



SAN JOAQUIN REGIONAL MOBILITY HUB SUITABILITY REPORT

November 2024

Prepared for:
**San Joaquin
Council of Governments**

FEHR & PEERS

RS24-4360



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Chapter 1: Introduction

San Joaquin County, once with a thriving Gold Rush economy, became a major agricultural center in the late 1800s due to California Delta reclamation. Today, it ranks 7th in both California and the U.S. for crop production, generating over \$3 billion annually, with related industries, such as manufacturing and wineries, pushing this figure to over \$4 billion¹. Despite its strong agricultural economy, the County faces a 20,000-unit housing deficit², with many low- and moderate-income households, particularly Latino/a residents (50% of the population), struggling to find affordable housing.

In addition, pressure on the housing market is driven by growth in bedroom communities like Lathrop, Manteca, Mountain House, and Tracy. With a population that surpassed 750,000 in 2021 and projected to reach 1 million in 30 years³, the County's transportation challenges are also mounting, with nearly 50% of residents facing gaps in transportation access⁴. The transportation sector, responsible for about 40% of the County's greenhouse gas emissions, also contributes to poor air quality, primarily due to passenger vehicles. Access to sustainable transportation options is essential for improving public health in San Joaquin County and achieving the state of California's goal of reducing greenhouse gas emissions by 85% below 1990 levels by 2045.

Clean mobility options such as electric carshare, bike share, zero-emission buses, and other transit alternatives provide affordable transportation options for those who don't own a vehicle or prefer not to drive. A regional network of mobility hubs featuring electric vehicle (EV) charging stations, carsharing services, transit access, and other clean, affordable travel choices can help reduce transportation insecurity in the County while lowering carbon emissions that contribute to environmental impacts.

¹ Data from the *2023 San Joaquin County Crop Report* (San Joaquin County, 2024).

² Data from the *San Joaquin County Affordable Housing Needs Assessment Technical Memo* (SJCOG, 2022).

³ Based on San Joaquin County population data collected between 2005 and 2021, and population forecasts for 2021–2060 from the U.S. Census Bureau.

⁴ Data from Caltrans Transportation Equity Index (EQI), for more information, visit: <https://dot.ca.gov/programs/esta/race-equity/eqi>

1.1 Project Overview

The *San Joaquin Regional Mobility Hub Plan* is designed to address the growing need for diverse transportation options in response to rising vehicle miles traveled (VMT) and increasing congestion across the region. As the region experiences significant urban development and population growth, there is an increasing need for additional travel options to meet the mobility needs of residents, especially in disadvantaged communities. This plan aims to create a network of mobility hubs that will provide residents with access to clean, efficient, and equitable transportation options, reducing dependency on single-occupancy vehicles (SOV) and supporting the region's broader sustainability goals.

The *San Joaquin Regional Mobility Hub Plan* is led by the San Joaquin Council of Governments (SJCOG) and is split into a planning phase and implementation phase.

- The **planning phase** lays the groundwork for establishing a long-term, self-sustaining network of mobility hubs that promote sustainable travel, enhance access to opportunities, and meet the needs of disadvantaged communities. Through research, community outreach, and stakeholder collaboration, this phase focuses on identifying suitable locations for mobility hubs, providing design guidance, and outlining implementation strategies to support future mobility hub development across San Joaquin County.
- The **implementation phase** will put this plan into action, starting with a demonstration project at a site chosen during the planning phase, which will inform future mobility hub implementation and community development efforts across the region. The demonstration project is intended to be a permanent infrastructure improvement.

The final deliverable of the planning phase will be the *San Joaquin Regional Mobility Hub Plan*, designed to support the region's efforts to integrate transportation, housing, and climate resiliency in line with REAP 2.0 guidelines. The plan will guide public agencies and developers in implementing mobility hubs across San Joaquin County, supporting affordable housing by providing residents with improved connections to various transportation options. The *San Joaquin Regional Mobility Hub Plan* is composed of the following reports and community engagement efforts:

- The *San Joaquin Regional Mobility Hub Suitability Report* (this document) recommends criteria for selecting suitable mobility hub locations and typologies within San Joaquin County. It identifies priority neighborhoods based on factors such as transportation infrastructure, housing and job densities, environmental, and socioeconomic conditions to ensure hubs serve the communities most in need. The recommendations are informed by regional planning documents, partner and community engagement, and Fehr & Peers' GIS-based mobility hubs suitability tool.
- The *San Joaquin Regional Mobility Hub Playbook and Action Plan* (to be completed by March 2025) will provide guidance for siting, designing, implementing and monitoring the performance of mobility hubs based on industry best practices. The action plan will provide concept level site plan and sketch renderings for mobility hubs at three sites to be considered for the implementation phase. The action plan will also include a corresponding cost plan for each site to inform SJCOG and the partner agency group (PAG) in selecting the preferred demonstration project site for the implementation phase.
- Community engagement efforts will include four in-person meetings with the PAG to review progress and provide input, aiming to approve the *San Joaquin Regional Mobility Hub Plan* and select the preferred demonstration project site by March 2025. Additionally, SJCOG will conduct a community survey in October 2024 to gather input on preferred mobility hub sites, amenities, and

services. The implementation phase will also feature several community workshops to inform the design and implementation of the demonstration project.

Ultimately, the *San Joaquin Regional Mobility Hub Plan* aims to create a cohesive and comprehensive mobility hub network that aligns with SJCOG's broader efforts to accelerate infill development, reduce VMT, and affirmatively further fair housing. The *San Joaquin Regional Mobility Hub Plan* can also serve as a guide for VMT mitigation efforts in future transportation infrastructure and development projects.

1.2 What are Mobility Hubs?

A mobility hub is a central location that integrates various modes of transportation to facilitate seamless and efficient travel for individuals. It typically includes a combination of public transit services (such as buses, trains, or shuttles), shared mobility options (like bikes, scooters, and carsharing services), and supportive infrastructure (such as parking, charging stations for electric vehicles, and facilities for pedestrians and cyclists).

Mobility hubs are designed to enhance connectivity, reduce dependency on SOVs, and promote sustainable transportation options. They often feature amenities like real-time travel information, ticketing services, and safe, accessible spaces for transfers between different modes of transport. Mobility hubs can integrate public and private mobility services, enhancing both the customer experience and the resilience of the transportation system.

Mobility hubs are transformative because they integrate various transportation options (such as transit, biking, walking, and shared mobility) into a single, accessible location, making it easier for people to switch between modes and reduce reliance on personal vehicles. By offering improved connections to sustainable and convenient travel choices, mobility hubs have the potential to reduce traffic congestion, lower greenhouse gas emissions, and improve mobility for San Joaquin County residents. They can also support economic development and social equity by connecting disadvantaged communities to job opportunities, essential services, and housing.

1.3 Mobility Hub Plan Vision & Goals

1.3.1 Vision

The *San Joaquin Regional Mobility Hub Plan* will guide the implementation of a sustainable and equitable mobility hub network that improves local and regional connectivity, supports affordable housing, and meets the needs of San Joaquin County's diverse communities.

The mobility hub network will address diverse use cases and demographic needs through various mobility hub typologies, all connected by a unified Physical-Digital-Policy framework that links public, private, and community transportation options. The *San Joaquin Regional Mobility Hub Plan* serves a unique regional profile compared to previous mobility hub plans, which have focused on dense urban cores like the Bay Area and Los Angeles. While incorporating best practices from these areas, our recommendations for hub locations, typologies, and mobility options are tailored to San Joaquin County's needs.



With 76% of county residents driving alone to work⁵, car-dependence is a significant reality across the region. Instead of working against this trend, the *San Joaquin Regional Mobility Hub Plan* seeks to leverage it to help achieve the region's VMT reduction goals.

1.3.2 Goals

The *San Joaquin Regional Mobility Hub Plan* is funded through the REAP 2.0 program administered by the California Department of Housing and Community Development (HCD). The objectives of this plan are aligned with the goals outlined in the REAP 2.0 guidelines.

Goal 1: Support Infill Housing Developments Near Transit

- Align mobility hub locations with regional housing priorities, especially in infill and underserved areas, to support access to transportation options and reduce reliance on single-occupancy vehicles.
- Facilitate the development of affordable housing by providing essential infrastructure that supports sustainable, transit-oriented communities.

Goal 2: Reduce Vehicle Miles Traveled

- Develop mobility hubs that reduce SOV trips, supporting the region's efforts to reduce VMT and meet climate goals.
- Integrate emerging mobility technologies and best practices to create adaptable and future-ready transportation infrastructure.

Goal 3: Improve Regional Connectivity and Community Development

- Strategically locate mobility hubs to enhance connectivity across San Joaquin County, linking residential, commercial, and recreational areas.
- Stimulate economic growth by establishing mobility hubs as anchors for community development, attracting investments, supporting local businesses, and aligning with Affirmatively Furthering Fair Housing (AFFH) principles.
- Design mobility hubs with a strong emphasis on equity, ensuring that all community members, especially disadvantaged communities, have access to reliable and sustainable transportation options, furthering fair housing goals.

This vision and goals will guide the development and implementation of the *San Joaquin Regional Mobility Hub Plan*, ensuring that it meets the current and future needs of the region's residents while supporting broader state and regional objectives.

1.4 Mobility Hub Suitability Report Objectives

The primary objectives of this report are to introduce hub typologies suitable for San Joaquin County and to assess potential locations for various hub types across the region. It includes recommended neighborhoods for mobility hubs within each city as well as in unincorporated areas. The information in this report will form the foundation for engagement meetings with the PAG, where potential sites for a

⁵ Data from U.S. Census Bureau's 2018-2022 American Community Survey (ACS) 5-Year Estimates for San Joaquin County.

demonstration project will be identified. The information from this report will also be incorporated into the upcoming *San Joaquin Regional Mobility Hub Plan*.

1.5 Report Organization

This report is organized into the following five chapters:

- **Chapter 1 – Introduction:** Describes the vision and goals of *the San Joaquin Regional Mobility Hub Plan*.
- **Chapter 2 – Mobility Hub Typology:** Provides an overview of the different types of mobility hubs applicable to San Joaquin County, including a description of typical amenities and services offered at each hub.
- **Chapter 3 – Existing Conditions & Data Collection:** Summarizes the data collection process and analysis of current conditions for this project.
- **Chapter 4 – Mobility Hub Suitability:** Explains the technical methodology used to evaluate the suitability of mobility hubs across San Joaquin County.
- **Chapter 5 – Mobility Hub Siting Recommendations:** Lists priority neighborhoods and recommended mobility hub types for consideration in the selection of sites for the upcoming demonstration project.



Chapter 2: Mobility Hub Typology

A successful mobility hub effectively integrates the local context with a positive user experience by creating an environment that is efficient, comfortable, and easy to navigate, offering a wide range of transportation options. The hub's design should clearly articulate the intended outcomes for both the site and its users, ensuring alignment with community needs and regional priorities. The intended uses can vary from one hub to another and may evolve over time based on continuous community feedback and evaluation. Hubs must remain adaptable to effectively meet user needs.

The form, function, and amenities of each mobility hub are influenced by various built environment and land use factors. To inform the development of mobility hub typologies, amenities, and services suitable for San Joaquin County, Fehr & Peers reviewed several mobility hub plans⁶ from other regions in the United States and Canada. While many of these plans were designed for denser urban areas, certain elements were still relevant and adaptable to San Joaquin County's context. The *San Joaquin Regional Mobility Hub Plan* customizes a typology system based on the most applicable best practices. Three hub types—regional commuter hub, downtown hub, and community hub—were identified as the most suitable for San Joaquin County based on the types of trips each hub is primarily designed to serve. While terminology for hub types may differ across various mobility hub plans, they generally align in terms of the trip types they primarily support. Detailed descriptions of each hub type are provided below.

⁶ List of mobility hub plans reviewed to identify best practices, include: *Bay Area Regional Mobility Hubs – Mobility Hub Implementation Playbook* (Metropolitan Transportation Commission, 2021), *Identifying Best Practices for Mobility Hubs* (TransLink, 2019), *Mobility Hubs: A Reader's Guide* (Los Angeles Department of Transportation, 2016), *Mobility Hub Typology Study* (Portland Bureau of Transportation, 2020), *Regional Mobility Hub Implementation Strategy – Mobility Hub Features Catalog* (San Diego Association of Governments, 2017).

2.1 Regional Commuter Hubs

Regional commuter hubs connect San Joaquin County residents with job centers both within and beyond the County by offering access to regional transit services and rideshare options. These hubs are typically located at transit centers, train stations, and park-and-ride facilities, making them particularly effective in reducing VMT for residents commuting to other counties. Regional commuter Hubs usually feature on-site vehicle and bicycle parking, passenger pick-up/drop-off zones, and accommodations for rideshare services and taxis. These hubs generally offer the most comprehensive range of amenities and services and are versatile enough to serve all land use types. Their effectiveness is enhanced when supported by a surrounding network of downtown and community hubs that connect various land uses to these regional facilities.



Figure 1: Regional Commuter Hub – Transit Center Concept



Figure 2: Regional Commuter Hub – Park-and-Ride Concept

Mobility Hubs in Lower Density Neighborhoods



P+R Hoogkerk Hub, Netherlands (photo source: www.reisviahub.nl/hubs)

This regional commuter hub is situated on the outskirts of Groningen, Netherlands, near a major highway exit. It provides connections to both regional and local bus services. The hub features a large park-and-ride facility, a covered waiting area, and bike share services for added convenience. It serves as a key connection point for residents in the outer areas of Groningen.



Gavere Brandweerstraat Hub, Belgium (photo source: www.google.com/maps)

This regional commuter hub is in the village of Gavere, a rural area south of Ghent. It is one of the few hubs in the rural parts of Belgium that offers both car and bike sharing services. The primary transportation options at this hub include bikes, cars, and buses. In addition, the hub features amenities such as mail package lockers, covered bike storage, a bike repair station, EV charging stations, and limited off-street parking stalls.

2.2 Downtown Hubs

Downtown hubs are typically located in denser urban cores, which serve as key centers of economic and cultural activity, surrounded by a diverse mix of land uses. These hubs play an important role in connecting San Joaquin County residents to local job centers, commercial districts, and vibrant social spaces, including restaurants and nightlife venues. Typically located curbside, downtown hubs generally require the repurposing of on-street parking lanes to accommodate micromobility services like bike and scooter share, as well as passenger pick-up/drop-off zones and truck loading areas. They also provide connections to local and regional transit services, featuring amenities such as benches, shelters, and transit route information. Due to the high demand for curb space, where various modes of transportation compete for space, effective curbside management is essential to ensure that downtown hubs operate optimally. Additionally, the robust pedestrian infrastructure commonly found in downtown areas facilitates pedestrian access to these hubs. Downtown Hubs can help reduce VMT for commuters who live and work within San Joaquin County, but they don't have the same level of regional VMT reduction potential as Regional commuter hubs. Downtown Hubs offer strong placemaking potential for creating vibrant public spaces within denser populated, mixed-use areas.



Figure 3: Downtown Hub Concept

2.3 Community Hubs

Community hubs connect residential developments with nearby neighborhoods, commercial centers and parks, making them more suitable for most neighborhoods throughout San Joaquin County compared to Regional commuter and downtown hubs. These hubs are in residential neighborhoods, shopping centers, and parks, and can provide essential amenities such as local transit services, EV charging stations, carshare services, bicycle parking, and micromobility options. The amenities at community hubs are customized to meet the specific needs of each neighborhood they serve, which can vary. While community hubs effectively support local travel, their impact on reducing VMT is less significant than that of regional commuter and downtown hubs, as they focus primarily on improving accessibility within local areas rather than facilitating long-distance commutes. However, the VMT reducing effectiveness of community hubs can increase when they connect via transit and/or bikeways to other regional commuter and downtown hubs.

By addressing local mobility needs, community hubs enhance connectivity within cities, making daily commutes, daily needs shopping, and access to healthcare services more convenient and sustainable for residents. Due to their adaptability, community hubs are particularly well-suited for many neighborhoods in San Joaquin County and can be implemented in both public and private rights-of-way. They are also an excellent fit for future residential developments, boosting the placemaking potential of both existing and new communities.



Figure 4: Community Hub - Residential Concept



Figure 5: Community Hub – Shopping Center Concept



Figure 6: Community Hub – Park Concept

Table 1 provides a high-level comparison of the three mobility hub types identified for San Joaquin County.

Table 1: San Joaquin County Mobility Hub Typology Comparison

Key Hub Elements	Regional Commuter Hub	Downtown Hub	Community Hub
Primary Objective	Facilitate Residential Connections to Jobs Outside San Joaquin County	Facilitate Residential Connections to Jobs within San Joaquin County	Facilitate Residential Connections to Surrounding Neighborhoods
Potential Locations	Transit Centers, Train Station, Park-and-Ride Lots	Downtown Areas, Central Business Districts	Residential Neighborhoods, Shopping Centers, Parks, Healthcare Facilities
Supporting Land Uses	All	Offices, Mixed-Use Residential Developments, Industrial Parks	Residential, Commercial, Parks, Healthcare Facilities
Target Trip Types	Regional Trips	Regional and Local Trips	Local Trips
VMT Reduction Potential	High	Medium	Low

Source: Fehr & Peers, November 2024.

2.4 Mobility Hub Elements

Mobility hubs provide a range of multimodal infrastructure amenities and supporting services, which can vary by hub type and even among hubs of the same type. The effectiveness of a hub in reducing local or regional VMT depends on the quality of first-mile/last-mile connections it offers, as well as the range and frequency of connecting transit services. Mobility hub elements are grouped into the following five categories:

- Transit Infrastructure & Services
- Pedestrian Access
- Micromobility Infrastructure & Services
- Parking Infrastructure & Ridesharing Services
- Placemaking Amenities & Services

The sections below provide a brief summary of the various amenities and services in each category. More detailed information will be included in the upcoming San Joaquin County Regional Hub Plan.

2.4.1 Transit Infrastructure & Services

Mobility hubs provide the range of transit infrastructure and services listed below and in **Table 2**.

- **Transit Loading Zones** – loading zones are designated on-street or off-street curb spaces for transit passengers to be safely dropped off or picked up at a mobility hub site. Transit loading zones should be separate from other passenger loading zones, such as rideshare, carpool, and taxi loading zones.
- **Transit Waiting Areas** – providing waiting areas for transit passengers at mobility hubs improves the user experience. At a minimum, transit waiting areas should provide shelter, seating, waste

bins, transit route information, and lighting. Transit waiting areas should be adjacent to transit loading zones without obstructing passenger boarding and alighting operations.

- **Fixed-Route Transit Service** - fixed-route transit service operates on a predetermined path with scheduled stops and specific times. This type of service includes buses, shuttles, and trains, allowing passengers to board and alight at designated locations along the way.
- **Microtransit Service** - microtransit is a flexible, on-demand public or private transportation service that operates in response to real-time passenger requests rather than following a fixed route. It typically uses smaller vehicles, such as vans or shuttles, and can provide more customized, efficient service in areas with lower demand or where traditional fixed-route transit may not be practical. Microtransit bridges the gap between fixed-route transit and ridesharing services, offering a convenient option for first-mile/last-mile connections.
- **Real-time travel information** - provides up-to-the-minute updates on the status of public transit services, including arrival times, delays, and vehicle locations. Accessible through mobile applications, websites, or digital displays at transit stops, this information helps passengers make informed decisions, improving their overall travel experience by reducing uncertainty and wait times.

Table 2: Transit Infrastructure & Services at Mobility Hubs

Mobility Hub Type	Transit Loading Zones	Transit Waiting Areas	Fixed-Route Transit Service	Microtransit Service	Real-Time Travel Information
Regional Commuter Hub	✓	✓	■	●	✓
Downtown Hub	✓	✓	✓	■	■
Community Hub	■	■	■	●	●

Legend: ✓ = Essential ■ = Recommended ● = Optional

2.4.2 Pedestrian Access

Most mobility hub users become pedestrians at some point during their journey, making pedestrian access essential. It ensures that people can easily and safely reach transit services, and a well-designed pedestrian network around a mobility hub encourages walking, reduces vehicle reliance, and enhances the hub's overall effectiveness by improving accessibility for everyone. Additionally, robust pedestrian access supports first-mile/last-mile connections, increasing the hub's functionality. Key pedestrian infrastructure improvements include:

- **Walkways** - walkways connect pedestrians from mobility hubs to key destinations all through the County. Therefore, these walkways should provide a safe accessible walking environment that attract users of all ages and abilities. This can be accomplished through the implementation of wide walkways, efficient routes, landscaping treatments, and pedestrian-scale lighting.
- **Pedestrian Crossings** - pedestrian crossings are important for connecting pedestrians to mobility hubs and ensuring their safety. Safe crossings enhance pedestrian visibility and provide essential access both to and within a mobility hub. Improving existing crossings and designing new ones to meet the latest crossing treatment standards are vital steps in creating a secure and accessible environment for all users.

Table 3: Pedestrian Access Elements at Mobility Hubs

Mobility Hub Type	Walkways at Mobility Hub	Walkways Connecting to Mobility Hub	Pedestrian Crossings
Regional Commuter Hub	✓	✓	✓
Downtown Hub	✓	✓	✓
Community Hub	✓	✓	✓

Legend: ✓ = Essential ■ = Recommended ● = Optional

2.4.3 Micromobility Infrastructure & Services

Micromobility infrastructure and services are essential components of mobility hubs, offering flexible, sustainable, and efficient transportation options for short trips. By providing dedicated spaces for bikes, scooters, and other small vehicles, as well as charging stations and secure parking, mobility hubs can seamlessly integrate micromobility into the broader transportation network. This enhances first-mile/last-mile connections, making it easier for people to reach transit services or their final destinations without relying on cars. Additionally, micromobility options reduce local and regional VMT, while offering convenient alternatives that cater to the diverse needs of San Joaquin County residents. Robust micromobility infrastructure at mobility hubs supports a more accessible, efficient, and environmentally friendly transportation system. Key micromobility infrastructure and services provided at mobility hubs are listed below and in **Table 4**.

- **Bikeways** - accessible and well-designed bikeways (bike paths, bike lanes and bike routes) are critical for enabling safe and convenient cycling to and from mobility hubs. They play a key role in the transportation network by providing direct access to nearby destinations and connecting cyclists to transit stops and mobility hubs. Additionally, designated bikeways increase driver awareness of cyclists on the road, promoting safer interactions and encouraging slower vehicle speeds, generally enhancing roadway safety for all users.
- **Bike Crossings** - bike crossing treatments, such as bike signals, median refuge islands, and bike boxes, can improve safety and efficiency of cyclists accessing mobility hubs. These features help cyclists navigate intersections and busy roads, reducing conflicts with vehicles and providing clear, dedicated spaces for crossing. By enhancing safety and visibility, these treatments encourage more people to cycle to and from mobility hubs.
- **Bike Parking** - bike parking at mobility hubs offers secure and convenient bike parking options, which can encourage more people to bike to and from mobility hubs. The type of bike parking provided depends on how long users will need to park their bikes. For short-term parking, outdoor bike racks and bike corrals are ideal, while long-term options include bike lockers and bike rooms. Both short- and long-term parking options enhance security and convenience when placed in visible, well-maintained locations.
- **Bike & Scooter Sharing Programs** - bike and scooter sharing programs, including e-bikes and e-scooters, are designed to enhance transit access and connectivity to nearby destinations by offering convenient short-term rentals. These programs allow users to rent a bike or scooter at one mobility hub and return it at another, facilitating first and last-mile travel. Whether publicly operated or privately managed, these programs aim to provide seamless, integrated mobility options that improve the overall efficiency of the transportation network. Docks are typically located near transit stops and key commercial or residential areas, ensuring visibility and easy access for users.
- **Bike Repair Station** - bike repair stations at mobility hubs offer cyclists convenient access to tools and resources for maintaining and fixing their bikes. These stations can range from do-it-yourself setups with basic tools for minor repairs and adjustments to staffed stations that provide professional assistance. By including bike repair stations, mobility hubs support a seamless cycling experience, ensuring that users can quickly address mechanical issues and continue their journey. Positioned near transit stops and key cycling routes, these repair stations contribute to a more reliable and accessible transportation network, encouraging more people to choose cycling as a mode of transport.

Table 4: Micromobility Infrastructure & Services at Mobility Hubs

Mobility Hub Type	Bikeways	Bike Crossings	Bike Parking	Bike & Scooter Sharing Programs	Bike Repair Station
Regional Commuter Hub	✓	■	✓	■	●
Downtown Hub	■	■	■	■	■
Community Hub	■	■	✓	■	●

Legend: ✓ = Essential ■ = Recommended ● = Optional

2.4.4 Parking Infrastructure & Rideshare Services

Accommodating any combination parking infrastructure and rideshare services make it convenient for users to transition from personal vehicles to public transit or other mobility options, supporting seamless first and last-mile connections. This includes car parking, EV charging stations, carshare options, and designated ridesharing drop-off/pick-up locations. By integrating these elements, mobility hubs can better serve a diverse range of users, improving overall accessibility and efficiency. Key parking infrastructure and rideshare services provided at mobility hubs are listed below and in **Table 5**.

- **Off-Street Car Parking** – off-street car parking at mobility hubs facilitates transitions between personal vehicles and public transit, enabling users to easily access the hub and continue their journey using other transportation modes. Parking infrastructure is a key component of park-and-ride facilities at mobility hubs, supporting first and last-mile connectivity. It enhances accessibility and convenience for a broader range of travelers who cannot reach hubs by walking or biking.
- **EV Charging Station** – EV charging stations at mobility hubs support the growing adoption of electric vehicles, providing convenient access to charging while users transition to other modes of transportation. They also promote sustainability by encouraging the use of cleaner, more environmentally friendly vehicles as part of an integrated transportation network.
- **Carshare Services** – carshare services at mobility hubs can reduce the need for personal vehicle ownership. These services, which can be operated by public or private operators, provide convenient access to shared vehicles, enhancing flexibility and sustainability within the transportation network.
- **Rideshare Services** - rideshare services, including both on-demand options provided by transportation network companies (TNCs) like Uber and Lyft, as well as carpooling services (e.g. Scoop, Waze, Casual Carpool, etc.), can be accommodated at mobility hubs to offer flexible transportation options. Unlike carshare services, which involve renting a vehicle for self-driving,

rideshare services connect passengers with drivers, either through on-demand platforms or pre-arranged carpooling. These options make it easy to arrange pick-ups and drop-offs, enhance first and last-mile connectivity, reduce the need for personal vehicle use, and improve overall accessibility to mobility hubs and corresponding transit services.

- **Rideshare Passenger Pick-Up/Drop-Off Zone** - rideshare passenger pick-up/drop-off zones at mobility hubs streamline the transfer between rideshare services, carpool services, and other modes of transportation. These designated areas enhance convenience for users, making it easier to access the mobility hub.

Table 5: Parking Infrastructure & Rideshare Services at Mobility Hubs

Mobility Hub Type	Off-Street Car Parking	EV Charging Station	Carshare Services	Rideshare Services	Rideshare Passenger Pick-Up/Drop-Off Zone
Regional Commuter Hub	✓	■	■	✓	✓
Downtown Hub	●	●	■	■	■
Community Hub	●	■	■	●	●

Legend: ✓ = Essential ■ = Recommended ● = Optional

2.4.5 Placemaking Amenities & Services

Placemaking amenities and services at mobility hubs, such as signage and wayfinding, public spaces, complementary retail, public Wi-Fi, and street furniture, enhance the user experience and functionality of the hub. These features create inviting and accessible environments that encourage people to spend time in the hub, making it more than just a travel connection point. Common placemaking amenities and services offered at mobility hubs are listed below and in **Table 6**.

- **Public Spaces** - public spaces at mobility hubs can activate a hub by encouraging social interaction, community participation, and enhancing first-last mile connectivity. These spaces, such as plazas, parks, landscaped seating areas, and community centers, provide flexible environments for various activities. For example, a mobility hub might feature a plaza with shaded seating and a small event space for local farmers' markets or community gatherings. Another example could be a landscaped park area with bike racks and benches, allowing commuters to relax or safely park their bicycles before transferring to public transit, making the hub more inviting and accessible while fostering a vibrant public realm and sense of community.
- **Retail Uses** - retail uses at mobility hubs allow users to conveniently access goods and services during their transit trips. This reduces the need for additional vehicular trips, enhancing first-last

mile connectivity and making daily errands more efficient. Additionally, incorporating a mix of fixed and temporary retail spaces, including food vendors and markets, creates vibrant, active hubs that support the local economy and foster community interaction.

- **Signage & Wayfinding** - signage and wayfinding improvements at mobility hubs enhance user navigation, making it easier for travelers to find their way to different transportation options and nearby destinations. These features increase the overall accessibility and efficiency of the hub, improving the user experience.
- **Public Wi-Fi** - public Wi-Fi at mobility hubs enhances convenience by allowing travelers to stay connected, access real-time transit information, and manage their travel plans on the go. It also supports digital inclusivity, providing internet access to those who may not have reliable connectivity elsewhere.
- **Street Furniture** - street furniture at mobility hubs, such as planters, public art installations, seating and lighting enhances the overall user experience by creating a more welcoming and functional environment. These elements contribute to the aesthetic appeal of the hub, making it a more pleasant place to wait or pass through. Additionally, well-placed street furniture can improve safety and guide pedestrian flow.
- **Ambassadors** - ambassadors are trained personnel who provide information about the mobility hub, its amenities, and the connecting transit services, helping users with trip planning and answering questions. Their goal is to educate and build confidence in users, ensuring they can effectively navigate the surrounding transportation system.
- **Universal Payment System** - Universal payment systems at mobility hubs streamline access to various mobility services by allowing users to find, access, and pay for transit, parking, carshare, EV charging, shared micromobility services, and more through a single mobile app or physical kiosk provided on-site. This integrated approach simplifies the user experience, making mobility hubs more efficient and user-friendly.

Table 6: Placemaking Amenities & Services at Mobility Hubs

Mobility Hub Type	Public Spaces	Retail Uses	Signage & Wayfinding	Public Wi-Fi	Street Furniture	Ambassadors	Universal Payment System
Regional Commuter Hub	●	●	✓	■	■	●	●
Downtown Hub	●	●	✓	●	■	●	●
Community Hub	●	●	✓	●	●	●	●

Legend: ✓ = Essential ■ = Recommended ● = Optional



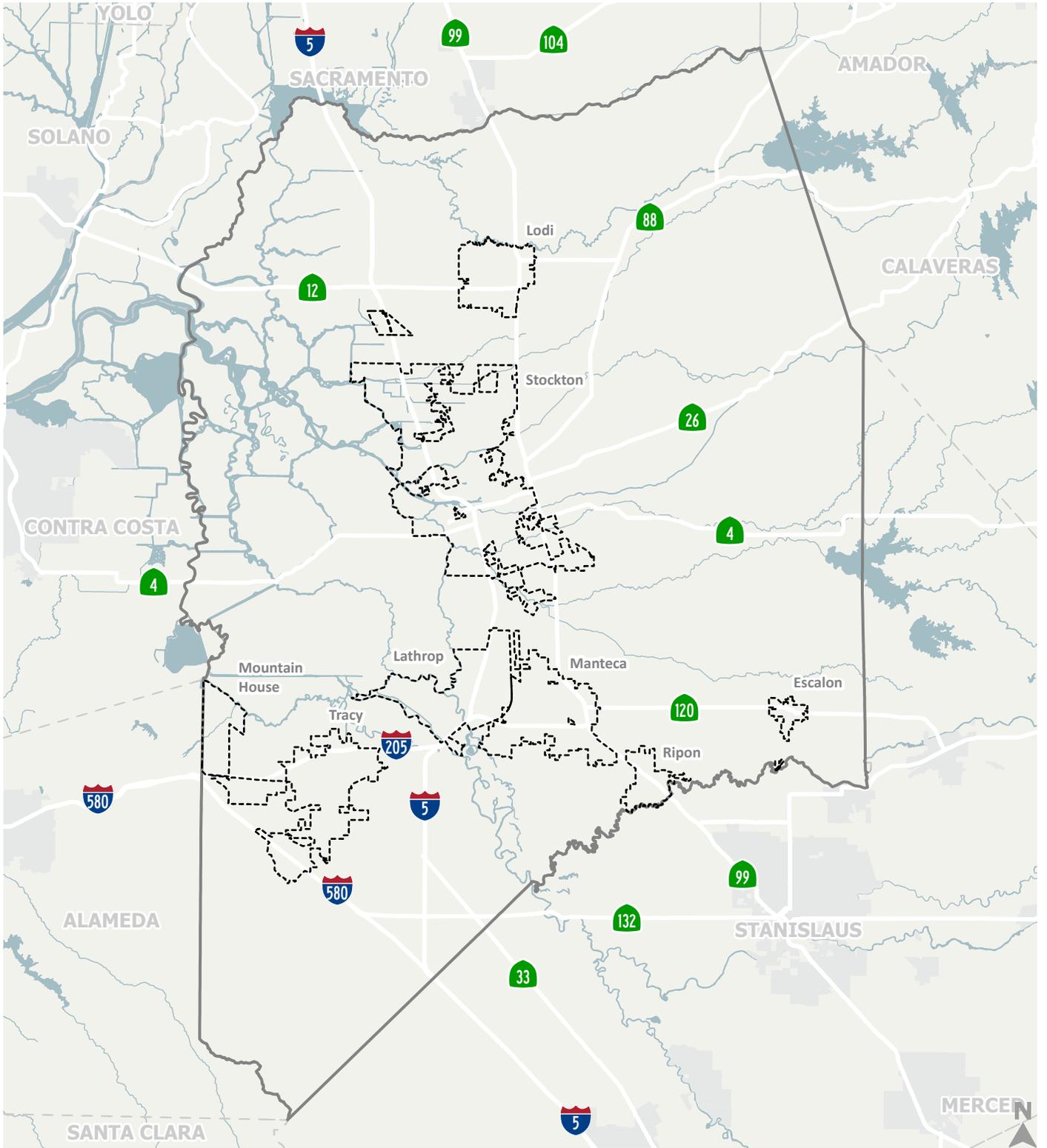
Chapter 3: Existing Conditions & Data Collection

Mobility hub utilization is shaped by built environment and land use factors. The built environment offers the necessary infrastructure to connect hubs with surrounding neighborhoods, while land use generates demand. Hubs thrive in mixed-use areas with balanced housing and job densities. To better understand San Joaquin County’s built environment and land use diversity, a comprehensive data collection effort was conducted in June and July 2024. This gathered data forms the foundation for the mobility hub suitability findings in this report.

SJCOG, in collaboration with Fehr & Peers, compiled readily available data from previous planning documents, along with additional data provided by various member agencies. SJCOG has generated extensive transportation planning and land use data through recent studies, and this project builds on that information. The planning documents listed below served as the primary sources for data collection efforts used to establish the existing conditions in San Joaquin County. Existing and future conditions data summaries are presented in maps available online through the project’s web portal:

<https://fhebrandpeers.maps.arcgis.com/apps/instant/sidebar/index.html?appid=62f29415575641e18e83bc8cf48e4a7e>

The documents below also informed the mobility hub suitability methodology (discussed in Chapter 4) and will guide site prioritization for the upcoming demonstration project (discussed in Chapter 5). **Figure 7** provides a San Joaquin County map.



-  City Boundary
-  San Joaquin County Boundary

Figure 7



2022 Regional Transportation Plan / Sustainable Communities Strategy (2022 RTP/SCS, SJCOG, 2022)

This comprehensive planning document outlines the long-term transportation and land use strategy for San Joaquin County. It aims to accommodate future growth while promoting sustainability, reducing greenhouse gas emissions, and improving the overall quality of life in the region. The 2022 RTP/SCS, which served as the primary source of base year 2021 and cumulative year 2046 land use data for housing and employment for this project, integrates transportation investments with housing and environmental goals, guiding the County's development through 2046. The following 2022 RTP/SCS policies are applicable to the *San Joaquin Regional Mobility Hub Plan*:

- Enhance the environment for existing and future generations and conserve energy
- Maximize Mobility and Accessibility
- Preserve the efficiency of the existing transportation system
- Support economic vitality
- Promote interagency coordination and public participation for transportation decision-making and planning efforts
- Maximize cost-effectiveness
- Improve quality of life for residents

The *San Joaquin Regional Mobility Hub Plan* can also support VMT mitigation strategies for various regional roadway capacity and mainline highway projects identified in the 2022 RTP/SCS or as may be modified in the 2026 RTP/SCS.

San Joaquin County Regional Congestion Management Program – 2023 Monitoring Report (2023 RCMP, SJCOG, 2023)

The *San Joaquin County Regional Congestion Management Program – 2023 Monitoring Report* is a comprehensive analysis of traffic congestion and transportation system performance across the County. The report evaluates current congestion levels, identifies critical bottlenecks, and assesses the effectiveness of strategies aimed at reducing traffic delays. It serves as a key tool for planning and prioritizing future transportation improvements, ensuring that the region's roadways can effectively support growth while enhancing mobility and reducing congestion.

The 2023 RCMP served as the primary source for transit network, bicycle network, and multimodal corridor data used to inform the mobility hub suitability analysis.

San Joaquin County Alternative Fuels Vision Plan (SJCOG, 2023)

The *San Joaquin County Alternative Fuels Vision Plan* is a strategic document that outlines the County's approach to expanding the use of alternative fuels and clean energy technologies in transportation. The plan focuses on reducing greenhouse gas emissions, improving air quality, and supporting the transition to a more sustainable transportation system. It identifies opportunities for infrastructure development, such as EV charging stations and alternative fueling stations, to promote the adoption of cleaner transportation options across the County. This plan served as the primary source of data for the existing EV charging stations throughout the County, which was used to inform the mobility hub suitability.

Community, Diversity, and Displacement Study (SJCOG, 2022)

SJCOG's *Community, Diversity, and Displacement Study* is an in-depth analysis focused on understanding the impacts of regional growth and development on diverse communities within San Joaquin County. The study examines issues related to displacement, gentrification, and the preservation of community identity, particularly in areas undergoing significant changes. It aims to inform policies and strategies that promote equitable development, protect vulnerable populations, and ensure that all residents benefit from the region's growth without being displaced from their communities.

The study highlights the need to structure the *San Joaquin Regional Mobility Hub Plan* to prevent negative impacts on existing residents. To address displacement concerns, the priority neighborhood recommendations for mobility hubs consider various environmental and socioeconomic factors, ensuring that disadvantaged communities are prioritized for future mobility hub locations.

San Joaquin County Affordable Housing Needs Assessment Technical Memo (SJCOG, 2022)

SJCOG's *San Joaquin County Affordable Housing Needs Assessment Technical Memo* is a comprehensive analysis that examines the current and future demand for affordable housing across the County. The study identifies gaps in the availability of affordable housing, assesses the challenges faced by low- and moderate-income households, and provides recommendations for addressing these needs. It serves as a resource for policymakers and stakeholders in developing strategies to increase the supply of affordable housing, ensuring that all residents have access to safe, affordable, and stable housing options in San Joaquin County. This assessment was the predecessor assessment that informed the *San Joaquin County Housing Trust Fund Financial Feasibility Study* (SJCOG, 2023).

The study identified a countywide shortfall of 20,000 housing units across all income groups, with the most significant gaps in the lowest and highest income brackets, with about half of this deficit occurring in Stockton. It also emphasized the need for gap financing to build affordable housing and reduce this shortfall. These findings underscore the importance of aligning the *San Joaquin Regional Mobility Hub Plan* with future affordable housing developments, ensuring the necessary infrastructure is in place to enhance opportunities for additional gap funding sources.

San Joaquin County Housing Trust Fund Financial Feasibility Study (SJCOG, 2023)

SJCOG has recently developed a non-profit corporation known as the San Joaquin Regional Housing Fund based on this 2023 feasibility study. It is a financial mechanism designed to support the development and preservation of affordable housing throughout the County. The fund pools resources from various public and private sources to provide grants, loans, and other financial assistance for housing projects that serve low- and moderate-income households. By facilitating the creation of more affordable housing units, the housing fund aims to address the region's housing shortage and ensure that all residents have access to affordable and stable housing options. The housing fund also emphasizes the need to align the *San Joaquin Regional Mobility Hub Plan* with future affordable housing developments, ensuring that the required infrastructure is in place to improve access to additional gap funding sources.

The built environment and land use summary maps generated from many of the plans listed above are provided in **Appendix A** and described below.



3.1 Built Environment

This project focused on understanding the existing transit and park-and-ride infrastructure, along with future regional transit projects. The bicycle network is also key in linking these hubs across the County. Mobility hubs function best when integrated with transit and continuous and connected bicycle and pedestrian networks.

SJCOG and Fehr & Peers gathered substantial transit and bicycle network data for this project. However, countywide pedestrian infrastructure data, such as the presence of sidewalks and street crossings, was not readily available at the countywide scale. Consequently, the built environment data focused mostly on the transit and bicycle networks.

3.1.1 Transit Network

Transit network information was gathered from data inputs from the following service providers:

- **Altamont Commuter Express (ACE)** – provides regional passenger rail service connecting San Joaquin County to Bay Area counties
- **Amtrak** – provides regional passenger rail service connecting San Joaquin County to Bay Area, Central Valley and Sacramento counties
- **City of Escalon (eTrans Service)** – provides service between Escalon and Modesto’s Vintage Faire Mall
- **City of Lodi (GrapeLine Service)** – provides local bus service for Lodi
- **City of Manteca (Manteca Transit Service)** – provides local bus service for Manteca
- **City of Ripon (Blossom Express Service)** – provides local bus service for Ripon and service to Modesto
- **City of Tracy (TRACER Bus Service)** – provides local bus service for Tracy
- **Modesto Area Express** – provides commuter connections between Modesto and the Lathrop/Manteca ACE Station
- **San Joaquin Regional Transit District (San Joaquin RTD)** - provides fast and frequent service with Bus Rapid Transit Express within the Stockton Area, Metro Hopper which is a deviated fixed-route service serving popular destinations in Stockton city, Commuter line which connects San Joaquin to Sacramento and Dublin/Pleasanton BART, local fixed-route service within the Stockton Metropolitan Area connecting RTD’s Express, Hopper, and Commuter services. On demand rideshare services, Van Go! and Dial-A-Ride, are also available to provide safe, convenient, and flexible travel experience for regular passengers and those who qualify under the Americans with Disabilities Act (ADA)

Transit stops were categorized in the following four categories:

- **Existing Local Bus Stops** – usually served by local bus and school routes, with bus headways typically ranging from 30 to 60 minutes or longer. Weekend transit service is generally limited at these stops. At a minimum, local bus stops offer signage, but they may or may not include a bus shelter, bench, or wayfinding information.

- **Existing Transit Centers** – served by regional transit services connecting various cities within San Joaquin County. Transit centers also offer commuter routes linking select San Joaquin County cities to neighboring counties. Transit centers also offer transfer connections to local bus services. Bus headways at these centers typically range from 15 to 60 minutes. Transit Centers usually provide more amenities, such as bus shelters, benches, real-time arrival information, fare payment systems, wayfinding signage and transit route information.
- **Existing Rail Stations** – Passenger rail services are currently offered through ACE and Amtrak stations in select cities across San Joaquin County.
- **Future Rail Stations** – Future rail stations that are planned as part of regional of the Valley Link and Valley Rail project improvements, enhancing connections between San Joaquin County and the surrounding Bay Area, Central Valley, and Northern California counties.

An existing and planned transit network map is provided in **Appendix A** and on the project’s web portal linked above. **Table 7** lists the existing transit centers and rail stations in San Joaquin County. Future rail stations anticipated to be constructed as part of planned regional ACE network projects are also listed.

Table 7: Transit Centers & Train Stations in San Joaquin County

Existing Transit Centers	Existing Rail Stations	Future Rail Stations ¹
<ul style="list-style-type: none"> • Downtown Lodi Transit Center • Downtown Stockton Transit Center • Hammer Transfer Station (Stockton) • Mall Transfer Station (Stockton) • Manteca Transit Center • Tracy Transit Center • Union Transfer Station (Stockton) 	<ul style="list-style-type: none"> • Lathrop/Manteca ACE Station • Lodi Amtrak Station • Stockton Robert J. Cabral ACE and Amtrak Station • Stockton South San Joaquin Street Amtrak Station • Tracy ACE Station 	<ul style="list-style-type: none"> • Lodi Valley Rail Station • Manteca Valley Rail Station • Mountain House Valley Link Station • North Lathrop Valley Rail Station • Ripon Valley Rail Station • Tracy Valley Link Station

Notes;

1. Future Valley Link and Valley Rail station data is based on information provided by SJCOG in September 2024.

Source: Fehr & Peers, November 2024.

The City of Lathrop and San Joaquin RTD are currently developing the Lathrop Transit Study⁷ to assess public transportation needs and opportunities within the city. The study aims to establish a citywide transit plan that will explore ways to improve public transportation options in Lathrop. The study is expected to be completed in early 2025. Since transit improvement concepts are still being developed, preliminary findings of the Lathrop Transit Study are not reflected in the transit network map in **Appendix A** or **Table 7**.

Existing transit centers and rail stations provide regional transit services that connect to various cities in the Bay Area, Central Valley, and Sacramento region. Transit services that link San Joaquin County residents to jobs outside of San Joaquin County have the greatest potential to reduce regional VMT during peak commute periods. **Table 8** lists existing bus stops, transit centers and train stations outside San Joaquin County that offer services connecting to cities within the County.

⁷ See project website for more information on the Lathrop Transit Study: <https://fp.mysocialpinpoint.com/lathrop-transit-study>

Table 8: Bus Stops, Transit Centers & Train Stations Outside of San Joaquin County that Offer Transit Services Connecting to San Joaquin County

Existing Transit Centers & Bus Stops	Existing Rail Stations ¹	Future Rail Stations ²
<ul style="list-style-type: none"> • Dublin/Pleasanton Transit Center • Local Bus Stops Throughout North Modesto • Regional Bus Stops Throughout Downtown Sacramento 	<ul style="list-style-type: none"> • Downtown Livermore ACE Station • Dublin/Pleasanton BART Station • Emeryville Amtrak Station • Fremont ACE Station • Livermore Vasco Road ACE Station • Martinez Amtrak Station • Merced Amtrak Station • Modesto Amtrak Station • Oakland Jack London Amtrak Station • Pleasanton ACE Station • Richmond Amtrak & BART Stations • Sacramento Amtrak Station • San Jose Station • Santa Clara Great America Parkway ACE Station • Santa Clara ACE Station • Turlock-Denair Amtrak Station 	<ul style="list-style-type: none"> • Atwater Valley Rail Station • Elk Grove Valley Rail Station • Livermore Isabel Valley Link Station • Livermore Southfront Valley Link Station • Livingston Valley Rail Station • Merced Valley Rail Station • Modesto Valley Rail Station • Old North Sacramento Valley Rail Station • Sacramento City College Valley Rail Station • Sacramento Midtown Valley Rail Station • Turlock Valley Rail Station

Notes;

1. The Existing Amtrak network extends beyond the stations listed in this table as this table only list key stations closest to San Joaquin County.
2. Future Valley Link and Valley Rail station data is based on information provided by SJCOG in September 2024.

Source: Fehr & Peers, November 2024.

3.1.2 Existing Park-and-Ride Network

Park-and-Ride facilities provide off-street parking with connections to regional transit services, catering to users who cannot access transit via bicycling or walking and must drive to a transit stop instead. Currently, there are 20 designated Park-and-Ride facilities across San Joaquin County. These facilities are listed in **Table 9** and are shown on a map in **Appendix A** and the project web portal.

Caltrans currently owns and operates three out of the 20 Park-and-Ride facilities in San Joaquin County. They are also developing a *Mobility Hub Design and Operations Guide* for the statewide Park-and-Ride network. This guide will inform future improvements and operations funded by Caltrans and aligns closely with the goals of this project.

Table 9: Existing Park-and-Ride Lots in San Joaquin County

Location	Operator
Escalon Plaza	City of Escalon
Viking & Main	City of Escalon
Downtown Lodi Transit Center	City of Lodi
SR 99/Victor Road Park-and-Ride, Lodi	Caltrans
I-5/Thornton Road Park-and-Ride, Flag City	Caltrans
Lathrop/Manteca ACE Station	ACE
Lathrop Valverde Park	City of Lathrop
Manteca Big League Dreams Sports Park	Developer/City of Manteca
Lathrop Crossroads Shopping Center	San Joaquin RTD
SR 99/Jack Tone Road	City of Ripon
Calvary First Church	San Joaquin RTD
LifeSong Church	San Joaquin RTD
Morada Ranch Shopping Center	Developer/City of Stockton
SR 99/Mariposa Road Park-and-Ride	Caltrans
Stockton ACE Station	ACE
Hammer Crossing Shopping Center	San Joaquin RTD
Tracy ACE Station	ACE
Tracy Transit Center	City of Tracy
Tracy Park and Ride Lot South	City of Tracy
Northgate Village	Developer/City of Tracy

Source: SJCOG, September 2024.

3.1.3 Existing Bicycle Network

The bikeway facilities currently available in San Joaquin County follow standards approved by Caltrans in the *Highway Design Manual 7th Edition* (Chapter 1000: Bikeway Planning and Design) which classify the following four bikeway types:

- **Class I Bikeway (Bike Path)** provides a separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with vehicle and pedestrian crossflow minimized.
- **Class II Bikeway (Bike Lane)** provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Vehicle parking and vehicle/ pedestrian crossflow are permitted. Buffered bicycle lanes are also included in the Class II bikeway type.
- **Class III Bikeway (Bike Route)** provides for a right-of-way designated by signs or pavement markings for shared use with motor vehicles.
- **Class IV Bikeway (Separated Bikeway)** is a bikeway for the exclusive use of bicycles and includes a separation between the bikeway and the through vehicular traffic. The separation may include, but is not limited to, grade separation, flexible posts, inflexible posts, inflexible barriers, or on-street parking.

The Existing Bike Network map is provided in **Appendix A** and the project web portal. The bike network is based on information gathered from SJCOG’s 2023 RCMP and data provided by the City of Stockton and San Joaquin County staff. Class I, II, and III bikeways exist throughout San Joaquin County. As of the last 2023 RCMP update, the SJCOG bikeway inventory includes 126 miles of Class I bicycle paths, 152 miles of Class II bicycle lanes, and 63 miles of Class III shared bicycle routes. A Class IV bikeway currently exists along Jack Tone Road from Main Street to Doak Boulevard in the City of Ripon.

3.1.4 RCMP Multimodal Corridors

SJCOG, in collaboration with its member agencies, has designated a subset of the RCMP network as RCMP multimodal corridors. These corridors are specific sections of the RCMP roadway network where pedestrian, bicyclist, transit passenger, and motorist levels of service are analyzed. This designation enables the use of a broader range of strategies to address congestion-related issues without increasing vehicular capacity. Along with the currently designated baseline segments, the RCMP also identifies future segments likely to meet multimodal corridor criteria as they develop. The selection of multimodal corridors was guided by the criteria below; the corresponding corridors are listed in **Table 10**.

- The roadway is part of the regional network and serves as a city’s or community’s main street.
- The roadway exhibits "Complete Streets" characteristics, with limited additional right-of-way and a shared existing right-of-way among various users (motorists, pedestrians, bicyclists, and transit passengers).
- The roadway passes through areas with existing or future urbanized development patterns.

The RCMP multimodal corridors map is shown in **Appendix A** and the project’s web portal.

Table 10: RCMP Multimodal Corridors

ID	Roadway	Segment	Status	Jurisdiction
1	State Route 88	Locke Rd to North Sierra Dr	Existing	County
		Brandt Rd to eastern town limit of Lockeford	Future	County
2	State Route 120	McHenry Ave-Escalon Bellota Rd to David Dr	Existing	Escalon
3	Lathrop Rd	Crestwood Ave to S Airport Wy	Existing	Manteca
		S Harlan Rd to 7th St	Existing	Lathrop
		S Harlan Rd to Crestwood Ave	Future	Lathrop/County/ Manteca
4	State Route 12/ Kettleman Ln	Lower Sacramento Rd to Cherokee Ln	Existing	Lodi
5	Yosemite Ave	Airport Wy to Northwoods Ave-Commerce Ave	Existing	Manteca
6	Main St	Jack Tone Rd to Stockton Ave	Existing	Ripon
7	March Ln	Da Vinci Dr-Quail Lakes Dr to West Ln	Existing	Stockton
8	Eight Mile Rd	Thornton Rd to Davis Rd	Existing	Stockton
		Trinity Pkwy to Davis Rd	Future	Stockton
9	Hammer Ln	Kelley Dr to Maranatha Dr	Existing	Stockton
10		Royal Oaks Dr to Hammer Ln	Existing	Stockton

Table 10: RCMP Multimodal Corridors

ID	Roadway	Segment	Status	Jurisdiction
	Lower Sacramento Rd	Eight Mile Rd to Hammer Ln	Future	Stockton
11	West Ln-Airport Wy	El Pinal Dr to Roosevelt St	Existing	Stockton
		E Alpine Ave to E Roosevelt St	Future	Stockton
12	11th St	Lammers Rd to N MacArthur Dr (west)	Existing	Tracy
13	State Route 26	N Granada Ln to N Market St	Future	County

Source: *San Joaquin County Regional Congestion Management Program – 2023 Monitoring Report* (SJCOG, December 2023).

3.1.5 Existing Electric Vehicle Charging Stations

Existing EV charging infrastructure can enhance access to clean transportation modes and can potentially support the growth of EV carsharing programs. EV charging infrastructure can encourage more people to choose sustainable transportation options and can enhance the amenities provided at future mobility hub sites. A map of the existing EV charging network is provided in **Appendix A** and the project’s web portal. The existing information is based on data gathered as part of the *San Joaquin County Alternative Fuels Vision Plan* (SJCOG, 2023).

SJCOG recently secured funding from Caltrans’ Charging and Fueling Infrastructure (CFI) Program to implement several new EV charging stations across San Joaquin County. These planned future EV charging stations are also displayed on the EV charging network map in **Appendix A**. Please note that the proposed locations are tentative and may be subject to change.

3.2 Land Use

Land use data is crucial in determining the suitability of future mobility hub sites, as it provides insight into potential demand for services provided at hubs. By analyzing land use patterns, such as residential housing density and job density, and the mix of different land uses, planners can identify areas where mobility hubs would be most effective. High-density areas with a mix of residential and commercial uses, for example, are likely to generate significant demand for multimodal transportation options, making them ideal candidates for mobility hubs. Additionally, understanding the current and planned land use helps ensure that mobility hubs are strategically located to serve the greatest number of people and facilitate seamless connections between different modes of transportation. This data also aids in anticipating future growth and development, ensuring that mobility hubs are not only relevant today but remain effective as communities evolve.

The 2022 RTP/SCS is the primary source of residential housing and jobs data for base year (2021) and cumulative year (2046) countywide conditions.

3.2.1 Residential Land Uses

Residential land use data from the 2021 travel demand model, developed for the 2022 RTP/SCS update, was used to determine housing densities for both the base year 2021 and cumulative year 2046

conditions. While the original travel demand model data is summarized within Traffic Analysis Zone (TAZ) boundaries, for the purposes of the mobility hub suitability evaluation, this data was converted into equal-sized hexagonal grids, each approximately half-a-mile wide and half-a-mile long (covering about 104 acres in area). Maps showing housing densities for both the base year 2021 and cumulative year 2046 are provided in **Appendix A** and on the project's web portal.

Cities in San Joaquin County provide an average housing density of 1.4 units per acre or lower. The highest base year 2021 density was observed at 7.3 units per acre in the City of Stockton. The housing density data is based on the aggregated 2022 RTP/SCS land use data summarized in hexagon boundary shapes covering an area of about 104 acres per hexagon.

Residential density is expected to increase substantially by the cumulative year 2046. The average residential density is expected to increase to 1.8 units per acres (29% increase) in San Joaquin County cities. The maximum density is estimated at 14.30 units per acre in the City of Stockton.

3.2.2 Employment Land Uses

Jobs data from the 2021 travel demand model, developed for the 2022 RTP/SCS update, was utilized to determine job densities for both the base year 2021 and cumulative year 2046 conditions. This data was also mapped onto equal-sized hexagonal grids, each approximately half-a-mile wide and half-a-mile long. The jobs data accounts for all job types within the 2022 RTP/SCS land use plan, including office jobs, government jobs, healthcare jobs, service jobs, industrial jobs, and agricultural jobs. Base year 2021 and cumulative year 2046 job density maps are presented in **Appendix A** and the project's web portal.

Cities in San Joaquin County provide an average job density of 1.3 jobs per acre or lower. The highest base year 2021 density was observed at 29.7 jobs per acre in the City of Stockton.

Job density is expected to increase substantially by the cumulative year 2046. The average job density is expected to increase to 1.6 jobs per acre (23% increase) in San Joaquin County cities. The maximum density is estimated at 31.6 jobs per acre in the City of Stockton.

3.2.3 Open Space and Parks

Recreational open spaces and parks are essential to community development and placemaking within residential neighborhoods. These areas offer potential locations for community hubs that can connect directly to nearby residential areas. A map of parks and open spaces is available in **Appendix A** and on the project's web portal.

3.2.4 Disadvantaged Communities

One of the goals of this project is to support transit-oriented development opportunities throughout San Joaquin County. The data sets listed below were used to identify disadvantaged communities in San Joaquin County. The upcoming demonstration project site selection process will prioritize selecting mobility hub sites to support transit-oriented developments and affordable housing. Understanding the region's disadvantaged communities and multimodal transportation network is essential for identifying neighborhoods with greater potential to affirmatively further fair housing opportunities.

CalEnviroScreen (CES)

A tool developed and maintained by California's Office of Environmental Health Hazard Assessment on behalf of the California Environmental Protection Agency (CalEPA), providing the public with a transparent assessment of pollution burdens and environmental and health vulnerabilities across California. It provides a relative quantification of pollution exposure and its impacts, as well as data on health and socioeconomic status, at a census tract level. The Version 4.0 data from October 2021 was used for this study. According to CalEPA, census tracts that score in the 75th percentile or higher are considered disadvantaged.

Climate and Economic Justice Screening Tool (CEJST)

A geospatial mapping tool that identifies communities nationwide facing significant burdens across eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development. Communities are considered disadvantaged if they meet the thresholds in at least one of these categories or if they are located within the boundaries of Federally Recognized Tribes.

California Tax Credit Allocation Committee (TCAC)/HCD Opportunity MAP

A tool developed by the TCAC and HCD to identify areas of opportunity across the state. This map is used to guide the allocation of affordable housing resources by highlighting neighborhoods that offer residents access to high-quality schools, employment opportunities, and other key resources that contribute to positive life outcomes.

The methodology involves analyzing a variety of indicators related to economic, environmental, and educational conditions to categorize census tracts into different levels of opportunity, ranging from high to low. The significance of the Opportunity Map lies in its role in directing affordable housing investments to areas where residents are more likely to thrive, helping to promote equitable development and reduce disparities in access to resources across California.

A community is considered disadvantaged in the context of the TCAC/HCD Opportunity Map if it falls into the "Low Resource" or "High Segregation & Poverty" categories. These areas are identified as having fewer opportunities and greater barriers to economic mobility, making them a focus for targeted interventions and resources to improve access to housing, education, and other essential services.

A map of the CES 4.0, CEJST, and TCAC/HCD data is provided in **Appendix A** and the project's web portal. Nearly half of San Joaquin County falls within area designated as a disadvantage community. **For this project, A disadvantaged community is defined as a neighborhood that meets any of the thresholds outlined in CES 4.0, CEJST, or the TCAC/HCD Opportunity Map, as described above.** This information will be used to inform the demonstration project site selection.

The project team also reviewed the Caltrans Transportation Equity Index (EQI)⁸ for potential use in this project. The EQI is a data-driven tool that identifies and prioritizes transportation investments in historically underserved or marginalized communities, using various demographic, socioeconomic, and

⁸ For more information on Caltrans Transportation EQI methodology, visit: <https://dot.ca.gov/programs/esta/race-equity/eqi>

transportation indicators to assess equity and inform decision-making. Given the substantial overlap with the CES, CEJST, and TCA/HCD indices, and the mobility hub suitability methodology outlined in Chapter 4, the EQI was not explicitly incorporated to avoid redundancy. However, public agencies may find the EQI valuable for informing and prioritizing future mobility hub implementation.

3.3 Existing Travel Demand Management (TDM) Programs

SJCOG currently operates various TDM programs throughout San Joaquin County. SJCOG is currently developing a new countywide TDM Plan in collaboration with the Merced County Association of Governments (MCAG) to guide future TDM program improvements. The *San Joaquin Regional Mobility Hub Plan* will be incorporated into this upcoming TDM Plan update. The *San Joaquin Regional Mobility Hub Plan* will also include a range of TDM amenities and services that can be implemented at future mobility hubs throughout the region.

3.3.1 Dibs – Smart Travel

Dibs is SJCOG’s primary TDM program, which promotes smart travel options, such as carpooling, vanpooling, riding transit and biking to work to improve air quality and reduce traffic congestion in San Joaquin and Merced counties. The program aims to improve air quality, roadway operations, and public health by promoting sustainable travel options.

3.3.2 Vamos Mobility App

The Vamos Mobility App serves residents in San Joaquin and Stanislaus counties by providing information, route planning, and ticket purchasing for multiple transit agencies, including San Joaquin RTD and local transit providers in Escalon, Ripon, Manteca, Tracy, and Lodi. Users can reserve Uber trips, Míocar carsharing services, microtransit, and paratransit services within the app. The Vamos Mobility app is currently being enhanced to connect Stockton residents with electric carsharing and bikesharing services offered by the Stockton Mobility Collective (SMC). Bikesharing services are funded through December 2024, but it’s still uncertain whether the program will receive funding beyond that.

3.3.3 Stockton Transit and Mobility Incentives

The Stockton Transit and Mobility Incentives pilot program, part of the SMC project, offers eligible residents prepaid debit cards for transit-related services. Administered by SJCOG and funded through the California Air Resources Board’s Sustainable Transportation Equity Project (STEP), the program aims to provide flexible transportation options and encourage the use of alternative transit in Stockton. Qualified participants receive cards with an initial load of \$100 and thereafter an additional \$100 twice per month if the balance is \$50 or lower, which can be used for various transportation services like local buses, carsharing, bikesharing, and ridesharing (e.g., Uber and Lyft).

3.3.4 Carsharing Services

As part of the SMC project, SJCOG partnered with Míocar to launch a nonprofit EV carsharing service on April 1, 2023. Míocar provides up to 30 EVs available at six or seven stations primarily in south Stockton and along major transportation corridors in Stockton. These stations are strategically located in historically underserved neighborhoods to address mobility challenges and connect residents to essential



services, shopping, schools, and jobs. The service is accessible to residents 21 years or older with a valid driver's license and a payment method.

SJCOG also oversees the Clean Mobility Options (CMO) electric carsharing service project. It aims to expand access to Mfocar with up to 11 EVs at convenient locations in Stockton and San Joaquin County. The project will advance social equity by offering residents in disadvantaged communities' access to clean, affordable, and convenient transportation options.

3.3.5 Bikesharing Services

As part of the SMC project, SJCOG is currently in the process of redesigning the Bike Stockton program to better offer e-bikes as a viable transportation option for Stockton residents. In 2024 the Bike Stockton program relaunched with e-bikes at University of the Pacific and two Visionary Homebuilders low-income housing developments in downtown Stockton. In September 2024 Bike Stockton began accepting applications for Long Term Lending (LTL) e-bikes from residents who are incentives card holders. Bikesharing services are funded through December 2024, but it's still uncertain whether the program will receive funding beyond that.

3.4 Travel Demographics

University of the Pacific (UOP) staff provided extensive transportation data summarized from the U.S. Census Bureau's *2018-2022 American Community Survey (ACS) 5-Year Estimates for San Joaquin County*. This ACS data offers valuable insights into travel demographics across the County.

3.4.1 Commute Mode Split

The mode split data in **Table 11** reveals several key trends in commuting behavior across different areas of San Joaquin County. The majority of commuters in all cities and unincorporated areas drive alone, with percentages ranging from about 59% in Mountain House to over 82% in Ripon. Carpooling is the second most common mode of transportation, particularly in Mountain House (17%) and Lathrop (16%), indicating some degree of shared travel among residents.

Public transportation usage is generally low across the region, with the highest percentage observed in Mountain House at 3.3%. Active transportation modes like walking and bicycling are also minimal, though Escalon stands out with a higher percentage of commuters walking (5.8%) and bicycling (1.9%) compared to other areas. Additionally, the percentage of people working from home is notably higher in Mountain House (16%) than in other areas, reflecting potential flexibility in job locations or remote work opportunities in this community. Overall, the data suggests a strong reliance on personal vehicles for commuting, with limited adoption of transit and active transportation modes.

Table 11: Average Commute Mode Split

Mode	Escalon	Lathrop	Lodi	Manteca	Mountain House	Ripon	Stockton	Tracy	Unincorporated
Drive Alone	75.5%	73.5%	78.0%	75.8%	59.4%	82.8%	77.8%	72.8%	76.4%
Carpool	7.2%	15.6%	10.6%	11.4%	17.3%	6.8%	13.1%	11.5%	15.2%
Public Transit	0.0%	1.9%	0.4%	2.0%	3.3%	0.7%	1.3%	1.7%	0.6%
Taxicab	0.0%	0.1%	0.0%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%
Motorcycle	0.0%	0.2%	0.0%	0.2%	0.2%	0.8%	0.0%	0.5%	0.2%
Bicycle	1.9%	0.4%	0.5%	0.2%	2.3%	0.5%	0.3%	0.2%	0.2%
Walk	5.8%	0.4%	1.8%	0.9%	0.0%	0.3%	0.9%	1.1%	1.9%
Other Means	0.0%	0.7%	0.6%	0.7%	1.6%	0.4%	0.8%	0.8%	0.5%
Work From Home	9.6%	7.2%	8.0%	8.6%	16.0%	7.8%	5.7%	11.4%	9.2%

Source: 2018-2022 American Community Survey 5-Year Estimates (U.S. Census Bureau).

3.4.2 Vehicle Ownership

Table 12 provides insights into the availability of vehicles per household across various cities and unincorporated areas in San Joaquin County. The data indicates that most households in all areas have at least two vehicles, with the highest percentages seen in Lathrop (86%) and Ripon (79%). Households with three vehicles or more are also common, particularly in Lathrop (46%) and Tracy (42%), reflecting a significant number of multi-vehicle households in these areas.

A smaller percentage of households have four or more vehicles, with notable figures in Lathrop (19%), Mountain House (18%), and the unincorporated areas (17%). These numbers suggest that these communities may have a higher need for multiple vehicles, possibly due to larger household sizes or limited public transportation options. On the other hand, the percentage of households with no vehicles is relatively low across most areas, with Stockton having the highest at 8%, followed by Lodi at 7%. Overall, the data suggests that vehicle ownership is widespread, with many households owning multiple vehicles, underscoring the region's reliance on personal vehicles for transportation.

Table 12: Average Vehicle Ownership per Household

Vehicles Available	Escalon	Lathrop	Lodi	Manteca	Mountain House	Ripon	Stockton	Tracy	Unincorporated
Occupied Housing Units	2,880	7,359	22,841	26,217	6,159	5,580	96,975	27,645	41,767
No Vehicles	2.1%	1.0%	6.7%	3.7%	2.7%	1.8%	7.5%	3.2%	3.3%
1 Vehicle	24.2%	13.5%	29.3%	21.7%	25.4%	19.5%	29.7%	20.0%	24.5%
2 Vehicles	44.4%	39.1%	38.7%	37.1%	34.7%	44.4%	34.5%	35.2%	35.3%
3 Vehicles	23.2%	27.8%	17.4%	22.7%	19.1%	23.2%	17.5%	24.0%	19.9%
4 or more Vehicles	6.2%	18.6%	8.0%	14.8%	18.1%	11.1%	10.8%	17.6%	17.0%

Source: 2018-2022 American Community Survey 5-Year Estimates (U.S. Census Bureau).

3.4.3 Employment Locations

The employment location data summarized in **Table 13** for San Joaquin County residents shows a consistent pattern of employment both within and outside the County over the past five years. As of 2021, 54% of residents were employed outside the County, reflecting a steady increase in the proportion of commuters leaving the County for work, up from 52% in 2017. This data indicates a growing trend of out-of-county commuting among San Joaquin County residents, highlighting the importance of regional transportation networks and the potential need for mobility hubs to expand access to regional transit services.

The data in **Table 14** highlights the top 10 cities where employed San Joaquin County residents work. Stockton stands out as the primary employment city for San Joaquin County residents, consistently accounting for around 21-23% of all employment locations over the past five years. Other cities within the County, such as Tracy, Lodi, and Manteca, also make the top 10 list, though with smaller shares, ranging from approximately 3% to 5%.

Several cities outside of San Joaquin County also make the top 10 list. Notably, San Jose, Livermore, and Fremont in the Bay Area, as well as Modesto and Sacramento, are significant job locations. These cities consistently attract around 2-3% of San Joaquin County’s workforce. The presence of major employment hubs outside the County indicates a substantial number of residents commuting long distances for work. Additionally, the category "All Other Locations" represents nearly half of the employment locations, indicating that a wide range of other cities, both within and outside San Joaquin County, contribute to the diverse employment landscape for residents.

Table 13: Employment Locations for Employed San Joaquin County Residents

Demographic	2021		2020		2019		2018		2017	
	Count	Share								
Living in San Joaquin County	278,865	100.0%	273,194	100.0%	276,132	100.0%	273,545	100.0%	266,001	100.0%
Living and Employed in San Joaquin County	128,263	46.0%	127,213	46.6%	129,238	46.8%	129,038	47.2%	127,362	47.9%
Living in San Joaquin County but Employed Outside	150,602	54.0%	145,981	53.4%	146,894	53.2%	144,507	52.8%	138,639	52.1%

Source: 2018-2022 American Community Survey 5-Year Estimates (U.S. Census Bureau).

Table 14: Top 10 Employment Cities for Employed San Joaquin County Residents

City	2021		2020		2019		2018		2017	
	Count	Share								
Stockton, CA	58,228	20.9%	58,946	21.6%	60,224	21.8%	61,169	22.4%	60,871	22.9%
Tracy, CA	15,984	5.7%	13,357	4.9%	14,089	5.1%	13,942	5.1%	12,950	4.9%
Lodi, CA	12,993	4.7%	12,933	4.7%	13,628	4.9%	13,509	4.9%	13,371	5.0%
San Jose, CA	8,551	3.1%	8,013	2.9%	7,837	2.8%	7,963	2.9%	7,474	2.8%
Livermore, CA	8,416	3.0%	8,409	3.1%	8,124	2.9%	7,929	2.9%	7,674	2.9%
Manteca, CA	8,196	2.9%	8,195	3.0%	8,758	3.2%	8,778	3.2%	8,697	3.3%
Modesto, CA	8,003	2.9%	7,792	2.9%	7,992	2.9%	7,722	2.8%	7,926	3.0%
Sacramento, CA	7,043	2.5%	7,744	2.8%	7,540	2.7%	7,543	2.8%	7,413	2.8%
Fremont, CA	6,335	2.3%	5,628	2.1%	5,719	2.1%	5,234	1.9%	4,205	1.6%
San Francisco, CA	6,259	2.2%	6,292	2.3%	6,594	2.4%	5,987	2.2%	5,904	2.2%
All Other Locations	138,857	49.8%	135,885	49.7%	135,627	49.1%	133,769	48.9%	129,516	48.7%

Source: 2018-2022 American Community Survey 5-Year Estimates (U.S. Census Bureau).



3.4.4 Commute Travel Time by Mode

One-way commute travel time by mode data for every city in San Joaquin County is summarized in **Appendix B**. The data reveals significant variations across San Joaquin County, highlighting the differences in commute experiences depending on the mode of transportation and the location. For those driving alone, a substantial percentage of commuters in areas like Escalon (18%) and Lodi (24%) experience relatively short travel times of less than 10 minutes, indicating that many residents live close to their workplaces. However, in areas like Mountain House and Tracy, a considerable proportion of drivers face much longer commutes, with 41% in Mountain House and 32% in Tracy commuting for 60 minutes or more one-way, reflecting the distance from these communities to major job centers.

For those who carpool, the trend of longer commutes is even more pronounced. In Mountain House, over 50% of carpoolers travel for 60 minutes or more one-way, while in Tracy, nearly 46% of carpoolers experience similar lengthy commutes. This suggests that carpooling is more common in areas where people travel significant distances, possibly to reach jobs in the Bay Area or other regional centers.

Public transportation users, although a smaller group overall, also tend to have long commutes. In Mountain House and Lathrop, all public transit commuters report travel times of 60 minutes or more one-way. This reflects the extended travel times associated with public transportation in less urbanized areas, where services are less frequent, and destinations are farther away.



Chapter 4: Mobility Hub Suitability Tool

This chapter explores the built environment and land use factors that play an essential role in determining the suitability of neighborhoods for the development of mobility hubs. Mobility hubs are designed to serve as central points for various transportation options, facilitating seamless connectivity for residents and reducing reliance on SOVs. To effectively assess where these hubs can be most beneficial, it is essential to analyze the existing infrastructure and land use patterns throughout the County.

Key factors such as proximity to transit, housing density, jobs density, and the availability of multimodal transportation options all contribute to the suitability of a neighborhood for a mobility hub. Additionally, land use characteristics, including the mix of housing and jobs, and potential for future development, are critical in identifying neighborhoods where mobility hubs can have the greatest benefits.

The methodology for evaluating mobility hub suitability is based on the built environment and land use data discussed in Chapter 3. The purpose of this evaluation is to identify neighborhoods with high potential for mobility hub use, rather than pinpointing exact locations within those neighborhoods for hub placement. This approach allows flexibility, enabling the PAG to nominate specific sites within suitable areas, guided by additional prioritization criteria outlined in Chapter 5. A summary of the mobility hub suitability methodology is provided below.

4.1 Affordable Housing Focused Framework

The goals of the *San Joaquin Regional Mobility Hub Plan* align with the REAP 2.0 program's objectives of accelerating infill development, reducing VMT, and supporting AFFH principles. The plan considers the placement of mobility hubs in areas where enhanced access to transportation and housing opportunities can promote more equitable and sustainable growth, with a focus on communities that would benefit most from improved mobility options.

As highlighted in the *San Joaquin County Housing Trust Fund Financial Feasibility Study* (SJCOG, 2023), affordable housing projects are heavily dependent on diverse public financing sources, including state and federal grants, to become viable. Fehr & Peers examined various grant application criteria and scoring methodologies outlined on HCD's Affordable Housing and Sustainable Communities (AHSC) Program website⁹. From this review, the following transportation-focused criteria were commonly found in the scoring process:

- **Proximity to Transit:** Points are awarded based on how close the housing development is to high-quality transit, such as bus, rail, or other public transportation services. Projects near frequent and reliable transit options score higher.
- **Active Transportation Infrastructure:** This includes the availability and quality of pedestrian and bicycle infrastructure, such as sidewalks, bike lanes, and crosswalks, that connect the housing development to transit stops and other key destinations.
- **TDM & VMT Reduction Strategies:** Projects are evaluated on their potential to reduce VMT by promoting transit use, active transportation, and reducing the need for private vehicle trips. Points are awarded for the inclusion of TDM measures, such as carpool programs, bike-sharing, transit passes for residents, and parking management strategies that encourage the use of sustainable transportation modes.

These criteria are designed to ensure that funded projects contribute to the creation of sustainable, livable communities by integrating affordable housing with effective and environmentally friendly transportation options. The mobility hub suitability methodology was designed to identify San Joaquin County neighborhoods with the greatest potential for implementing mobility hubs that meet the transportation criteria commonly required in HCD affordable housing funding applications. By focusing on these areas, the methodology identifies where mobility hubs can most effectively enhance the potential for planned affordable housing developments to secure grant funding, while also supporting the newly established San Joaquin Regional Housing Fund. A map of the Regional Housing Fund development pipeline is provided in **Appendix A** and the project web portal.

4.2 Mobility Hub Suitability Methodology

The Mobility Hub Suitability is determined by two key factors: the built environment and land use. A scoring system was created to calculate the Mobility Hub Suitability Score, which ranges from 0 to 100 points. Both the built environment and land use contribute equally, with each accounting for up to 50 points of the total score. The scoring system framework is summarized in **Table 15**, the detailed scoring methodology is provided in **Appendix C**.

⁹ Website: <https://www.hcd.ca.gov/grants-and-funding/programs-active/affordable-housing-and-sustainable-communities>

Table 15: Mobility Hub Suitability Tool Scoring Methodology (100 Points Total)

Built Environment (Max 50 Points)	Land Use (Max 50 Points)
Existing & Future Transit Network (Max 20 Points)	Base Year Housing Density (Max 15 Points) ¹
Existing Park-and-Ride Lots (Max 10 Points)	Cumulative Year Housing Density (Max 10 Points) ¹
Existing Bike Network Connectivity (Max 10 Points)	Base Year Job Density (Max 15 Points) ²
Existing & Future Multimodal Corridors (Max 5 Points)	Cumulative Year Job Density (Max 10 Points) ²
Existing EV Charging Stations (Max 5 Points)	Existing Parks (Max 10 Points)

Notes:

1. Combined base year and cumulative year housing density score cannot exceed 20 points
2. Combined base year and cumulative year job density score cannot exceed 20 points.

Source: Fehr & Peers, November 2024.

4.2.1 Built Environment Scoring

The built environment is a crucial factor in assessing the suitability of locations for mobility hubs. The physical layout and infrastructure within a neighborhood directly impact the effectiveness of a mobility hub, influencing how easily residents can access various transportation options. A well-designed built environment supports diverse, sustainable transportation modes, thereby reducing dependence on SOVs and fostering a more connected and efficient transportation network.

In evaluating the Mobility Hub Suitability Score, the built environment elements listed in **Table 15** were integrated into the scoring methodology to ensure a comprehensive assessment. These elements were carefully selected for their potential to enhance the functionality and accessibility of mobility hubs:

- **Existing and Future Transit Network (Max 20 Points):** The presence and quality of existing transit services are critical for a successful mobility hub. Areas with robust transit networks scored higher, as they provide essential connections for residents and support the use of alternative transportation modes. Planned future transit station improvements are also accounted for in this assessment.
- **Existing Park-and-Ride Lots (Max 10 Points):** The availability of park-and-ride facilities is an important consideration, as these lots facilitate the use of transit by providing convenient parking options for those who must drive part of their commute. Locations with existing park-and-ride lots received higher scores, indicating their readiness to support mobility hubs.
- **Existing Bike Network Connectivity (Max 10 Points):** A connected and accessible bike network is essential for encouraging cycling as a mode of transportation. Areas with strong bike network connectivity scored higher, indicating their capacity to support multimodal transportation and reduce reliance on cars.
- **Existing and Future RCMP Multimodal Corridors (Max 5 Points):** RCMP multimodal corridors are designed to support multiple modes of transportation, including walking, biking, and transit. Integrating these corridors into the planning process can help strategically place mobility hubs in areas that already emphasize multimodal access, increasing their effectiveness in reducing congestion and promoting sustainable transportation options.
- **Existing EV Charging Stations (Max 5 Points):** Existing EV charging infrastructure plays an important role in promoting clean transportation modes and can support the expansion of EV carsharing programs. Neighborhoods with existing EV charging stations were given additional points, reflecting their potential to support clean mobility options. Planned future EV charging

stations are shown on the EV charging network map in **Appendix A**; however, the proposed locations are tentative and may change. As a result, these future EV charging stations were not included in the mobility hub suitability score methodology.

4.2.2 Land Use Scoring

Land use densities, particularly in terms of housing and jobs, contribute to the success of mobility hub operations. Since transit access is a key component of effective mobility hubs, understanding and applying appropriate density thresholds is essential for their viability. Fehr & Peers conducted research into the recommended housing and job densities that support public transit use, using these metrics as a proxy for evaluating mobility hub potential. The following housing densities were found to support different frequencies of transit services¹⁰:

- 4 – 7 units per acre: basic transit service (60-minute headways)
- 7 – 15 units per acre: moderate transit service (30-minute headways)
- 15+ units per acre frequent transit service (15-minute headways)

The *Transit-Supportive Development in the United States: Experiences and Prospects* (U.S. Department of Transportation, 1993) also recommends a minimum density of 7 units per acre to support bus service every 30 minutes¹¹. However, a threshold of 4 units per acre can be sufficient to support minimal transit services, particularly in suburban and rural areas throughout San Joaquin County. The household density maps provided in **Appendix A** are based on the 2021 and 2046 land use plans developed for the 2022 RTP/SCS. These maps use a hexagon grid, with each hexagon representing approximately 104 acres. Most of San Joaquin County has a housing density below 4 units per acre. Within the County, many cities have neighborhoods with residential densities exceeding 4 units per acre, but only the City of Stockton has neighborhoods with densities greater than 7 units per acre in both the 2021 and 2046 land use plans.

Similarly, research¹² on the relationship between job density and transit service levels suggests that certain job densities are necessary to support varying levels of transit service frequency:

- 5 - 10 jobs per acre: basic transit service (60-minute headways)
- 10 – 20 jobs per acre: moderate transit service (30-minute headways)
- 20+ jobs per acre frequent transit service (15-minute headways)

¹⁰ *Transit Cooperative Research Program (TCRP) Report 16: Transit and Urban Form* (The Federal Transit Administration, 1996), p.15 Table 6 – Relationship between residential densities and different types of transit services, based on information provided in *Where Transit works: Urban Densities for Public Transportation* (Pushkarev, Boris; Zupan, Jeffrey M., 1982).

¹¹ *Transit-Supportive Development in the United States: Experiences and Prospects* (U.S. Department of Transportation, 1993), p 46 recommends at least 7 units per acre is necessary to support bus service every 30 minutes; at about 30 units per acre, bus service every 10 minutes becomes possible. Minimum 50 job per acre threshold recommended for employee-based local bus service when total employment base is 10,000 or more.

¹² *Transit Cooperative Research Program (TCRP) Report 102: Transit-Oriented Development in the United States: experiences, Challenges, and Prospects* (The Federal Transit Administration, 2004), pp. 148 – 150 suggests that employment centers with densities of 60 or more retail/service jobs per acre are likely to generate strong transit demand, while densities of around 10-20 retail/service jobs per acre can support moderate transit services. A minimum of 5 retail/service jobs per acre is typically required to support basic transit service.

The job density maps in **Appendix A**, based on the 2021 and 2046 land use plans from the 2022 RTP/SCS, show that most of San Joaquin County has fewer than 5 jobs per acre. Some neighborhoods in Lathrop, Lodi, Manteca, Stockton, and Tracy range from 5 to 20 jobs per acre, while only downtown Lodi and downtown Stockton exceed 20 jobs per acre.

In evaluating the Mobility Hub Suitability Score, the land use elements listed below were integrated into the scoring methodology to ensure a thorough assessment of each neighborhood's potential to support effective mobility hubs. These elements were chosen for their ability to influence the demand for and viability of transit services and other mobility options:

- **Base Year 2021 Housing Density (Max 15 Points):** Housing density is a critical factor in determining the level of transit service that can be supported. Areas with higher base year 2021 housing densities received higher scores, as they are more likely to generate the demand necessary for sustainable transit operations and the successful implementation of mobility hubs.
- **Cumulative Year 2046 Housing Density (Max 10 Points):** The cumulative year 2046 housing density, which accounts for projected growth, also plays a significant role. Areas expected to see substantial increases in housing density were awarded additional points, reflecting their potential to support enhanced transit services and mobility hubs over time.
- **Base Year 2021 Job Density (Max 15 Points):** Job density is another key determinant of transit and mobility hub viability. Higher base year 2021 job densities indicate areas with significant employment concentrations, which can generate consistent demand for transit and other mobility services, making these locations candidates for mobility hubs.
- **Cumulative Year 2046 Job Density (Max 10 Points):** Similar to housing density, future job density projections were considered. Areas expected to experience growth in employment density were given additional points, highlighting their potential to support the long-term success of mobility hubs.
- **Existing Parks (Max 10 Points):** Proximity to parks and recreational spaces is an important aspect of land use that can influence the attractiveness and accessibility of mobility hubs. Neighborhoods with parks received higher scores, recognizing the role these spaces play in creating vibrant, well-connected communities that encourage active transportation and transit use for trips to/from parks and recreational open spaces.

Please note that the combined base year and cumulative year Housing and Job Density scores cannot exceed 20 points. The detailed land use scoring methodology is provided in **Appendix C** for reference.

4.3 Mobility Hub Suitability Score

The built environment and land use scores were evaluated to estimate a mobility hub suitability score for all of San Joaquin County. The mobility hub suitability score is presented in the four categories shown in **Table 16**. The mobility hub suitability score is also provided in **Figure 8** and the project's web portal.

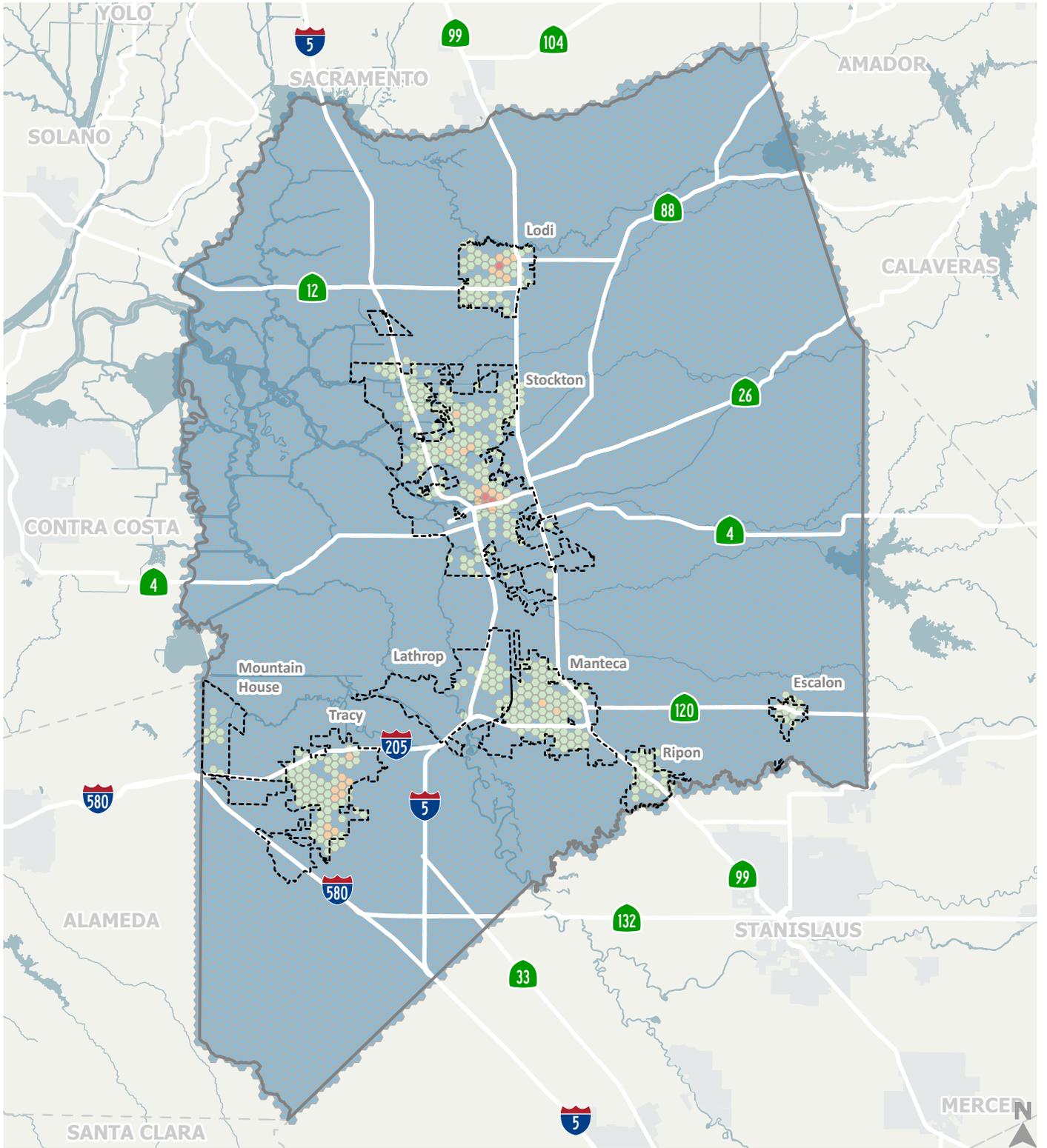
The neighborhoods with a mobility hub suitability score greater than 50 represent the locations with the greatest potential for successful mobility hubs and provide the best opportunities to expand travel options for nearby developments within each neighborhood. Mobility hubs should not be limited to just one per neighborhood. Establishing a network of hubs within and across neighborhoods can significantly enhance their effectiveness in reducing local and regional VMT.

Table 16: Mobility Hub Suitability Score Categories

Mobility Hub Suitability	Mobility Hub Suitability Score	Description
Optimal	75 – 100	Locations with exceptional suitability for mobility hubs, offering the highest potential for success. These areas have strong transit networks, well-integrated bike facilities, and a built environment and land use pattern that supports sustainable transportation options.
High	50 – 74	Areas with strong potential for mobility hubs, where the built environment and land use are conducive to multimodal transportation. These locations have good transit access, bike connectivity, housing and/or employment densities that support transit use.
Moderate	25 – 49	Locations with moderate suitability for mobility hubs. These areas may have some transit and bike network access but require further infrastructure improvements or increased housing and employment densities to better support mobility hub operations.
Low	0 - 24	Areas with limited current suitability for mobility hubs. These locations may have lower transit access and densities and could benefit from further infrastructure development to better support future mobility hub operations.

Source: Fehr & Peers, November 2024.

The mobility hub suitability score is just one factor to consider when selecting a neighborhood for a mobility hub. Chapter 5 introduces a prioritization methodology that combines the suitability score with other environmental and socioeconomic factors to evaluate and prioritize potential sites for the upcoming demonstration project. This methodology can also be applied to projects beyond the planned demonstration project.



Mobility Hub Suitability Score

- Optimal (75 - 100)
- High (50 - 74)
- Moderate (25 - 49)
- Low (0 - 24)

City Boundary

San Joaquin County Boundary

Figure 8



Mobility Hub Suitability Score Map



Chapter 5: Priority Neighborhoods

The mobility hub suitability score should not be the only factor in identifying priority neighborhoods for siting mobility hubs. Other environmental factors should also be considered when selecting locations. Ideally, mobility hubs should be integrated into priority neighborhoods where they have the greatest potential to support and enhance existing and future affordable housing projects.

The priority neighborhood designation will guide the prioritization of potential sites for the demonstration project, but sites outside of these designated areas will also be considered.

5.1 Priority Neighborhood Methodology

The following data sets described in Chapter 3 and 4 capture a range of built environment, land use, environmental and socioeconomic factors throughout San Joaquin County. Combined, these data sets can identify priority neighborhoods for mobility hubs.

- **Mobility Hub Suitability Score:** scores greater than 50 represent areas with strong potential for mobility hubs, where the built environment and land use are conducive to multimodal transportation.
- **CalEnviroScreen 4.0:** Census tracts that score in the 75th percentile or higher are considered disadvantaged.
- **Climate and Economic Justice Screening Tool:** Communities are considered disadvantaged if they meet the thresholds in at least one of 8 categories (climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development).

- **TCAC/HCD Opportunity MAP:** A community is considered disadvantaged if it falls into the "Low Resource" or "High Segregation & Poverty" area. These designations align with AFFH principles, which aim to address inequities by identifying areas where housing development and infrastructure investments can promote access to opportunity and reduce segregation.

Disadvantaged communities are areas characterized by limited opportunities and significant barriers to economic mobility, making them a focus for targeted interventions and resources aimed at improving access to transportation, housing and other essential services. These disadvantaged community layers were combined with the mobility hub suitability score to identify priority neighborhoods for mobility hubs. The priority neighborhood categories are summarized in **Table 17**, with the corresponding map available in **Figure 9** and on the project's web portal. The priority neighborhood designation offers a balanced view of neighborhood prioritization, considering the built environment, land use, environmental, and socioeconomic factors. Neighborhoods that have a mobility hub suitability score of 50 or more points and meet at least one of the disadvantage community categories listed in **Table 17** should be considered high priority neighborhoods for mobility hubs. Neighborhoods with a mobility hub suitability score between 25 and 49, should be prioritized as well, though to a lesser extent than neighborhoods with a suitability score above 50.

Table 17: Priority Neighborhood Designation

Priority Neighborhood	Criteria	Disadvantaged Community Categories
Top Priority	Mobility Hub Suitability Score 50+ and 2+ Disadvantaged Community Categories Exceeded	<ul style="list-style-type: none"> • CES 4.0: 75th percentile or higher • CEJST: threshold exceeded in at least 1 category • TCAC/HCD Opportunity Map: in Low Resource or High Segregation & Poverty area
High Priority	Mobility Hub Suitability Score 50+ and 0 -1 Disadvantaged Community Category Exceeded	
Moderate Priority	Mobility Hub Suitability Score is Between 25 - 49	
Low Priority	Mobility Hub Suitability Score is Between 0 - 24	

Source: Fehr & Peers, November 2024.

The priority neighborhood methodology focuses on the critical need to implement mobility hubs in disadvantaged communities that have historically experienced environmental burdens, socioeconomic challenges, and limited access to economic mobility. By prioritizing these areas, the methodology supports both current and future developments, including affordable housing projects. At the same time, it also encourages the development of mobility hubs and affordable housing in neighborhoods with fewer barriers to economic mobility. Neighborhoods outside of disadvantaged communities scoring 50 points or more are considered high priority, while those scoring 25-49 points are classified as moderate priority.

This approach seeks to balance infrastructure investments in disadvantaged communities with the need for affordable housing in areas with greater access to opportunities. In doing so, the methodology promotes equitable development and helps reduce disparities in access to resources across the County, in alignment with the AFFH principles.

5.2 Priority Neighborhood by Jurisdiction

The mobility hub suitability score in **Figure 8** and the priority neighborhood map in **Figure 9** were used to identify priority neighborhoods within each San Joaquin County city and for unincorporated areas. These priority neighborhoods are based on the data analysis conducted in this study and are not meant to be overly prescriptive. Instead, they are intended to guide partner agencies in nominating sites for the upcoming demonstration project hub that they believe would best serve their local communities. Sites in Low, Moderate, High and Top priority neighborhoods will be considered during the demonstration project process and assessed based on priority neighborhood and other factors outlined in **Section 5.3**.

5.2.1 City of Escalon

With approximately 7,500 residents, Escalon is the smallest city in San Joaquin County by population. The city retains a blend of suburban and rural character, featuring a small downtown with local businesses, community spaces, transit service, and a park-and-ride facility. Escalon operates the eTrans bus service, which connects Escalon to various destinations within Modesto. Notably, Escalon has the highest walking commute mode share (5.8%) and the second-highest biking mode share (1.9%) in the County (see **Table 11**), indicating that many residents live and work within the city.

The recommended priority neighborhoods in the City of Escalon are presented in **Table 18**. Due to its location and scale, downtown Escalon is recommended as a priority neighborhood with a focus on regional commuter and/or community hubs, leveraging existing local bus stops, a park-and-ride lot, an EV charging station, and a surrounding bike network. The El Portal Middle School, Vista High School and Escalon High School neighborhoods are also recommended for community hubs due to their multimodal connections and park access.

Table 18: Mobility Hub Priority Neighborhoods – Escalon

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Downtown Escalon	46 Moderate Suitability	Moderate Priority	Regional Commuter and/or Community	Local Bus Stops, Park-and-Ride, EV Charging Station, Bike Lanes, RCMP Multimodal Corridor, Park
El Portal Middle School Neighborhood	45 Moderate Suitability	Moderate Priority	Community	Local Bus Stops, Nearby Park-and-Ride, Bike Lanes, RCMP Multimodal Corridor, Park
Vista High School & Escalon High School Neighborhood	36 Moderate Suitability	Moderate Priority	Community	Local Bus Stops, Nearby Park-and-Ride, Bike Lanes, Park

Source: Fehr & Peers, November 2024.

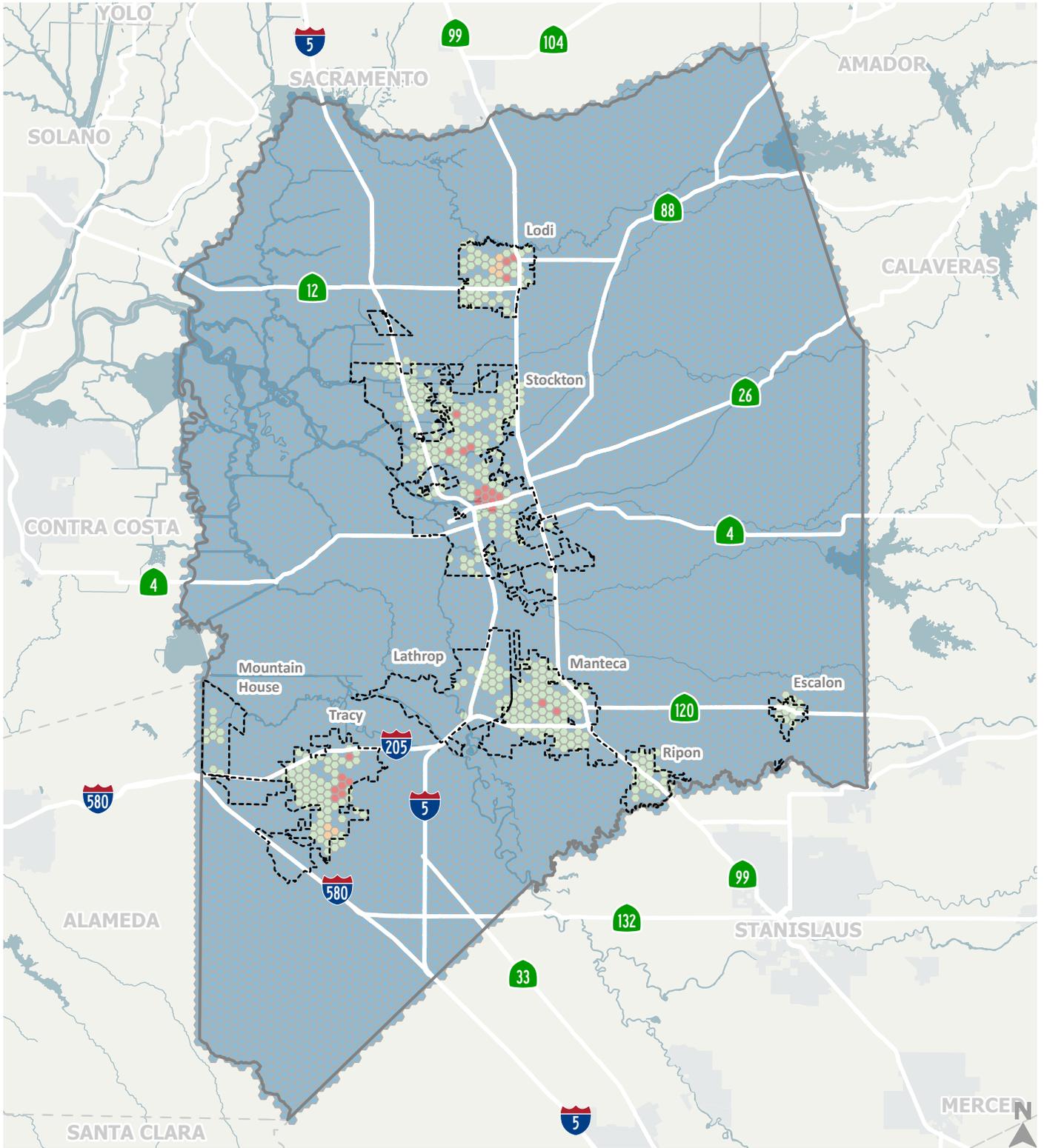


Figure 9



5.2.2 City of Lathrop

With a population of 30,000 and growing, Lathrop is currently the fastest-growing city in California. The city's rapid expansion is driven by significant housing developments, as well as commercial and industrial projects, contributing to both population and job growth. As detailed in **Table 11**, Lathrop has the second-highest carpooling commute mode share in San Joaquin County at 15.6%. Despite limited fixed-route transit services, mostly available on the east side of I-5, Lathrop also has the third-highest public transit commute mode share at 1.9%. To address existing transit service gaps, the City of Lathrop and San Joaquin RTD are collaborating on the Lathrop Transit Study to explore citywide service improvements and enhance transit access throughout the city, the study is scheduled to be completed in 2025. Expanding public transit service within Lathrop will also enhance the mobility hub suitability across the city.

The recommended priority neighborhoods in the City of Lathrop are presented in **Table 19**. Lathrop's priority neighborhoods are recommended for community hubs due to their moderate suitability scores, supported by local bus stops, park-and-ride facilities, bike lanes, located near RCMP Multimodal Corridors and proximity to parks. A regional commuter hub at the existing San Joaquin RTD park-and-ride facility in Lathrop Crossroads Shopping Center and the future North Lathrop ACE rail station can also be considered. The high carpool commute mode share among Lathrop residents indicates that a regional commuter hub should be considered in the city. Such hubs not only have the potential to enhance access to regional transit services but can also provide designated pick-up and drop-off zones to support carpooling and ridesharing services. Community hubs can also offer pick-up/drop-off zones; however, the key difference is that community hubs may not include long-term off-street parking or be serviced by regional fixed-transit routes like a regional commuter hub would.

Table 19: Mobility Hub Priority Neighborhoods – Lathrop

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Woodfield Park, Green Belt Park and Future North Lathrop Valley Rail Station Area	46 Moderate Suitability	Moderate Priority	Regional Commuter and/or Community	Local Bus Stops, Nearby Park-and-Ride, Bike Lanes, RCMP Multimodal Corridor, Park, Future Train Station
Lathrop Community Center Neighborhood	41 Moderate Suitability	Moderate Priority	Community	Park-and-Ride, Bike Lanes, Park, Nearby Future Train Station
Lathrop Crossroads Shopping Center Neighborhood	41 Moderate Suitability	Moderate Priority	Regional Commuter and/or Community	Local Bus Stops, Park-and-Ride, EV Charging Station, Bike Lanes, RCMP Multimodal Corridor, Nearby Future Train Station

Source: Fehr & Peers, November 2024.

The mobility hub suitability analysis showed higher scores for neighborhoods east of I-5, primarily because existing transit services are concentrated on that side of the city. The ongoing Lathrop Transit Study will propose transit service concepts and strategies to expand access citywide, including neighborhoods west of I-5. Since the study is still in progress, its findings were not included in the current suitability score evaluation. However, mobility hub suitability scores are expected to improve once transit

service is expanded to the west side of the city. The upcoming *San Joaquin Regional Mobility Hub Plan* can serve as a guide for implementing future mobility hubs in tandem with the planned transit improvements across the city.

5.2.3 City of Lodi

Lodi, home to about 67,000 residents, features a blend of suburban and agricultural land uses, with its economy historically centered on wine production and farming. Downtown Lodi is known for its walkable streets, historic architecture, and local businesses. Downtown Lodi and its surrounding wineries are popular tourist destinations, frequently drawing visitors from other regions. Approximately 5% of employed San Joaquin County residents work in Lodi (see **Table 14**).

The City of Lodi operates the GrapeLine bus service, and its downtown train station, serviced by Amtrak, includes a park-and-ride facility. The city is in the process of updating the *Downtown Lodi Specific Plan* to guide future development and infrastructure investments.

The recommended priority neighborhoods in the City of Lodi are presented in **Table 20**. Lodi features some of the highest suitability scores, with downtown Lodi identified as a high priority neighborhood, recommended for regional commuter, downtown, and community hubs. This area benefits from strong transit connections, park-and-ride facilities, high existing and future job densities, and ample park access. The neighborhoods northwest of downtown Lodi, specifically the areas surrounding Hale Park and the Lodi Grape Festival Grounds also scored highly and are considered top priority neighborhoods.

Table 20: Mobility Hub Priority Neighborhoods – Lodi

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Downtown Lodi and Surrounding Neighborhoods	76 Optimal Suitability	High Priority	Regional Commuter, Downtown, and/or Community	Existing Transit Station, Park-and-Ride, EV Charging Station, Bike Lanes, Future Housing Density, Existing and Future Job Density, Park
Hale Park Neighborhood	63 High Suitability	Top Priority	Community	Nearby Transit Station and Park-and-Ride, EV Charging Station, Bike Lane, Future Housing Density, Future Job Density, Park
Lodi Grape Festival Grounds Neighborhood	50 High Suitability	Top Priority	Community	Nearby Transit Station and Park-and-Ride, Bike Path, Bike Lanes, Bike Route, Park

Source: Fehr & Peers, November 2024.

The Valley Rail project also proposes the construction of a future train station just outside the Lodi city limits, near the Harney Lane/Devries Road intersection. The area surrounding the future station currently has a mobility hub suitability score of 15 points due to its lack of multimodal infrastructure, housing, and employment density. Despite this, mobility hubs can play a key role in connecting to the future train station.

The new station should be developed as a regional commuter hub, with a network of community hubs—and downtown hubs within downtown Lodi—linking to it. Relocating the station to the outskirts makes it

even more essential to establish mobility hubs in the downtown area to mitigate the impact of locating regional rail service away from downtown Lodi.

5.2.4 City of Manteca

With a population of approximately 89,000, Manteca is one of California's fastest-growing cities. Historically a suburban and agricultural area, Manteca has experienced substantial residential and commercial development in recent years, influenced by its proximity to the Bay Area and Central Valley job markets. New housing projects, retail centers, and industrial facilities continue to fuel both population and job growth. The City of Manteca operates the Manteca Transit local bus service, with the centrally located Manteca Transit Center serving as a service hub. ACE passenger rail currently serves the area with a station near the Manteca/Lathrop boundary, and future ACE service is planned for the Manteca Transit Center.

The recommended priority neighborhoods in the City of Manteca are presented in **Table 21**. Manteca's Transit Center neighborhood is highlighted as a Top Priority neighborhood, suitable for both regional commuter and community hubs. The City Hall neighborhood and the neighborhood east of the existing Lathrop/Manteca ACE Station are also recommended for community hubs. The Lathrop/Manteca ACE Station is located within Lathrop's city limits, while neighboring residential and industrial areas fall within Manteca's city boundaries.

Table 21: Mobility Hub Priority Neighborhoods – Manteca

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Manteca Transit Center Neighborhood	55 High Suitability	Top Priority	Regional Commuter and Community	Transit Center, EV Charging Station, Bike Paths and Lanes, RCMP Multimodal Corridor, Future Housing Density, Park
Manteca City Hall Neighborhood	51 High Suitability	Top Priority	Community	Local Bus Stops, EV Charging Station, Bike Lanes, RCMP Multimodal Corridor, Existing Housing Density, Existing Job Density, Park
Lathrop/Manteca ACE Station Area	33 Moderate Suitability	Moderate Priority	Community	Nearby Train Station, Nearby Park-and-Ride, Future Job Density

Source: Fehr & Peers, November 2024.

5.2.5 City of Mountain House

Mountain House, California's newest city as of July 1, 2024, has a population of approximately 25,000 and is primarily a suburban residential community along the San Joaquin and Alameda County border. Residents generate the lowest drive-alone commute mode share (59.4%) and the highest carpool (17.3%) and public transit (3.3%) mode shares compared to other cities in San Joaquin County (see **Table 11**). More than 40% of drive-alone commuters and 50% of carpoolers travel 60 minutes or more, indicating many residents commute long distances, likely to the Bay Area. A future train station, planned as part of the Valley Link Project, will connect Mountain House to Livermore and the Dublin/Pleasanton BART Station. Community hubs within Mountain House can support first-mile/last-mile connections to this

future station, and given the current travel trends, new rail connections could reduce home-based-work VMT among residents.

The recommended priority neighborhoods in the City of Mountain House are presented in **Table 22**. In Mountain House, the Altamont Park and Bethany Park neighborhoods are recommended for community hubs, supported by moderate suitability scores and existing bike paths, parks, and housing density. The future Valley Link Station area is also a key focus, recommended for both regional commuter and community hubs, with potential to enhance connectivity through future train station access. The future Valley Link station should be designed as a regional commuter hub to enhance multimodal access and the user experience.

Table 22: Mobility Hub Priority Neighborhoods – Mountain House

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Altamont Park Neighborhood	35 Moderate Suitability	Moderate Priority	Community	EV Charing Station, Bike Paths, Existing Housing Density, Park
Bethany Park Neighborhood	30 Moderate Suitability	Moderate Priority	Community	Bike Paths, Existing Housing Density, Park
Future Mountain House Valley Link Station Area	25 Moderate Suitability	Moderate Priority	Regional Commuter and Community	Future Train Station, Bike Paths

Source: Fehr & Peers, November 2024.

5.2.6 City of Ripon

With a population of around 15,000, Ripon is the second smallest city in San Joaquin County by population size. The city features a blend of suburban and agricultural land uses, with downtown Ripon serving as a community hub, offering local shops, restaurants, and public spaces. A future ACE rail station is planned near the SR 99/Main Street interchange, close to downtown, as part of the Valley Rail project. This future Valley Rail station presents an opportunity to incorporate a regional commuter hub, which could improve multimodal access and enhance the travel experience for Ripon residents.

The recommended priority neighborhoods in the City of Ripon are presented in **Table 23**. Ripon’s priority neighborhoods include the future Valley Rail station area and downtown Ripon, Mavis Stouffer Park neighborhood, and the neighborhood surrounding the existing Jack Tone Road park-and-ride, all recommended for community hubs along with a regional commuter hub at the existing Jack Tone Road park-and-ride facility and future Valley Rail station. These areas, with moderate suitability scores, are bolstered by future Valley Rail station access, bike lanes, the existing Main Street multimodal corridor, and park amenities, making them candidates for mobility hub development that enhances local connectivity.

Table 23: Mobility Hub Priority Neighborhoods – Ripon

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Future Ripon Valley Rail Station Area and Downtown Ripon	36 Moderate Suitability	Moderate Priority	Regional Commuter, Downtown and/or Community	Future Train Station, Bike Paths and Bike Lanes, Existing Designated Multimodal Corridor, Park
Mavis Stouffer Park Neighborhood	35 Moderate Suitability	Moderate Priority	Community	Nearby Future Train Station, Bike Paths and Bike Lanes, Park
Jack Tone Road Park-and-Ride Neighborhood	35 Moderate Suitability	Moderate Priority	Regional Commuter and/or Community	Local Bus Stop, Park-and-Ride, Existing and Planned EV Charging Stations, Bike Path

Source: Fehr & Peers, November 2024.

5.2.7 City of Stockton

With over 300,000 residents, Stockton is the largest city in San Joaquin County, offering a diverse mix of land uses, from densely populated urban areas to suburban neighborhoods and industrial zones. As the County's largest employment hub, Stockton provides jobs for 20% of the County's workforce (see **Table 14**). Downtown Stockton serves as both the city's cultural and business center and a key transportation hub, supporting local and regional San Joaquin RTD services, as well as ACE rail and Amtrak. Despite having the highest percentage of households without a vehicle (7.5%) in the County, Stockton's transit mode share among employed residents remains relatively low at 1.3% (see **Table 11**). Development trends focus on housing, retail centers, industrial uses and infrastructure improvements to accommodate the city's growing population.

The recommended priority neighborhoods in the City of Stockton are presented in **Table 24**. Downtown Stockton and its surrounding areas, have some of the highest suitability scores in the County. Regional commuter, downtown, and community hubs are recommended for downtown Stockton due to strong transit, train station access, and high housing and job densities. The Weberstown Mall & Park neighborhood and the San Joaquin Delta College neighborhood are also recommended as community hubs due to their existing access to transit and high housing and job densities.

Table 24: Mobility Hub Priority Neighborhoods – Stockton

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Downtown Stockton and Surrounding Neighborhoods	85 Optimal Suitability	Top Priority	Regional Commuter, Downtown, and/or Community	Transit Center, Existing Train Station, Park-and-Ride, Bike Path, Bike Route, Existing and Future Housing Density, Existing and Future Job Density, Park
Weberstown Mall & Park Neighborhood	65 High Suitability	Top Priority	Community	Nearby Transit Center, Bike Path, RCMP Multimodal Corridor, Existing and Future Housing Density, Park
San Joaquin Delta College Neighborhood	55 High Suitability	Top Priority	Community	Nearby Transit Center, EV Charging Station, Bike Path, Bike Lanes, RCMP Multimodal Corridor, Existing Housing and Job Density

Source: Fehr & Peers, November 2024.

5.2.8 City of Tracy

With a population of approximately 90,000, Tracy is the second-largest city in San Joaquin County. The city features a mix of suburban neighborhoods, commercial centers, and industrial developments, driven by its strategic location along major transportation corridors like I-205, I-580, and I-5. Tracy has experienced significant growth due to its proximity to both the Bay Area and Central Valley job markets. The city's downtown area remains a focal point for community activities, local businesses, and transit connections, while future growth is expected to focus on expanding housing, job opportunities, and infrastructure improvements to accommodate its increasing population. Residents have the second-lowest drive-alone commute rate (72.8%) in the County (see **Table 11**), and over 30% of drive-alone commuters and 45% of carpoolers travel more than 60 minutes (see **Appendix B**), suggesting many commute long distances, likely to the Bay Area.

The recommended priority neighborhoods in the City of Tracy are presented in **Table 25**. In Tracy, the Tracy High School & Lincoln Park neighborhood, Tracy Transit Center neighborhood, and the Tracy ACE Station neighborhood are identified as priority neighborhoods due to existing transit and park-and-ride access, bike network, EV charging stations, and job densities.

Table 25: Mobility Hub Priority Neighborhoods – Tracy

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Tracy High School & Lincoln Park Neighborhood	60 High Suitability	Top Priority	Community	Nearby Transit Center and Park-and-Ride, EV Charging Station, Bike Paths, Lanes and Routes, Existing Job Density, Park
Tracy Transit Center Neighborhood	56 High Suitability	Top Priority	Regional Commuter, Downtown, and/or Community	Transit Center, Park-and-Ride, EV Charging Station, Bike Lanes and Routes, Existing Job Density, Park
Tracy ACE Station Neighborhood	50 High Suitability	High Priority	Regional Commuter and/or Community	Existing Train Station, Park-and-Ride, Bike Path, Bike Lanes, Park

Source: Fehr & Peers, November 2024.

5.2.9 Unincorporated San Joaquin County

Unincorporated San Joaquin County includes a mix of rural, agricultural, and low-density residential areas scattered throughout the region, with a combined population of approximately 150,000 people. Governed by San Joaquin County, the unincorporated areas generally have limited transit services compared to incorporated cities. However, some unincorporated communities benefit from access to nearby regional transportation networks, including San Joaquin RTD services and park-and-ride facilities. San Joaquin County is also in process of developing the Garden Acres Sustainable Communities Plan, which aims to improve access to safe and sustainable transportation options within the Garden Acres neighborhood.

The recommended priority neighborhoods in unincorporated San Joaquin County are presented in **Table 26**. Community hubs should be considered for the Garden Acres area. Additionally, the San Joaquin General Hospital site is recommended as a regional commuter or community hub, and the planned Lodi Valley Rail ACE Station is recommended as a regional commuter hub.

Table 26: Mobility Hub Priority Neighborhoods – Unincorporated San Joaquin County

Neighborhood	Mobility Hub Suitability Score	Priority Neighborhood Designation	Recommended Hub Type(s)	Contributing Scoring Factors
Garden Acres	23 Low Suitability	Low Priority	Community	Local Bus Stops, Bike Routes, Existing Housing Density
San Joaquin General Hospital	15 Low Suitability	Low Priority	Regional Commuter and/or Community	Local Bus Stops, Existing EV Charging Station
Future Lodi Valley Rail Station	15 Low Suitability	Low Priority	Regional Commuter	Future Train Station

Source: Fehr & Peers, November 2024.



5.3 Demonstration Project Site Selection Criteria

This report provides SJCOG partner agencies with the data used to identify priority neighborhoods for mobility hubs. It serves as a starting point for engaging with the PAG and local communities in deciding the demonstration project site to be designed and built by SJCOG after the *San Joaquin Regional Mobility Hub Plan* is adopted. Partner agencies are encouraged to review the priority neighborhood recommendations and nominate sites within these areas for consideration. SJCOG will apply the scoring criteria in **Table 27**. The demonstration project criteria is applied in two tiers, the first tier estimates a prioritization score for sites to be considered for the demonstration project; while the second tier applies a set of binary criteria focusing on site feasibility to identify demonstration project sites that can be designed, implemented, and operational by June 2026 or earlier. The demonstration project selection criteria are guided by the *San Joaquin Regional Mobility Hub Plan's* vision and goals.

Sites will be considered for the demonstration project if they meet the following criteria:

- The site is entirely within the public right-of-way
- The site is within 1/2 mile of existing or planned affordable housing development
- Transit service is currently available at or adjacent site
- The site is already developed
- The site has concrete infrastructure to support future mobility hub improvements
- Power connections are readily available
- The site is suitable for a streamlined permitting process

These criteria are intended to assess site feasibility for the demonstration project. Sites that do not meet these criteria will not be considered for the demonstration project but will remain eligible for inclusion in the broader mobility hub network to be identified as part of the upcoming *San Joaquin Regional Mobility Hub Plan*.

Table 27: Mobility Hub Site Prioritization Score

Criteria	Scoring Thresholds	Criteria Rationale
Priority Neighborhood Designation (4 Points Max)	Top Priority (4 points) High Priority (3 points) Moderate Priority (2 points) Low Priority (1 point)	Priority neighborhoods are key in selecting mobility hub sites as they combine built environment and land use factors with a focus on disadvantaged communities, maximizing impact and affordable housing grant funding opportunities.
Site is on Developed Property (1 Point Max)	Site is on developed property (1 point)	Developed sites can offer existing concrete and pavement infrastructure, enabling more cost-effective mobility hub implementation compared to undeveloped sites.
Existing Pedestrian Walkways (3 Points Max)	Existing walkways internal to site (1 point) Existing walkways adjacent to site (1 point) Existing pedestrian crossings adjacent to site (1 point)	Sites with existing pedestrian connections are prioritized as they enable immediate access to the mobility hub.
Existing Bikeways (3 Points Max)	Class I or IV bikeway adjacent to site (3 points) Class II bikeway adjacent to site (2 points) Class III bikeway adjacent to site (1 point)	Sites with existing bikeway connections are prioritized as they enable immediate access to the mobility hub.
Existing and/or Planned Transit Service (5 Points Max)	Regional transit and/or local express/rapid service provided on-site or site-adjacent (5 points) Local transit service provided on-site or site-adjacent (3 points)	Sites with existing or planned future transit service are prioritized, as transit access is often essential for a mobility hub's effectiveness in reducing VMT.
Existing or Planned EV Charging Station (1 Point Max)	Existing or planned EV charging station provided on-site (1 point)	Sites with existing or planned EV charging stations can support on-site electric car-share programs and facilitate cost-effective mobility hub implementation.
Adjacent to SJCOG Designated Multimodal Corridor (1 Point Max)	Adjacent to SJCOG designated multimodal corridor (1 point)	Multimodal access is prioritized along designated multimodal corridors, which can enhance connectivity to future mobility hubs.
Off-Street Parking Available or Planned On-Site? (2 Points Max)	Public off-street parking provided on-site (2 points) Limited-use off-street parking provided on-site (1 points)	Off-street parking enables spaces to be repurposed for mobility hub amenities, such as carshare and bikeshare services, and can encourage commuters who live farther from transit stops to use transit.
Nearby Existing and/or Planned Affordable Housing Development (3 Points Max)	Within 1/4 mile walking distance of existing and/or planned affordable housing development (3 points) Within 1/2 mile walking distance of existing and/or planned affordable housing development (1 point)	Sites located near existing or planned affordable housing developments can enhance multimodal connectivity for these developments and boost eligibility for grant funding for future affordable housing projects.
Within or Adjacent to Community Plan and/or Specific Plan Area (1 Point Max)	Within or adjacent to community plan and/or specific plan area (1 point)	Sites within or adjacent to designated plan areas align with local planning efforts, ensuring the mobility hub is integrated into broader community development strategies.

Source: Fehr & Peers, November 2024.



5.4 San Joaquin Regional Mobility Hub Plan & Demonstration Project Next Steps

This Mobility Hub Suitability Report will be incorporated into the upcoming *San Joaquin Regional Mobility Hub Plan* and used for demonstration project site selection. SJCOG launched PAG and community engagement efforts for the *San Joaquin Regional Mobility Hub Plan* and demonstration project in October 2024. The timeline for key tasks is detailed in **Table 28**.

After the top 3 demonstration project sites are selected in November 2024, the consultant team—comprised of Tranzito, Fehr & Peers, Psomas, and LDA Partners—will develop concept-level site plans for potential mobility hub improvements at each location. These plans will include sufficient detail to create preliminary cost estimates. The concept designs and cost estimates will guide the selection of the preferred demonstration project site in collaboration with SJCOG and the PAG. These site plans will be integrated into the *San Joaquin Regional Mobility Hub Plan*, which is scheduled for completion in the first quarter of 2025. Once the *San Joaquin Regional Mobility Hub Plan* is approved and the preferred demonstration project site is chosen, the consultant team will prepare detailed design plans and obtain necessary permits for construction. AIM Consulting will lead community engagement efforts from April to August 2025 to inform the hub design for the preferred site. SJCOG aims to complete and operate the demonstration project hub by June 2026 or earlier.

Table 28: Mobility Hub Plan & Demonstration Project Schedule

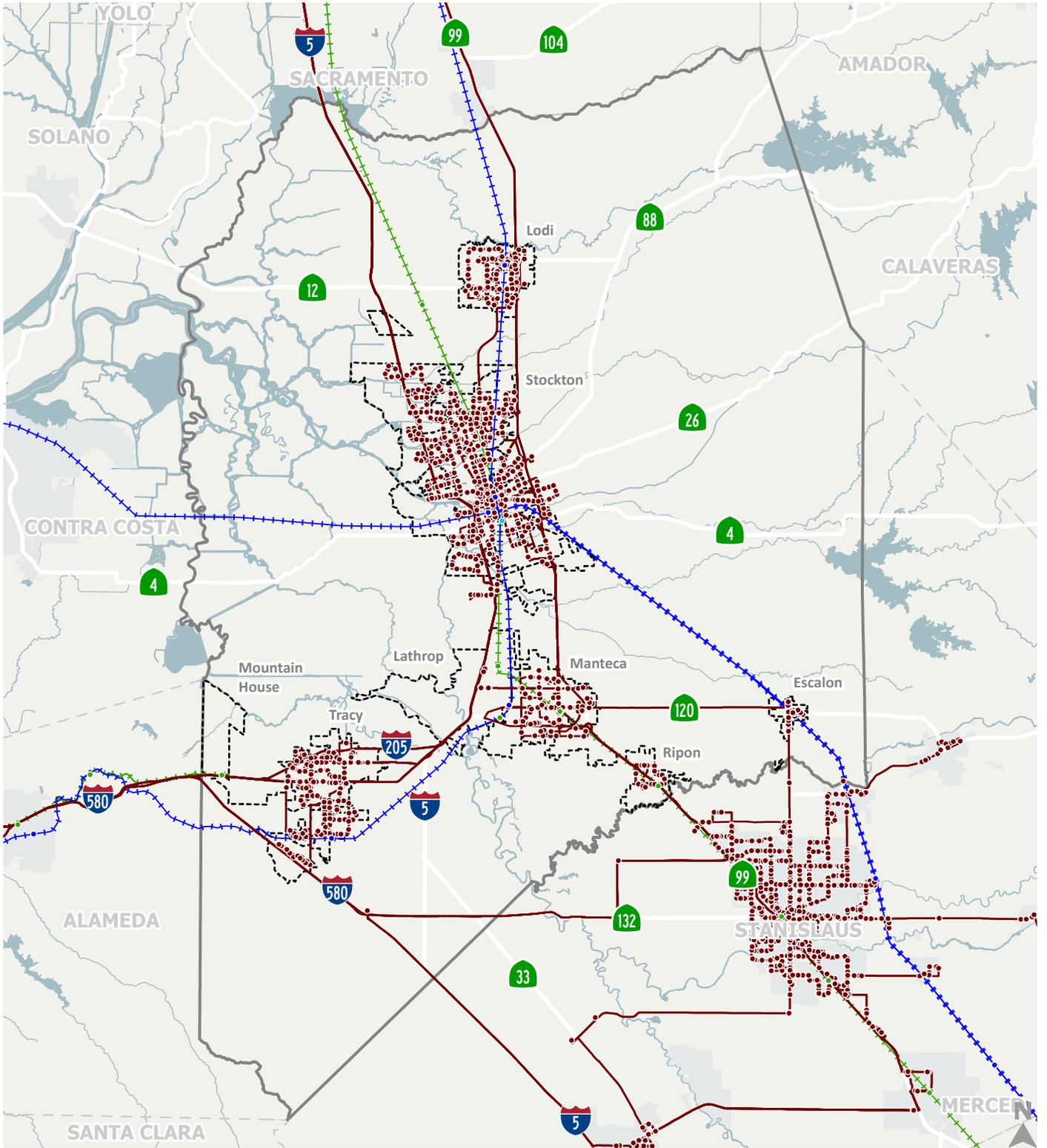
Task	Date
PAG Meeting #2: Top 3 Demonstration Project Site Selection	November 2024
Draft San Joaquin Regional Mobility Hub Plan	February 2025
PAG Meeting #3: Draft Mobility Hub Plan Review	February 2025
Final San Joaquin Regional Mobility Hub Plan	March 2025
PAG Meeting #4: Approve Final Mobility Hub Plan & Preferred Demonstration Project Site	March 2025
Demonstration Project Site Design & Permitting	March – December 2025
Demonstration Project Community Engagement	April – August 2025
Demonstration Project Site Construction	January – June 2026
Demonstration Project Opening	June 2026

Source: Fehr & Peers, November 2024.

Appendix A

Built Environment & Land Use Maps

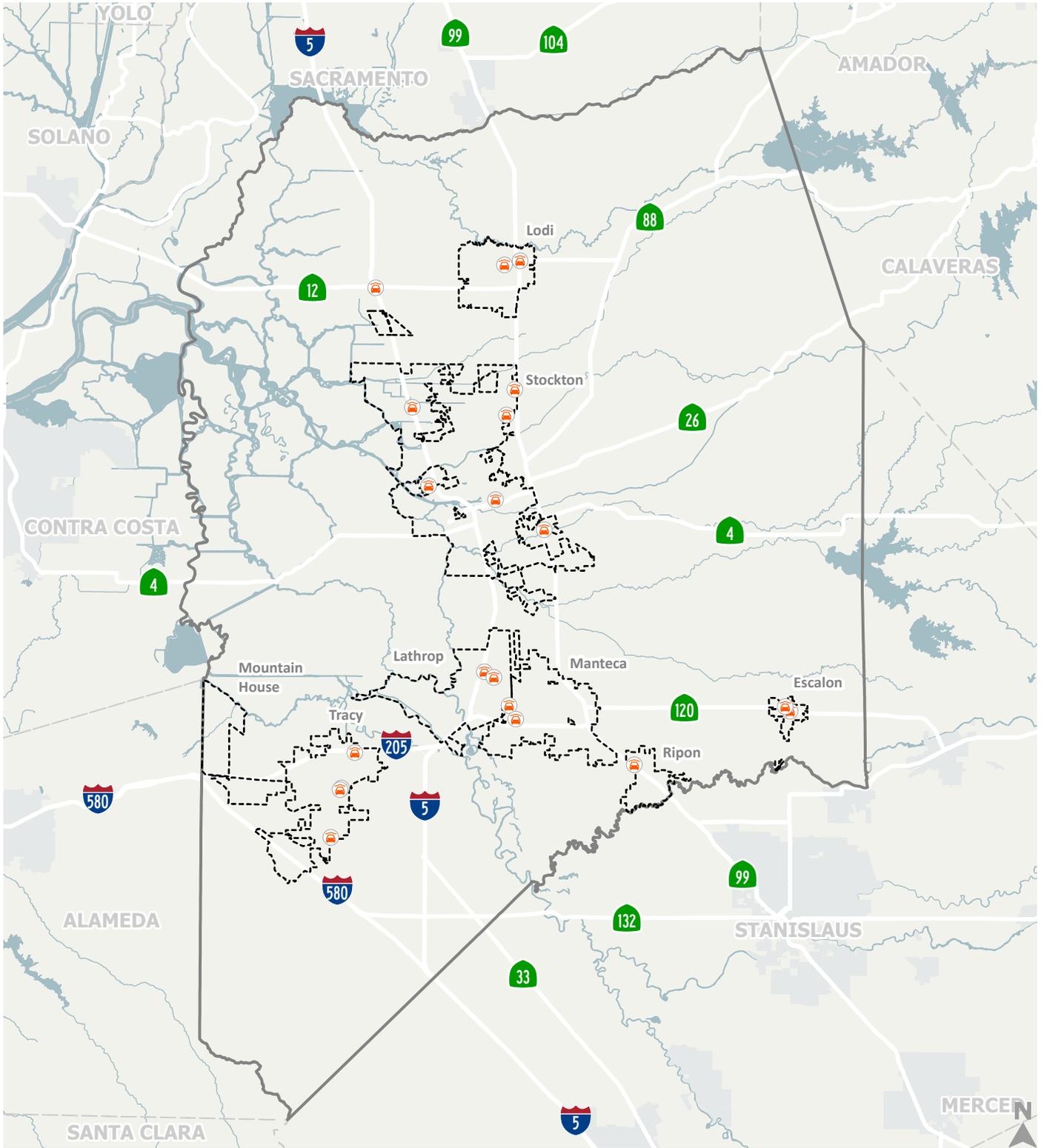




- Existing Transit Center
- Existing Rail Station
- Future Rail Station
- Existing Local Bus Stop
- Existing Rail Service
- Future Rail Service
- Existing Bus Service
- - - City Boundary
- ▭ San Joaquin County Boundary

Figure A



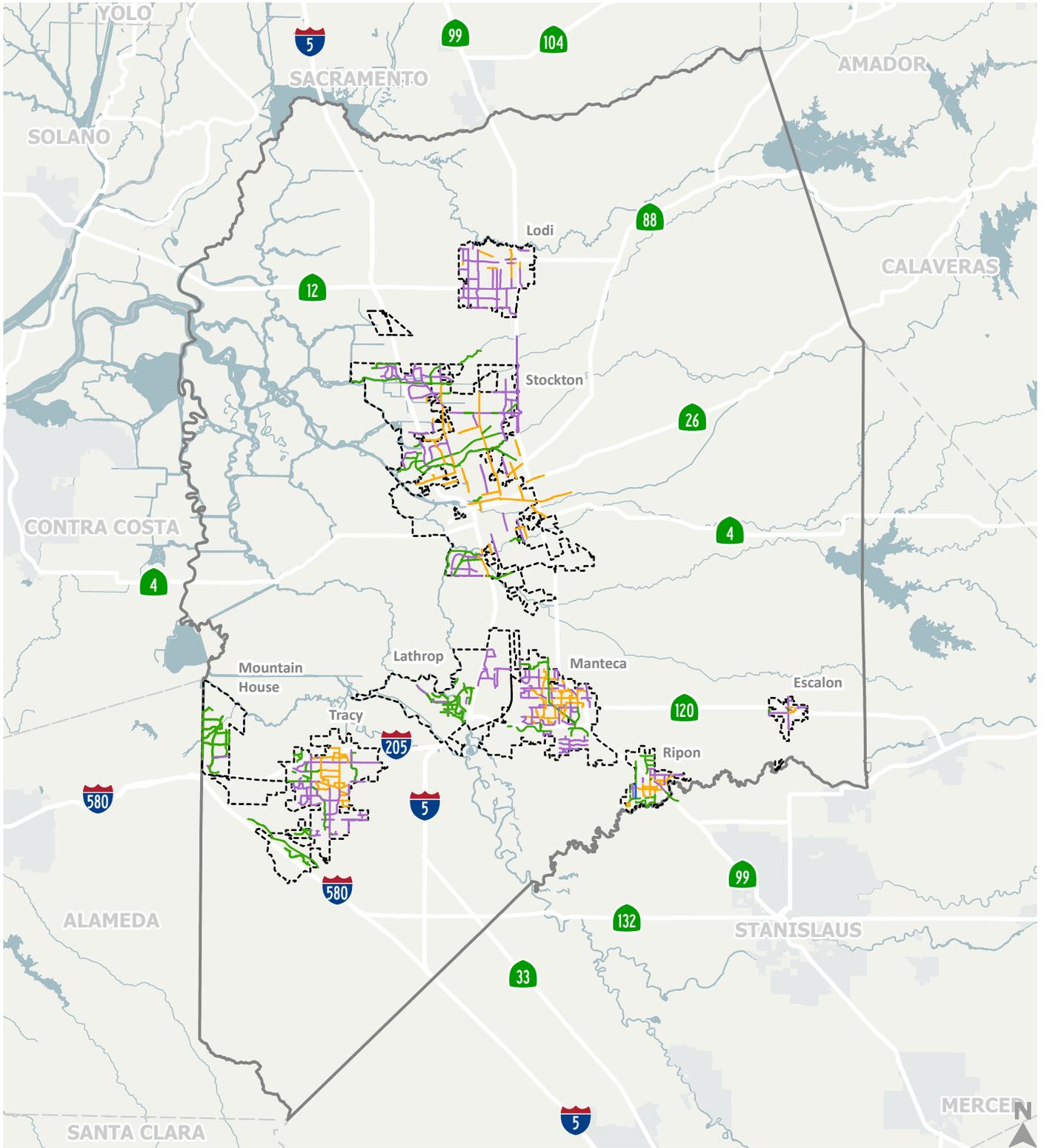


-  Park and Ride Lot
-  City Boundary
-  San Joaquin County Boundary

Figure B



Existing Park and Ride Network

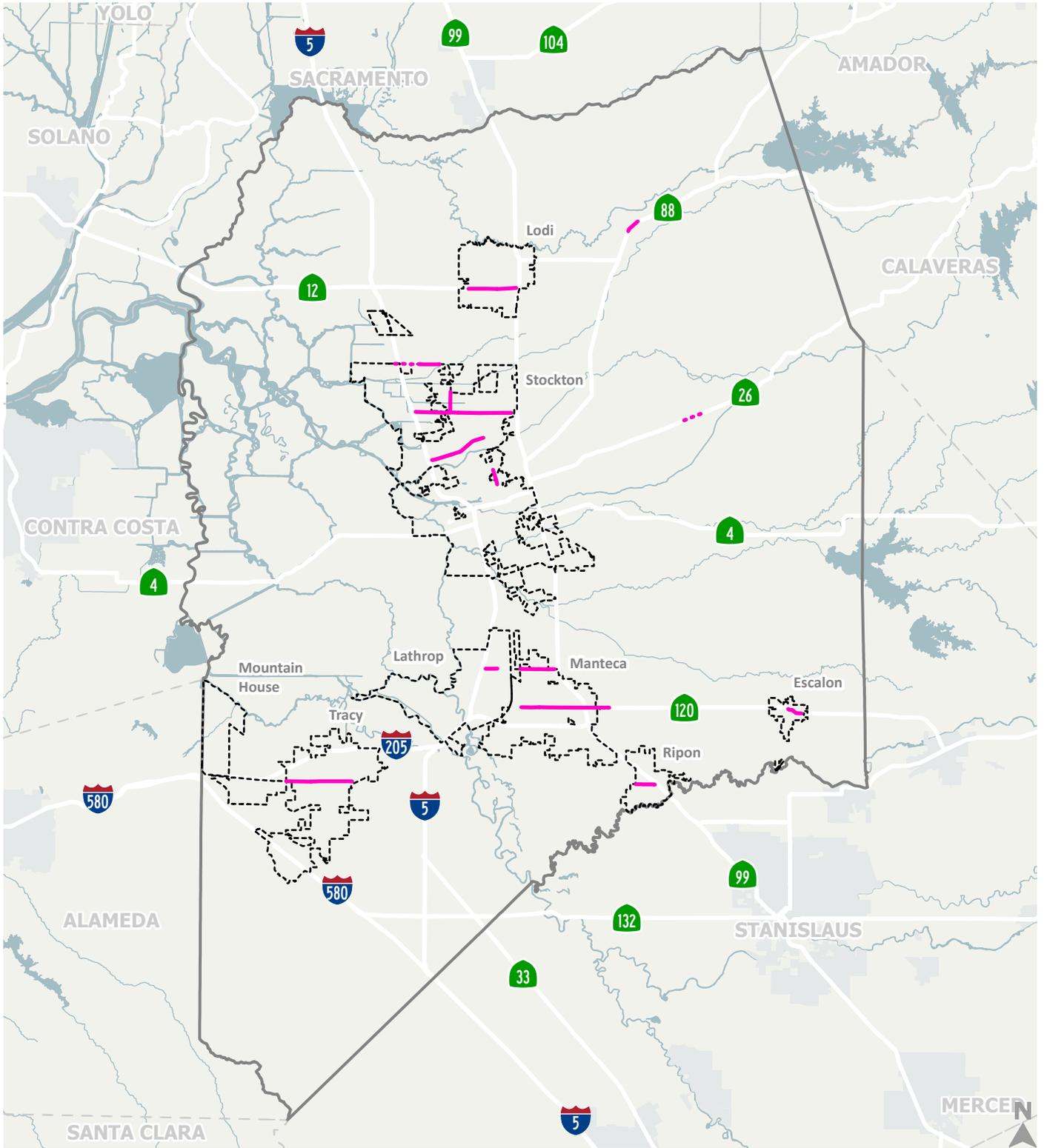


- | | |
|--------------------------------|-------------------------------|
| Countywide Bicycle Facilities | --- City Boundary |
| — Class I Shared-Use Path | ▭ San Joaquin County Boundary |
| — Class II Bike Lane | |
| — Class III Bike Route | |
| — Class IV Separated Bike Lane | |

Figure C



Existing Bicycle Network

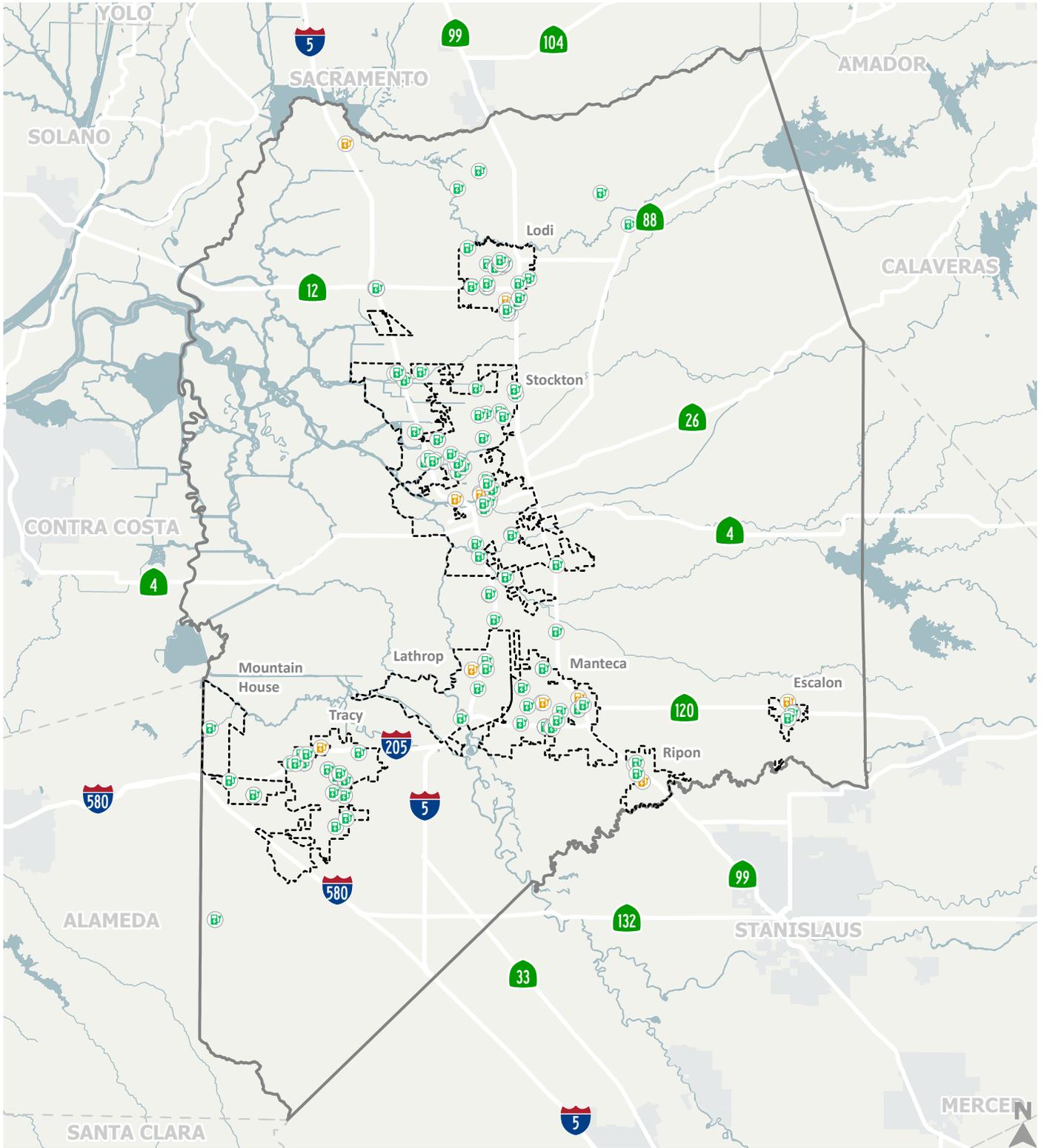


- Existing Multimodal Corridor
- ⋯ Future Multimodal Corridor
- City Boundary
- San Joaquin County Boundary

Figure D

Multimodal Corridors





-  Existing EV Charging Station
-  Planned EV Charging Station
-  City Boundary
-  San Joaquin County Boundary

Figure E

EV Charging Network



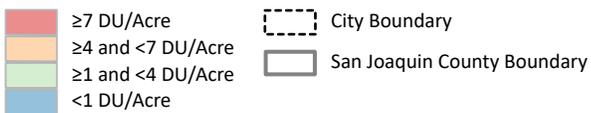
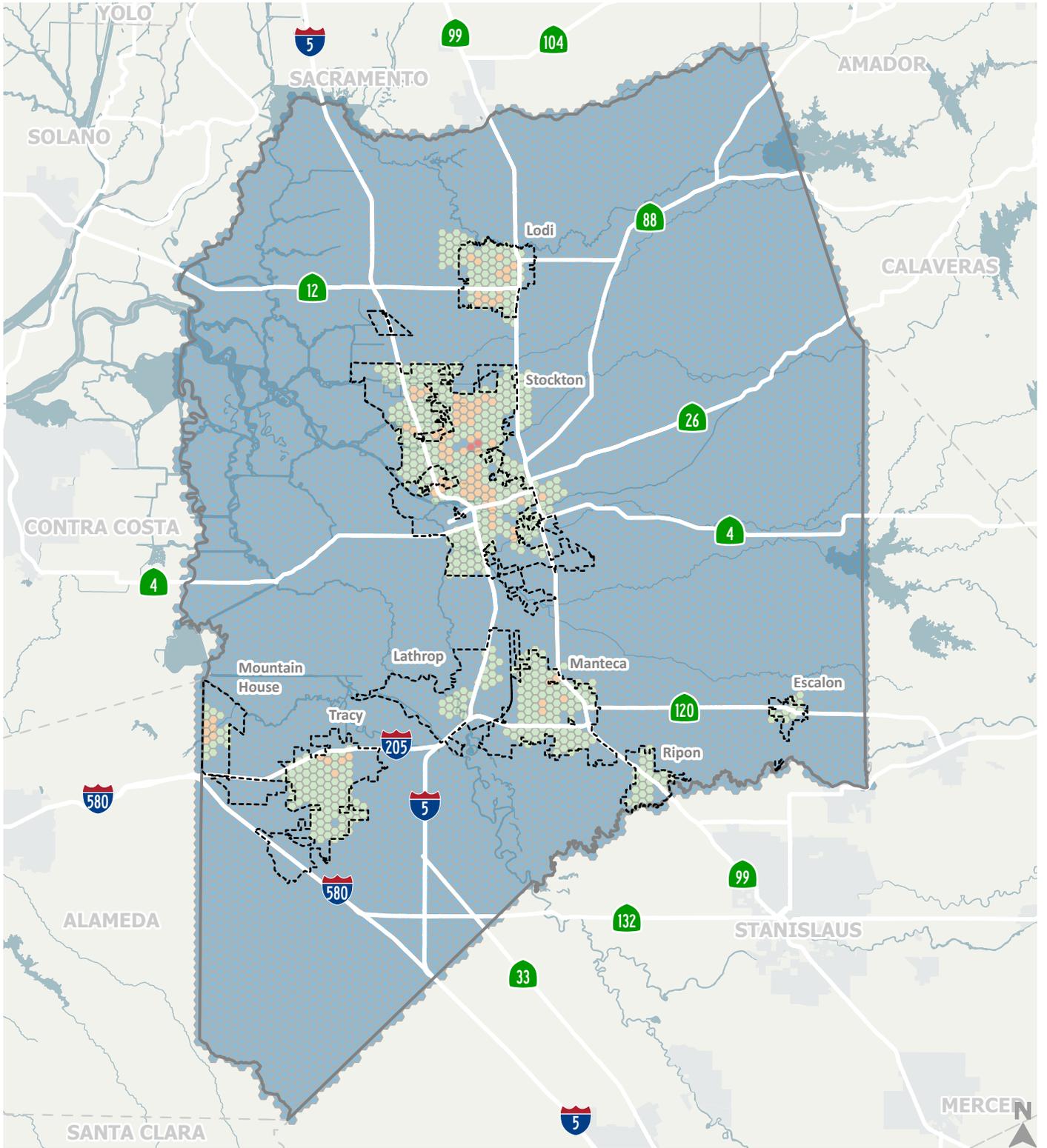


Figure F



Base Year (2021) Housing Density

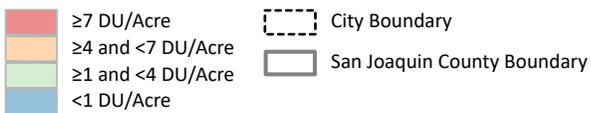
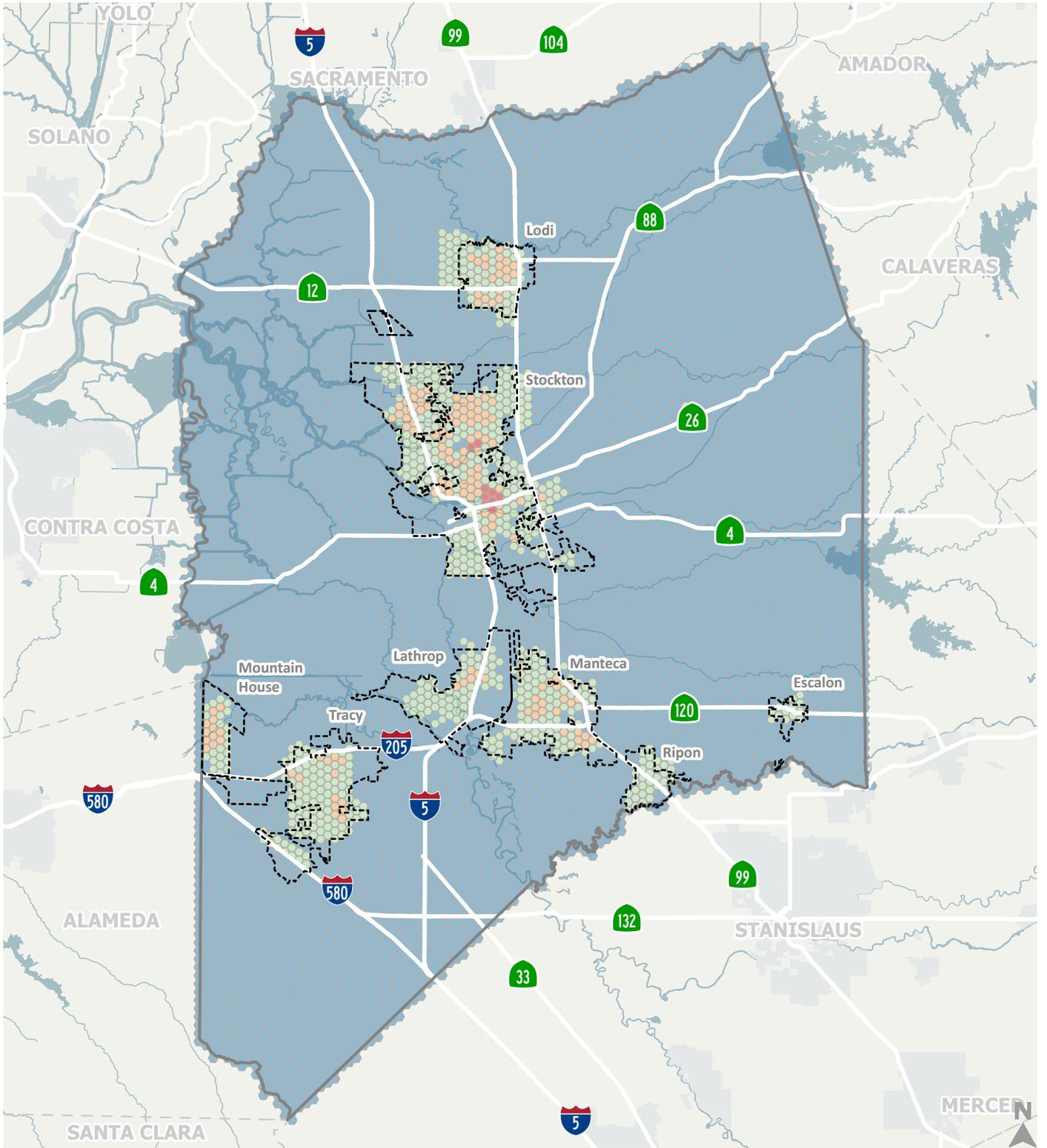


Figure G



Cumulative Year (2046) Housing Density

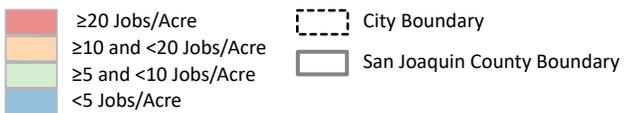
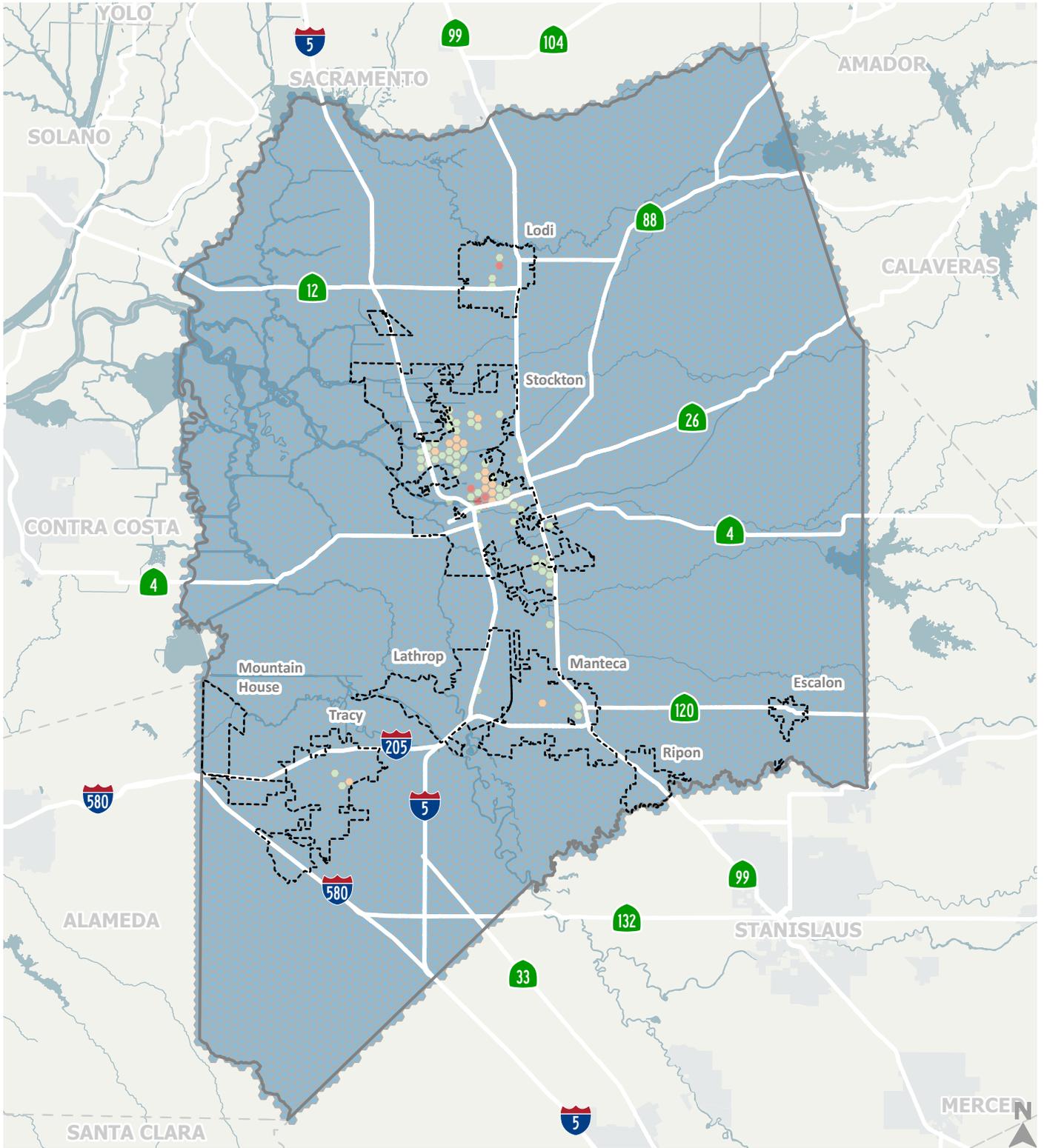


Figure H



Base Year (2021) Job Density

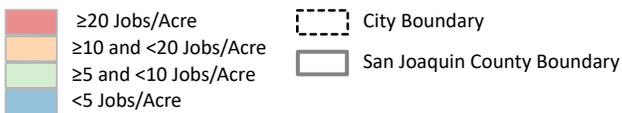
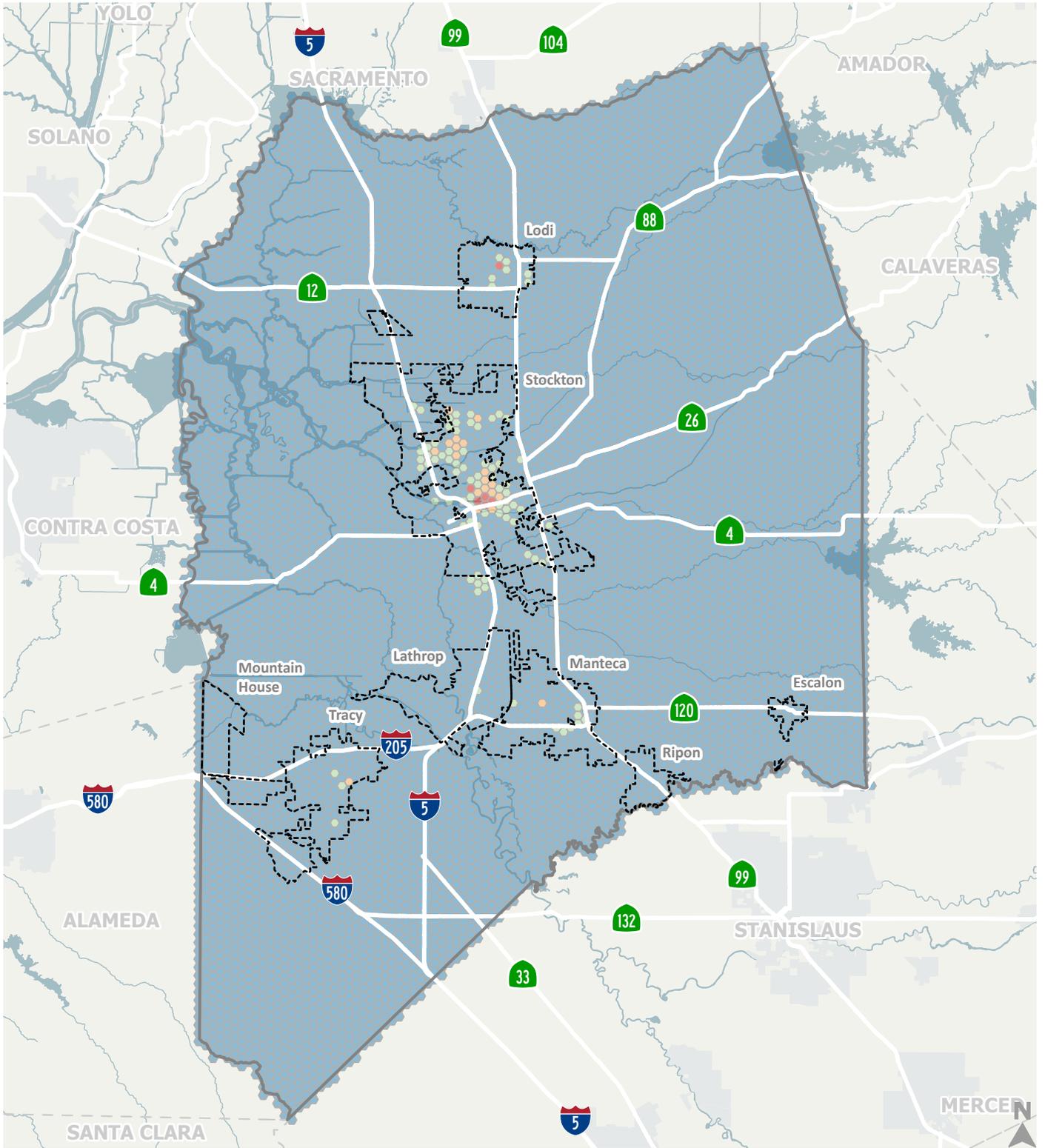


Figure I



Cumulative Year (2046) Job Density

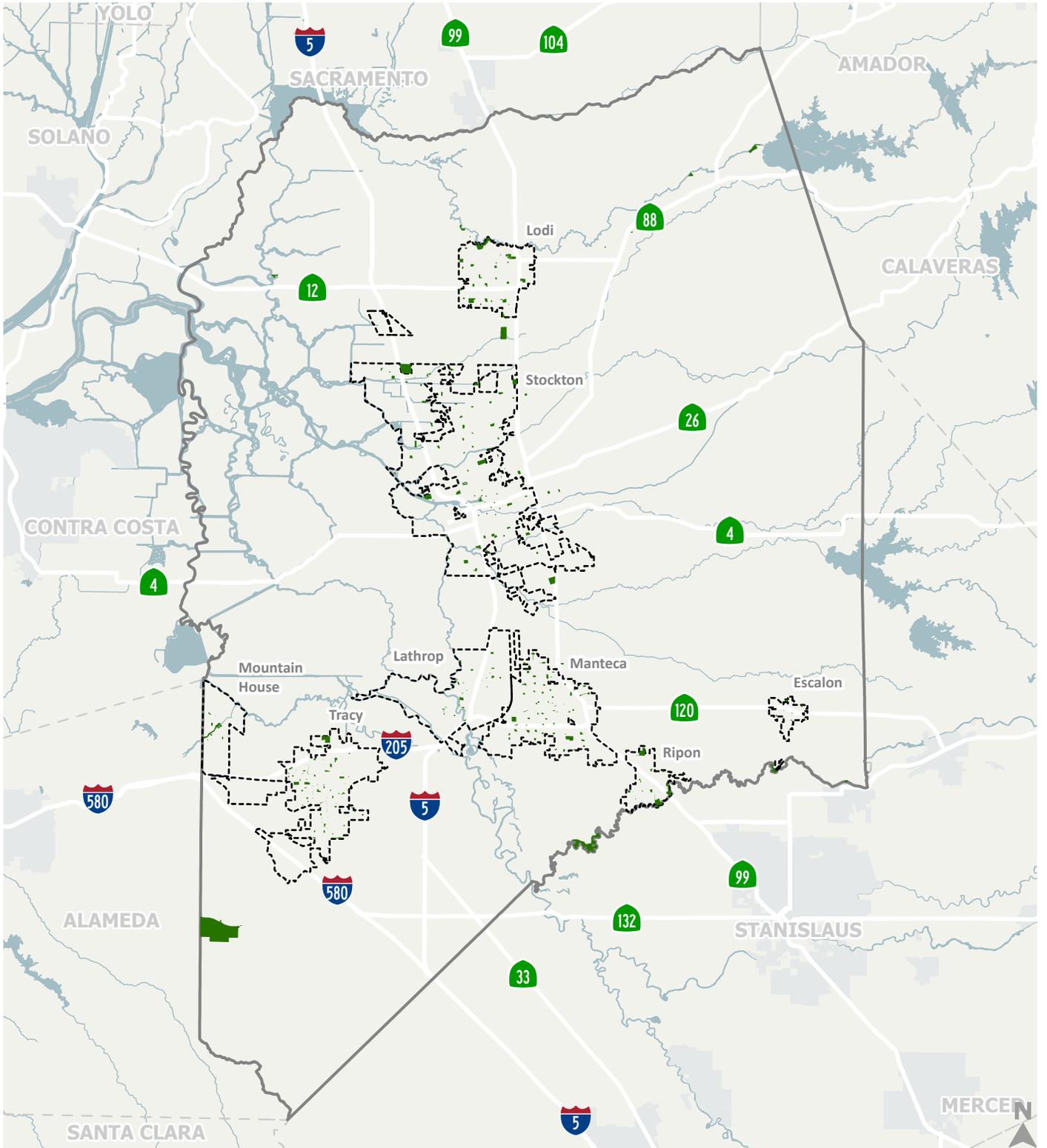


Figure J



Existing Open Space and Parks

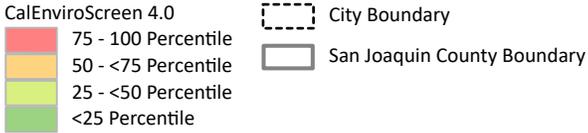
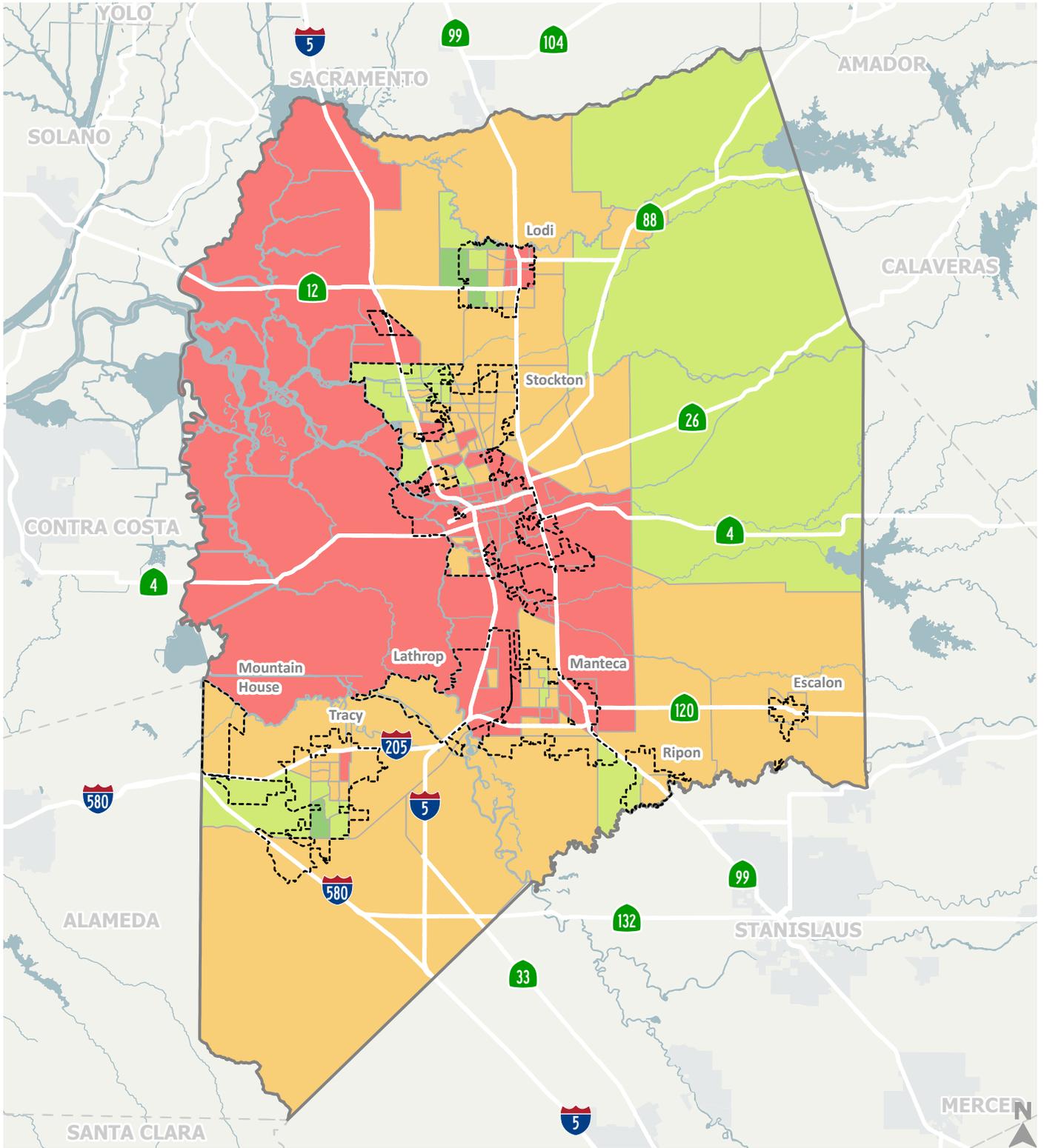


Figure K



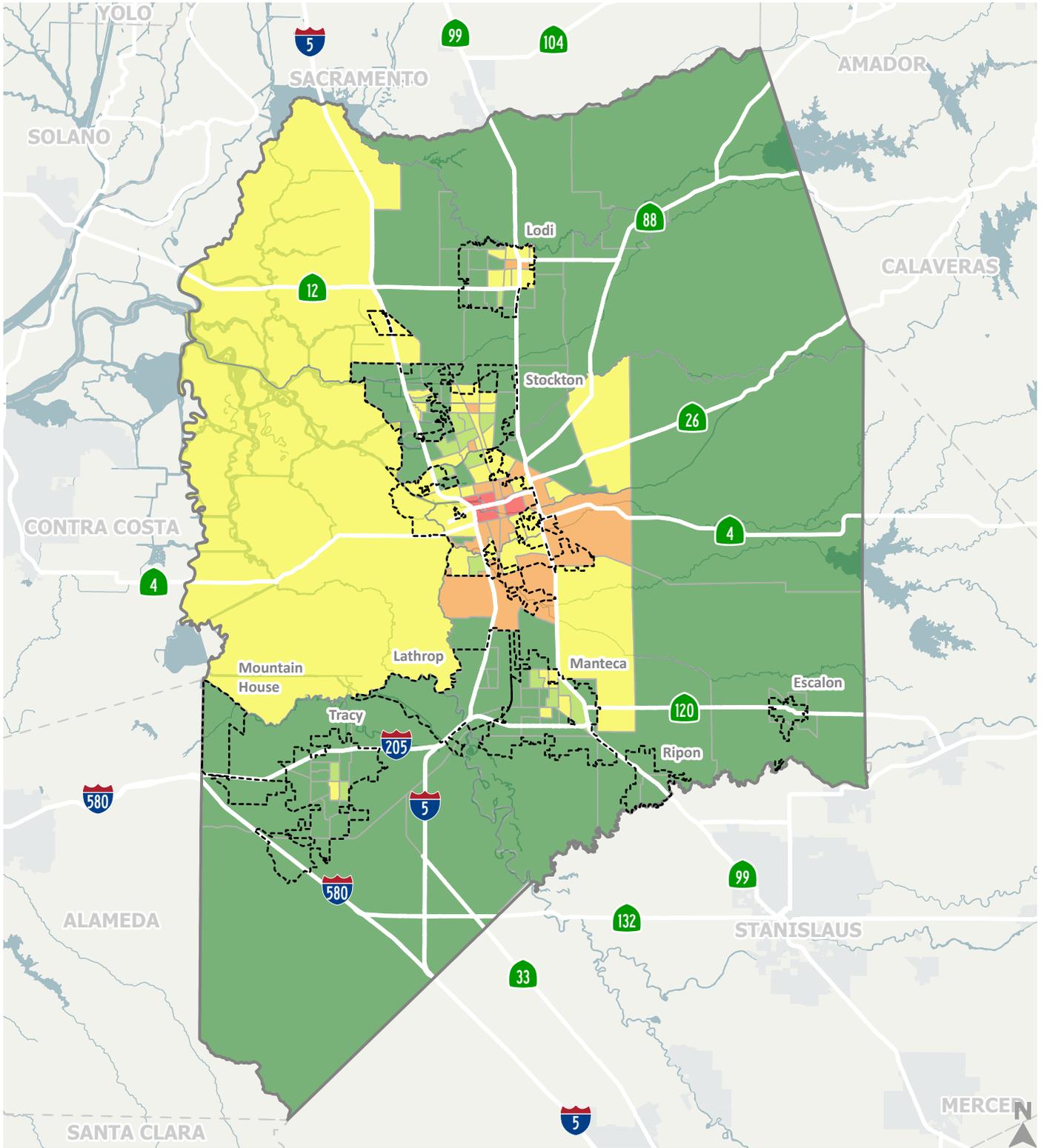


Figure L



Climate and Economic Justice Screening Tool (CEJST)

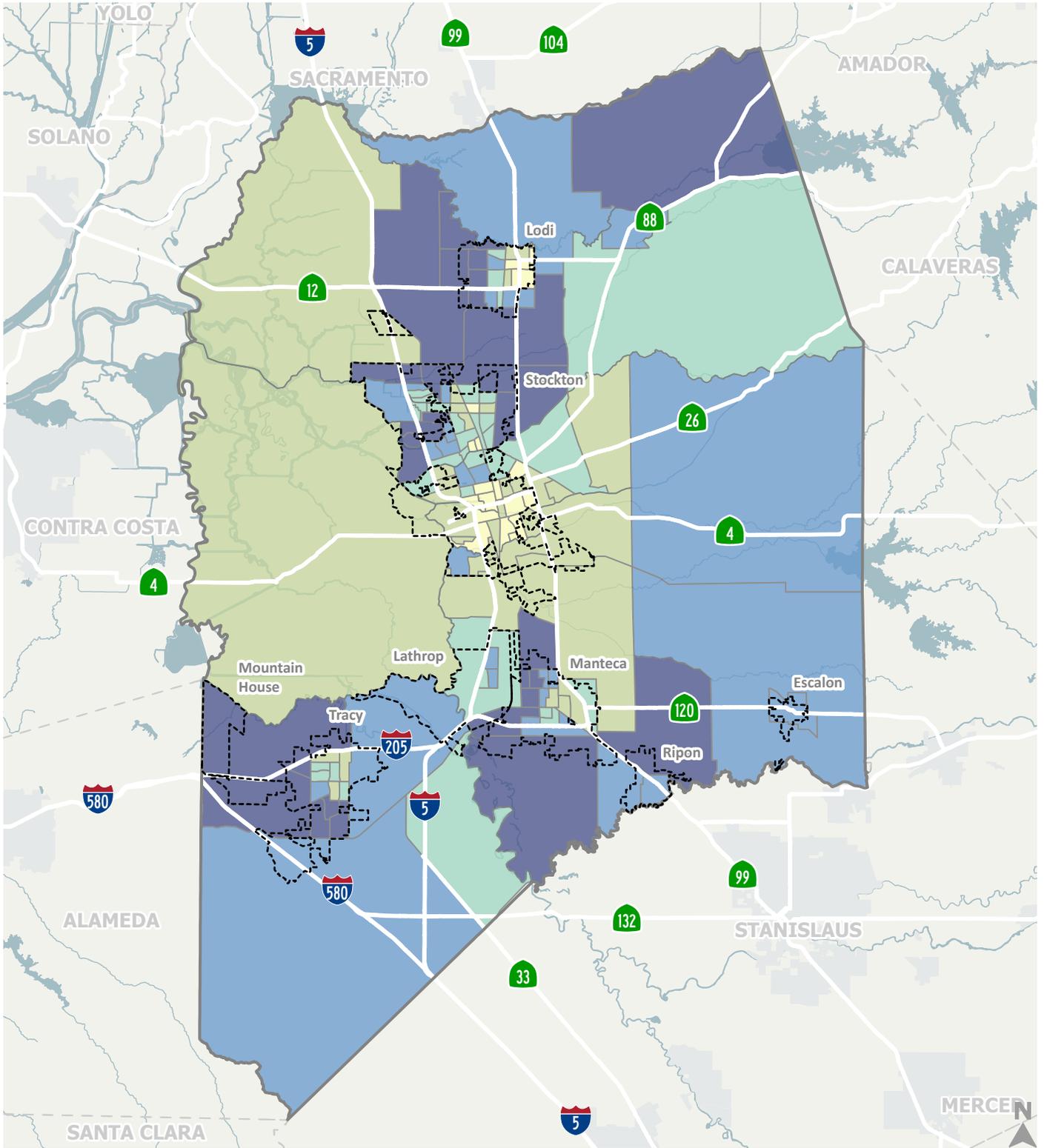
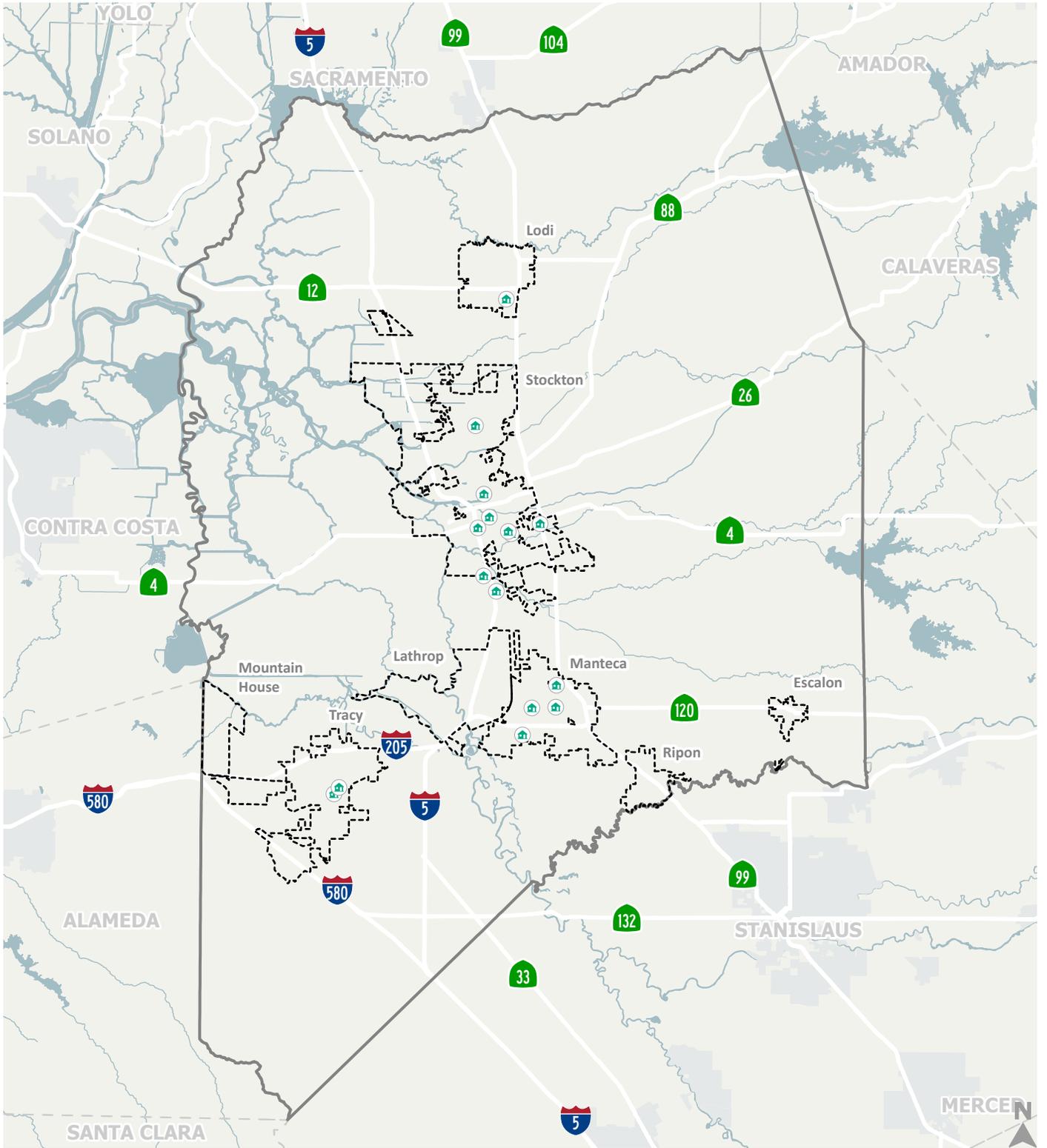


Figure M

COG Geography TCAC/HCD Opportunity Map
Composite Score - (HCD, 2023) - Census Tracts





-  Regional Housing Fund Development Pipeline
-  City Boundary
-  San Joaquin County Boundary

Figure N



Regional Housing Fund Development Pipeline

Appendix B

Commute Travel Time Data



Table B-1: Commute Travel Time by Mode

Mode Split	Travel Time	Escalon	Lathrop	Lodi	Manteca	Mountain House	Ripon	Stockton	Tracy	Unincorporated
Drove Alone	Less than 10 minutes	17.59%	6.90%	23.45%	10.56%	0.99%	19.43%	8.38%	10.97%	9.47%
	10 to 14 minutes	2.50%	7.44%	15.54%	9.81%	2.66%	8.65%	16.08%	13.02%	12.68%
	15 to 19 minutes	8.96%	14.61%	11.27%	14.89%	4.91%	16.27%	19.55%	9.85%	17.42%
	20 to 24 minutes	26.64%	13.19%	12.42%	11.59%	9.13%	17.42%	16.31%	4.57%	13.73%
	25 to 29 minutes	5.29%	5.11%	5.39%	4.66%	2.44%	12.15%	4.40%	2.95%	5.29%
	30 to 34 minutes	23.72%	12.06%	12.33%	11.98%	11.53%	9.00%	9.49%	8.47%	15.42%
	35 to 44 minutes	5.42%	4.58%	4.32%	3.14%	10.63%	3.55%	3.56%	5.15%	4.34%
	45 to 59 minutes	3.67%	8.02%	6.29%	5.63%	17.08%	2.96%	5.18%	12.72%	6.05%
	60 or more minutes	6.21%	28.09%	8.99%	27.75%	40.62%	10.56%	17.06%	32.31%	15.61%
Carpooled	Less than 10 minutes	6.09%	4.58%	16.65%	10.56%	0.00%	20.51%	6.83%	8.44%	8.17%
	10 to 14 minutes	0.00%	10.61%	12.70%	20.23%	10.70%	6.05%	12.22%	7.72%	13.82%
	15 to 19 minutes	16.09%	14.47%	4.05%	8.61%	14.20%	4.88%	17.55%	5.75%	15.09%
	20 to 24 minutes	5.65%	8.96%	13.64%	10.91%	3.45%	7.42%	12.01%	2.82%	10.31%
	25 to 29 minutes	8.26%	0.00%	7.58%	3.12%	8.91%	17.19%	4.17%	3.14%	7.17%
	30 to 34 minutes	4.78%	5.15%	13.05%	8.78%	1.37%	0.00%	9.36%	5.45%	7.82%
	35 to 44 minutes	0.00%	6.64%	9.62%	5.14%	5.53%	15.63%	4.80%	10.25%	2.76%
	45 to 59 minutes	22.61%	4.43%	8.81%	6.75%	5.59%	0.00%	7.30%	10.75%	6.44%
	60 or more minutes	36.52%	45.16%	13.90%	25.90%	50.27%	28.32%	25.78%	45.67%	28.41%
Public Transportation	Less than 10 minutes	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	1.33%	0.00%	14.19%
	10 to 14 minutes	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	1.39%	0.00%	0.00%
	15 to 19 minutes	N/A	0.00%	25.81%	0.00%	0.00%	0.00%	4.62%	0.00%	0.00%
	20 to 24 minutes	N/A	0.00%	21.77%	0.00%	7.52%	0.00%	3.58%	3.01%	0.00%
	25 to 29 minutes	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	1.44%	1.23%	0.00%

Table B-1: Commute Travel Time by Mode

Mode Split	Travel Time	Escalon	Lathrop	Lodi	Manteca	Mountain House	Ripon	Stockton	Tracy	Unincorporated
	30 to 34 minutes	N/A	0.00%	37.90%	0.00%	0.00%	0.00%	9.19%	4.24%	0.00%
	35 to 44 minutes	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	8.49%	3.28%	1.61%
	45 to 59 minutes	N/A	0.00%	8.87%	17.09%	0.00%	0.00%	7.11%	8.89%	0.00%
	60 or more minutes	N/A	100.00%	5.65%	82.91%	92.48%	100.00%	62.85%	79.34%	84.19%
Walked	Less than 10 minutes	91.30%	41.18%	38.01%	45.63%	N/A	100.00%	50.18%	63.77%	75.07%
	10 to 14 minutes	8.70%	0.00%	28.27%	5.94%	N/A	0.00%	19.68%	1.21%	4.27%
	15 to 19 minutes	0.00%	0.00%	18.13%	3.75%	N/A	0.00%	15.03%	19.43%	7.39%
	20 to 24 minutes	0.00%	37.25%	6.43%	0.00%	N/A	0.00%	7.33%	7.29%	0.00%
	25 to 29 minutes	0.00%	0.00%	0.00%	0.00%	N/A	0.00%	1.70%	1.82%	7.87%
	30 to 34 minutes	0.00%	0.00%	1.17%	15.31%	N/A	0.00%	4.20%	6.48%	0.00%
	35 to 44 minutes	0.00%	21.57%	5.07%	10.63%	N/A	0.00%	0.00%	0.00%	0.00%
	45 to 59 minutes	0.00%	0.00%	0.00%	0.00%	N/A	0.00%	0.00%	0.00%	2.94%
	60 or more minutes	0.00%	0.00%	2.92%	18.75%	N/A	0.00%	1.88%	0.00%	2.46%
Other means	Less than 10 minutes	100.00%	0.00%	12.46%	26.91%	8.08%	22.50%	14.76%	16.72%	22.36%
	10 to 14 minutes	0.00%	17.78%	11.33%	10.17%	0.00%	0.00%	11.80%	15.81%	7.45%
	15 to 19 minutes	0.00%	23.89%	3.68%	11.44%	0.00%	17.50%	18.31%	10.39%	13.04%
	20 to 24 minutes	0.00%	26.67%	10.20%	12.71%	0.00%	5.83%	20.05%	3.77%	7.87%
	25 to 29 minutes	0.00%	14.44%	25.50%	0.00%	0.00%	0.00%	4.76%	0.00%	5.18%
	30 to 34 minutes	0.00%	0.00%	6.52%	16.31%	57.07%	0.00%	7.11%	11.75%	22.77%
	35 to 44 minutes	0.00%	0.00%	0.00%	7.63%	21.72%	0.00%	4.16%	0.00%	0.00%
	45 to 59 minutes	0.00%	0.00%	15.58%	0.00%	13.13%	0.00%	7.78%	7.23%	0.00%
	60 or more minutes	0.00%	17.22%	14.73%	14.83%	0.00%	54.17%	11.27%	34.34%	21.33%

Source: 2018-2022 American Community Survey 5-Year Estimates (U.S. Census Bureau).

Appendix C

Mobility Hub Scoring Methodology



Table C-1: Mobility Hub Suitability Score Methodology – Built Environment

Category	Mobility Hub Suitability Factors	Score Attribute	Data Source	Scoring Criteria	Max Score	Notes
Built Environment (Max 50 Points)	Within 1/2 Mile of Transit Stop or Train Station (Max 20 Points)	Transit Facility Score	Transit network data provided by SJCOG, ACE, Amtrak, City of Escalon, City of Lodi, City of Manteca, City of Ripon, City of Tracy, and San Joaquin RTD	Within 1/2 Mile of Existing Local Bus Stop	10	Max(local bus stop, existing transit center/train station, future transit center/train station)
				Within 1/2 Mile of Existing Transit Center or Commuter Train Station	20	
				Within 1/2 Mile of Future Transit Center or Commuter Train Station	15	
	Park & Ride Lots (Max 10 Points)	Park & Ride Score	Caltrans, San Joaquin RTDa, City of Lodi	Within 1/2 Mile of Existing Park & Ride	10	
	Bike Network Connectivity (Max 10 Points)	Bike Network Score	2023 RCMP, City of Stockton, San Joaquin County	Class I and/or Class IV Within Hexagon	10	Max(Class I/IV, Class II, Class III)
				Class II Within Hexagon	6	
				Class III Within Hexagon	3	
	Multimodal Corridors (Max 5 Points)	Multimodal Corridor Score	2023 RCMP	Existing or Future Multimodal Corridor is within Hexagon	5	
EV Charging Stations (Max 5 Points)	EV Charging Facility Score	San Joaquin County Alternative Fuels Vision Plan	Within Hexagon	5		

Source: Fehr & Peers, September 2024.

Table C-2: Mobility Hub Suitability Score Methodology – Land Use

Category	Mobility Hub Suitability Factors	Score Attribute	Data Source	Scoring Criteria	Max Score	Notes	
Land Use (Max 50 Points)	Base Year 2021 Dwelling Unit Density (Max 15 Points)	Base Year 2021 Housing Density Score	2022 RTP/SCS	>=7 dwelling units/acre	15	Max score combined for Base Year and Cumulative Year Housing Density does not exceed 20 points	
				>=4 dwelling units/acre and < 7 dwelling units/acre	10		
	Cumulative Year 2046 Dwelling Unit Density (Max 10 Points)	Cumulative Year 2046 Housing Density Score	2022 RTP/SCS	If Base Year Housing Density >= 7 DU/acre and Cumulative Year Housing Density > Base Year Housing Density	5		
				If Base Year Housing Density < 4 DU/acre and Cumulative Year Housing Density >=7 DU/acre	10		
				If Base Year Housing Density >=4 DU/acre and < 7 DU/acre and Cumulative Year Housing Density >=7 DU/acre	5		
				If Base Year Housing Density < 4 DU/acre and Cumulative Year Housing Density >=4 DU/acre and < 7 DU/acre	5		
	Base Year 2021 Job Density (Max 15 Points)	Base Year 2021 Job Density Score	2022 RTP/SCS	>= 20 jobs/acre	15		Max score combined for Base Year and Cumulative Year Job Density does not exceed 20 points
				>=10 jobs/acre and < 20 jobs/acre	10		
				>=5 jobs/acre and <10 jobs/acre	5		
	Cumulative Year 2046 Job Density (Max 5 Points)	Cumulative Year 2046 Job Density Score	2022 RTP/SCS	If Base Year Job Density >= 20 jobs/acre and Cumulative Year Job Density > Base Year Job Density	5		
				If Base Year Job Density < 20 and Cumulative Year Housing Density >=20 jobs/acre	5		
				If Base Year Job Density < 10 jobs/acre and Cumulative Year Job Density >=10 jobs/acre and <20 jobs/acre	5		
				If Base Year Job Density < 5 jobs/acre and Cumulative Year Job Density >=5 jobs/acre and <10 jobs/acre	3		
	Parks/Open Space (Max 10 Points)	Park Score	Open Source	Public Park Within Hexagon	10		

Source: Fehr & Peers, September 2024.