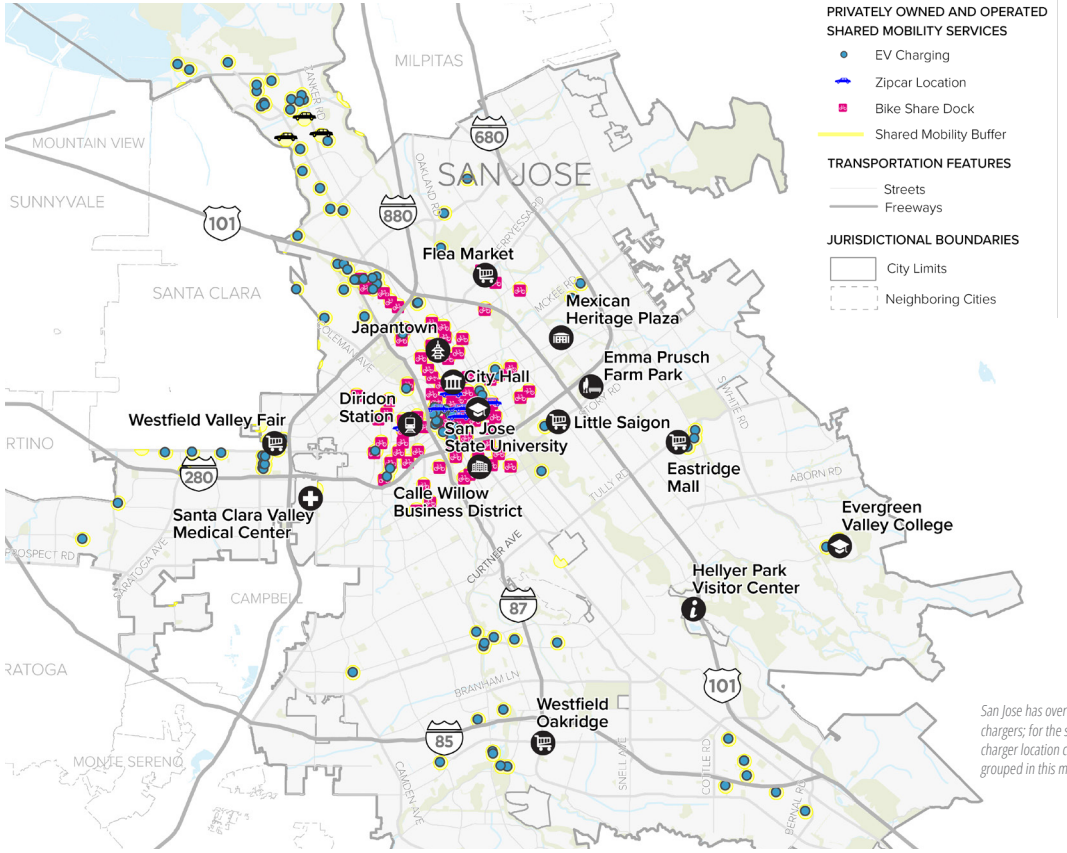
The barriers in accessing car share, bike share, and scooter share are similar because the terms of service across these services are generally the same: they often require access to smartphones, credit or debit cards, and government-issued IDs to operate.

San José's bike share operator accepts alternative payment options such as prepaid cards and cash but only for its low-income membership program. Two of San José's three scooter operators allow users to use the app PayNearMe to pay for rides with cash. Users can load their money onto their PayNearMe account at a variety of local chain stores, including 7-Eleven.

22 The analysis involved creating an eighth of a mile (0.125 mile) buffer from bike share, car share, and EV charging stations as the propensity to walk to these destinations is fairly low.

San José's bike share system allows customers to reserve a bike parked on the sidewalk (dockless) or docked at a designated bike share station (station-based) and ride anywhere. Bikes must be returned within the service area. The relatively small service area, which excludes parts of Berryessa and Alum Rock limits the utility of the service, which may present challenges particularly for customers who live at the edge of the service area but need to travel destinations beyond the service boundary area. Although bike share has been deployed and expanded in many Equity Priority Communities,[23] community members felt there are not enough bikes and stations available.

23 The Metropolitan Transportation Commission, the Bay Area's regional transportation planning agency, defines Equity Priority Communities for the Bay Area, which involves communities that are or have historically been underserved Factors used to identify Equity Priority Communities include people of color, low-income, limited English proficiency, seniors 75 years and older, zero-vehicle households, single parent families, people with a disability, and rent-burdened households. https://mtc.ca.gov/sites/default/files/images/2021-06/Equity_Priority_Communities.jpg



San Jose has over 800 public chargers; for the sake of clarity, charger location clusters are grouped in this map.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

What is electric vehicle charging infrastructure?

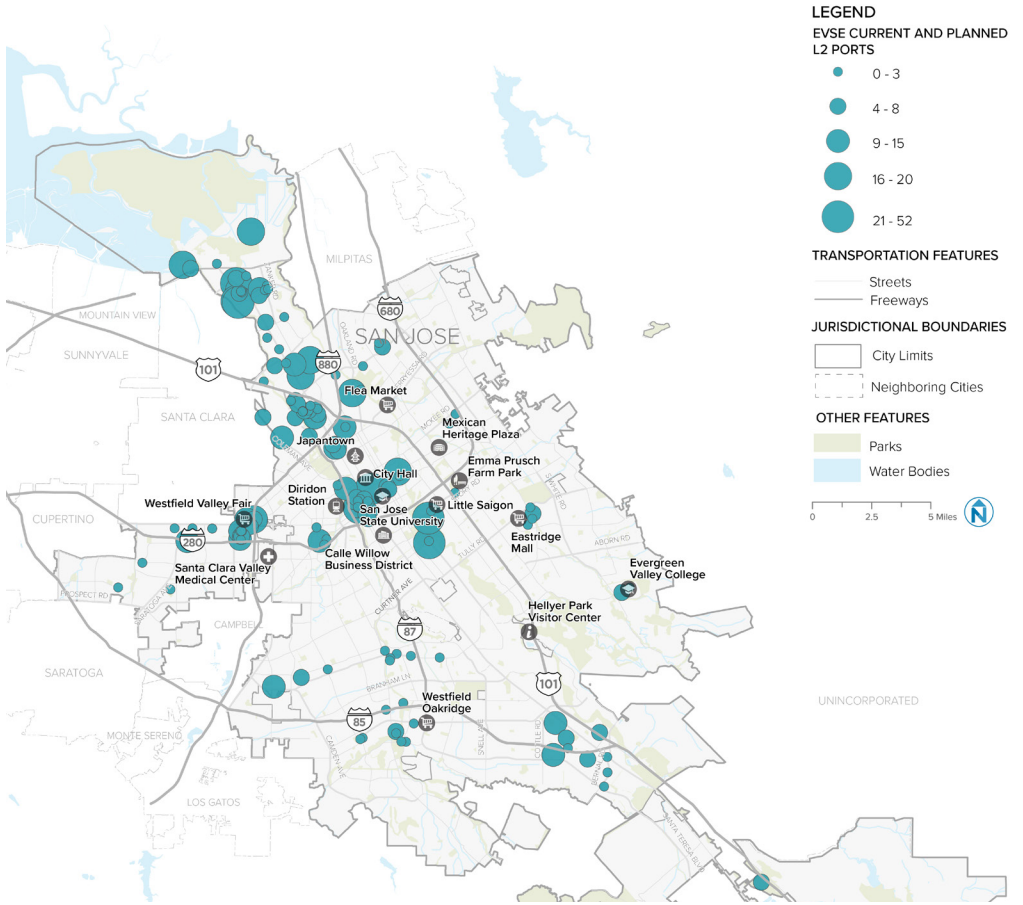
Transitioning to electric vehicles will help reduce the amount of emissions produced by vehicles. San José's Electric Mobility Roadmap (2020) provides direction on how the City can achieve its Climate Smart emission targets and expand mobility options for all by electrifying vehicles and expanding access to both privately-owned and shared electric services. Among other things, the roadmap analyzes where electric vehicles (EVs) are currently located; determines the number of electric vehicle supply equipment (EVSE), including charging stations, needed to realize Climate Smart's electric vehicle adoption targets; and identifies priority areas for siting additional chargers that would expand access to electric vehicles.

To meet California Energy Commission recommendations for the appropriate ratio of charging points to electric vehicles, San José would need 4,091 charging ports by 2022 and an additional 5,496 charging ports by 2025 to support the City's Climate Smart EV growth goals. As of early 2020, there were 900 publicly accessible charging ports (connectors) installed around San José and another 340 planned. Most of the Level 2 (220 volt) chargers[24] were concentrated in Downtown and North San José, and most of the fast chargers[25] (480+ volts) were in Downtown, West San José, and near Willow Glen. As of early 2022, there were approximately 1,600 publicly accessible charging ports in the city according to the U.S. Department of Energy's Alternative Fuels Data Center. That's far short of the City's 2022 goal. The City will need even more chargers to achieve its recently adopted net zero emissions by 2030 goal.

For all vehicle owners to be able to shift to electric vehicles, the Roadmap noted that the City also needs to significantly expand the geographic areas where charging is publicly accessible, including in low-income areas, BIPOC communities, and neighborhoods with high concentrations of rental and multi-family housing.

24 Level 2 (L2) chargers operate at 208-240 volts, which translates to 18 to 28 miles of range per hour. An average EV can be fully charged in 8 hours or less using an L2 charger. L2 chargers are commonly used for at-home charging and can be found in parking garages, grocery stores, and workplaces.

25 Direct Current Fast Chargers (DCFC) are the fastest chargers available and are designed to fill an EV battery to 80% within 20 to 40 minutes. Due to their high cost, DCFCs are intended for commercial or industrial locations

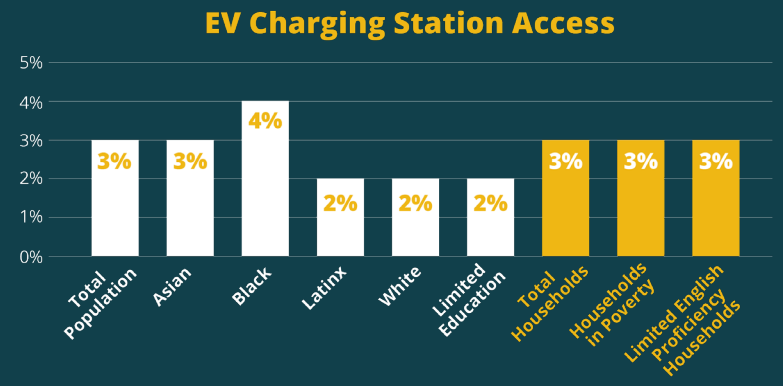


What did we find?

The San José metro area, which includes Santa Clara and Sunnyvale, has the highest rate of electric vehicle (EV) adoption in the country. In 2019, EVs comprised 20% of new vehicle registrations, about 20,000 vehicles, according to the International Council on Clean Transportation. Two percent of all registered vehicles in the City were all-electric in 2019, 4% including plug in hybrids, according to Department of Motor Vehicle data. Many of the San José residents who responded to our citywide survey expressed interest in electric vehicles, including people with very low incomes and people of color. But there are significant barriers to EV adoption, including the cost of EVs, the small supply of used EVs, and access to charging. Three percent of the City's population lives within an eighth of a mile of a public EV charging station. That's not as much of a problem if people can charge at home or at work, but for those who rent, it's a major obstacle. EV charging stations are scattered throughout the city, but there are far fewer in East and South-central San José.

Private EV charging companies have prioritized the installation of chargers in neighborhoods with high EV ownership or retail and commercial areas that serve those neighborhoods. Oftentimes, these are installed on private property. Occasionally companies have sought to install chargers in the East Side, but local organizations and businesses were not interested in hosting them as they didn't see their value to their community.

Source: Getty Images



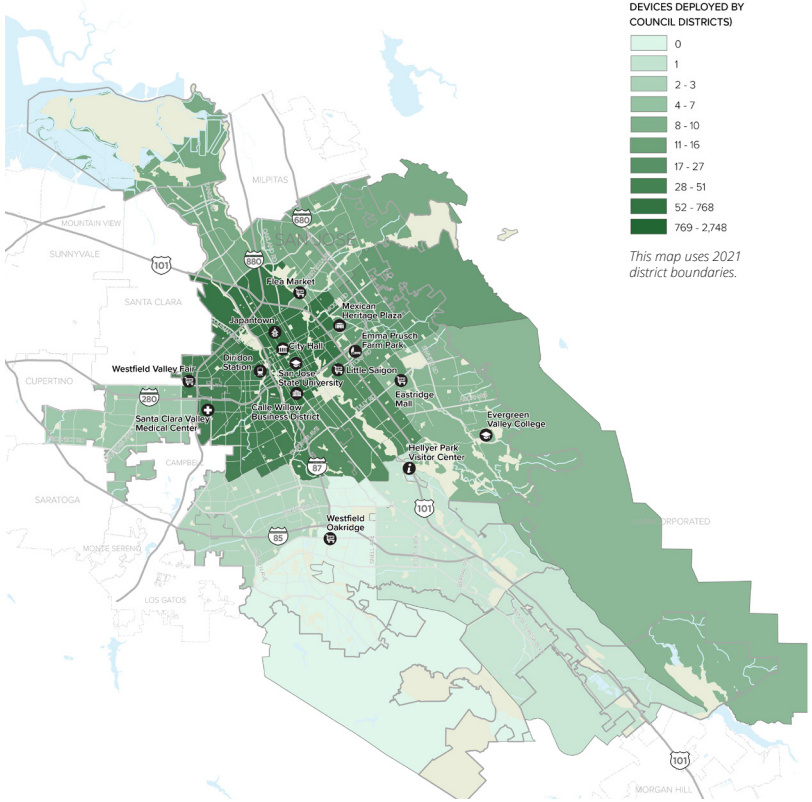
BICYCLE AND SCOOTER SHARE (MICROMOBILITY)

What is shared micromobility?

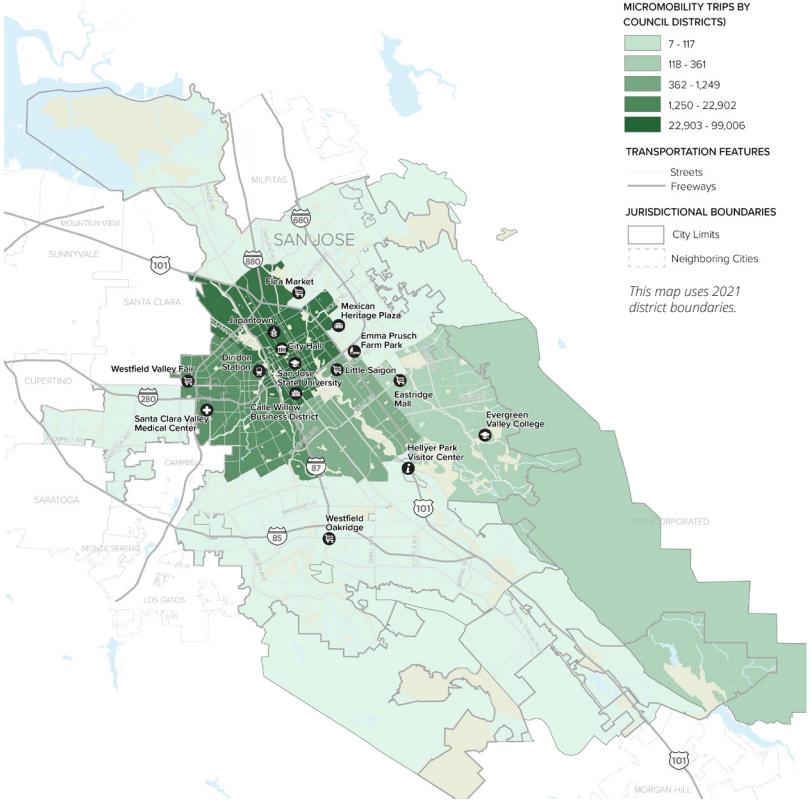
Shared micromobility refers to small, personal mobility devices such as scooters or bikes that people can rent typically from privately-owned companies. Shared micromobility providers such as Bird, Lime, and Spin, operate scooter share services in San José. Lyft operates Bay Wheels, the Bay Area's bike share system. The City requires scooter and bike share operators to deploy 20% of their devices in the City's Equity Priority Communities, as defined by the Metropolitan Transportation Commission.[26] Scooter companies have deployed nearly 50% of their devices in these neighborhoods while the city's bike share operator has deployed 60%. Most of the devices have been stationed in the greater Downtown, which is considered an Equity Priority Community, as is evident in the Devices Deployed by Council District map.

26 Formerly called "Communities of Concern," Equity Priority Communities are census tracts that have a significant concentration of underserved populations, such as households with low incomes and people of color. A combination of additional factors, such as limited English proficiency, seniors, zero-vehicle households, helps define these areas.

DEPLOYMENT



TRIP ORIGINS



What did we find?

Scooter share activity is concentrated in Downtown San José and surrounding communities. Although North and East San José neighborhoods see higher rates of deployment (companies put more scooters here), scooter usage is low. Highways and arterials are likely barriers to activity beyond Downtown. Even if bike and scooter share devices were distributed more equitably, cost can be a barrier. So can limited access to banking, smartphones, physical ability, language, and government-issued IDs, particularly for San José's Latinx, Vietnamese, and immigrant communities. As required by the City, scooter operators and Bay Wheels Bike Share offer low-income discount memberships. Nearly five percent (4.6%) of scooter users have signed up for the discount. Compared to Bay Wheels' other service areas, San José has the highest rate of people using Bike Share for All, the program's low-income discount program. The Bike Share for All Program allows eligible residents to pay for rides with a prepaid card or cash. In 2021, Bike Share for All trips made up 38% of all bike share trips within San José.[27] Many community members we engaged throughout this project showed interest but were previously not aware that this program existed, highlighting the need and opportunities for expanded outreach.

Although both discount programs provide alternative payment options, community members say these alternative options are still cumbersome. In 2017, 13% of San José's population was underbanked. According to interviews with community leaders within the Vietnamese community, many are unable to access internet service to book rides. One Black community leader noted that many Black youth were using scooters to get to school quickly, with assistance from their parents. However, the age requirement and need for an ID continues to be an obstacle.

Community leaders within the Latinx and other communities expressed a need to educate the public on how to use these services safely. But many did not see micromobility as a viable alternative for many people, especially for those traveling with children or carrying items such as groceries. This sentiment is also reflected in the communitywide survey administered by the project team. Only a small portion (14 to 17%) of respondents felt shared bikes, scooters, cars, or mopeds would be useful to them. Community members also expressed concern that stationing shared bikes and scooters in their neighborhoods might drive up housing prices and exacerbate displacement pressures. This sentiment stems from a deep mistrust of privatized services and the perception that micromobility devices are designed less for current residents than for future ones who may be more affluent and white. Residents said they wanted the City to consult them before allowing services to be deployed in their neighborhoods.

27 City of San José, Bike Share for All 2021 data.

MOBILITY PILOTS & PROGRAMS

San José continues to find new ways help residents get to where they need to go through pilot projects and programs that leverage new technology, partnerships, and business models.

SHARED MICRO MOBILITY PERMIT PROGRAM

The City of San José's Shared Micro Mobility Permit Program allows permitted companies to operate shared electric scooters in the public right-of-way under specific terms. The City developed its regulations in 2018, based on extensive community engagement and best practices research. As noted earlier, operators in San José are required to offer a low-income membership or discounted fee, provide information in at least English, Spanish, and Vietnamese, and maintain 20% of their operations in MTC's Equity Priority Communities. The City also prohibits people from riding scooters on sidewalks. This was the primary and strongest objection residents raised when the program first launched. Initially, technical constraints made it difficult, if not impossible, for companies to restrict sidewalk riding or for the City to monitor compliance. The City has required operators to develop technologies to address sidewalk riding. It is working with operators to road-test their solutions' ability to sense when a scooter has been driven onto a sidewalk, alert the user that they have done so, and gradually slow the device to a walking pace if they do not exit the sidewalk. Once it is proven, the City intends to work with its operators to deploy the technology on a broader scale.

BAY WHEELS/LYFT PROGRAM

Bay Wheels, the Bay Area's bikeshare operator, offers a low-income discount membership as well as one for healthcare and critical workers during COVID-19. As part of this effort, Bay Wheels also expanded its service area in San José to include Kaiser Permanente San José (Santa Teresa) Medical Center and surrounding medical offices. Other major healthcare facilities (Santa Clara Valley Medical Center, Kaiser Permanent Skyport, Santa Clara County Health offices, and more) were already in the existing service area when this program was implemented.

ONE-WAY VEHICLE SHARING PROGRAM

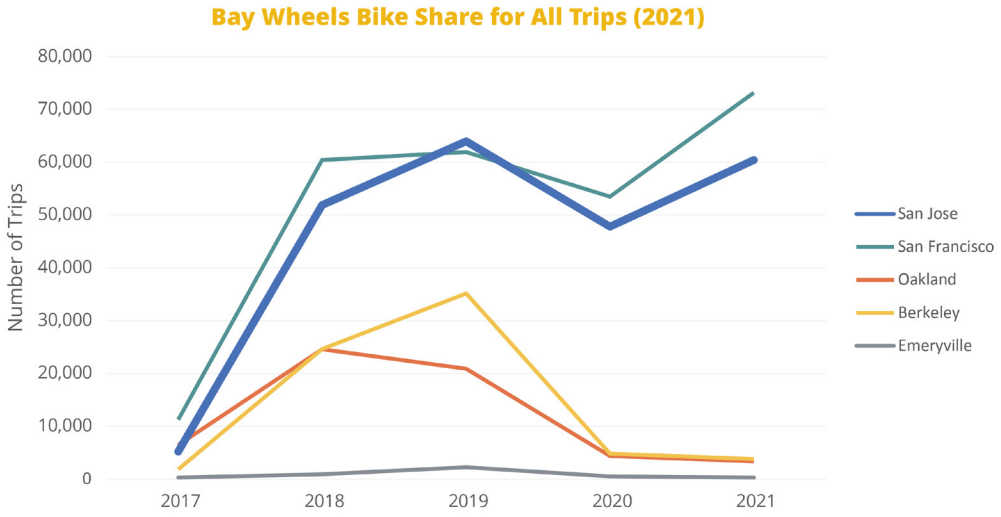
In 2021, the City authorized the creation of one-way shared moped and/or car services in San José to expand mobility options. This effort, spurred by Climate Smart San José, the City's climate action plan, seeks to expand clean transportation options for those who don't or can't afford to own a car. The program, which has not yet launched, will require a low-income discount membership program and at least 30% of the operators' initial service area (and at least 17% of subsequent expansions) to encompass all or parts of census tracts designated as Equity Priority Communities.

MERCEDES-BENZ AUTONOMOUS VEHICLE (AV) PILOT

In 2019, San José partnered with Mercedes-Benz and Bosch to test autonomous vehicles' potential to address safety and quality-of-life concerns in an urban environment and to develop an app-based AV ridesharing service. The program intended to shuttle a small group of passengers between West San José and Downtown with a safety driver present to monitor operations. The program was halted in early 2020 due to COVID-19 and changing business priorities around automated vehicles. The companies have indicated they have no plans to resurrect the pilot.

TRANSFORM MOBILITY HUBS PILOT WITH FIRST COMMUNITY HOUSING

The Metropolitan Transportation Commission and TransForm, an advocacy organization that advances transportation equity through an environmental and social justice lens, received a $2.25 million grant from the California Air Resources Board (CARB) to design mobility hubs that include electric carsharing and EV chargers in neighborhoods in three cities – Oakland, Richmond, and San José – that serve low-income families. The goal is to increase access for low-income residents to economic opportunities, medical facilities, schools, parks, and grocery stores while reducing vehicle trips and greenhouse gas emissions. The San José project is sited at Betty Ann Gardens, a 76-unit multifamily affordable housing development owned by First Community Housing located in Berryessa, next to the new Berryessa BART Station.




Source: Apartments.com

URBAN DELIVERY, LOGISTICS, AND E-COMMERCE

Urban delivery, logistics, and e-commerce spaces have expanded in San José. Many of these services, such as on-demand food and goods delivery services, expanded substantially in San José during the COVID-19 pandemic and shelter-in-place order. Examples include:

Kiwibot: The City recently partnered with Kiwibot, a delivery robot company, to test on-demand, semi-autonomous delivery robots that primarily travel on sidewalks to understand how the City can maximize the potential transportation, environmental, and equity benefits of this technology or eliminate potential adverse impacts. The City collaborated with Kiwibot to test, among other things, whether the service is suitable for all city streets and if it might address the needs of low-income and senior residents, populations who do not typically use on-demand delivery services.

Micro-fulfillment centers: Several businesses are testing the use of micro-fulfillment centers in San José. Micro-fulfillment centers are small warehouses designed to fulfill online orders quickly and efficiently. Unlike traditional large warehouses, micro-fulfillment centers may be located closer to where people live. In 2019, a Safeway grocery store in south San Francisco partnered with Takeoff Technologies to retrofit the backroom of its store with automated technology to expand its capacity for fulfilling on-demand grocery deliveries. Micro-fulfillment centers increase efficiency by mitigating some of the logistical barriers associated with the last mile of grocery delivery and may provide additional benefits in air quality improvements within local neighborhoods. They combine a store's proximity to customers with the automation of a large warehouse.

Amazon: Most recently, Amazon purchased more than 17 acres of industrial land along San José's Monterey Road corridor near downtown, which will serve as a distribution hub and fulfillment center. The company also leased the Little Orchard Distribution Center, a warehouse on Little Orchard Street, and plans to use it as a delivery station. While these recent acquisitions can spur meaningful job growth in the region, the Amazon expansion may have consequences for freight congestion, curbside management, and workforce development that remain unaddressed. Amazon also relies heavily on independent contractors to facilitate the last mile of its deliveries.

Source: Kiwibot

EMERGING TRENDS

This section presents changes expected over the next five to eight years associated with emerging mobility services, technologies, and business models. An understanding of these trends informs how to handle potential impacts to the transportation network, individual users, and disadvantaged community members. While tracking these trends, technologies, and potential impacts is important, creating processes that center community needs, as this plan endeavors to do, will allow the City to respond to new services, vehicles, and business models proactively, regardless of their particularities. Anticipating change enables policymakers to prepare for the future: to develop policies and strategies to ensure that new services align with citywide initiatives and community goals. As many agencies learned with shared e-scooters and ride-hail companies, services that appear without warning on city streets and sidewalks without permission can be disruptive. Preparation won't ensure that the City won't be surprised again. However, creating clear goals, community partnerships, assessment and evaluation metrics connected to goals, and effective processes will enable the City to more effectively and inclusively respond to the unexpected.

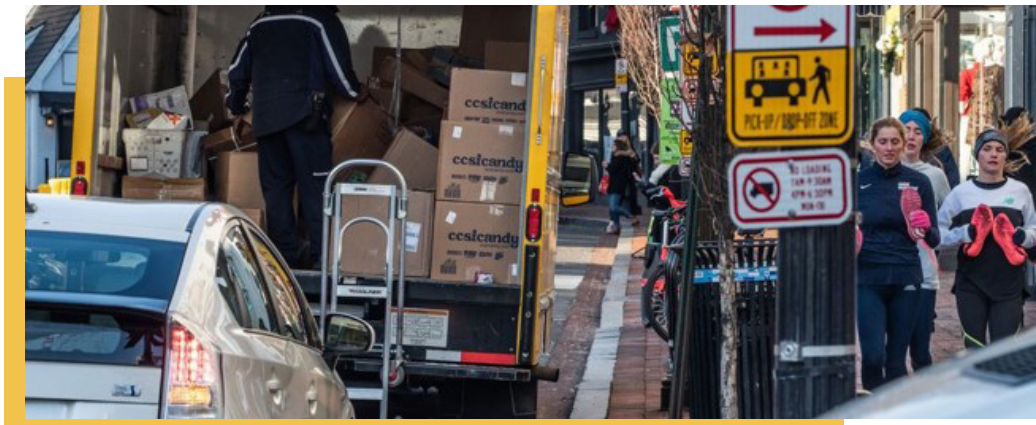
CONGESTED CURBS

Curb space is at a premium in most city centers, especially during times of peak demand. Changes in the way people use and access the curb create new conflicts and a constant level of demand that is difficult to predict and plan for. Decisions about how to manage the curb and provide access for automotive and non-automotive forms of transportation shape the way a street is used and can either help reduce congestion or contribute to it.

Because new mobility modes are typically on-demand, most of the entering and exiting of the vehicle occurs on the street, impacting curbside access and congestion.

For shared scooters, bikes, and cars, the curb is not only an access point, but also serves as an area for vehicle storage, charging, and occasionally travel within curb-adjacent bike lanes. At the same time, e-commerce and courier services are also competing for curb space for food and package pick-up and delivery, temporary parking, and occasionally storing packages prior to or post loading or unloading. This amounts to highly contested spaces, as seen on streets W Santa Clara Street near San Pedro Square, where the efficiency, comfort, and financial impact on multiple transportation providers rely on active management of curb space.

Nearly all curb space in San José is public property owned by the City. As such, uses that advance the public good (for example, providing emerging mobility options that serve underrepresented communities) should be prioritized over private uses.



ELECTRIFICATION AND MOBILITY

To meet its climate goals, California is accelerating its transition to zero emission vehicles. For larger vehicles, such as tractor trailers and buses, hydrogen fuel may ultimately be more efficient than carting around a large number of heavy batteries. But electricity makes more sense for smaller vehicles, from pick-up trucks to scooters. Shifting to electricity will drastically reduce greenhouse gas emissions and other pollution, particularly as California's electricity gets increasingly cleaner. However, the shift to electrification poses several equity issues that must be proactively and thoughtfully addressed.

To date, the vast majority of electric vehicle buyers have been higher income. In California, plug-in electric vehicle buyers have a mean income of $190,000 per year, 81% own their home, 81% are college graduates, 75% male, and 55% white.[28] This is understandable given the high cost of electric vehicles and the need to reliably access charging at home and/or at work. Electric vehicles costs are declining, and federal, state, and regional agencies are providing rebates and incentives to reduce the cost still further. However, many obstacles remain to broader adoption of electric vehicles.

People with lower incomes are more likely to purchase less expensive, typically used vehicles; however, the market for used electric vehicles is quite small. While rebates and incentives are helpful, the application process to secure them is onerous, the waiting list can be long, the incentives may not be deep enough, and marketing programs have not been particularly effective at getting word out to low-income and communities of color.

Publicly accessible chargers are even more essential in low-income and communities of color, where the perception is that electric vehicles are for people with high incomes and where more of the housing stock is older, multi-family, and rental. It is more difficult to install charging in these types of buildings. Installing chargers in low-income neighborhoods and communities of color where there are few electric vehicles, without having done extensive community engagement, can exacerbate mistrust and concerns about gentrification. At the same time, private EV charging companies tend to install their chargers in areas where they expected high usage: retail and commercial areas that serve high-income neighborhoods.

Source: Nelson\Nygaard

28 Lee, J. H., Hardman, S. & Tal, G. Who is buying electric vehicles in California? Characterising early adopter heterogeneity and forecasting market diffusion. Energy Research Social Science 55 (2019).

PUBLIC SPACE

The public right-of-way (roads) is shifting away from private vehicle storage toward people-oriented spaces. Cities are repurposing metered parking spaces for parklets, plazas, shared micromobility parking corrals, and electric vehicle charging equipment. Repurposing the public right-of-way for these uses works well where people can travel via ways that do not require parking a vehicle. As new uses and demands continue to vie for limited space, cities are taking a more active role stewarding their streets. The COVID-19 pandemic has also inspired communities to rethink public space, prompting opportunities to use traffic lanes to accommodate people walking and biking. These programs have become impromptu pilot projects for reimaging streets as human-centered spaces for gathering.

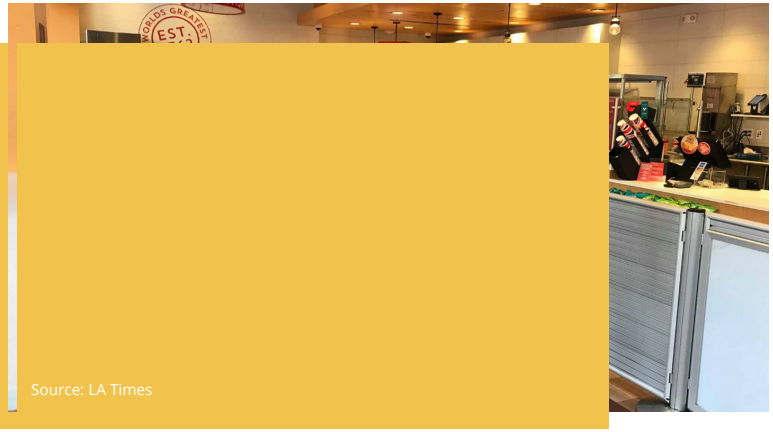
Source: Nelson\Nygaard

FREIGHT

RISE OF E-COMMERCE

Shortened guaranteed delivery windows and the expansion of demand-responsive delivery services have pushed the boundary of consumer choice and convenience. Now, consumers who can afford these services can purchase just about anything, including hot meals, groceries, and everyday items, and have it delivered to their door within hours. App-based delivery services like goPuff, DoorDash, UberEats, GrubHub, and Instacart, and third-party logistics companies like UPS, Amazon, and FedEx, are introducing innovations such as driverless delivery vehicles, driverless sidewalk robots, ground-based drones, route optimization tools, and e-cargo bikes to increase delivery efficiency in urban centers. The downside of hyper-convenience is increased curbside congestion and vehicle miles traveled on neighborhood streets.

The hyper-convenience of on-demand delivery services has also had residual impacts on land use, resulting in the rise of ghost kitchens. Ghost kitchens refer to restaurants or industrial kitchens that are built specifically to fulfill online orders—they do not offer dine-in services and their menus are available to customers using a delivery service. Small businesses and culinary professionals unable to afford commercial rent for their own brick-and-mortar establishment may use ghost kitchens to expand their business. There is growing concern, however, that the rise of ghost kitchens in places like San Francisco and New York are contributing to neighborhood change and turnover of street-level businesses.



Source: LA Times

URBAN AERIAL MOBILITY

There is an increasing amount of interest, investment, and hype around Urban Aerial Mobility—automated, self-driving helicopter-like vehicles that can deliver goods and offer humans another way to avoid roadway traffic. In the past decade, technology and third-party logistics companies like UPS and FedEx have partnered with cities all over the world to test autonomous drone delivery of small packages, food, and medical supplies in urban settings. Urban Aerial Mobility, along with e-cargo bikes and small electric vehicles, could transform last mile delivery logistics for smaller and lighter packages by replacing trips currently made by traditional delivery vehicles.

Source: Alamy Stock Photo, Contributor: Michael Goetz

TRANSIT AGENCIES AS MULTIMODAL MOBILITY PROVIDERS

INTEGRATING EMERGING MOBILITY WITH TRANSIT

Transit agencies have traditionally focused on providing rail and rubber tire services. But the economics and the rapid growth of new technologies and modes of transportation are prompting many transit agencies to consider providing new mobility services to extend the reach of public transit. With the ability to trip plan and potentially integrate fares, on-demand services, such as bike and scooter share, are increasingly becoming integrated with other transit offerings. Specifically, micromobility can play a vital role by providing first- and last-mile trip options, which can help to facilitate a seamless experience for the rider by extending the reach of traditional bus and rail networks.

Some transit agencies have already begun to integrate other mobility services into their portfolios. For example, agencies like the San Francisco Municipal Transportation Agency (SFMTA) are testing partnerships with mobility providers, such as ride-hailing companies or microtransit (on-demand shuttles, which in some cases are automated) to augment their services and increase ridership. Others, such as VTA, have partnered with data aggregators like Transit App to enable travelers to plan their trips by linking several transportation options such as shared bikes or one-way car sharing with a bus or train.

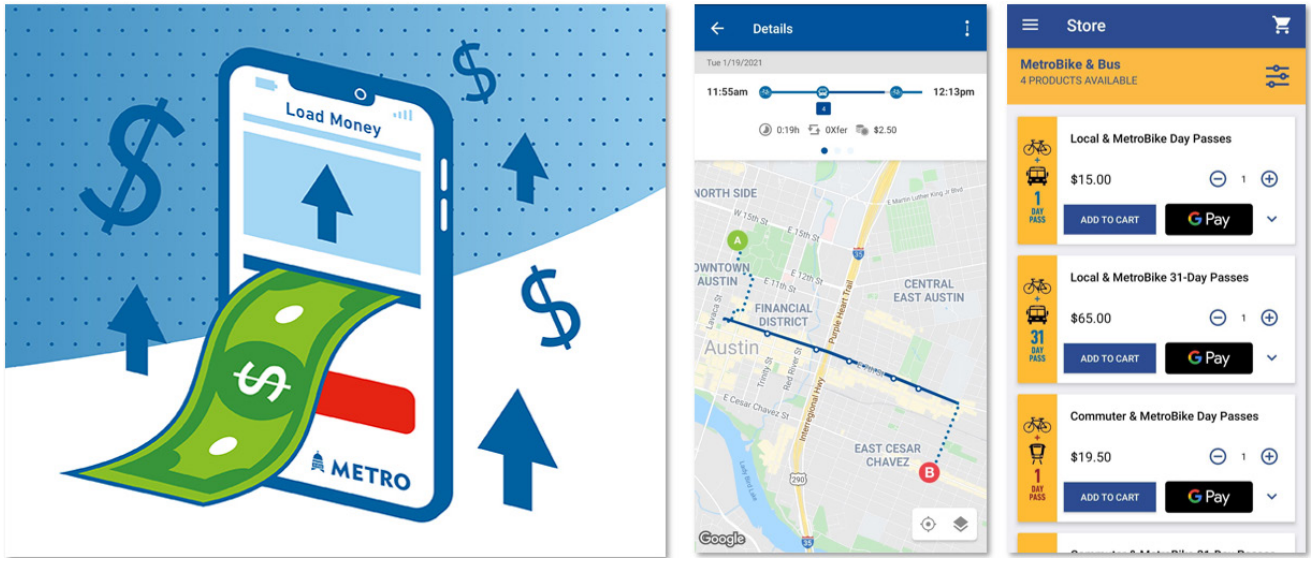

Source: Nelson\Nygaard

PLAN-BOOK-PAY

Mobility as a Service (MaaS) is a concept that makes shared mobility and public transit available at the click of a button. MaaS enables people to plan, book, and pay for their transportation all in one place, typically on an app-based, platform. It also provides individuals control over their mobility without needing a personal vehicle. For instance, if someone needs to go from point A to B without a car, a MaaS platform could plan and generate different routes to get them from A to B using a combination of mobility options (e.g., transit and bike share or transit and ride-hail). Not only would they be able to choose the mobility options that best suit their needs, but they'd also be able pay for the entire trip on one app rather than paying separately for each mobility option. It would enable people using the app to make well-informed and more efficient travel choices in response to real-time conditions in the transportation system.

Achieving the goals of MaaS is an incremental process that requires coordination between multiple agencies and private providers. MaaS relies on open data between both public and private providers, a strong public transit system, and interoperable trip planning and payment systems. The City of Pittsburgh recently launched the country's first integrated MaaS project that connects traditional and emerging mobility options within a single system at several mobility hubs. The initiative integrates e-scooters, share services, electric mopeds, carpool matching services, and real-time transit information within a single mobile application.

Since existing MaaS models are primarily app-based, there is growing concern that it would exclude people who do not have or cannot access a smartphone. To overcome the digital divide, cities will need to adopt creative solutions, such as installing kiosks or lending out hot spots or smartphones, to extend the benefits of MaaS to certain communities.



Source: Capital Metro

AUTOMATION AND MOBILITY

Continued research and testing of automated vehicles suggest its deployment may be inevitable; the key question is how long it will take. Many cities are piloting self-driving shuttles to support first- and last-mile and neighborhood connections, on-demand goods delivery, and the collection of data on vehicle movements. As of December 2021, Waymo, formerly the Google self-driving car project, was in the process of launching an app-based autonomous ride-hailing service in several U.S. cities, similar to Uber and Lyft, with service expected to launch soon in San Francisco.[29] In June 2021, the California Public Utilities Commission granted Cruise a permit to provide the first driverless automated vehicle passenger service to the public in the state. Its goods delivery and ride-hailing services will initially be offered in San Francisco, where Cruise is based. The company projects it will expand service to the South Bay within a few years. Many of these pilot projects involve private companies and automobile makers who are heavily involved in shaping automated driving technology (e.g., on-vehicle sensors, cameras, short-range radar), regulations, and safety standards. Widespread deployment of fleet-based and ownership models will occur gradually and will likely start in low-density areas that have limited pedestrian and cycling activity, a supportive regulatory environment, and agreeable weather.

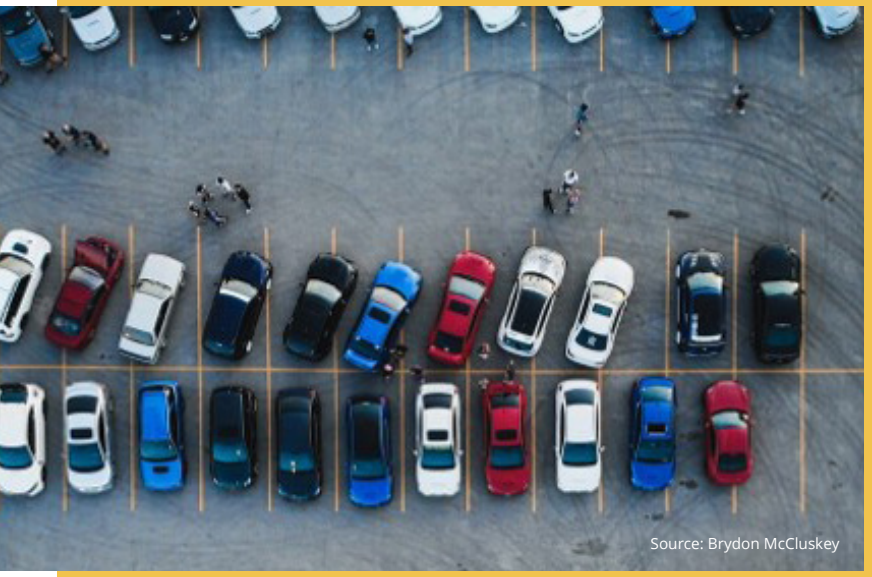
CONTACTLESS MOBILITY

As cities across the country implemented shelter-in-place orders in response to the COVID-19 global pandemic, people largely avoided non-essential trips, resulting in significant travel behavior changes. Mobility options that allowed for contactless payment and transportation, such as shared scooters, bikes, and mopeds, proved to be an attractive option, particularly for essential workers who needed commute options that allowed them to maintain physical distance from others. Generally, people using micromobility are taking more trips in the afternoon and evening hours and for longer distances, which suggests the services are being used for non-commute trips, such as running errands, or for recreational trips. It may also reflect increased adoption by essential workers with non-conventional work schedules, who have been provided free or reduced costs memberships by operators in many cities, including San José.

Source: Getty Images

29 Future Car, Waymo Has Tens of Thousand of San Francisco Residents on a Waitlist to Take a Ride in One of its Robotaxis, December 2021. Accessed via: https://m.futurecar.com/5039/Waymo-Has-Tens-of-Thousands-of-San-Francisco-Residents-on-a-Waitlist-to-Take-a-Ride-in-One-of-its-Robotaxis

Source: Supply Chain Brain



Source: Brydon McCluskey

IMPACTS ON LOCAL JOBS

Historically, the development of new technologies has transformed the workforce and created new and different types of jobs. There is currently much debate on whether automation and electrification will lead to a large-scale loss of jobs and displacement of workers or whether it will modify existing jobs or create new jobs.

It's likely that as automation expands and intensifies, jobs resulting from these changes will require different skills than those possessed by displaced workers. This may increase the skills and wage gap between different groups of employees. Manufacturing, one of the largest industries in San José (16% of the workforce), will likely experience changes as automation and driverless trucking expands. As electrification expands, the auto industry—companies involved in the design and construction of motor vehicles as well as those who sell and maintain them—will also need to change and adapt.

REVENUE

To the extent that new mobility options facilitate people's ability to travel without a privately-owned car and new services require space for docking, revenue from on- and off-street parking, ticketing, and vehicle registration fees are likely to decline. This provides an opportunity to rethink strategies and better align them to the City's goals. Many cities are already experimenting with converting parking spaces to alternative uses. Washington D.C., for instance, recently completed a pilot project that allows a variety of on-demand commercial uses—including ride-hail, food delivery drivers, and commercial deliveries—to pay for and reserve curb space. In San Francisco, local businesses can pay a permit fee to install a parklet[30] adjacent to their place of business. In some cases, the city may convert metered parking spaces to install a parklet.

30 A parklet is a sidewalk extension that provides more space and amenities for people using the street. Usually, parklets are installed on parking lanes and use several parking spaces. They serve as community spaces and are extension of the local business that sponsors the parklet.