San José Access & Mobility Plan: Transportation Directives

Introduction

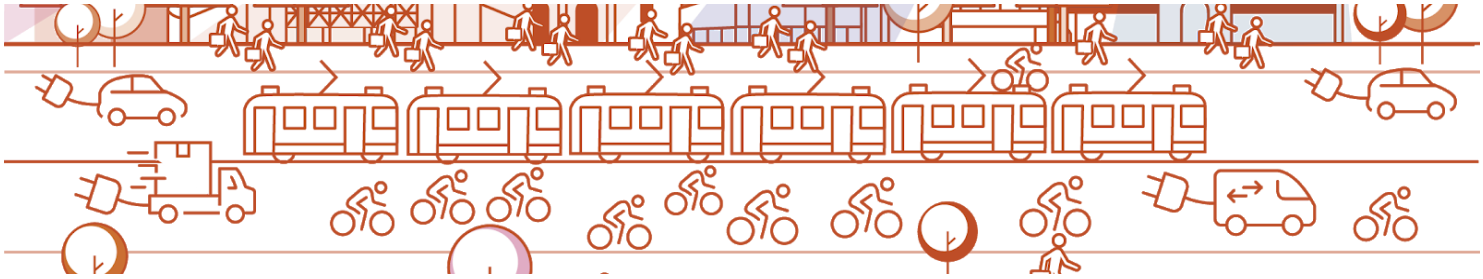
How we spend our resources reflects our values. To align our resource use with our values, we need clear directives, corresponding implementation strategies, and the tools to monitor and improve upon our strategies. The San José Access & Mobility Plan will do just that. This draft document, the product of phase one of the Access and Mobility Plan effort, takes the first step by bringing together the many broad and complex goals, policies, and strategies in the City's guiding documents into eight concentrated directives. Each directive ties together a set of goals and policies into a narrative and proposes key performance indicators (KPIs) to track the effectiveness of implementation. The final version of these directives will guide phases two and three of the Access & Mobility Plan, development of citywide implementation strategies, and the modeling and data tools needed to inform clear decision making and iterate on the strategies.

Framing Directive: A City for People, Not Just Cars

San José's policy goals rely heavily on a significant change to the city's and region's transportation networks. The Envision San José 2040 General Plan (General Plan) leans on the interconnection of land use and a robust multi-modal transportation network to enact its vision of smart and focused growth. The General Plan focuses our City's growth "into areas of San José that will enable the achievement of City goals for economic growth, fiscal sustainability, and environmental stewardship and support the development of new, attractive urban neighborhoods. "(General Plan Ch 1 pg 16). Urban Village plans, the clearest expression of this vision, are "to provide active, walkable, bicycle-friendly, transit-oriented, mixed-use urban settings for new housing and job growth attractive to an innovative workforce and consistent with the Plan's environmental goals" (General Plan Ch 1 pg 17).

The General Plan's aim for all transportation goals, policies and actions is to "establish circulation policies that increase bicycle, pedestrian, and transit travel, while reducing motor vehicle trips, to increase the City's share of travel by alternative transportation modes [and] to promote San José as a walking- and bicycling-first city" (General Plan Ch 6 pg 35). The General Plan calls for "design[ing] streets for people, not just cars, ... to support a diverse range of urban activities and functions" (General Plan Ch 1 pg 20).

Climate Smart San José (Climate Smart) builds on and furthers the General Plan's vision. It starts by laying out the climate implications of building out the General Plan and finds that "the General Plan alone is not enough to meet the [City's or] State's carbon commitments, let alone align with the decarbonization rates implied by the Paris Agreement" (Climate Smart pg 66). With 58% of San José emissions coming from transportation, Climate Smart doubles down on the importance of focused land use growth and a robust multi-modal transportation network to set the City on a path to meeting the Paris Agreement's emissions reduction goals (Climate Smart pg 63). Climate Smart builds further on the General Plan by framing its overall direction in a celebration of the "Good Life 2.0." To motivate the work of the plan it highlights "the quality of life benefits of sustainability. By addressing



benefits through resident priorities of an affordable home, time with their loved ones, and pleasant outdoor space for them and their families to enjoy in San José" (Climate Smart pg 10).

The General Plan and Climate Smart call for change to the transportation system on a significant scale. Implementing the changes will require the City's approach to transportation to change. Two numeric transportation policy metrics set in the General Plan and furthered in Climate Smart illustrate the scale of change and act as overall barometers for reaching the City's vision: mode change and vehicle miles traveled.

Mode Change

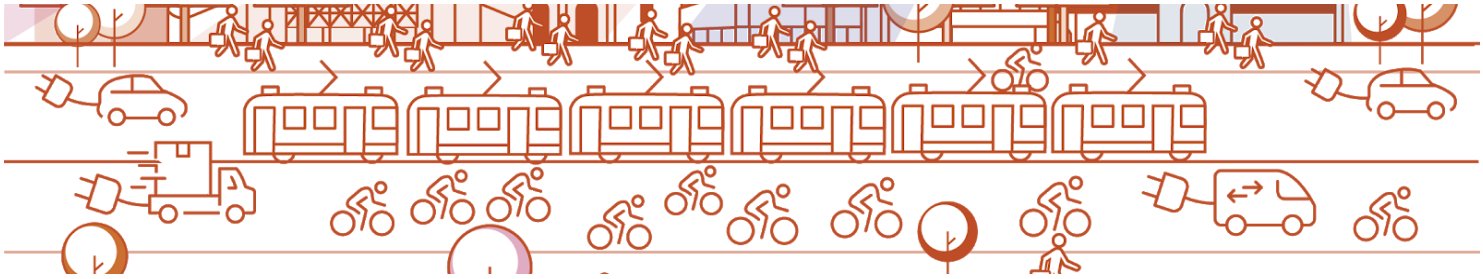
The first metric looks to decrease driving alone—from 76% today to 40% by 2040 and 12% by 2050—by significantly increasing rates of walking, biking, and transit use. The general plan specifies the following changes to the modal split for commute modes to be achieved by 2040; Climate Smart sets goals out to 2050:

Mode Change Goals			
Mode	Current (2016)	2040 General Plan Goals	2050 Climate Smart Goals
Drive Alone	76.3%	No more than 40%	No more than 12%
Carpool	11.6%	At least 10%	
Transit	4.2%	At least 20%	At least 35%
Bicycle	0.9%	At least 15%	At least 20%
Walk	1.7%	At least 15%	At least 15%
Other (telework)	5.6%	~	

To put this in perspective, to reach the 2040 goals would require that all of the expected 30% population growth in the city use transit and active modes of travel, plus roughly 10% of the current population.

Vehicle Miles Traveled

The reduction of vehicle miles traveled per capita is a second overarching transportation policy metric. The General Plan calls for an overall decrease of 40% in VMT by 2040, Climate Smart furthers the goals to a 57% reduction by 2050:



VMT Goals			
Year	2030	2040	2050
VMT per capita reduction	21%	43%	57%

To accomplish these VMT reductions, the City will need to focus significant effort on providing non-auto options to residents and employees and bring about urban, mixed-use development.

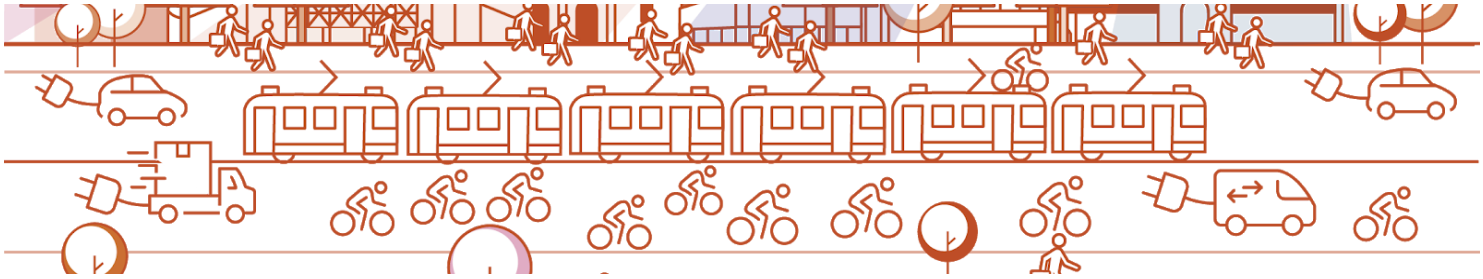
Key Performance Indicators (KPIs)

Outcome KPIs

- Mode split (General Plan, Climate Smart)
- VMT reduction (General Plan, Climate Smart)

Program KPIs

- Transportation Capital Budget allocated per modal shift goals



Transportation Directives

1. Vision Zero - One Death is too Many

Protecting people using the City's transportation networks is a core value. It is an ethical imperative for transportation professionals and the City as a whole. The City understands that one traffic death is one too many and that traffic deaths are preventable. The City enshrined this commitment by adopting the Vision Zero safety initiative in 2015, our commitment to prioritize street safety and ensure all road users – whether you walk, bike, drive, or ride transit – are safe (Vision Zero 2 year Action Plan, pg 5).

Safe transportation facilities for all users are necessary and cannot be compromised to accomplish all the other City transportation directives. For the City to reach its environmental, equity, and quality of life goals, the transportation networks must be a welcoming place for people using all modes, and of all ages and abilities (Vision Zero 2 year Action Plan, pg 5). People outside of cars - walking, bicycling, scooting, taking transit, lingering, and gathering - are more vulnerable to serious injuries and fatalities. To reach our mode shift and associated goals, people need to be safe and feel safe walking and bicycling using these more exposed modes of transportation.

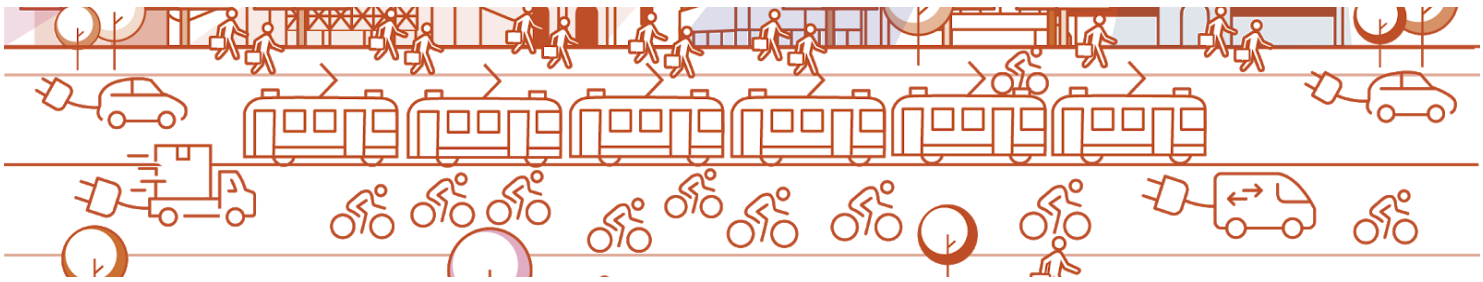
KPIs

Outcome KPIs

- Injury crashes per capita
- Injury crashes per capita per neighborhood, monitoring for inequity in safety impacts
- Injury and fatality rates on the transportation networks
- % of serious injuries and fatalities for people walking, bicycling, and scooting
- Near misses (as technology becomes available)

Program KPIs

- % of roads where the 85 percentile speed is within +/- 4 mph of the target speed



2. Equity and Affordability - If It's Not for Everyone, It's Not for Us

The San José community defined "diversity and social equity" as one of the seven guiding values in the creation of the General Plan. The General Plan celebrates San José as a "diverse city that successfully combines the strengths of many different cultural and ethnic backgrounds to create a unique and vibrant urban environment" (General Plan Ch 1 pg 7). The General Plan goes on to say that "San José, with its blend of global cultures, ideas, and connections can be considered the most international city in America … Closely linked to San José's diversity is the emphasis the City and its residents give to the achievement of social equity within the community" (General Plan Ch 1 pg 9). "Social equity for San José is defined broadly, to include equitable access to municipal services and public amenities, sensitivity to environmental concerns, efforts to promote economic prosperity for all of the City's residents and to foster a culture that recognizes the value of San José's diverse community" (General Plan Ch 1 pg 9).

San José's high cost of living and inequitable income distribution, the sixth worst in the nation, is challenging our diversity ("City and metropolitan income inequality data reveal ups and downs through 2016", Brookings Institute 2018). The combined cost of housing and transportation in San José, for 70% of moderate income households, requires 45% or more of their total income (H+T Index, Center for Neighborhood Technologies - https://htaindex.cnt.org/). Transportation has a major role to play in addressing the general cost of living in San José and thus maintaining our City's diversity. As Climate Smart notes "living in [walkable transit-rich neighborhoods] … can reduce transportation costs by ten [to sixteen] percent" (Climate Smart pg 34).

Transportation plays a critical role in addressing inequality in cities. Providing access to education, health, social, and economic opportunities requires affordable and convenient transportation options for all. The General Plan's broad economic prosperity goal of "attracting job opportunities that are accessible to all of San José's residents, particularly residents in low-income neighborhoods" requires the City to develop a transportation system equitably so all can access the opportunities the City's and region's prosperity offers (General Plan, Ch 1 pg 9).

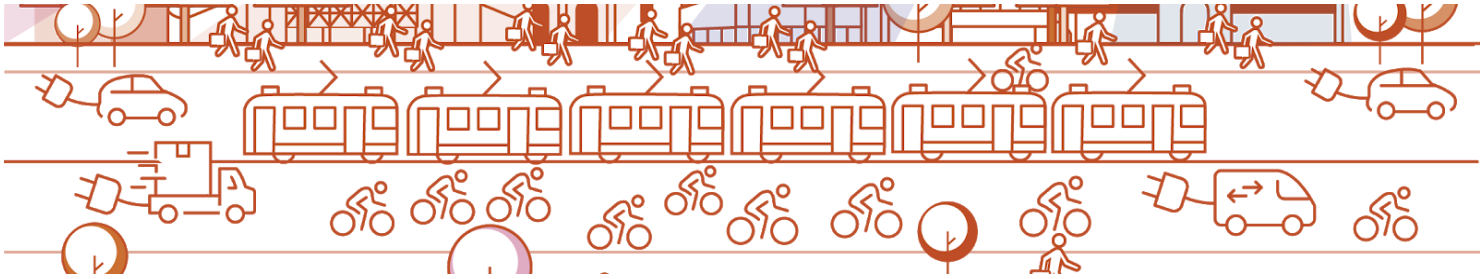
KPIs

Outcome KPIs

- Cost of housing + transportation + energy is no more than 45% of income for all levels of income
- Access to neighborhood services, such as a supermarket, within 20 minutes by walking for all
- Access to economic opportunities, social networks and places, and services is equitability

Program KPIs

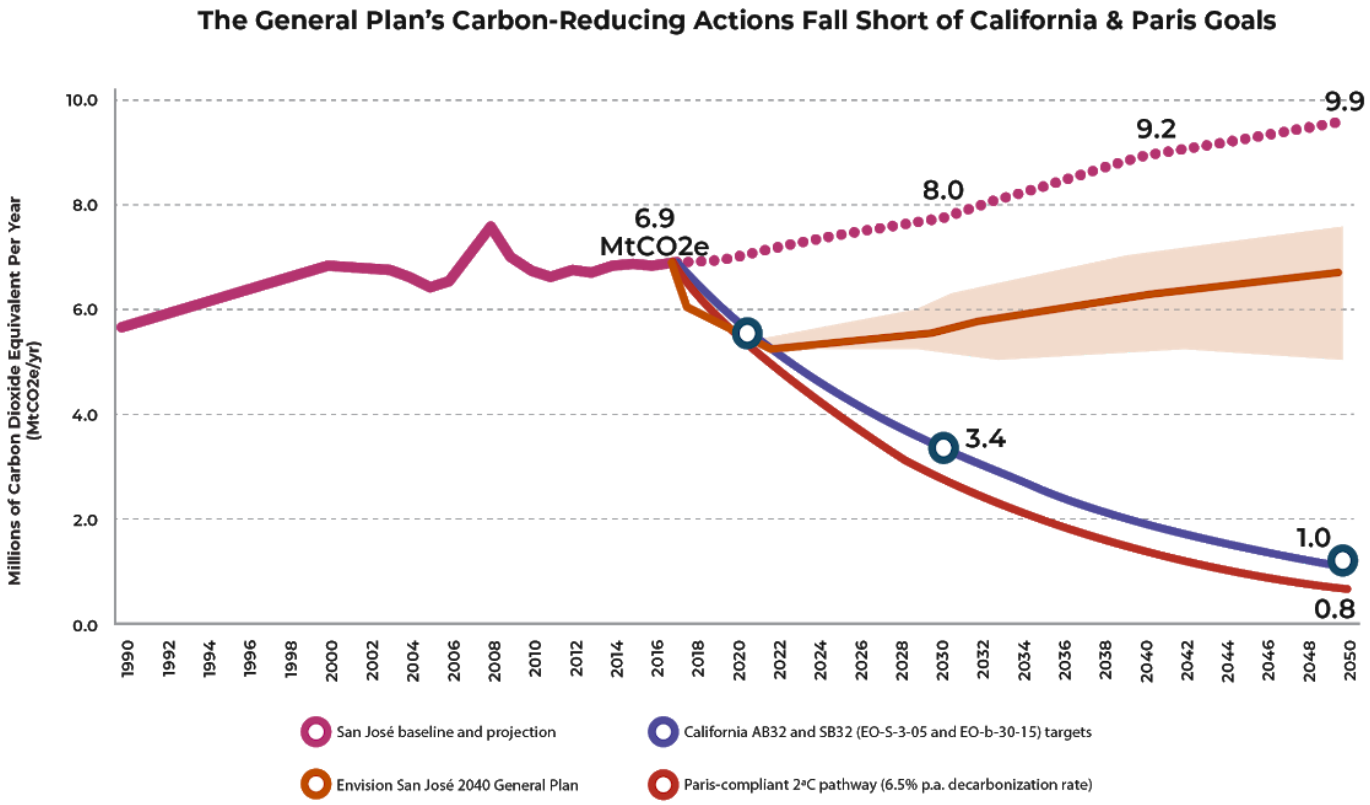
- Socio-economic access metric - access to shared, active modes is geographically and racially balanced
- Funds programming is distributionally equitable

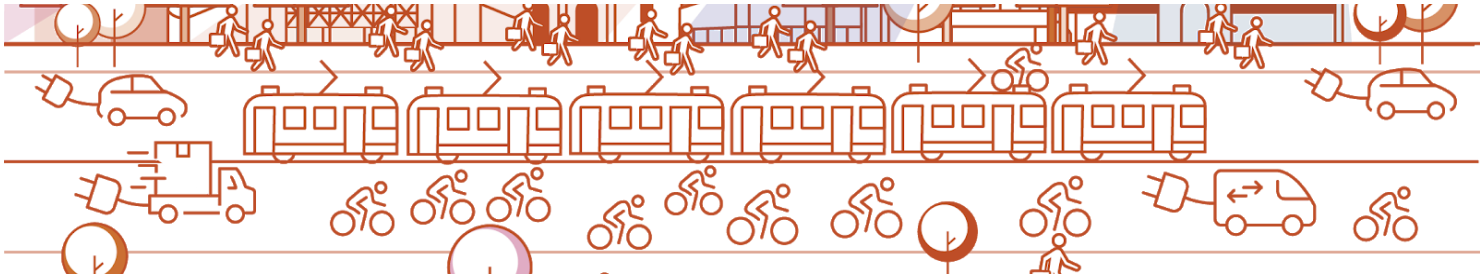


3. Environmental Stewardship - Climate Smart Transportation

Both the General Plan and Climate Smart rely heavily on changes to the transportation system to meet environmental goals. California has set aggressive requirements for reductions in carbon dioxide emissions. These targets have been codified into California state law by the Global Warming Solutions Act of 2006 (Assembly Bill 32), San José is required to translate these targets into climate action plans. San José has also pledged itself to achieve the Paris Agreement Climate impact reductions goals. Reaching these goals requires significant short and long-term changes to the City's transportation system.

Climate Smart found that "the General Plan alone is not enough to meet the State's carbon commitments, let alone align with the decarbonization rates implied by the Paris Agreement" (Climate Smart pg 66). The chart below shows San José's estimated emissions. The bottom red line represents the Paris Agreement goals, the orange line in the middle shows the implementation of the General Plan, including its ambitious mode split and VMT reduction goals. Climate Smart is the City's strategy to fill in the difference between the General Plan impact and the Paris Agreement emissions reduction goals.





58% of the City's global warming gases come directly from the transportation sector and 33% comes from buildings (Climate Smart pg 63). Changes to the transportation system will enable a significant reduction in emissions from mobile sources as well as cuts in building- and land-use-based emissions. Climate Smart explains that transportation plays three leading roles in addressing environmental and climate change goals:

- Enabling denser and more mixed-use patterns
- Increasing space efficiency of the roadway
- Changing technology to reduce or eliminate emissions

KPIs

Outcome KPIs

- % of VMT that is electrically powered
- % of VMT that is shared
- % of city that has access to EV chargers
- Average vehicle occupancy
- Priority Growth Areas' (PGA's) access to multi-modal network
- % of passenger vehicles that are electric (Climate Smart)

2030	2040	2050
61%	78%	82%

- Reduction in passenger cars and SUVs from public and shared mobility (Climate Smart)

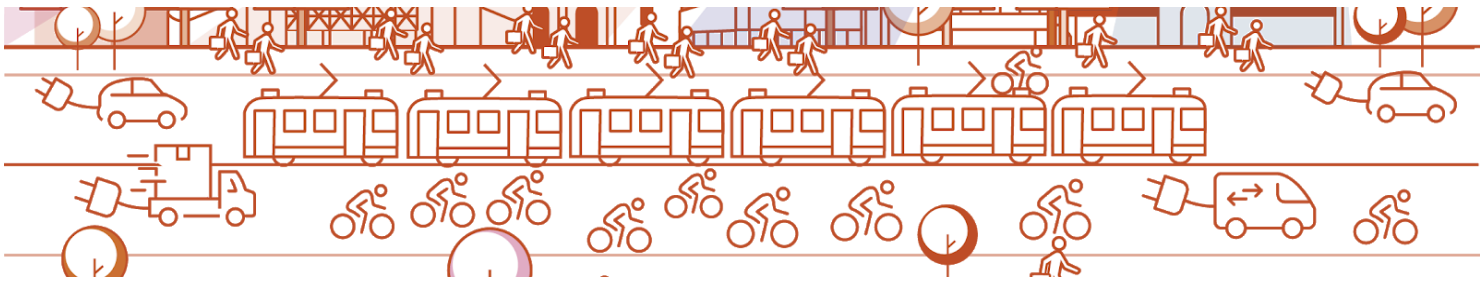
2030	2040	2050
34,400	80,500	114,400

- % of alternative fuel heavy goods vehicles (Climate Smart)

2030	2040	2050
46%	87%	100%

- % of electric local delivery vehicles (Climate Smart)

2030	2040	2050
60%	100%	100%



4. Ending Automobile Dependence - Focused Integrated Growth

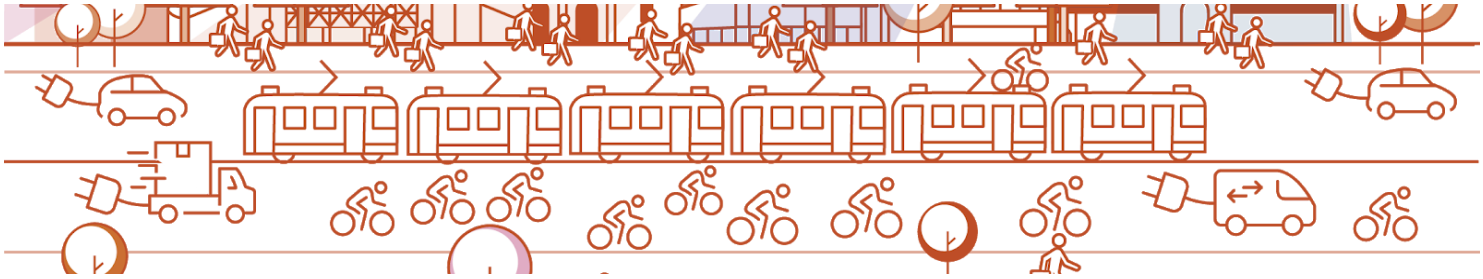
The General Plan and Climate Smart rely on bringing people closer to the places they need to go to significantly reduce vehicle miles traveled as well as environmental and other negative impacts of transportation while still supporting growth. “Land use and transportation are inextricably linked, as land use patterns create specific travel needs. Compact, mixed-use development reduces travel distances, encourages active transportation modes that contribute to a healthful community, and reduce greenhouse gas emissions“ (General Plan Ch 5 pg 2). The General Plan “focuses significant growth to increase employment capacity … , achieve fiscal sustainability, and ...maximize the use of the transit system within the region” (General Plan Ch 1 pg 16). “The adjacency of most identified Growth Areas and transit facilities also exhibits the close ties between land use and transportation” (General Plan Ch 5 pg 2). As Climate Smart puts it, “San José is at an exciting inflection point as this growth provides the opportunity to move from a car-based land development model to one that focuses on creating an interconnected city of urban villages where jobs and the activities of daily life are in close proximity and easily accessible by walking, biking, and public transit. Densification of San José in a way that creates more affordable housing, more transit options, and a higher quality of life accelerates the reduction of absolute carbon dioxide emissions” (Climate Smart pg 22).

Climate Smart frames the Good Life 2.0 benefits of this change in terms of time. “Time to do more things that one cares about with the people they care about. Almost all San José residents can agree that they spend too much time in the car, in traffic, and trying to get to where they need to go. One of the key levers of the pathway is densification in focused growth areas because it reduces the miles a resident needs to travel. Making destinations such as home, work, or the grocery store closer together makes things more convenient. Rather than getting in a car, it will be easier for residents to walk or bike to the store” (Climate Smart pg 74).

Planned Growth Areas

The growth strategy will focus the expected 30% population growth in Planned Growth Areas (PGAs) such as Downtown, transit employment areas, and Urban Villages, together totaling roughly 17% of the City’s area. Focusing growth in this way “will enable the achievement of City Goals for economic growth, fiscal sustainability, and environmental stewardship” (General Plan Ch 1 pg 16). “Focused and integrated growth creates more sustainable neighborhoods by making public transit options more viable and walking and cycling more feasible” (Climate Smart pg 27).

PGAs concentrate people, activity centers, and business in dense areas. This land use density creates economies of scale for municipal service delivery, significant per capita energy use reductions, and economic synergies. Furthermore, it significantly realigns travel patterns for those that inhabit, work in, and visit these areas (Climate Smart pg 89). In terms of transportation benefits, “compact, mixed-use development reduces travel distances, encourages active transportation modes that contribute to a healthful community, and reduce greenhouse gas emissions” (General Plan Ch 5 pg 2). Since the General Plan accommodates little growth in the historically single family home areas of the city, PGAs will need to account for an outsized portion of the change



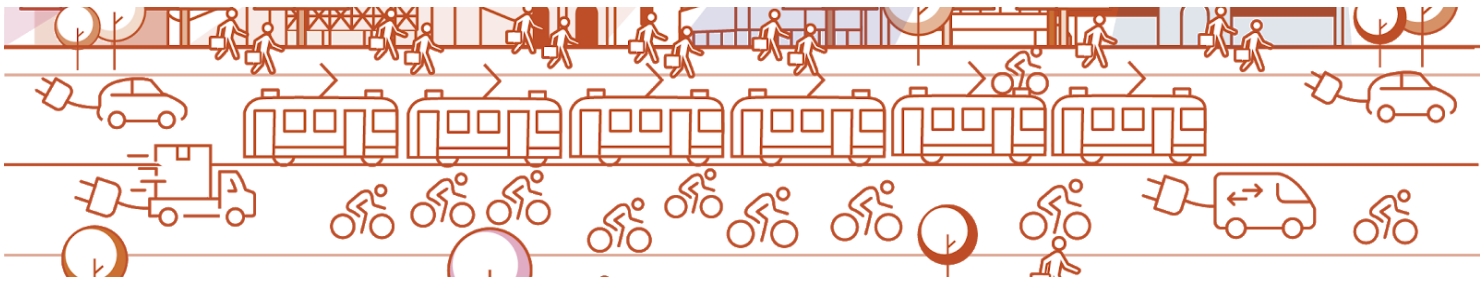
to the transportation system to meet the City's goals. An estimated 67% reduction in single occupancy auto travel within PGAs will be needed to reach the citywide General Plan goal of no more than 40% by 2040.

Significant new transit and active transportation options need to be developed throughout the City and out into the Bay Area region. The ambition for PGAs requires substantial improvements in all non-auto modal infrastructure within PGAs and throughout the City and region to end dependence on automobiles. Internal to PGAs, the character and design of the transportation networks must create a human scale environment that "provide[s] active, walkable, bicycle-friendly, transit-oriented, mixed-use urban setting for new housing and job growth" (General Plan Ch 1 pg 18). But transportation demand does not end at the edge of Urban Villages. PGAs need to be pearls on the necklace of fast, frequent, and reliable transit, and safe, efficient bike facilities to integrate their economic, social, and personal opportunities with the City and region.

KPIs

Outcome KPIs

- Planned growth areas' access to regional opportunities
    - Non-auto access to jobs and housing
    - Jobs vs housing ratio in PGAs
    - % internal trip capture in PGAs
    - Communities of concern portions of planned growth areas ratio to other portions of planned growth areas in terms of above metrics
- Maximize non-auto facility access
    - % of households within a ½ mile of fast, reliable, and frequent transit
    - % Sq Ft of commercial space within a ½ mile of fast, reliable, and frequent transit
- Neighborhood Services (retail, medical and other services) access by non-auto mode
- Area specific mode splits meet



5. Connecting Our Neighborhoods

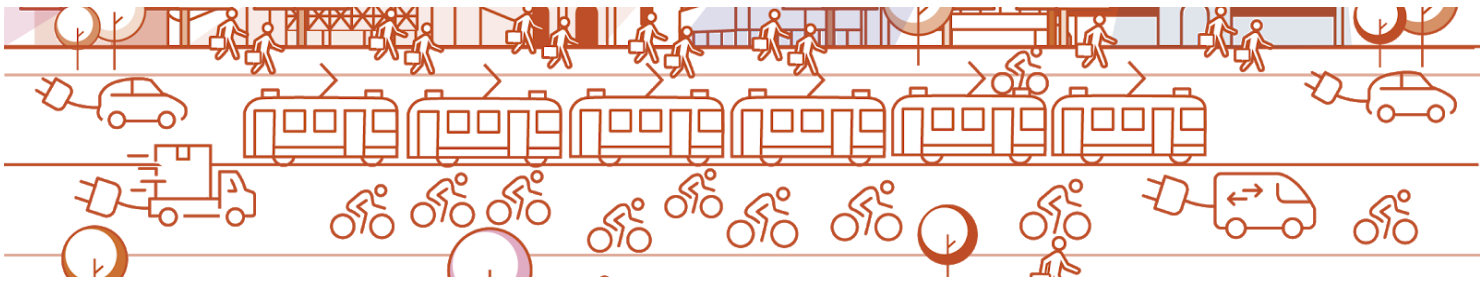
San José's traditional neighborhoods, mostly single family homes and neighborhood retail, represent 83% of the City's area and play a significant role in meeting our transportation goals. The Citywide mode split and VMT reduction goals require that people in these neighborhoods also change how they get around. The General Plan's vision for the traditional neighborhoods is to improve their transportation networks by focusing on the shorter local trips within these neighborhoods and creating Complete Streets that connect these communities to retail, services, and the rest of the City and region.

The General Plan Transportation Diagram's functional street typologies define a hierarchy of streets that connect the neighborhoods to the City's transportation goals. All neighborhoods are meant to have local retail along main streets that are easily accessible by walking or biking. Furthermore, networks of bikeways and transit will support access Citywide and regionally. The General Plan sets a specific neighborhood access goal "that all San José residents be provided with the opportunity to live a ½ mile walking distance of schools, parks, and retail services" (General Plan Ch 4 pg 4). This is both a land use goal and a mobility goal.

KPIs

Outcome KPIs

- % of non-PGAs that have schools, parks and grocery retail opportunities within 20 minutes walking
- % of non-PGAs roadways that meet complete streets standards
- % of non-PGAs that have access to high quality bikeways
- Communities of concern ratios compared to the rest of the city of the above metrics
- Access to Neighborhood Services and regional destination and jobs by non-auto modes
- Mode split per neighborhood



6. Streets for the Good Life

Climate Smart celebrates the Good Life 2.0 by highlighting “the quality of life benefits of sustainability. By addressing benefits through resident priorities of an affordable home, time with their loved ones, and pleasant outdoor space for them and their families to enjoy in San José, [Climate Smart] generates excitement around tangible issues that matter to our community” (Climate Smart pg 10). Choice in transportation is a key aspect of the Good Life 2.0: “Increased availability of public transit like buses, BART, Caltrain, and the High-Speed Rail, and transit-oriented development around their hubs provide more modes of travel. If residents are unable to live within walking distance of these stations, there are other options like sharing bicycles, rides in cars, or shuttle buses with other travelers going to similar destinations” (Climate Smart pg 74 - 75). Complete Streets that support these options are crucial to accomplishing the goals of Climate Smart and are a tremendous benefit to residents and workers in the City.

The General Plan also puts quality of life at the heart of the City’s direction. The City’s transportation network accounts for 17% of the total City. It is the City's largest public asset and should reflect our City’s direction. The General Plan envisions this major public asset to change from a place designed for cars to a place designed for people (General Plan Ch 1 pg 20). The goal for the transportation networks is to “design, construct, operate, and maintain public streets to enable safe, comfortable, and attractive access and travel for motorists and pedestrians, bicyclists, and transit users of all ages, abilities, and preferences” (General Plan Ch 6 pg 37). This approach to managing the transportation networks will “further the Major Strategies of [the General Plan] to focus growth in appropriate locations; design complete streets for people; promote Grand Boulevards, Main Streets, and Downtown; support transit, and foster a healthful community” (General Plan Ch 4 pg 12).

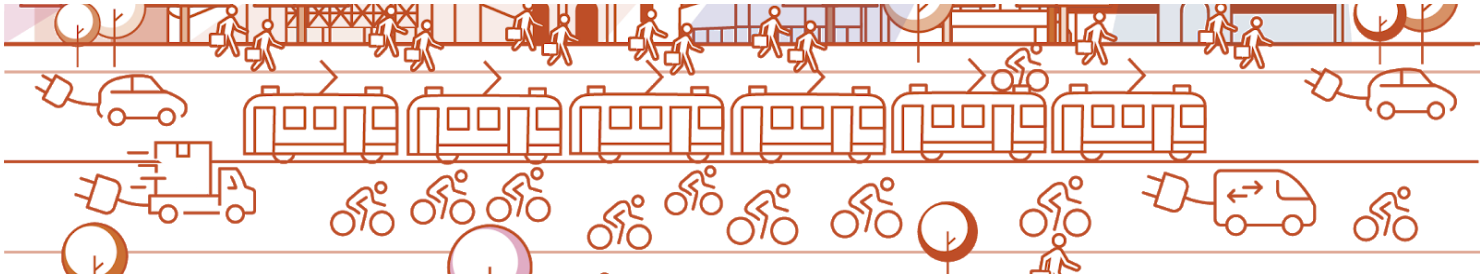
KPIs

Outcome KPIS

- Time spent traveling
- Los Angeles’ Transportation Happiness index
- Gehl public life metrics - measuring the social and human usability and activity of public areas

Program KPIs

- % all roadways that meet complete streets standards
- Miles of bike / trails built in around PGAs



7. Guiding and Gaining from Emerging Transportation Technology, Practices, and Trends

Transportation technologies and business practices are quickly changing, with even more disruption on the horizon. The sudden appearance and quick growth of shared e-scooters, the rise of Transportation Network Companies (TNCs) such as Lyft and Uber, and the upcoming deployments of autonomous transportation services are a few examples. These changes will have wide-reaching effects on what modes people use to get around, who owns the means of travel, the role of the public sector in managing the right-of-way, and things beyond our current imagination. These changes will challenge the City to rethink its role in managing the right-of-way, including traditional thinking on how to address climate change, equity of access, and other City transportation goals. We need to devise ways to guide and gain from these changes that center on the public good.

New technologies raise concerns regarding equitable access to their benefits and alignment with environmental and economic sustainability goals. The public sector has the responsibility to ensure that residents and employees of San José, already challenged by the high costs of housing and transportation, have access to the benefits of emerging modes. New technologies, such as autonomous vehicles, may upend current market trends and induce more vehicle travel. If this happens, there could be more emissions and more congestion on our roads. This increase in emissions and congestion requires us to steer these technologies toward shared and efficient uses of the right-of-way.

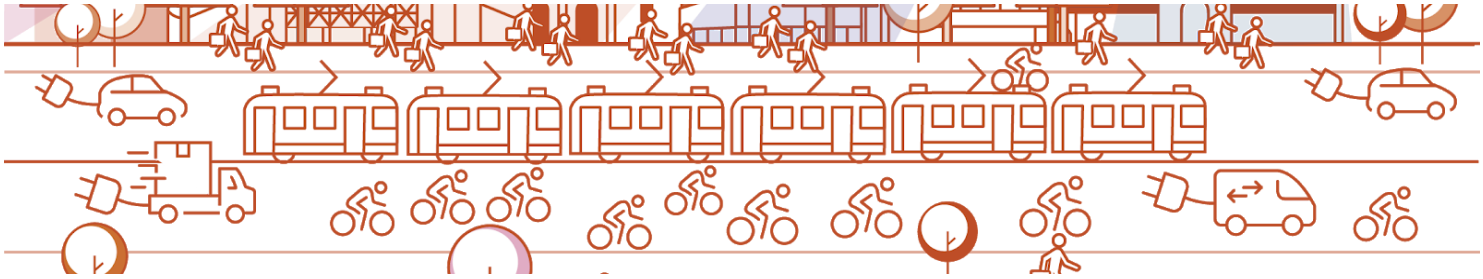
KPIs

Outcome KPIs

- VMT per capita of new modes equal to or better than current technologies

Program KPIs

- Demographic equity of use of new modes
- Right of way efficiency of new modes



8. Providing for Economic Growth

The General Plan endeavours to grow “San José’s economic role within the region and world, increasing prosperity and opportunity for members of the community, providing opportunities both for San José residents and the regional workforce, and creating revenue growth for our City that enables delivery of needed infrastructure and desired urban services” (General Plan Ch 2 pg 4). Transportation plays a pivotal role in creating, supporting, and retaining economic opportunities.

Employers, employees, and customers need easy, reliable, and fast ways to reach each other for the economy to function and grow. The current auto-dependent transportation system in the Bay Area, on its own, cannot provide the urban environments, access, and mobility the economy needs. For the Bay Area economy to continue to grow, a substantial increase in non-auto transportation modal capacity is necessary. The General Plan focuses development of access and mobility options on the creation of high-quality, regionally significant transit projects such as extensions of the BART system, links to the Mineta San José International Airport, High-Speed Rail and supplying dependable transit service to dense employment areas (General Plan Ch 2 pg 4-5).

Transportation has also become a more significant part of what employers, employees, and customers consider when choosing where they want to be. Many, young and old, desire to live in more accessible places, as evidenced by the growth in America’s urban population. Google's desire to build in Downtown San José is in large part due to the existing and planned transportation improvements coming in the next decade. Creating places that are accessible by transit, bike, and foot has become a necessity for economic development.

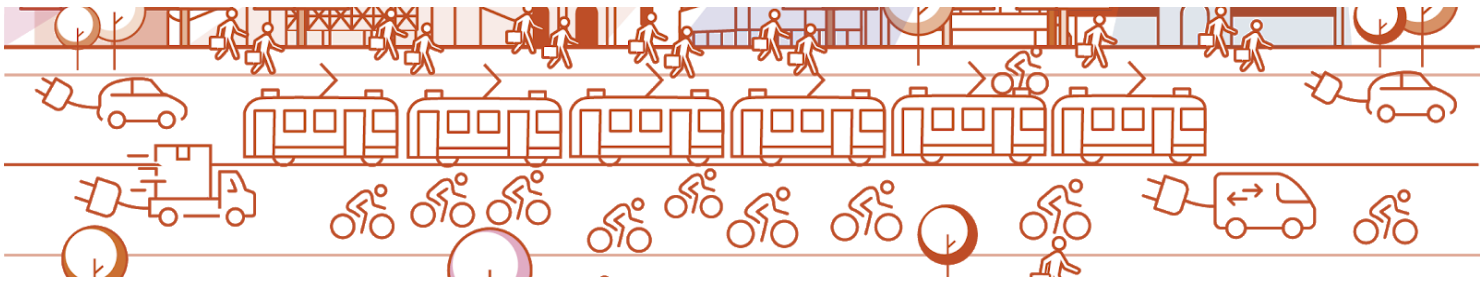
Transportation also plays an essential role in supporting goods movement. The General Plan calls for the creation and maintenance of a freight delivery plan (General Plan Ch 6 pg 6). The freight market is experiencing significant changes and more are expected. The growth of online shopping, related distribution centers, and new models of package delivery, including new robotic and aerial devices, will challenge the current paradigm of goods movement and services offered. Supporting local businesses and developing a transportation system that can support a more substantial hub for goods movement and associated services will help grow the local economy.

KPIs

Outcome KPIs

- Jobs to transit ratio
- % of regional labor market with access to employer sites by travel time and modes (travel time isochrones with bands of 15 minutes with # of households)
- Jobs near transit (Climate Smart)

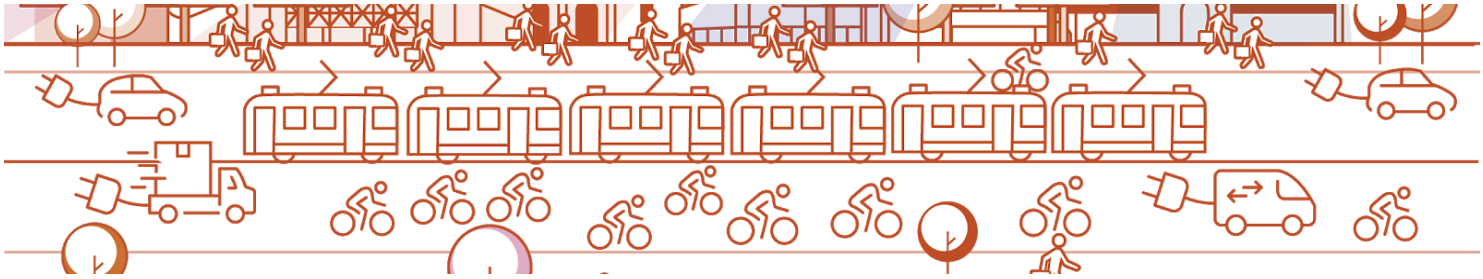
2030	2040	2050
375,000	475,000	550,000



- Goods delivery VMT per parcel (efficiency of goods movement)
- Time spent commuting

Program KPIs

- Transit speed and reliability by neighborhood
- Transit speed and reliability measures to employment areas (DT, NSJ, etc)



Appendix A: High-Level General Plan Transportation Goals

Goal TR-1 – Balanced Transportation System
Complete and maintain a multimodal transportation system that gives priority to the mobility needs of bicyclists, pedestrians, and public transit users while also providing for the safe and efficient movement of automobiles, buses, and trucks.

Goal TR-2 – Walking and Bicycling
Improve walking and bicycling facilities to be more convenient, comfortable, and safe, so that they become primary transportation modes in San José.

Goal TR-3 – Maximize use of Public Transit
Maximize use of existing and future public transportation services to increase ridership and decrease the use of private automobiles.

Goal TR-4 – Passenger Rail Service
Provide maximum opportunities for upgrading passenger rail service for faster and more frequent trains, while making this improved service a positive asset to San José that is attractive, accessible, and safe.

Goal TR-5 – Vehicular Circulation
Maintain the City's street network to promote the safe and efficient movement of automobile and truck traffic while also providing for the safe and efficient movement of bicyclists, pedestrian, and transit vehicles.

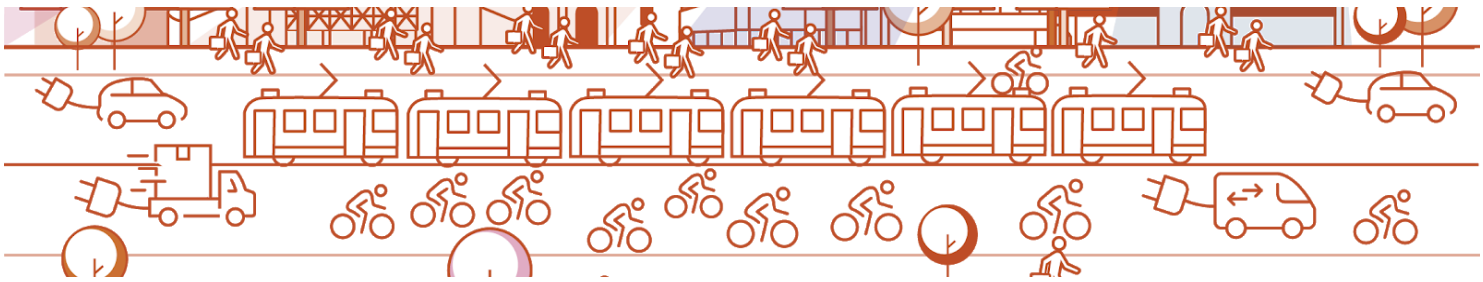
Goal TR-6 – Goods Movement
Provide for safe and efficient movement of goods to support commerce and industry.

Goal TR-7 – Transportation Demand Management
Implement effective Transportation Demand Management (TDM) strategies that minimize vehicle trips and vehicle miles traveled.

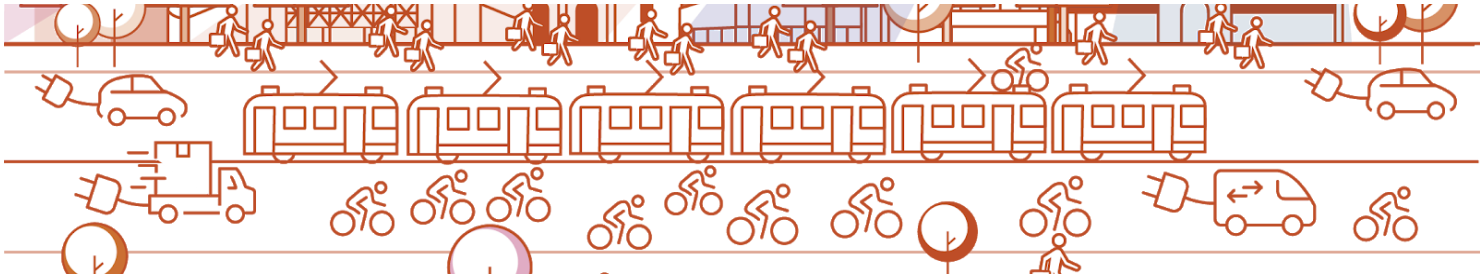
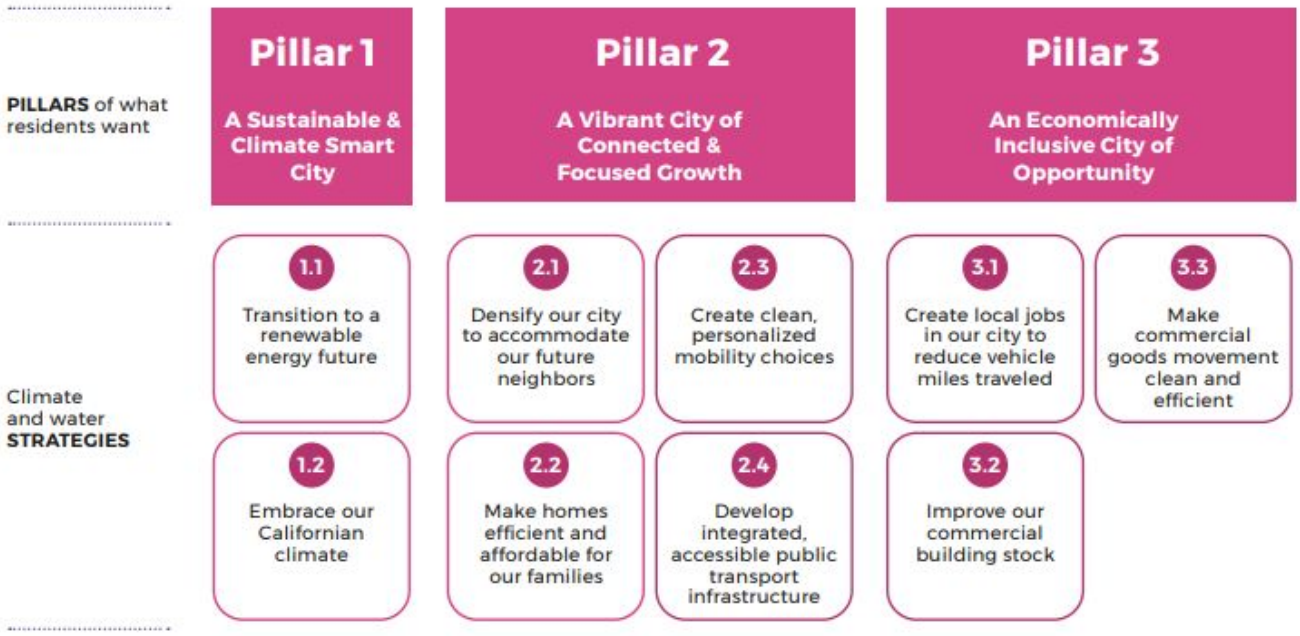
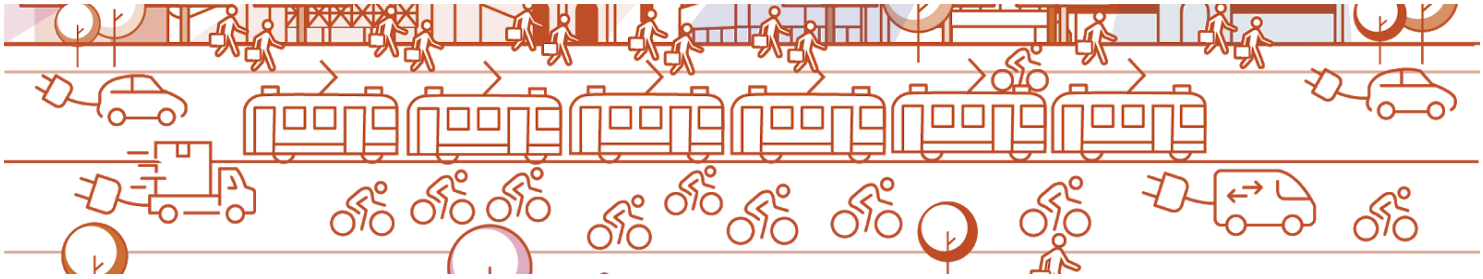
Goal TR-8 – Parking Strategies
Develop and implement parking strategies that reduce automobile travel through parking supply and pricing management.

Goal TR-9,10 & 11 – Reduction of Vehicle Miles Traveled
(paraphrase) Reduce citywide VMT through a combination of local infrastructure and programs development, parking and TDM ordinances, and state legislation.

Goal TR-12 – Intelligent Transportation System



Develop a sustainable intelligent transportation system to effectively manage, operate, and maintain the current and future transportation network for all modes of travel. A robust and efficient ITS system will provide added opportunities for reducing congestion and greenhouse gas emissions, and increasing safety and the quality of life for all users.



Appendix B: Climate Smart Pillars and Strategies