



DATE: November 10, 2022
TO: SolanoExpress Intercity Transit Consortium
FROM: Brandon Thomson, Transit Mobility Coordinator
RE: Status of Public Outreach for Connected Mobility Implementation Plan

Background:

The Solano Transportation Authority (STA), which is responsible for Solano County’s transportation planning, programming, project delivery and prioritization, serves a countywide population of over 440,000 and an area of over 900 square miles by coordinating various transit, rideshare, travel demand management (TDM), active transportation, and first/last mile initiatives with its eight member agencies.

The Connected Mobility Implementation Plan Project provides an opportunity to revitalize and modernize Solano County’s travel options – to provide an integrated, array of travel options for commuters – and to encourage mode shift by actively promoting existing and future travel options.

In the aftermath of COVID – The Connected Mobility Implementation Plan will reassess the County’s longer-term transportation needs and priorities, including transit, rideshare, first/ last mile, Active Transportation Planning (ATP) and improved connectivity between local and regional transportation. This project also correlates closely with MTC’s Blue Ribbon Transit Recovery Task Force that has been studying and providing guidelines and a communications toolkit for the **“All Aboard Transit”** communications and marketing campaign to help regain ridership as the region emerges from the restrictions of the pandemic. Another impetus for the plan is to provide quantitative and qualitative data to help secure grant funding for future transportation improvements during an upcoming grant application cycle and to provide input to the Transit Element of STA’s CTP.

Discussion:

The Public Outreach plan is designed to outline strategies and methods for educating and engaging a diverse range of stakeholders and members of the public (including existing and new riders) about the Connected Mobility Implementation Plan, seeking meaningful input in an equitable, inclusive and transparent manner, and reflecting back to stakeholders and the community how their input is helping to inform the key elements of the plan.

Public Outreach and Marketing Plan Goals

- A. Educating STA constituents about the Connected Mobility Implementation Plan
- B. Seeking broad input on important elements of the plan at key intervals of its development to help ensure that stakeholder and community priorities are reflected in the final recommendations
- C. Synthesizing and summarizing public input from existing and new transit riders/commuters about their knowledge of existing transit options and their suggestions on how to improve travel options in Solano County to reflect how their input is helping to inform the plan

Ensuring equitable engagement – providing accessible, easy opportunities for communities of concern to learn about the planning process and provide input, then actively reflecting that this input is being heard and addressed.

Public outreach will be conducted in two phases to solicit input at key project intervals. Existing communication channels, noted in the table on page 6, will be utilized as appropriate during each phase to gain broad public awareness and participation.

A. Phase 1 Outreach

- i. The first phase of outreach is designed to better understand stakeholder challenges and opportunities regarding transportation in Solano County. Data gathered will help STA define tactics to improve connectivity and mobility. Through a survey and meetings with key stakeholder groups, we will assess the level of awareness of existing STA services and preferences surrounding them.
- ii. Such questions to identify barriers to using these services might include:
 1. *How is transportation working for you? How can it improve?*
 2. *What would it take to get you to....(ride the ferry, take the bus, carpool, take the train...etc....)?*
 3. *If you commute by car, why do you choose to do so?*
- iii. In advance of this outreach, the project website will be developed to provide a central clearinghouse of information for people to learn more about the project, provide additional comments and notify the public of upcoming outreach activities.
- iv. After Phase one Outreach concludes, the project team will keep the public informed about input opportunities to be conducted in the second phase.

B. Phase 2 Outreach

- i. The second phase of outreach will build upon the outreach conducted in phase one and will solicit input on proposed travel recommendations to improve mobility. We will assess the level of engagement and participation in phase one and make adjustments to outreach strategies as necessary. Input will be gathered through additional pop-up events, website comment forms and/or other means to gather feedback and public understanding on elements of the initial draft Connected Mobility Implementation Plan that are appropriate for the public to weigh in on.
- ii. Questions that engage the audience and identify elements to prioritize improvements and support the final Connected Mobility Implementation Plan could include:
 1. *What's your preference for traveling to work, school, fun?*
 2. *Which one of these X additions would improve your transportation needs the most?*

C. All public input will be consolidated and summarized including – key issues, interests, and priorities regarding mobility options at the end of Phase 1 and 2 and input received will be integrated into proposed travel recommendations.

D. In between planned outreach phases, it's important to continue the steady drumbeat of information by updating the webpage confirming “We Heard You” and highlighting some key feedback received along with employing other existing communication channels to continue the conversation and project momentum.

Outreach events have been hosted in each city within Solano County and the survey results can be found on Attachment A. STA received over 600 survey responses. The outreach will conclude with a County Wide tele town hall in Spring and the results will be provided as soon as they're made available.

This item was presented to the STA Intercity Transit Consortium and the STA TAC at their November 2022 meeting.

Fiscal Impact:

None.

Recommendation:

Informational.

Attachment:

- A. Survey Results Summary – DRAFT (May 2022)

STA Connected Mobility Implementation Plan
Solano County Market Assessment – DRAFT
August 2022

Solano Transportation Authority

EXECUTIVE SUMMARY

The Solano Transportation Authority's (STA's) Connected Mobility Implementation Plan is a comprehensive reimagining of mobility services in Solano County, representing an inclusive look at how to improve local and regional transportation countywide. The outcome of this project will be a new, attractive, efficient, more equitable, and better-connected mobility network that meets the travel needs of those who live and work in the Solano County.

The Market Assessment, conducted as a part of the Connected Mobility Implementation Plan to inform its development and determination of alternatives, focuses on the mobility needs of Solano County and the built environment that shapes those needs. Through the Assessment, the project team seeks to understand where people live, where they work, how they choose to get from place to place, and how existing mobility networks facilitate both local and interregional trip-making needs.

Through a range of qualitative and quantitative considerations, the Assessment has unveiled a comprehensive understanding of Solano County's mobility environment. **Key findings include:**

- **Solano County currently offers a robust mobility network**, featuring the SolanoExpress Intercity Express Bus system, five local transit networks, ADA paratransit services, alternative mobility programs, as well as several connective regional transit providers.
- **While comprising one interconnected mobility network, Solano County's mobility programs do not always integrate effectively**, due to separate orientations of each of these programs, as well as the numerous city and county-based operators and stakeholders that manage the different transit systems.
- **Overall, Solano County offers a range of population densities, numerous of land uses and destination types, and four separate market typologies**, all of which require a variety of mobility offerings tailored to provide effective service in unique environments.
- **Areas with the highest potential transit propensity** include central and northern Vallejo, Suisun City, central and western Fairfield, and to a lesser extent Dixon. These areas correspond with MTC's defined Equity Priority Communities.
- **The workplaces of Solano County residents are scattered widely across the Bay Area and Sacramento regions**, with the largest concentrations located within Solano County, as well as substantial concentrations of workplaces corresponding with the region's economic centers (Concord, Walnut Creek, and Port Richmond in Contra Costa County, Berkeley in Alameda County, Downtown San Francisco, and Downtown Sacramento).
- **Solano County workers endure above average commute times**, with much of the County reporting an average commute trip length of 30 minutes but with some areas, particularly in Vallejo, reporting lengths of 90 minutes or more. In general, there is an apparent need for local mobility connections within Solano County, as well as interregional connections stretching far beyond Solano County's limits.

- **The vast majority of trips made by travelers within Solano County are between the County's three largest cities**, with over 75 percent of intra-county trips having origins and destinations in Vallejo, Fairfield, or Vacaville.
- **The majority of trips between Solano County and other counties within the region are made either to adjacent counties or to major regional employment centers.** Specifically, Contra Costa County is the most popular Solano County trip point of origin or destination, followed by Napa, Alameda, Sacramento, and Yolo Counties.

The comprehensive findings of the Market Assessment are included and discussed in detail throughout the remainder of this document. Overall, the findings indicate that, considering its wide array of market typologies, populations with high levels of transit propensity, and existing travel patterns, Solano County features a mobility environment that includes a variety of needs and a strong demand for connected mobility. With high rates of trip-making both within the County and to areas across the greater Bay Area and Sacramento regions, the County requires a network of integrated mobility programs that interconnectedly provide travelers with the means to initiate and complete local trips within a community, trips around the County, and trips outside the County. By applying targeted connected mobility strategies, STA can better meet the mobility needs of Solano County residents and also align policies and efforts with those of the greater region. The Connected Mobility Implementation Plan engages these assessed market conditions, which represent the foundation for defining Solano County's current mobility-related needs, as a framework for fulfilling the plan's overall goals and objectives.

BACKGROUND

Why Now?

Solano County has continued to grow and change over the past several decades, and its mobility programs have evolved as well. However, a number of recent factors make this the perfect time to assess whether or not the County's mobility services align with its current market and needs, as well as adequately contribute to connected mobility, both county and regionwide. Primary factors include:

- The COVID-19 pandemic has changed travel patterns in unforeseen ways, and this is an opportunity to ensure that mobility services in the County align with these new patterns.
- In response to COVID-19's extensive effects on regional transit performance, the Metropolitan Transportation Commission's (MTC's) Blue Ribbon Transit Recovery Task Force issued a set of 27 recommendations for making Bay Area transit more connected, efficient, and customer-focused. This provides a new opportunity for assessing the connectedness of Solano County's mobility programs and determining how their integration can be enhanced.
- As the effects of climate change become more severe and impactful locally, regionally, and beyond, the Connected Mobility Implementation Planning process allows STA to assess how mobility programs can be better oriented to reduce vehicle miles traveled (VMT) and therefore contribute to cutting-back greenhouse gas emissions (GHG).

- Ensuring that mobility programs are equitable and accessible to all has never been more important. Therefore, assessing, in a way that goes beyond Title VI, the equity of local, countywide, and regional mobility in serving disadvantaged populations and in contributing to fair and balanced access to opportunity is key to evaluating the overall equitability of Solano County’s varied communities.

What is the Market Assessment?

The Market Assessment focuses on the mobility needs of Solano County and the built environment that shapes those needs. Through the Assessment, the project team seeks to understand where people live, where they work, how they choose to get from place to place, and how existing mobility networks facilitate both local and interregional trip-making needs. Ultimately, there are two key components of assessing the market for mobility programs:

1. Physical Environment - The built environment, influenced by density, land use, street design, and infrastructure to support pedestrian access directly affects transit’s ability to be useful and efficient.
2. Customer Demand - By understanding local and countywide demographic trends, equity priorities, overall transit propensity, and specific travel patterns, including points of origin/destination, time of travel, trip purpose, and modal choice, STA can better allocate transportation resources to improve accessibility and better meet demand.

The Market Assessment has been developed in parallel with the Summary and Analysis of Existing Programs and Services documents, which offer a detailed look at mobility program availability, usage, and performance to understand what is and is not working in the current system. Findings from these reports will inform the mobility program analysis, as well as the development of a service framework which will outline guiding principles and design strategies for the new network.

Project Context

The project focuses on mobility within Solano County, which is the San Francisco Bay Area’s northeastern gateway, representing the project service area. With a socioeconomically diverse population of almost 500,000, seven incorporated cities, and widely varying landscapes ranging from urban to suburban to rural agricultural, the County features a dynamic mobility environment unique within its region.

Currently, the County offers a variety of transportation services and programs, oriented to meet local mobility needs. These include the following:

- Five local transit services operated by separate local jurisdictions within the County:
 - Dixon Redit-Ride
 - Fairfield-Suisun Transit (FAST)
 - Rio Vista Delta Breeze
 - SolTrans
 - Vacaville City Coach
- SolanoExpress intercity and regional express bus service
- Locally-based ADA paratransit services

- Various countywide mobility programs, including (but not limited to):
 - Solano Mobility First/Last Mile and Vanpool Programs
 - Mobility Call Center
 - Intercity ADA subsidized Taxi Card Program
 - Guaranteed Ride Home Program

While all of these services coexist within Solano County, their separate orientations toward specific cities or unique mobility solutions haven't necessarily established a singular, interconnected transportation network that enables easy and convenient local and regional trips.

As Solano County's travel patterns change in correspondence with population growth, development shifts, and ongoing lifestyle adjustments related to the evolving COVID-19 pandemic, charting a path forward to achieve a more connected mobility network is more important now than ever before. Assessing the conditions of the local transportation market is key to identifying opportunities, challenges, and a path forward to developing a linked mobility network that will not only enable Solano residents to more easily travel throughout their county, but also to access population and employment centers in the greater Bay Area and Sacramento regions.

Data Sources

Population and demographic data for this report comes from the 2010 U.S. Census or 2019 Five-Year Estimates from the American Community Survey. Employment data comes from the U.S. Census OntheMap database, using 2019 jobs data.

Finally, travel demand data is derived from Replica, a data platform that integrates cell phone locations, geographic data, and U.S. Census data to provide insight into regional travel patterns. Replica data used for this report is from the week of January 6, 2020.

SOLANO COUNTY'S EXISTING MOBILITY NETWORK

Consisting of the SolanoExpress Intercity Express Bus system, five local transit networks, ADA paratransit services, several connective regional transit providers, as well as alternative mobility programs as offered by Solano Mobility such as its Intercity Taxi Card program, First/Last Mile programs, and GoGo Grandparent on-demand service for seniors, Solano County's mobility network is relatively robust and provides a variety of services to meet a range of needs. The Summary of Solano County Mobility Programs, completed separately as a part of the Connected Mobility Implementation Plan, details all of the County's current mobility offerings, as well as their level of interconnectivity.

Comprising a Single Integrated Network

Together, SolanoExpress, Solano County's local transit systems (Soltrans, FAST, Vacaville City Coach, Dixon Read-Ride, and Rio Vista Delta Breeze), and its supplementary alternative mobility programs are meant to comprise one countywide mobility network that links with the greater networks of the Bay Area and Sacramento region. However, due to separate orientations of each of these programs, as well as the numerous city and county-based operators and stakeholders that manage the different transit systems, the programs do not always integrate with one another in a manner that is effective and/or

usable by customers for immediate and seamless trip-making. As a part of the Connected Mobility Implementation Plan, the integration and overall singularity of Solano County's mobility network will be evaluated, and a delivery of targeted improvement recommendations will help lead to an enhanced multimodal, countywide system.

THE CURRENT MOBILITY ENVIRONMENT

Land use and the design of the built environment impact the viability of transit, as well as other supplementary mobility programs, as primary modes of transportation. The 3Ds - density, diversity, and design - of each community intersect to create a market typology that characterizes the community's ability to support transit service. The market typologies will then inform the types of transit solutions that will be most appropriate in each part of the network.

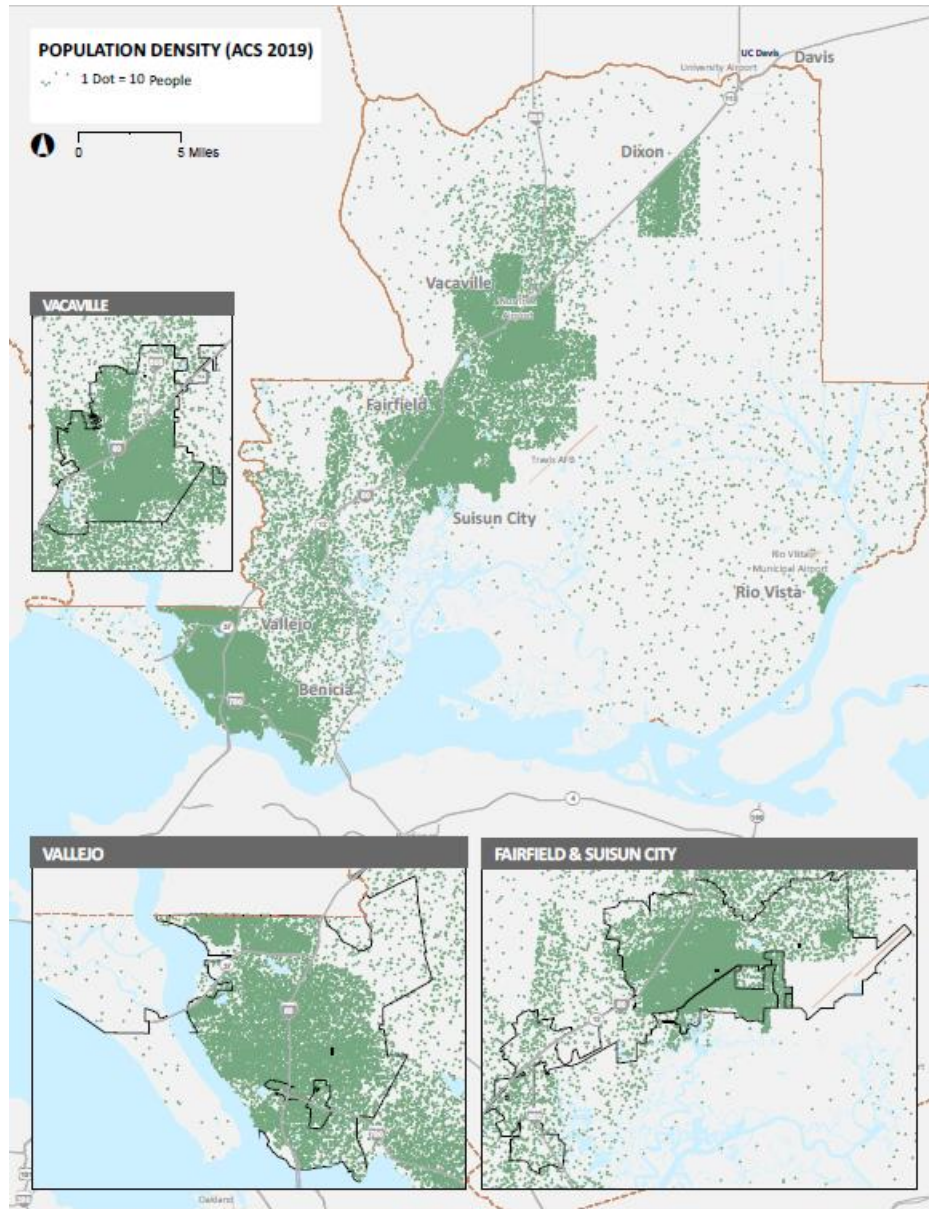
Density

Are there enough people present to generate demand for transit or another mobility program?

Denser areas have more people concentrated together, and the more people there are in a geographic concentration, the larger the potential rider base. Denser areas are ideal for transit because they concentrate a large number of people within a smaller geography, meaning that the bus does not have to travel as far to attract riders.

The map below indicates a range of population densities existing across Solano County, with the highest levels of density existing in Vallejo, Benicia, Fairfield, Suisun City, and the central portion of Vacaville. This reveals areas where local fixed route service is appropriate. For the rest of the County, where levels of density are generally lower, non-fixed-route transit services may be more effective. This means that, for example, on-demand service in Dixon and Rio Vista fits demand levels and densities.

Figure 3: Solano County Population Density Map



Destinations

Is there a variety of destinations for people to access via mobility programs?

Transit is most successful when the routes serve a variety of destinations including housing, job centers, grocery stores, medical facilities, social services, schools, and shopping malls. A route that travels entirely through a residential neighborhood or one that travels for most of its path to a remote

employer location will not carry many riders, because there is no diversity of destinations for people to travel to along the route.

In general, while the western portion of Solano County features a fairly diverse mix of land uses and potential destinations, the eastern portion of the county, where agricultural uses dominate, is much less diverse. The land use consistency within incorporated cities is also fairly diverse. Diversity among land uses generally corresponds with population density within the County, further indicating potential benefit associated with ensuring that transit services and mobility offerings are widely available where densities are greatest.


The variety of land uses is depicted in both the countywide and city-specific land use maps included in **Appendix 1**.




Design & Market Typologies

Are the street networks designed to promote walkability and access to major corridors?

The market typologies integrate the findings from the 3Ds of density, diversity, and design to identify the types of transit service that are appropriate in each part of the service area. Since STA and other Solano County transit providers have limited resources with which to operate service, it must make difficult decisions for how and when to allocate transit trips and/or mobility program offerings across the service area. Assigning each part of the service area to one of Solano County’s market typologies, as defined *in the table* below, sets expectations for the type of transit service that will be recommended in the final plan.

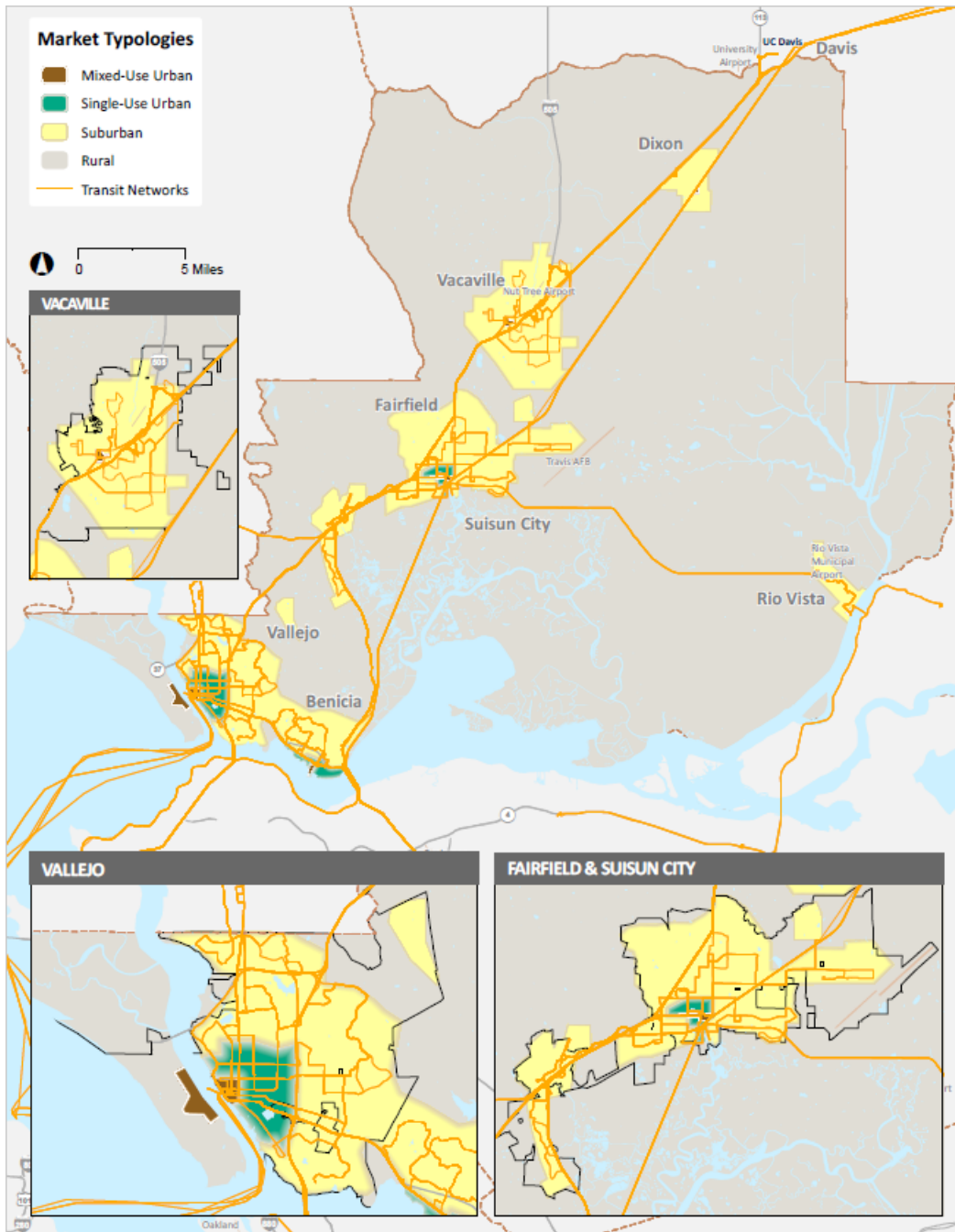
Figure 4: Solano County Market Typologies

MARKET TYPOLOGY	CHARACTERISTICS	LOCATIONS
<p>Mixed-Use Urban</p> 	<p>This is the ideal environment for public transit to thrive, where density, diversity, and design all work together to create high concentrations of origins and destinations. Transit here should feature:</p> <ul style="list-style-type: none"> • Higher frequencies • Longer service spans • Compatibility with transit priority measures 	<p>Downtown Vallejo</p>
<p>Single-Use Urban</p>	<p>These areas are primarily residential, punctuated by occasional corridors with shopping/retail destinations. Transit</p>	<p>Central Vallejo, Downtown Fairfield, and Downtown Benicia</p>

	<p>here should feature frequencies that are relatively high, but are appropriate at rates slightly lower than those for services in the Mixed-Use Urban typology.</p>	
<p>Suburban</p> 	<p>Suburban areas are more difficult to serve effectively with fixed-route transit. They are characterized by lower densities, sprawling auto-centric neighborhoods, and separation of land uses. Transit here should feature:</p> <ul style="list-style-type: none"> • Lower frequencies • Shorter service spans • Orientation as either fixed-route or point-to-point 	<p>Vacaville, Dixon, Rio Vista, Suisun City, Cordelia, and areas surrounding Vallejo, Fairfield, and Benicia</p>
<p>Rural</p> 	<p>These are sparsely-populated or not at all populated areas that are very difficult to serve by transit, and in some cases are not appropriate for traditional transit service provision. In many cases, these areas are better served by an alternative mobility program that is tailored to more on-demand, occasional trip-making.</p>	<p>All other areas of the County</p>

The map below depicts where these different typologies exist across Solano County, as well as how they are concentrated around existing transit service areas.

Figure 5: Solano County Market Typology Map



TODAY'S POPULATION AND RIDER MARKETS

Understanding changes in population growth and composition, as well as an area's rider markets, is an important part of understanding a community's mobility environment. Although population growth alone can increase the potential rider base, it does not automatically translate to a higher demand for

transit. Pew Research’s American Trends Panel Survey has shown that certain demographic factors, such as household income or household vehicle rates, are correlated with transit demand. This section discusses current and future population trends, and focuses on nine demographic groups more likely to use public transit: seniors, college students, youth, persons with disabilities, minorities, low-income, zero-vehicle households, MTC-defined Equity Priority Communities, and veterans.

Population Trends

Similar to many other Bay Area jurisdictions, Solano County and the cities within it have been gradually rising in population over the past decades. While populations have increased at a somewhat slower rate in recent years, they are still rising and are expected to continue increasing, especially in the County’s more exurban locations like Vacaville and Dixon. The table below indicates how Solano County populations have been changing over the past 40 years.

Figure 6: Solano County Population Trends by Jurisdiction

JURISDICTION	POPULATION				
	1980	1990	2000	2010	2020
Solano County	235,203	343,460	397,001	413,944	453,491
Benicia	15,376	24,437	26,865	26,997	27,131
Dixon	7,541	10,401	16,103	18,351	18,988
Fairfield	58,099	77,211	96,178	105,322	119,881
Rio Vista	3,142	3,316	4,571	7,360	10,005
Suisun City	11,087	22,686	26,188	28,111	29,672
Vacaville	43,367	71,479	88,625	92,428	102,386
Vallejo	80,303	109,199	116,760	115,942	126,090

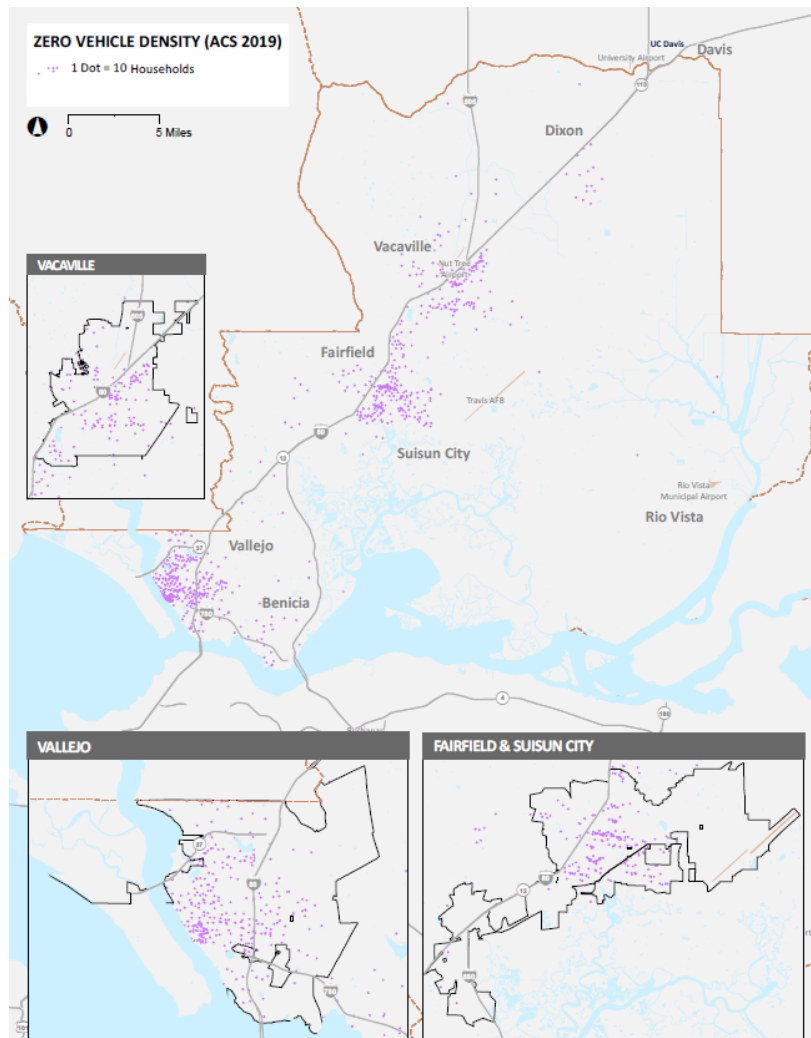
Rider Markets

Included below are assessments of a variety of market factors that are understood to indicate the existence of populations with a high level of transit propensity. Combined with an understanding of MTC’s defined Equity Priority Communities, the determination of these market factors and their locations countywide help identify the portions of the County where improving connected mobility may be most important.

Zero-Vehicle Households

Lack of access to a private vehicle is one of the top indicators of someone’s likelihood to take transit. Zero-vehicle households represent 6 percent of regional households but 44 percent of transit riders. In Solano County, zero-vehicle households are mostly concentrated in the central portions of Vallejo, Fairfield, and Vacaville, which makes sense as the development patterns outside of these mixed-use urban centers are more auto-centric. SolanoExpress connects each of these areas to provide opportunities for carless riders to make trips around the County. Among local transit providers, SolTrans and FAST serve the concentrations of riders without personal vehicle access.

Figure 7: Map of Solano County Zero-Vehicle Household Density

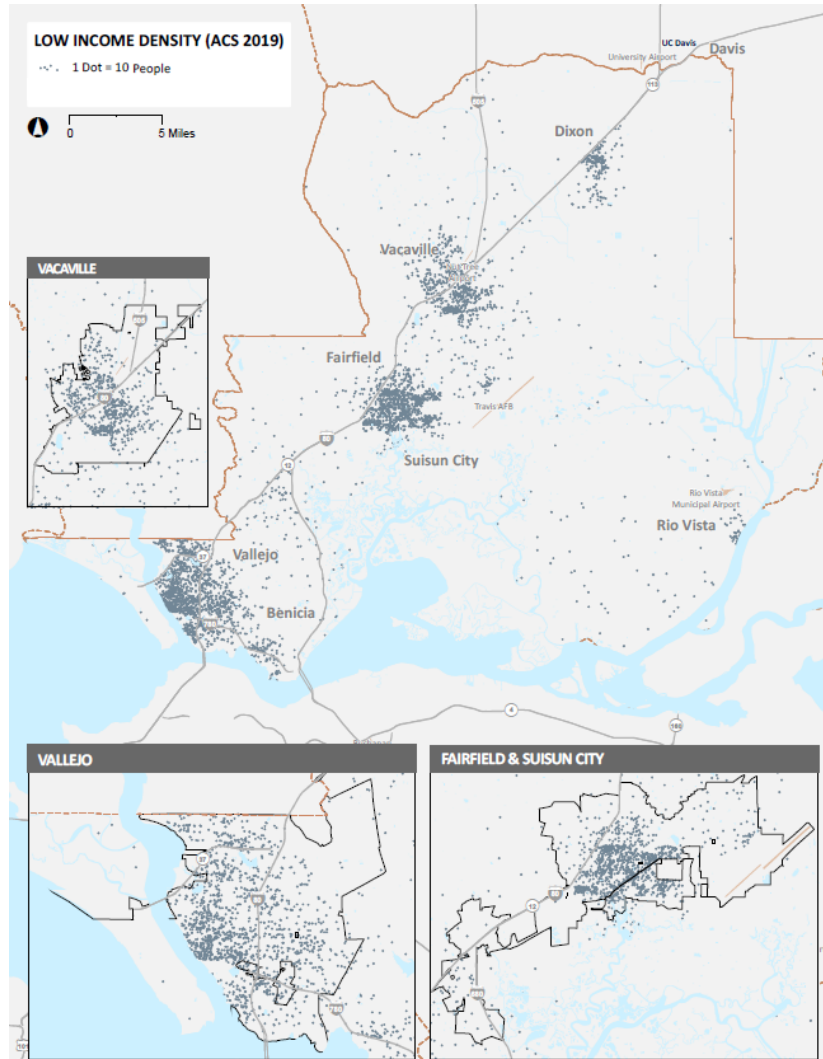


Low Income Households

Low-income populations are more likely to take transit. Because car ownership is expensive, low-income households are less likely to have enough cars to meet all their mobility needs. Low-income riders represent a moderate part of the study area’s transit ridership – especially the ridership portion making

local, intra-county trips. The distribution of low-income households in Solano County generally corresponds with population density, with the highest concentrations of low-income residents evident in the most densely-populated areas, such as Vallejo, Fairfield and Suisun City. One exception is Benicia, which is relatively densely-populated but does not feature a high concentration of low-income individuals. Overall, key trip generators and destinations for riders include low-income housing developments, the Social Security Administration and other social services providers, shopping centers, and health facilities.

Figure 8: Map of Solano County Low Income Household Density

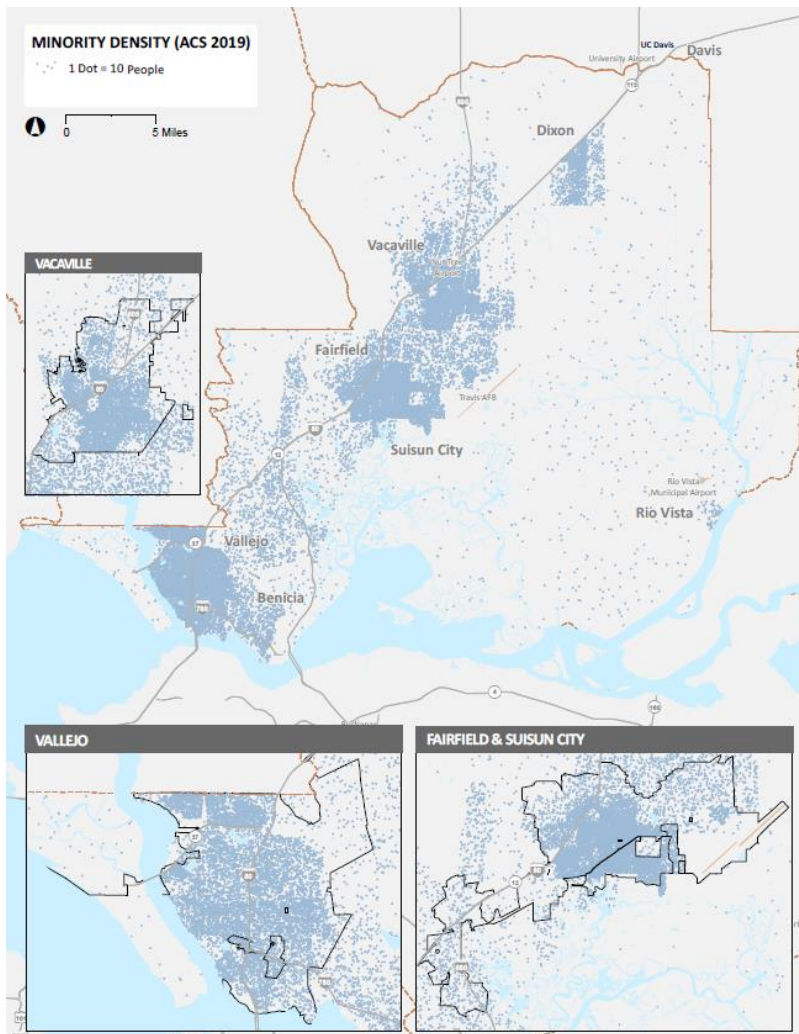


Minority Households

While identifying as a minority household is not a direct indicator of higher transit use, it is important to pay close attention to the concentration and distribution of minority households in the service area for two reasons. The first is STA, as well as its partner agencies, is committed to providing equitable mobility service and access. The second reason is to protect these communities from Title VI implications. Title VI of the Civil Rights Act of 1964 prohibits discrimination on the basis of race, color, or national origin by an

entity that receives funding from the federal government, including transit agencies. When transit agencies make service changes, they must ensure that service changes do not place a disparate impact on minority populations. Solano County has a high rate of diversity, and the County hosts minority populations that are quite widespread. While the highest concentrations of minorities are in the far western and central parts of Solano County, minority populations are fairly apparent in all areas of the County that feature some level of population density.

Figure 9: Map of Solano County Minority Household Density

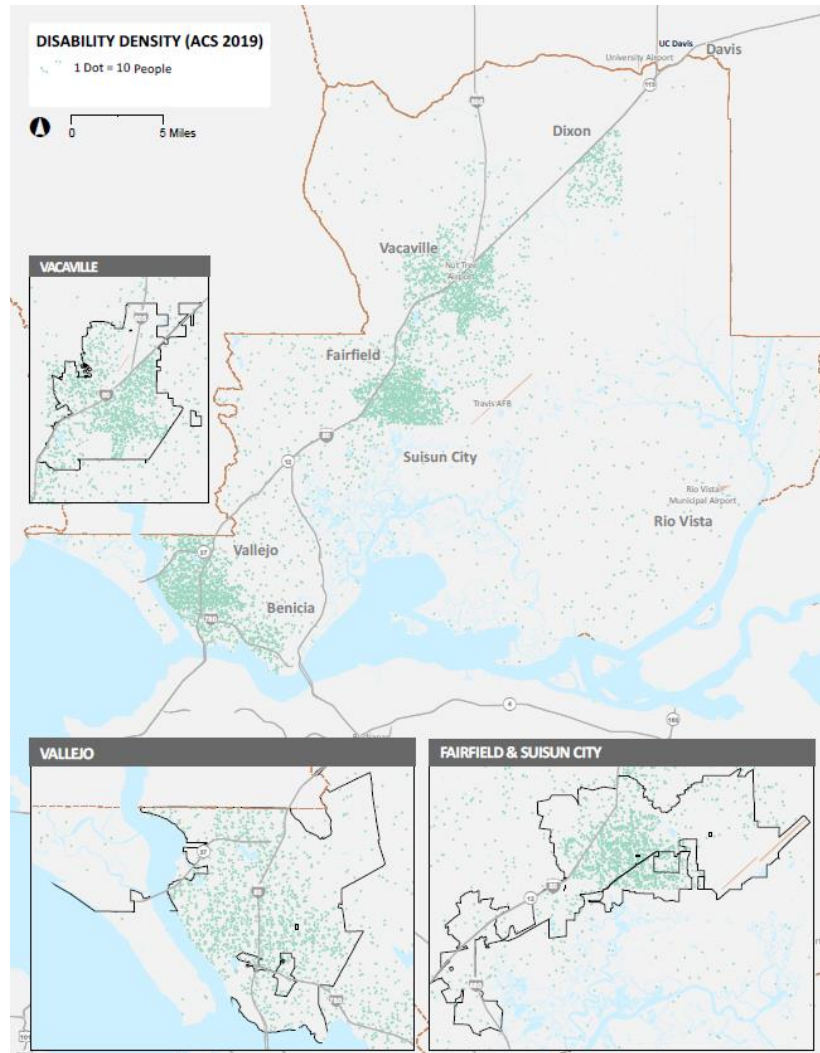


Persons with Disabilities

Persons with disabilities are more likely to be reliant on transit, as they may not be able to or choose not to drive. In Solano County, the population of people with disabilities is distributed relatively evenly throughout the County, based on areas of population density. Interestingly, as compared with other populations, persons with disabilities seemed to be more prevalent across suburban and rural areas of the County. While complementary paratransit service is available, many persons with disabilities routinely ride fixed-route services, indicating success in accommodating access needs of these

customers. Key trip generators and destinations on routes or services accommodating higher-than-average proportions of riders with disabilities include major apartment complexes, medical centers, adult learning and rehabilitation centers, and the Social Security Administration and other social services providers.

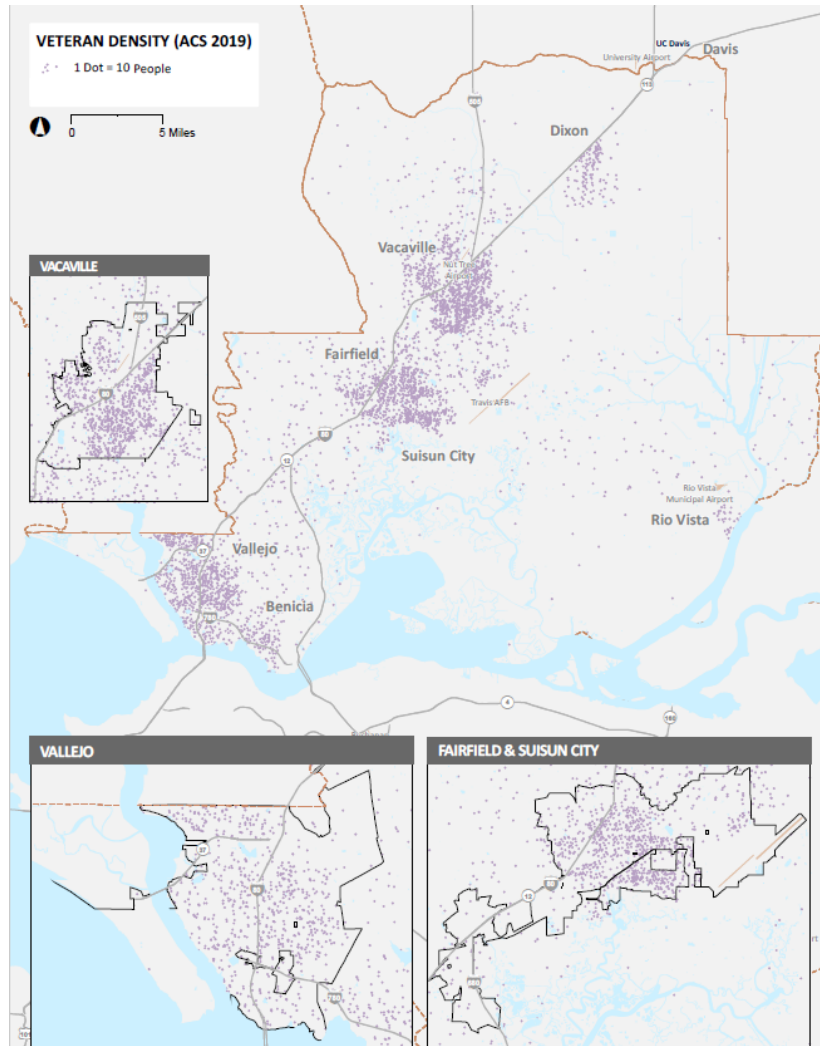
Figure 10: Map of Density of Persons with Disabilities in Solano County



Veterans

Veterans are more likely to be transit-reliant, as they are more likely to experience the range of factors that typically affect other populations with higher transit propensity, including in particular seniors and persons with disabilities. Ensuring that veterans have quality and equitable access to mobility is of key importance, especially in Solano County, which hosts Travis Air Force Base and, in relation to it, a particularly large military presence. As shown below, the highest concentrations of veterans in the County exist in Fairfield and Vacaville, which are the two cities closest to Travis Air Force Base.

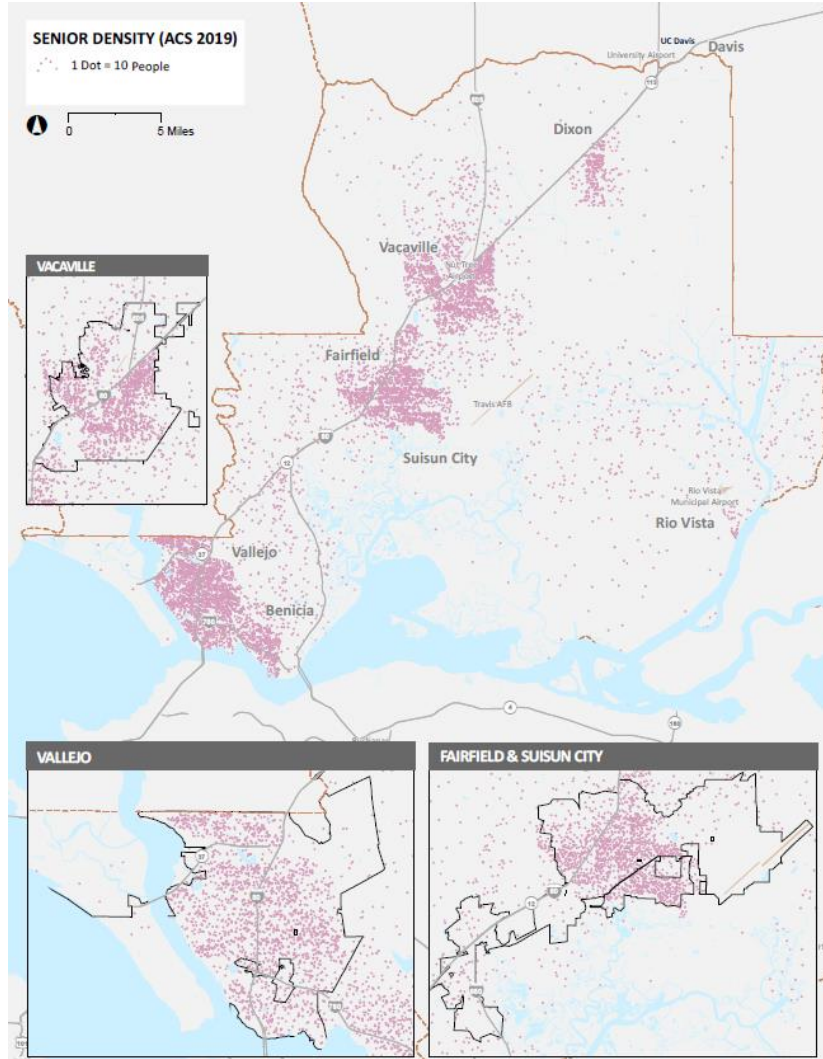
Figure 11: Map of Solano County Veteran Population Density



Seniors

Seniors are more likely to be transit-reliant; they may no longer be able to drive, or they may choose not to, meaning they are more likely to take the bus or use another program for their mobility needs. As the population ages, the senior population is expected to increase 32 percent over the next 20 years. With more seniors choosing to age in place, there will be an increasingly dispersed transit-reliant population that is harder and harder to serve efficiently with traditional public transit service. Routes with the highest proportions of senior riders serve medical centers, senior centers, and the Social Security Administration. The best solutions for senior mobility are most often dedicated midday shuttles that serve shopping or medical destinations or on-demand subscription-based services.

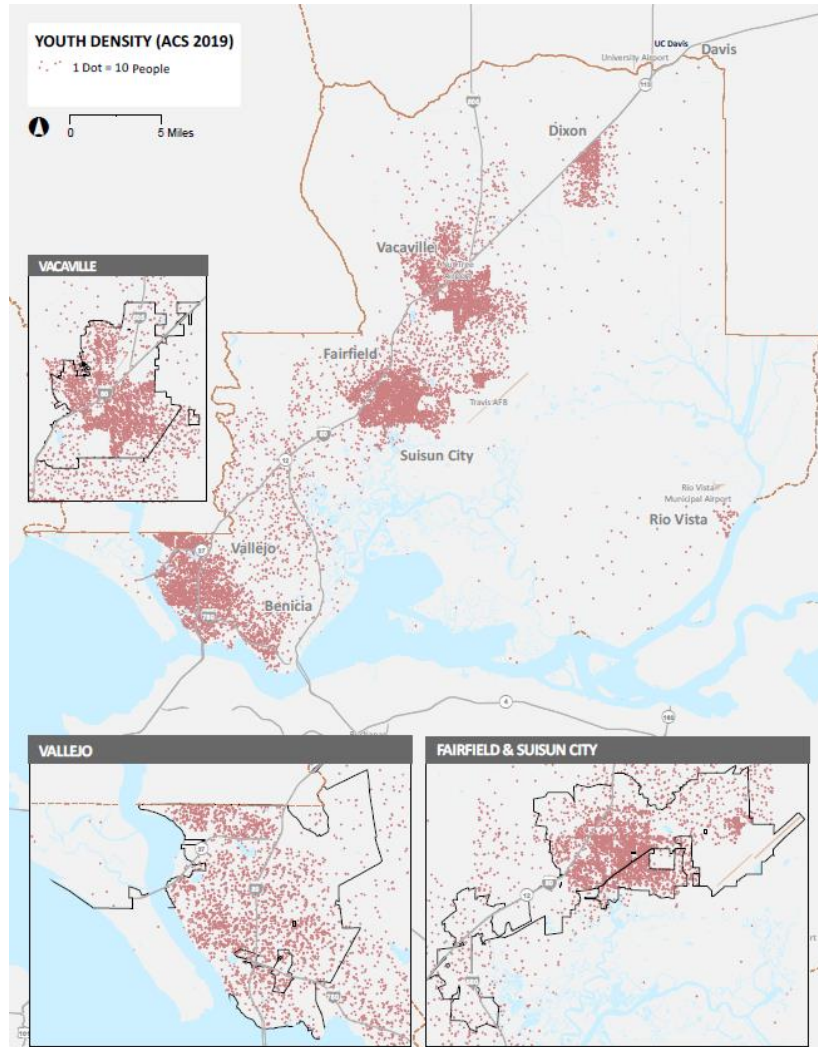
Figure 12: Map of Solano County Senior Population Density



Youth

The under-18 population can also be more transit-reliant, as they may not have access to a car or are too young to drive. Furthermore, Youth populations, however, tend not to have single, large concentrations anywhere, unlike college-aged students with universities or seniors with retirement communities. This is reflected in Solano County, where there are not any clear patterns of youth population distributions, and concentrations basically correspond with areas of higher population density.

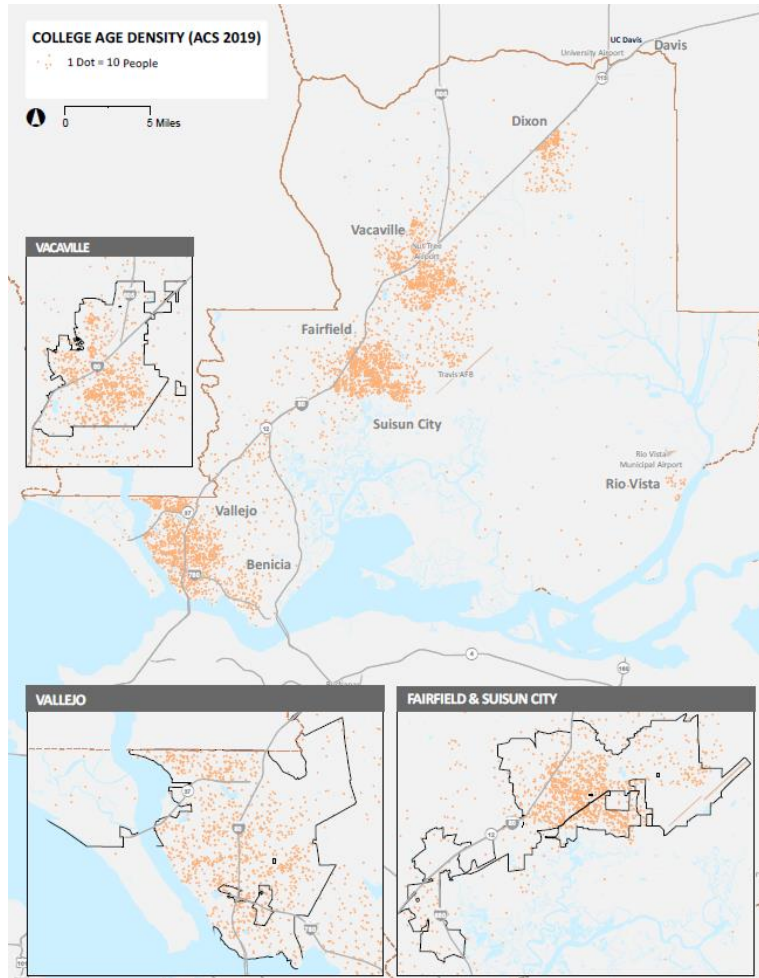
Figure 13: Map of Solano County Youth Population Density



College Students

College students are more likely to take transit due to on-campus parking restrictions or because they are from outside the region and do not bring cars with them. Without a large university community like UC Davis and UC Berkeley within its boundaries, Solano County does not have as large a population of college-aged residents as some of its neighboring counties. However, some densities of college-aged residents in the County do exist, and are particularly noticeable in Fairfield, Suisun City, and Vacaville.

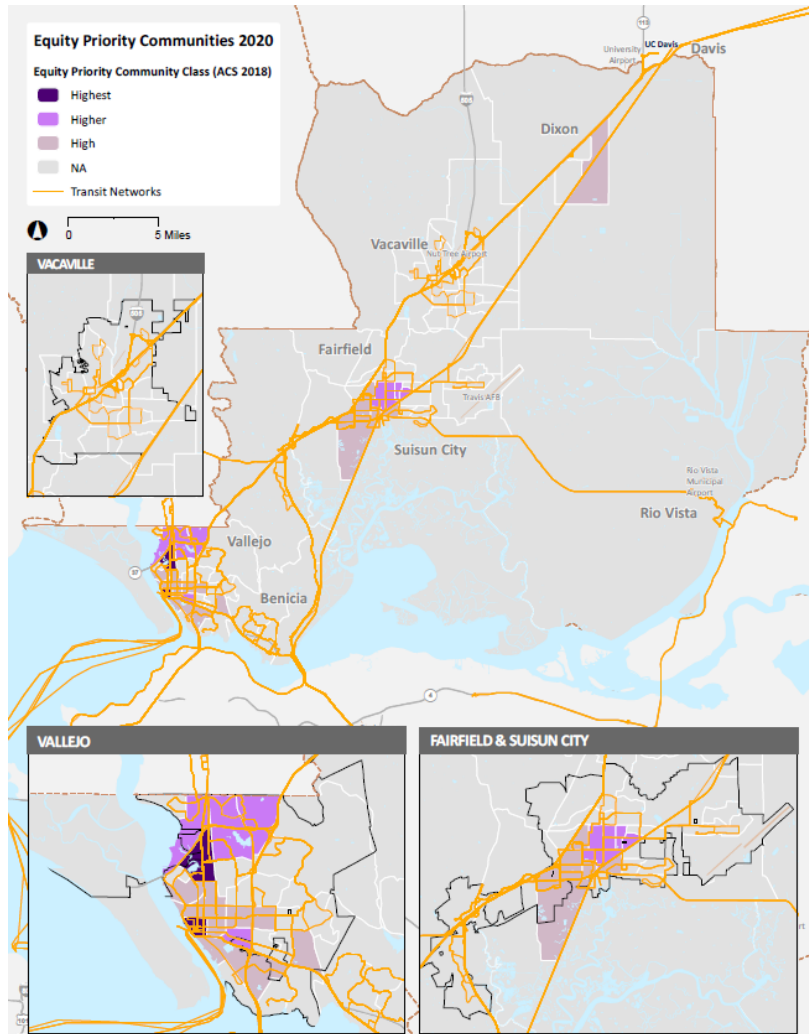
Figure 14: Map of Solano County College-Age Population Density



MTC-Defined Equity Priority Communities

Across the Bay Area region, and including in Solano County, MTC has defined certain census tracts as having, based on their demographic consistency, a particular need in regard to ensuring equity and, in turn, a concentration of the market factors that potentially indicate higher than average levels of transit propensity. These “Equity Priority Communities” exist regionwide, and are defined based on demographic thresholds met related to percentages of populations as people of color, low-income, limited-English proficiency, seniors, carless, single parents, people with disabilities, and rent-burdened households. Since many of these factors overlap with typical indicators of transit proficiency, analyzing where they exist in Solano County helps show where ensuring the equitability of providing mobility services is most important. Based on the map below, as well as on the analyses of the specific market factors discussed above, the northern part of Vallejo and the central portions of Fairfield host the census tracts within Solano County that have the highest level of equity priority.

Figure 15: Map of MTC-Defined Equity Priority Communities in Solano County



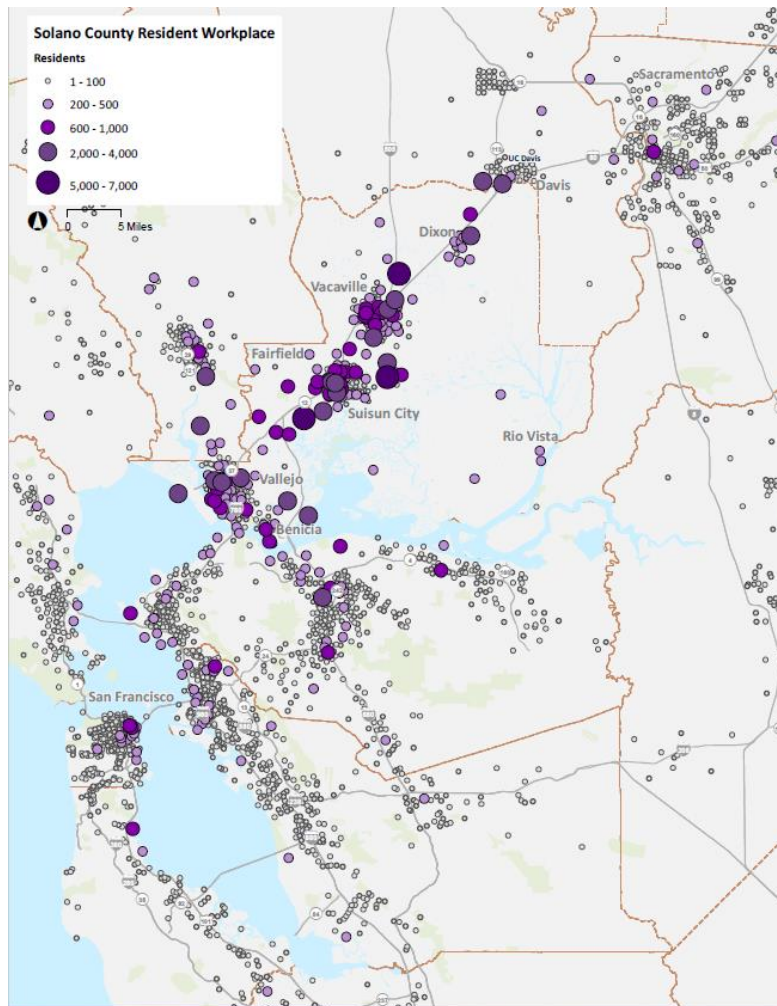
CURRENT TRAVEL PATTERNS AND MOBILITY NEEDS

Determining local and regional travel patterns, including locations across the region where County residents are traveling to work, average commute times for communities around the County, and details about other trip types is also key to understanding the current mobility environment in Solano County. In addition to ascertaining where traveling populations exist, the determination of why people are traveling, where they are traveling from and going to, and how long they are willing to travel paints a much clearer picture of Solano County's overall mobility activity, its potential mobility needs, and opportunities and challenges related to improving mobility integration.

Accessing Employment Centers

As indicated by the map below, the workplaces of Solano County residents are scattered widely across the Bay Area and Sacramento regions. The largest concentrations of employment locations for County residents are, unsurprisingly, located within Solano County, meaning that a substantial portion of local residents both live and work within County boundaries. However, large numbers of County residents also leave the County to access employment, with the highest concentrations of workplaces corresponding with the region's economic centers. These primarily include Concord, Walnut Creek, and Port Richmond in Contra Costa County, Berkeley in Alameda County, Downtown San Francisco, and Downtown Sacramento. Overall, this indicates the need for local mobility connections within Solano County, as well as interregional connections stretching far beyond Solano County's limits.

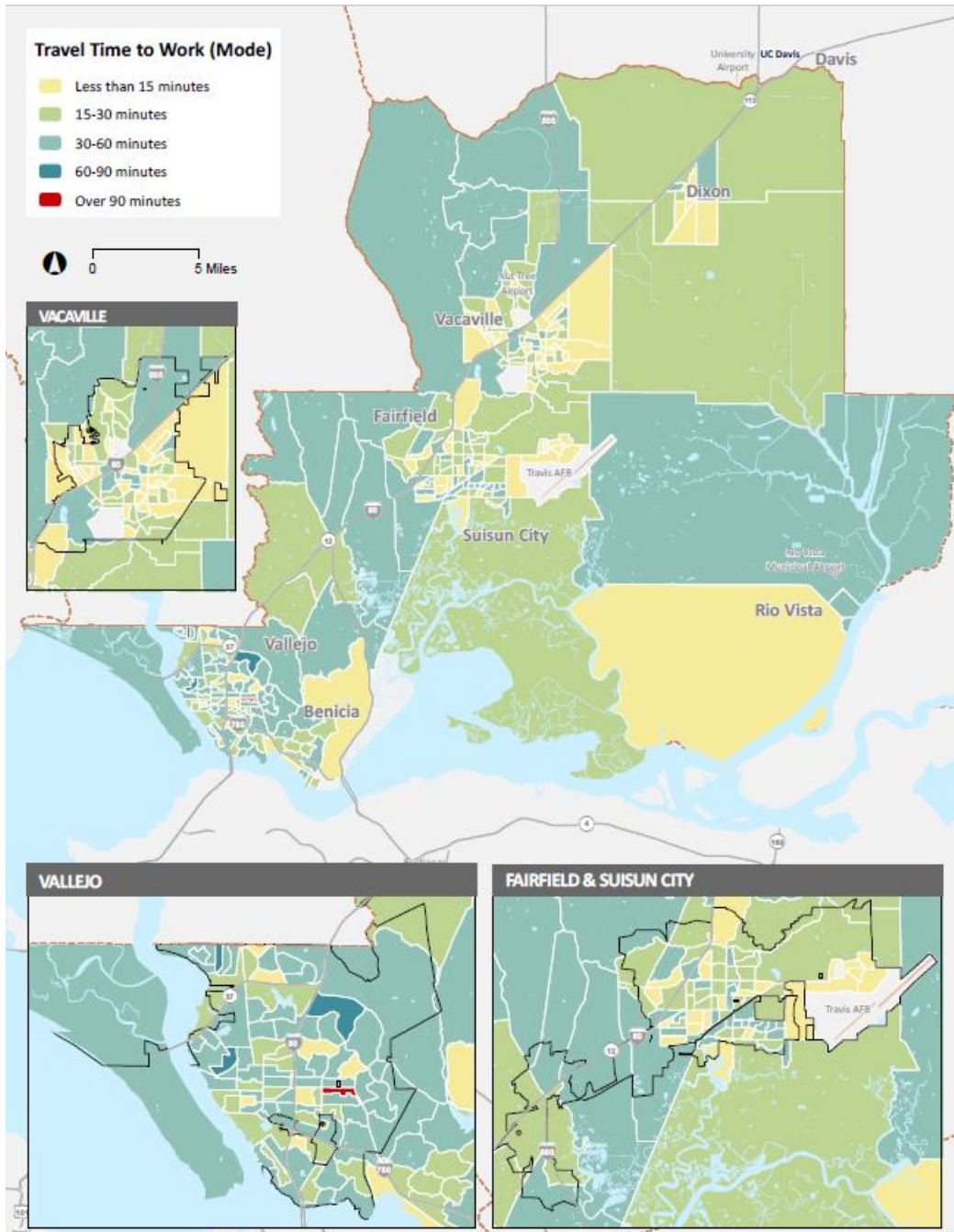
Figure 16: Concentration of Workplaces for Solano County Residents



Corresponding with the largely scattered nature of Solano County residents' employment locations is the fact that many residents report long commute times. Specifically, the map below indicates the commute time ranges reported by the highest number of residents within a census tract. While large

portions of the County report experiencing commute times of over 30 minutes, some, primarily within the City of Vallejo, report commute times of over 90 minutes. In its entirety, the map helps pinpoint the general points of origin for shorter commute trips within the County and long commute trips reaching out across the greater region.

Figure 17: Solano County Resident Travel Time to Work by Census Tract



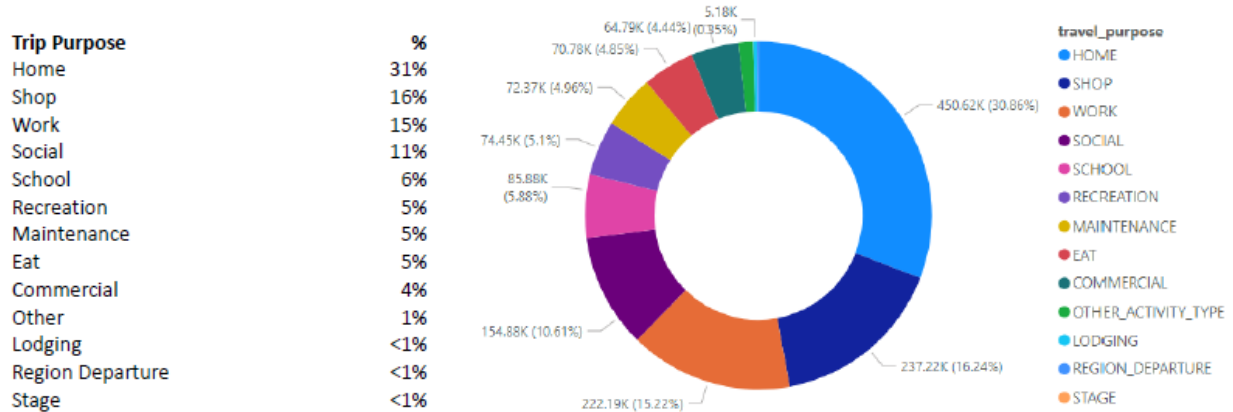
Trip Purpose – Why are People in Solano County Traveling?

The table below indicates the variety of reasons why people in Solano County make trips. In Solano County, most trips are made between residents’ homes and shopping/workplaces. The smaller percentage of trips made for school-related purposes is indicative of the County’s lack of a large university campus.

Figure 18: Travel Purpose Percentages

Trip Purpose

2019 Existing Condition – Trips that Originate In Solano County



Where are Travelers Going Within Solano County?

For trips made within the County, more than 75 percent are to locations within one of the County’s three largest cities (Fairfield, Vacaville, and Vallejo). Fairfield is the destination for most trips within the County. As the county seat and home of Travis Air Force Base, Fairfield is one of Solano’s primary employment and retail hubs, and its top rank among County trip destinations corresponds with this fact. With the exception of Suisun City, which is not one of the County’s smallest communities but is a destination for only one percent of all trips countywide, cities across the County generally feature destination percentages that correspond with their population sizes.

Figure 19: Share of Local Travel Between Cities Within Solano County

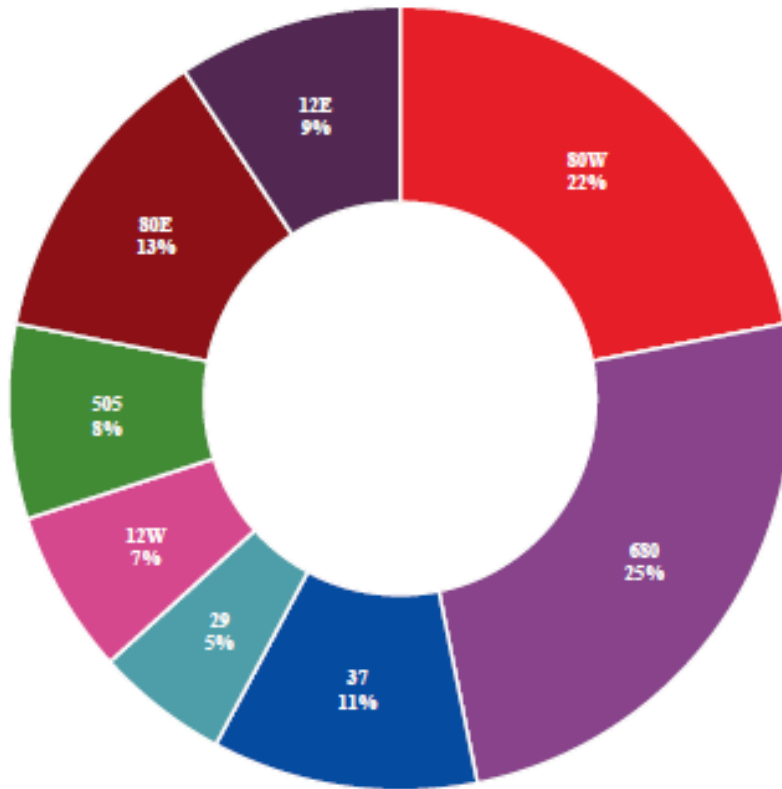
Destination	%
Fairfield	33%
Vacaville	25%
Vallejo	18%
Suisun City	1<1%
Benicia	6%
Dixon	5%
Rio Vista	1%
Hartley	1%
Allendale	1%
Green Valley	<1%

See **Appendix 2** for comprehensive statistics about destinations for trips from specific cities or communities within the County.

Where are Travelers Entering & Departing Solano County?

The chart below indicates the points of entry where Solano County trips that either originate or terminate outside of the County cross the County limits. Unsurprisingly, almost half of these trips enter the County via its primary roadway links with the rest of the Bay Area, including Interstate 680 at the Benicia Bridge and Interstate 80 at the Carquinez Bridge. In contrast, less than 25 percent of these trips cross the County line in the direction of Yolo County and Sacramento via Interstate 80 near Davis and Interstate 505 near Winters.

Figure 20: Most Common Points of Entry & Departure for Solano County Intercounty Trips



Solano County Trip Origins & Destinations

Indicated in the charts and maps below, the origin-destination analysis shows that, for Solano County trips that cross outside of the County, a number of nearby counties serve as points of origin or as destinations. The rates of those counties acting as a point of origin for those trips are almost identical to the rates of acting as a destination, which indicates the round-trip nature of trip-making in this area. Contra Costa County is the most popular Solano County trip point of origin or destination, followed by Napa, Alameda, Sacramento, and Yolo Counties. This corresponds with the concentrations of Solano County resident workplaces, evident in Contra Costa, Alameda, and Sacramento Counties, as well as Solano’s shared boundaries with several of these locations, including Napa and Yolo Counties.

Figure 21: Regional Destinations and Modal Access Rates for Intercounty Trips from Solano County

Origin Destination Analysis

All Trips: County Level – County Destination for Trips that Originate in Solano County

Origin County	Destination County	All Trips	SOV	Transit	Carpool
Solano County	Contra Costa County	71,693	47%	1%	43%
	Napa County	43,488	63%	0%	<1%
	Alameda County	31,790	45%	2%	44%
	Sacramento County	29,585	43%	0%	<1%
	Yolo County	28,988	60%	<1%	27%
	San Francisco County	19,074	44%	6%	42%
	Marin County	10,993	67%	<1%	27%
	Sonoma County	9,919	57%	<1%	30%
	Santa Clara County	7,013	45%	1%	41%
San Mateo County	6,322	48%	2%	42%	

Note: Percentages do not include internal Solano County Trips

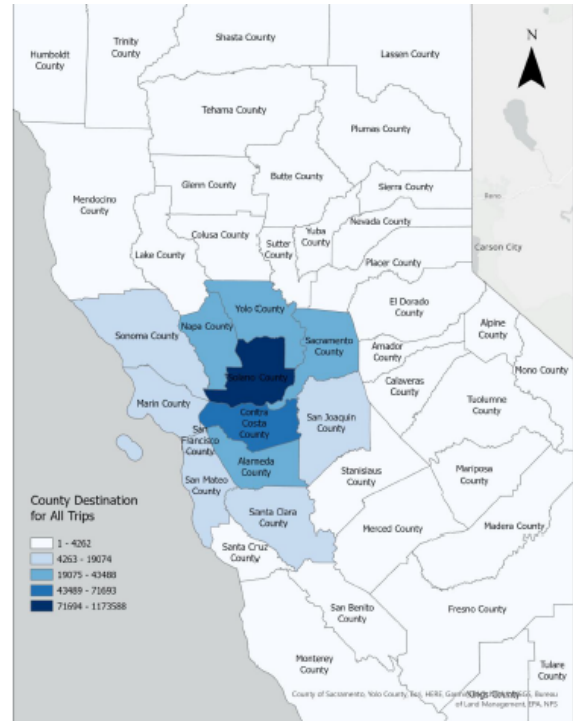


Figure 22: Regional Points of Origin and Modal Access Rates for Intercounty Trips to Solano County

Origin Destination Analysis

All Trips: County Level – County Origin for Trips that End in Solano County

Origin County	Destination County	All Trips	SOV	Transit	Carpool
Contra Costa County	Solano County	70,620	41%	<1%	51%
Napa County		43,284	53%	<1%	38%
Alameda County		31,551	51%	2%	40%
Sacramento County		28,979	49%	<1%	41%
Yolo County		28,318	68%	<1%	18%
San Francisco County		18,398	18%	4%	71%
Marin County		11,108	41%	<1%	52%
Sonoma County		9,883	49%	<1%	39%
Santa Clara County		6,611	67%	<1%	23%
San Mateo County		5,943	52%	2%	41%
San Joaquin County		4,895	73%	<1%	16%
Placer County		4,183	62%	<1%	23%

Note: Percentages do not include internal Solano County Trips

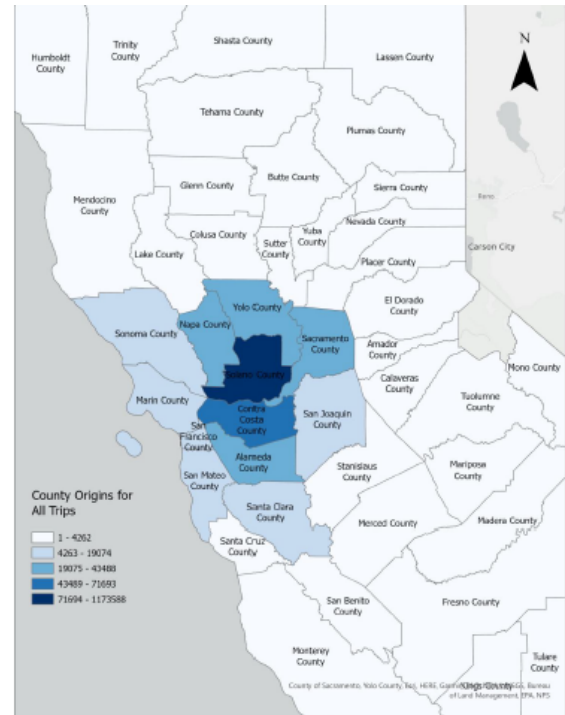
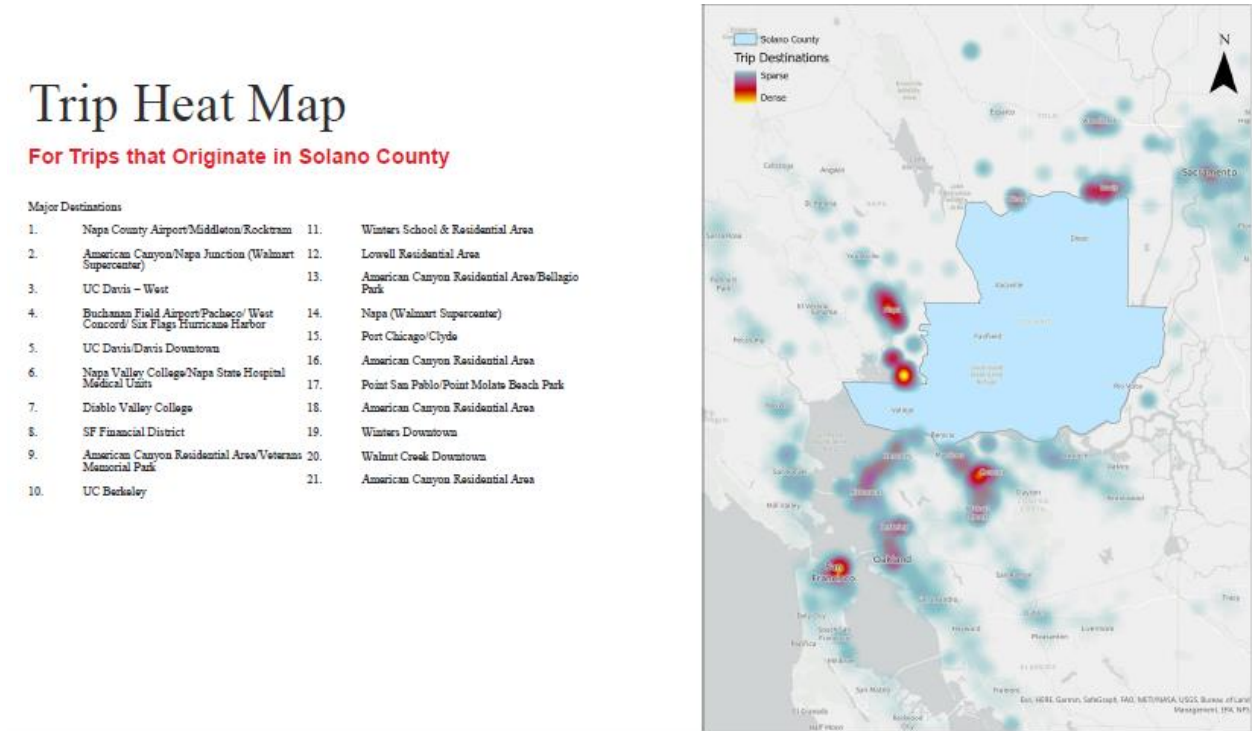


Figure 23: Heat Map of Intercounty Trips Originating in Solano County



See **Appendix 3** for comprehensive statistics about destinations outside of Solano County for intercounty trips from specific cities or communities.

How has Solano County Travel Behavior Changed Since the Onset of COVID-19?

While general travel patterns from prior to the onset of COVID-19 in early 2020 are still evident today, travel behavior has fluctuated somewhat as the pandemic and related public health conditions have evolved. The most noticeable change is that peak travel periods, which were clearly defined pre-pandemic as existing during the morning and evening commute hours, are now less concentrated to certain times of the day and are spread more extensively across the afternoon hours. This corresponds with the higher rate of remote, home-based work that has emerged throughout the pandemic and has allowed for more flexible daily schedules, which reduce the level of traditional morning and evening commute behavior and accommodate more types of trip-making throughout the day. In addition, rates of travel between locations within Solano County have increased slightly, while travel on a daily basis outside the County has decreased somewhat. This trend is also indicative of the uptick in remote work, and the more limited need for daily long-distance work commutes.

CONCLUSION

Considering its wide array of market typologies, populations with high levels of transit propensity, and existing travel patterns, Solano County features a mobility environment that includes a variety of needs and a strong demand for connected mobility. With high rates of trip-making both within the County and to areas across the greater Bay Area and Sacramento regions, the County requires a network of integrated mobility programs that interconnectedly provide travelers with the means to initiate and complete local trips within a community, trips around the County, and trips outside the County. By applying targeted connected mobility strategies, STA can better meet the mobility needs of Solano County residents and also align policies and efforts with those of the greater region, as guided by MTC's Blue Ribbon Transit Recovery Task Force recommendations. The Connected Mobility Implementation Plan engages these assessed market conditions, which represent the foundation for defining Solano County's current mobility-related needs, as a framework for fulfilling the plan's overall goals and objectives.

STA Connected Mobility Implementation Plan
Solano County Market Assessment - DRAFT
Appendix 1: Solano County Land Use Maps

August 2022

Solano Transportation Authority

INTRODUCTION

Included below are land use maps that indicate the variety of uses and destination types that exist across Solano County. In general, the maps indicate how varied destination types range throughout different portions of the County, as well as locations best suited and/or most deserving of robust mobility offerings.

LAND USE MAPS

Figure 1: Solano County Land Use Map

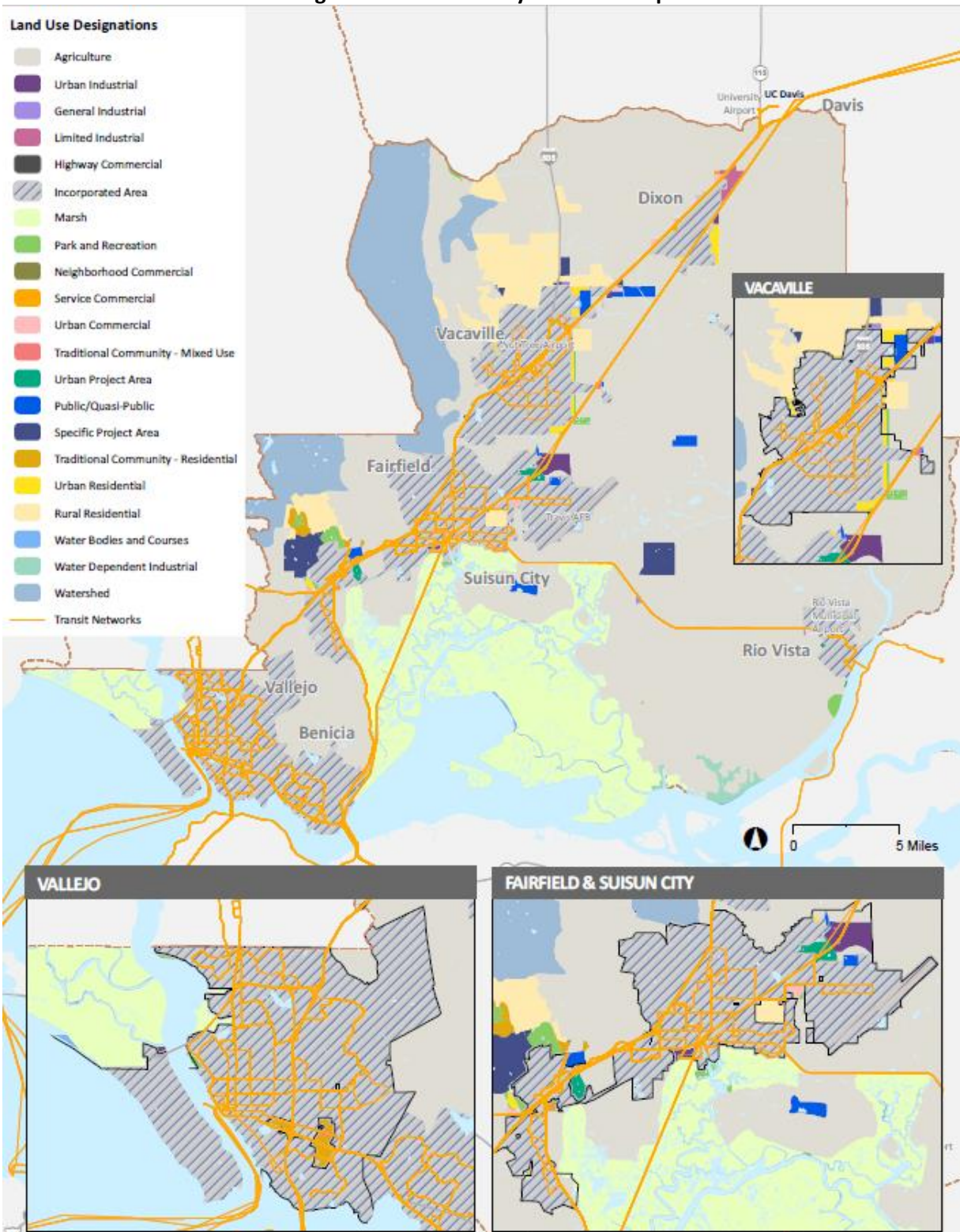
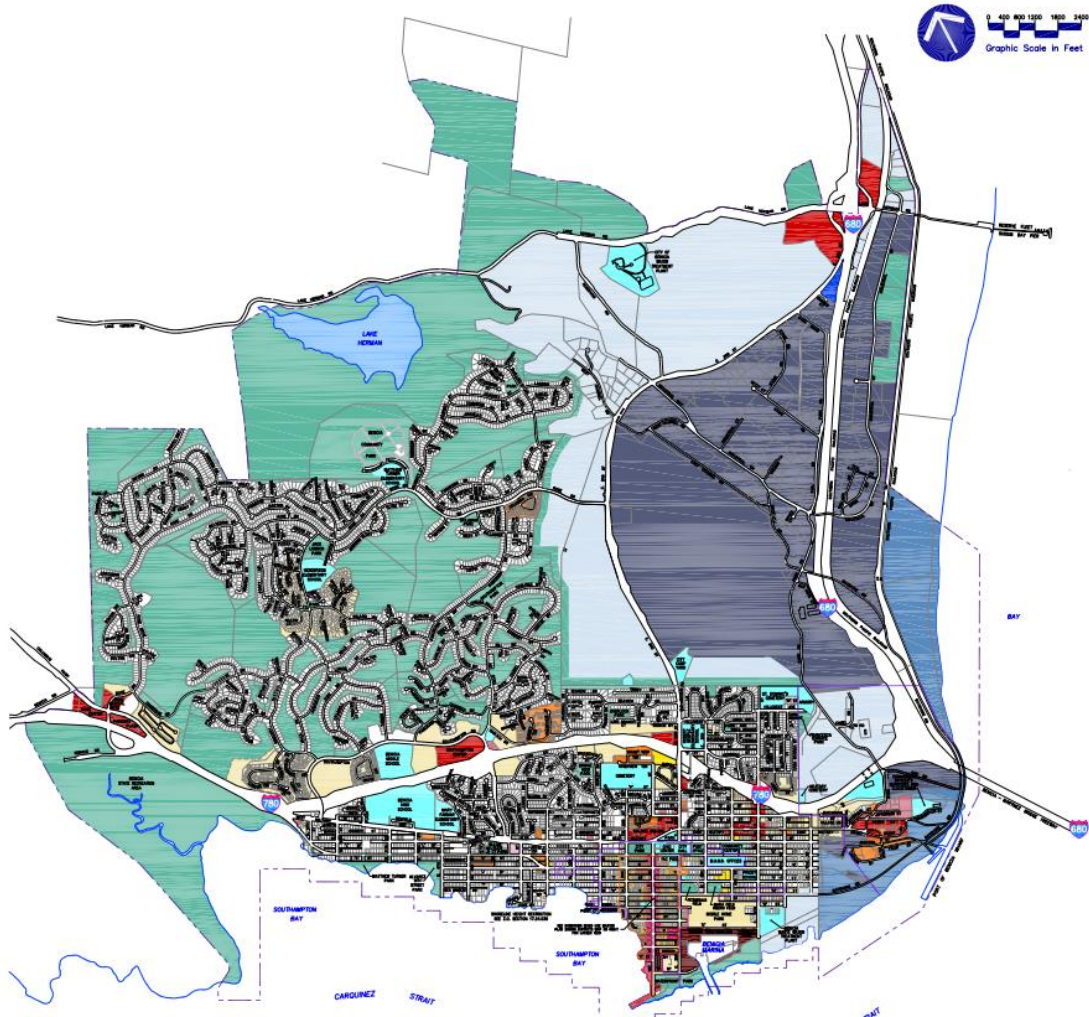


Figure 2: City of Benicia Zoning Map



DOWNTOWN MIXED USE MASTER PLAN ZONING DISTRICTS



ZONING MAP LEGEND:

- OS OPEN SPACE
- PS PUBLIC & SEMI-PUBLIC
- RS SINGLE FAMILY RESIDENTIAL + 0 - 7 DU/ACRE
- RM MEDIUM DENSITY RESIDENTIAL + 8 - 14 DU/ACRE
- RH HIGH DENSITY RESIDENTIAL + 15 - 21 DU/ACRE
- PD PLANNED DEVELOPMENT
- CC COMMUNITY COMMERCIAL
- CO OFFICE COMMERCIAL
- CG GENERAL COMMERCIAL
- CW WATERFRONT COMMERCIAL
- IL LIMITED INDUSTRIAL
- IG GENERAL INDUSTRIAL
- IW WATER RELATED INDUSTRIAL
- IP INDUSTRIAL PARK

DMUMP MAP LEGEND:

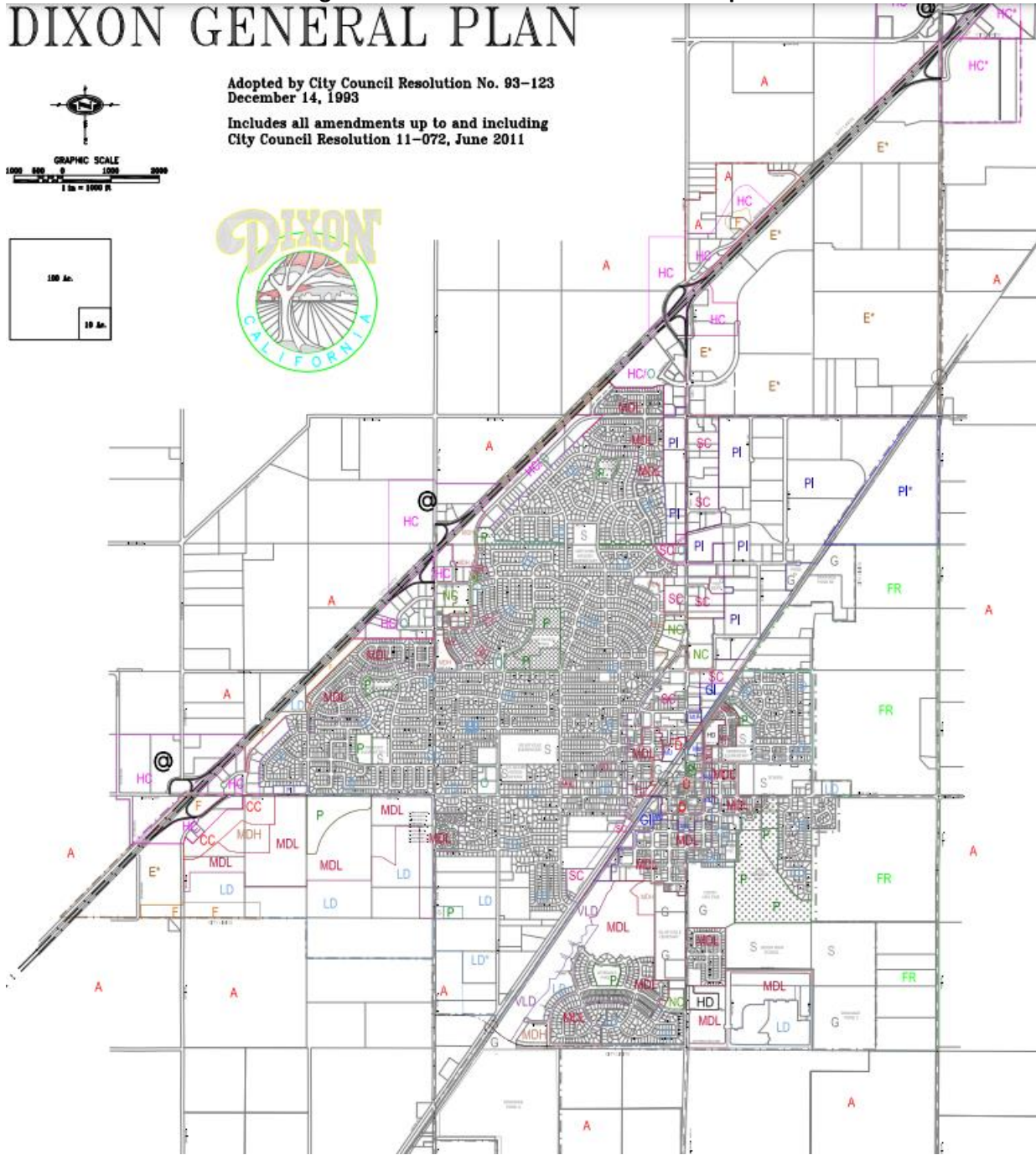
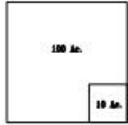
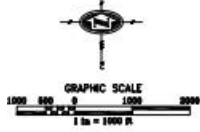
- TOWN CORE
- TOWN CORE-OPEN
- NEIGHBORHOOD GENERAL
- NEIGHBORHOOD GENERAL-OPEN

Figure 3: Dixon General Plan Land Use Map

DIXON GENERAL PLAN

Adopted by City Council Resolution No. 93-123
December 14, 1993

Includes all amendments up to and including
City Council Resolution 11-072, June 2011



- RESIDENTIAL**
- VLD VERY LOW DENSITY (20,000+SQ. FT.)
 - LD LOW DENSITY (7,000-19,999 SQ. FT.)
 - MDL MEDIUM DENSITY - LOW (3,000-6,999 SQ. FT.)
 - MDH MEDIUM DENSITY - HIGH (2,000 - 2,999 SQ. FT.)
 - HD HIGH DENSITY (1,500 - 1,999 SQ. FT.)
 - FR FUTURE RESIDENTIAL (AFTER 2010) (80/20 DENSITY MIX)

- INDUSTRIAL**
- PI PLANNED BUSINESS/INDUSTRIAL
 - GI GENERAL INDUSTRIAL
 - E EMPLOYMENT CENTER

- COMMERCIAL**
- D DOWNTOWN
 - NC NEIGHBORHOOD COMMERCIAL
 - CC COMMUNITY COMMERCIAL
 - HC HIGHWAY COMMERCIAL
 - SC COMMERCIAL SERVICES
 - O PROFESSIONAL/ADMINISTRATIVE OFFICES
 - MU CORE AREA MIXED USE

- Ⓢ ONLY HIGHWAY COMMERCIAL USE WITH ANNEXATION TO CITY IS ACCEPTABLE NEW DEVELOPMENT
- * SPECIFIC PLAN APPROVAL REQUIRED
- GRADE SEPARATION: (General Location Only)
- Dixon City Limits

- OTHER**
- G GOVERNMENTAL/INSTITUTIONAL
 - P PARKS
 - S SCHOOL BUILDINGS/PLAY AREAS
 - F FUNCTIONAL (BUFFERS)
 - A AGRICULTURAL

- CIRCULATION**
- FREEWAY
 - PRINCIPAL ARTERIAL: EXISTING ALIGNMENT
 - MINOR ARTERIAL: EXISTING ALIGNMENT
 - MINOR ARTERIAL: GENERAL FUTURE ALIGNMENT (GENERAL LOCATION ONLY)

Figure 4: City of Fairfield Land Use Diagram

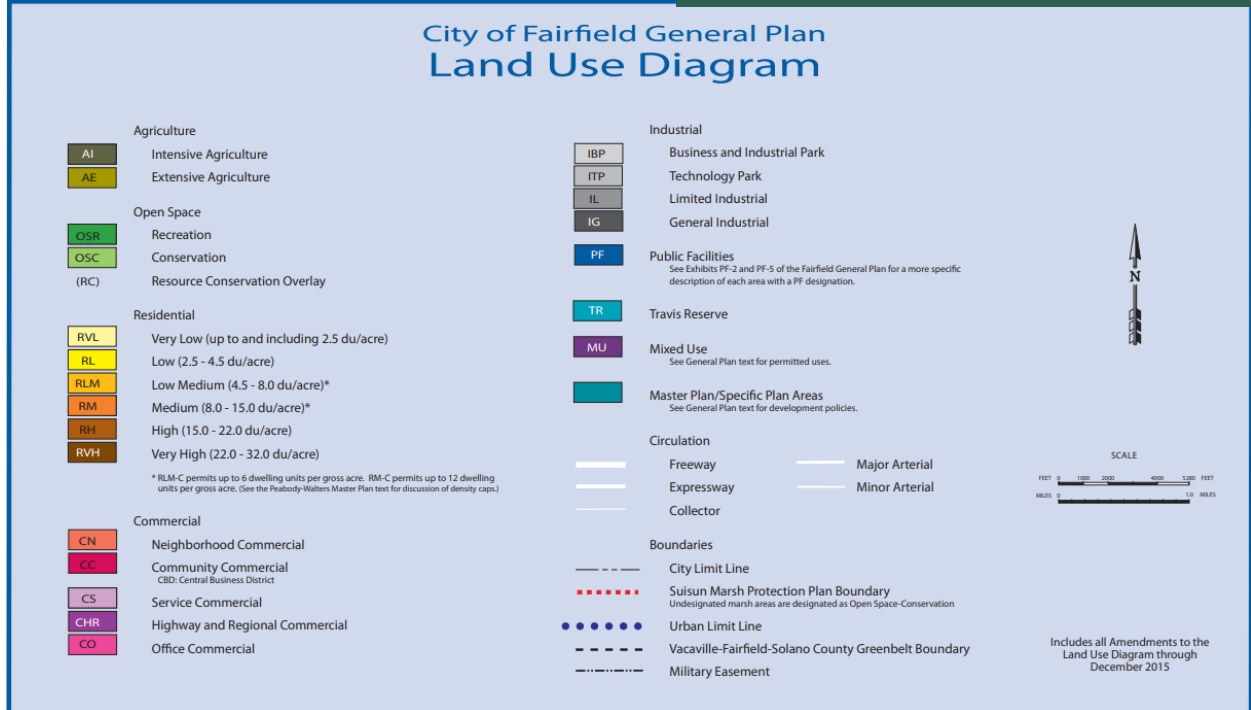
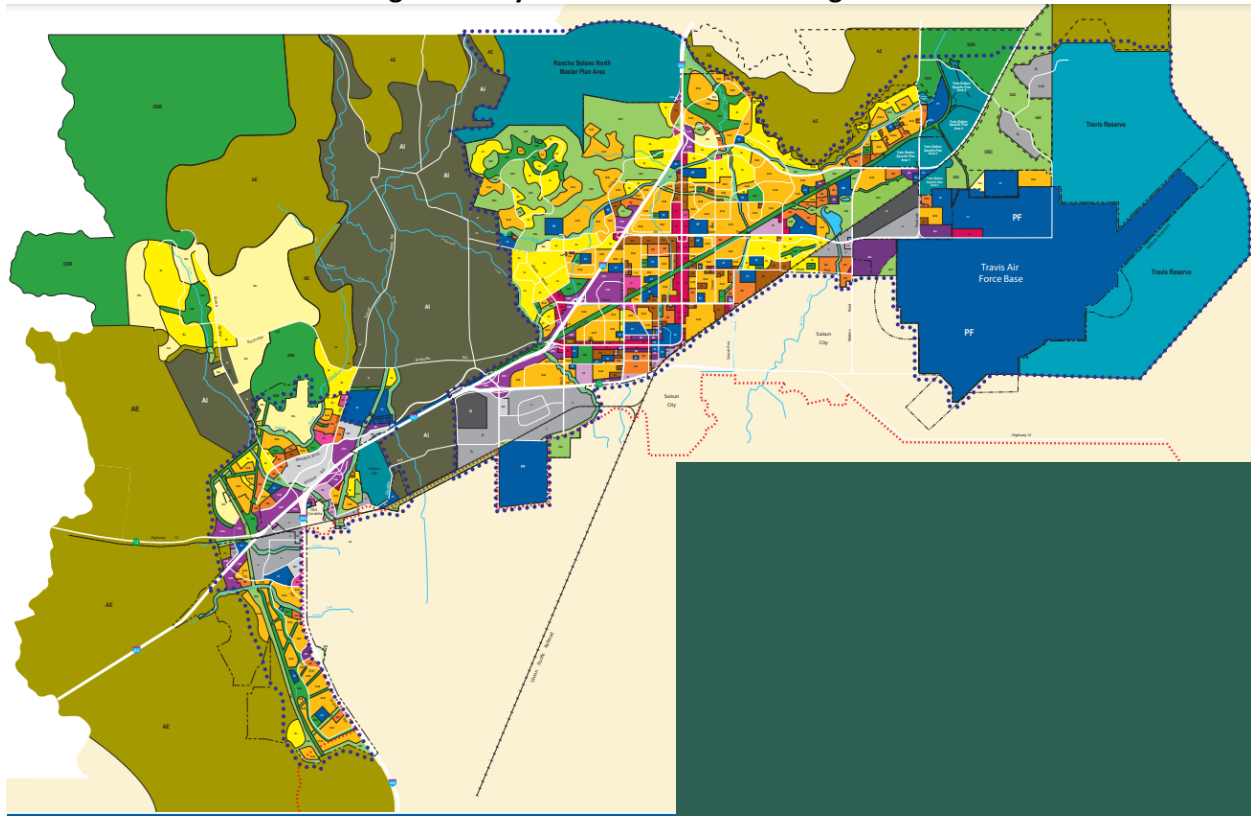
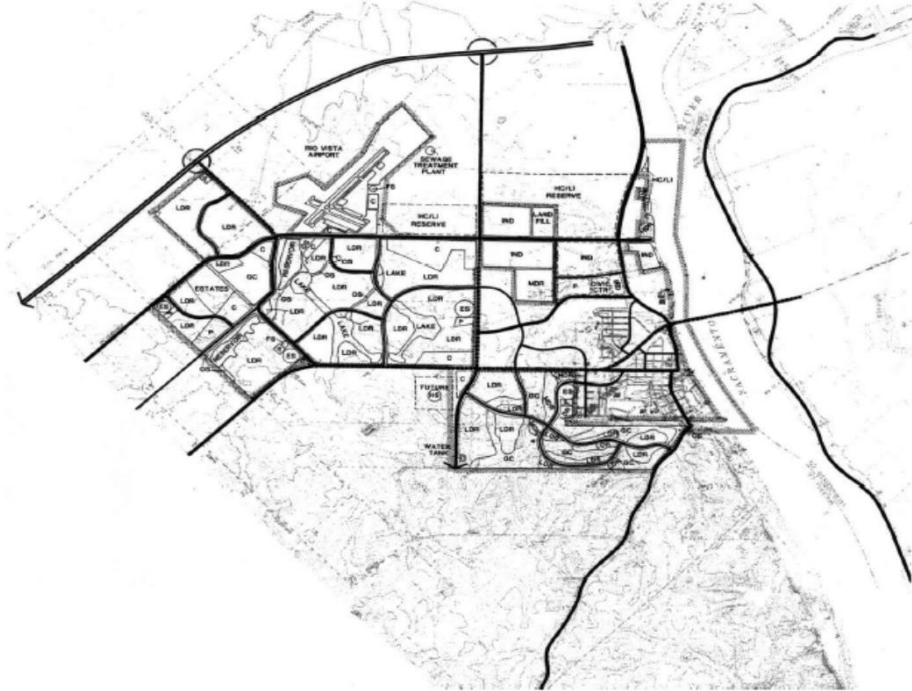


Figure 5: City of Rio Vista Land Use Diagram



CITY OF RIO VISTA LEGEND

PROPOSED	
[E]	RESIDENTIAL ESTATES
[LDR]	RESIDENTIAL LOW DENSITY
[MDR]	RESIDENTIAL MEDIUM DENSITY
[HDR]	RESIDENTIAL HIGH DENSITY
[C]	COMMERCIAL/INDUSTRIAL COMMERCIAL
[IS]	COMMERCIAL/INDUSTRIAL INDUSTRIAL
[HCC/LI]	COMMERCIAL/INDUSTRIAL HEAVY COMM/LT IND PUBLIC
[S]	SCHOOLS
[FS]	FIRE STATION
[CEM]	CEMETARY
[R]	RECREATIONAL
[P]	PARKS/OPEN SPACE
[GC]	GOLF COURSE
[CIR]	CIRCULATION
[AR]	ARTERIAL ROADS
[MR]	MAJOR ROADS
[CR]	COLLECTOR ROADS
[FW]	FREEWAY
[GPA]	1991 GPA PLANNING AREA



Scale in Feet
0 1000 2000 3000 4000
Prepared by HCA ENGINEERS San Francisco

Figure 6: Suisun City Zoning Map

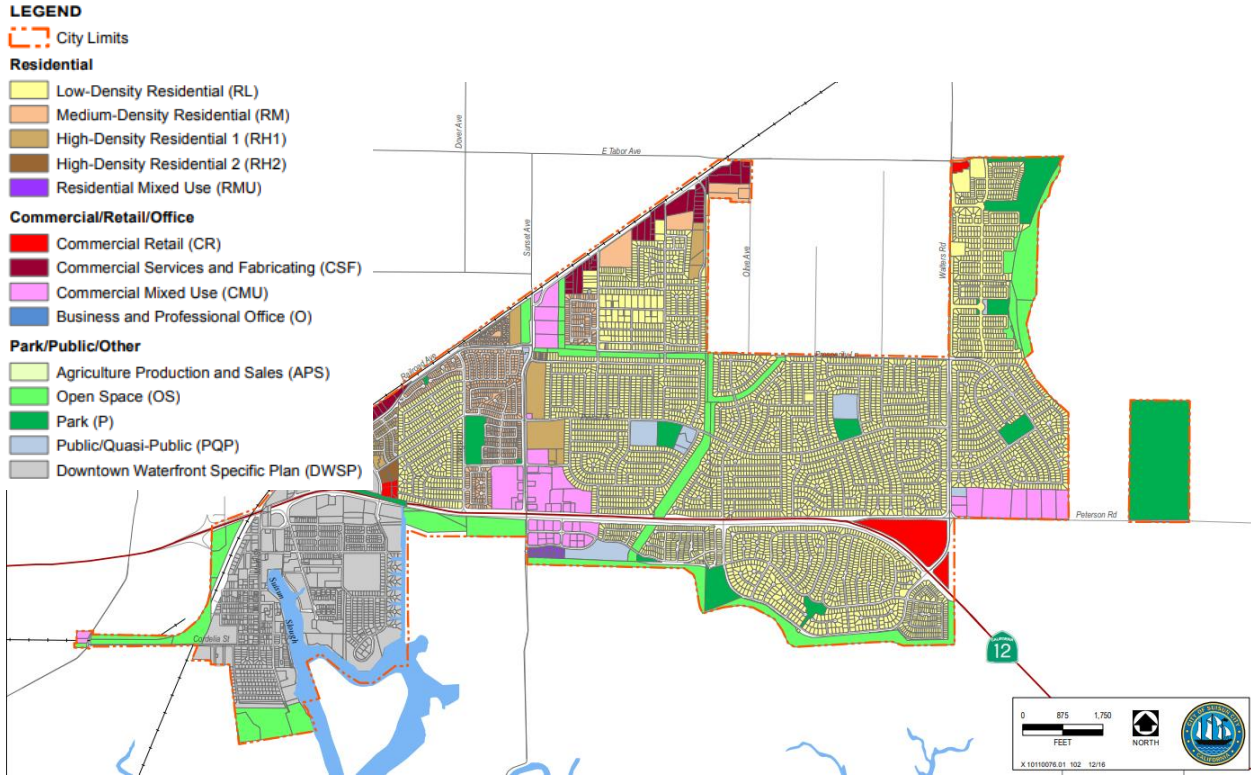
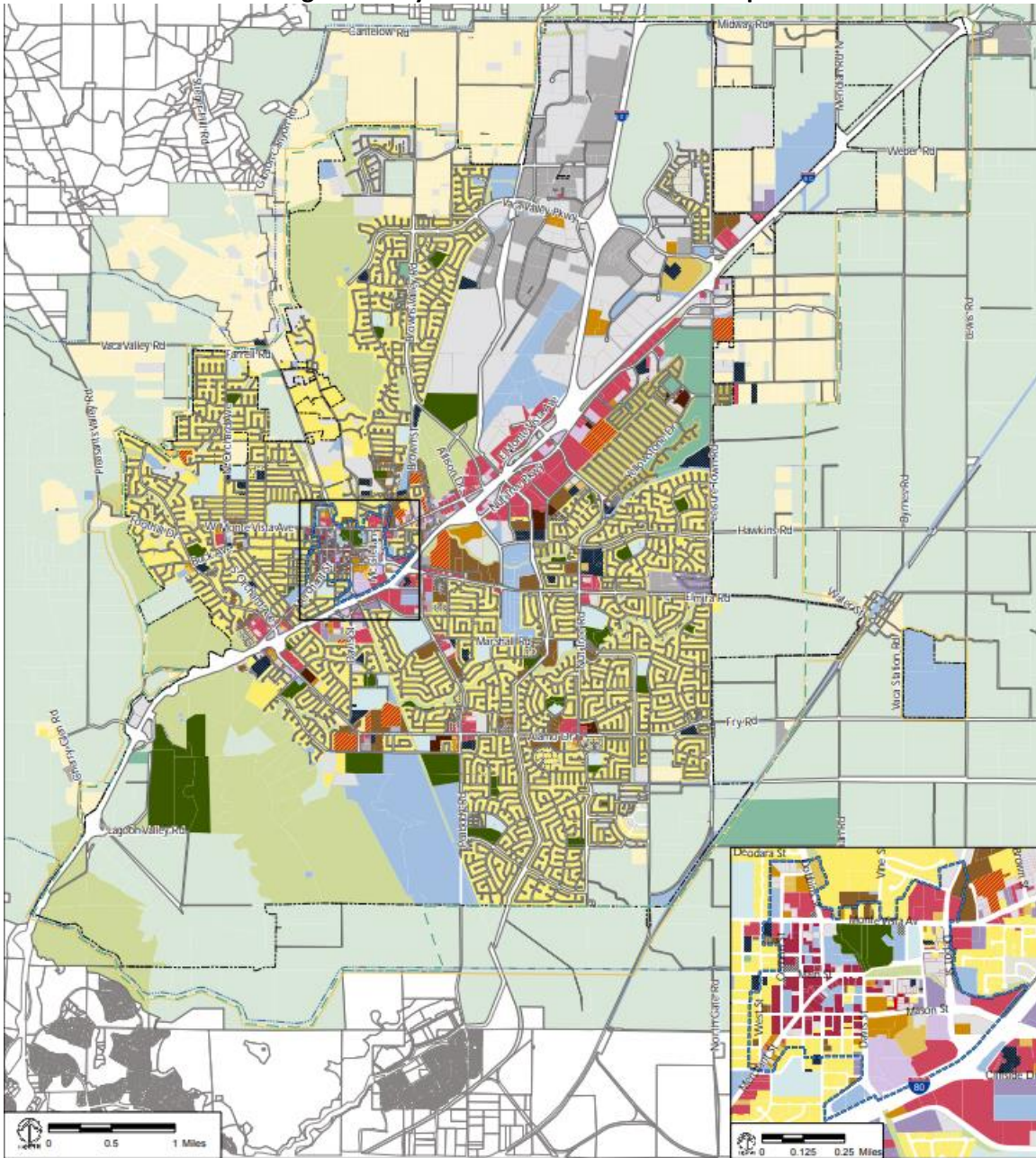
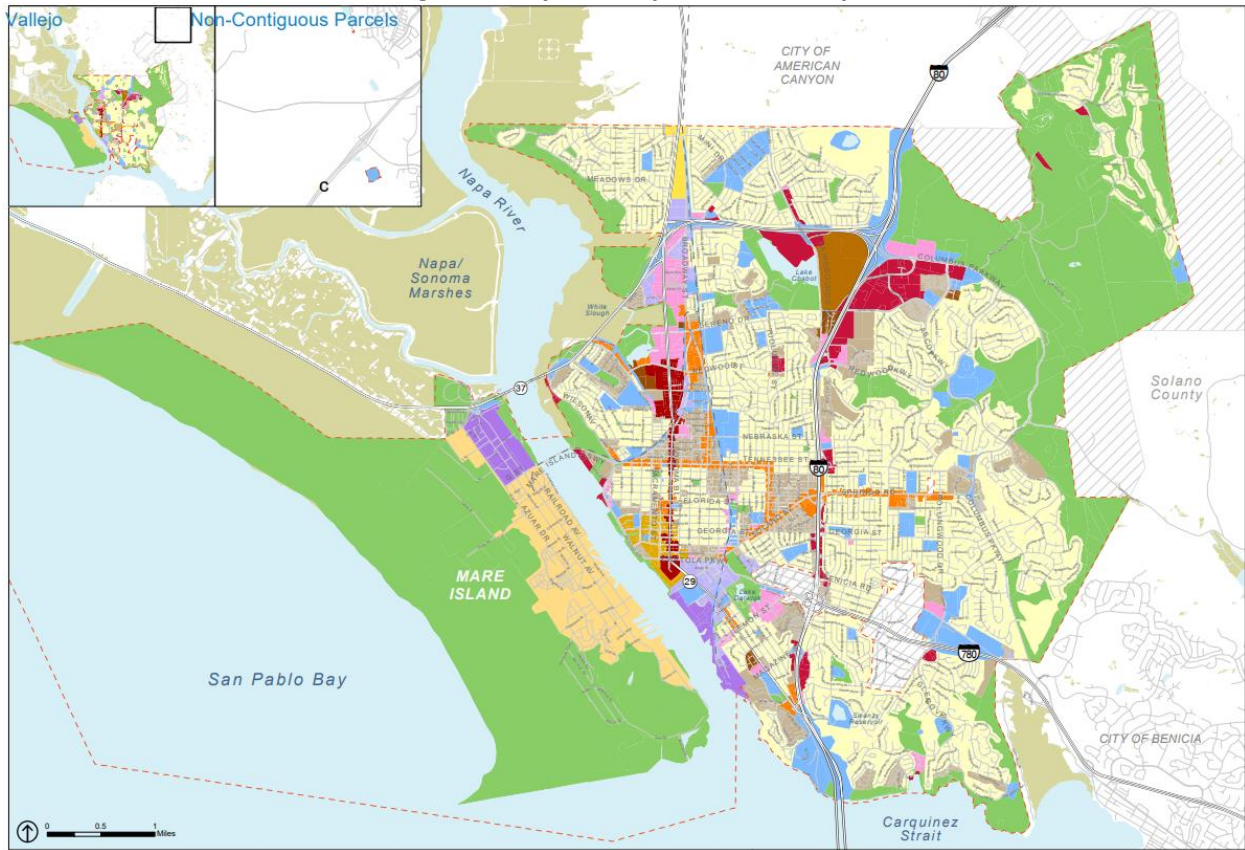


Figure 7: City of Vacaville General Plan Map



	Downtown		Retired Single-Family Residential		Commercial Highway		Hospital		
	Urban Growth Boundary		Multiple-Family Residential		Commercial Office		Church		
	Planned Sphere of Influence		Retired Multiple-Family Residential		Medical Office		Agriculture or Hillside Agriculture		
	Planning Area		Manufactured Homes	Business/Industrial		Industrial		Public Open Space	
	City Limits	Commercial		Retail Service	Other		School or College		Private Recreation
Residential			Downtown		Commercial Service		Public		Public Park
	Single-Family Residential								Miscellaneous
									Vacant

Figure 8: City of Vallejo Land Use Map



Residential

- Primarily Single Family
- Mix of Housing Types
- Primarily Multi-Family

Mixed Use

- District - Downtown/Waterfront
- District - Mare Island
- District - Solano360
- District - North Gateway
- Central Corridor
- Neighborhood Corridor

Business/Industrial

- Retail/Entertainment
- Business/Limited Residential
- Business/Light Industrial
- Industrial

Community

- Parks, Recreation and Open Space
- Public Facilities and Institutions

STA Connected Mobility Implementation Plan
Solano County Market Assessment - DRAFT
Appendix 2: Destinations for Trips Made Within Solano
County

August 2022

Solano Transportation Authority

INTRODUCTION

Included below are tables that show the destinations for trips made within Solano County from specific cities and communities within the County. The tables also indicate the most common Solano County trip destinations for travelers from specific cities and communities. In general, the statistics reveal the level of demand for intra-county travel between specific locations, and detail the relative need for mobility offerings between different areas.

TRAVEL SHARE STATISTICS BETWEEN CITIES/COMMUNITIES WITHIN SOLANO COUNTY

Figure 1: Intra-County Travel Share from Allendale

Origin	Destination	Trips	%
Allendale	Allendale	2,060	44%
	Unincorporated Solano	1000	21%
	Vacaville	950	20%
	Hartley	260	5%
	Fairfield	160	3%
	Vallejo	130	3%
	Dixon	100	2%
	Suisun City	<100	1%
	Benicia	<100	<1%
	Rio Vista	<100	<1%
	Green Valley	<100	<1%

Figure 2: Intra-County Travel Share from Benicia

Origin	Destination	Trips	%
Benicia	Benicia	66,930	69%
	Vallejo	14,340	15%
	Unincorporated Solano	11,870	12%
	Fairfield	2,410	2%
	Vacaville	1,440	1%
	Suisun City	360	<1%
	Hartley	<100	<1%
	Rio Vista	<100	<1%
	Dixon	<100	<1%
	Green Valley	<100	<1%
	Allendale	<100	<1%

Figure 3: Intra-County Travel Share from Dixon

Origin	Destination	Trips	%
Dixon	Dixon	71,220	76%
	Vacaville	8,750	9%
	Unincorporated Solano	8,620	9%
	Fairfield	3,990	4%
	Vallejo	830	1%
	Suisun City	360	<1%
	Hartley	250	<1%
	Allendale	<100	<1%
	Rio Vista	<100	<1%
	Benicia	<100	<1%
	Green Valley	<100	<1%

Figure 4: Intra-County Travel Share from Fairfield

Origin	Destination	Trips	%
Fairfield	Fairfield	351,220	69%
	Unincorporated Solano	67,290	13%
	Vacaville	44,140	9%
	Suisun City	24,600	5%
	Vallejo	17,110	3%
	Dixon	3,990	1%
	Benicia	2,120	<1%
	Rio Vista	720	<1%
	Hartley	460	<1%
	Green Valley	270	<1%
	Allendale	160	<1%

Figure 5: Intra-County Travel Share from Green Valley

Origin	Destination	Trips	%
Green Valley	Unincorporated Solano	910	52%
	Green Valley	360	20%
	Fairfield	260	15%
	Vacaville	140	8%
	Vallejo	<100	3%
	Suisun City	<100	2%
	Benicia	<100	1%
	Dixon	<100	<1%

Figure 6: Intra-County Travel Share from Hartley

Origin	Destination	Trips	%
Hartley	Hartley	4,010	44%
	Vacaville	2,990	33%
	Unincorporated Solano	980	11%
	Fairfield	460	5%
	Dixon	230	3%
	Allendale	200	2%
	Vallejo	180	2%
	Suisun City	<100	1%
	Benicia	<100	<1%
	Rio Vista	<100	<1%
	Green Valley	<100	<1%

Figure 7: Intra-County Travel Share from Rio Vista

Origin	Destination	Trips	%
Rio Vista	Rio Vista	15,050	69%
	Unincorporated Solano	4,910	22%
	Vacaville	750	3%
	Fairfield	730	3%
	Vallejo	170	1%
	Suisun City	120	1%
	Dixon	110	<1%
	Benicia	<100	<1%
	Hartley	<100	<1%
	Allendale	<100	<1%
	Green Valley	<100	<1%

Figure 8: Intra-County Travel Share from Suisun City

Origin	Destination	Trips	%
Suisun City	Suisun City	48,990	51%
	Fairfield	24,250	25%
	Unincorporated Solano	13,420	14%
	Vacaville	5,290	6%
	Vallejo	2,550	3%
	Dixon	470	<1%
	Benicia	310	<1%
	Rio Vista	140	<1%
	Hartley	<100	<1%
	Green Valley	<100	<1%
	Allendale	<100	<1%

Figure 9: Intra-County Travel Share from Unincorporated Solano County

Origin	Destination	Trips	%
Unincorporated Solano	Unincorporated Solano	230,820	54%
	Fairfield	67,470	16%
	Vacaville	46,470	11%
	Vallejo	40,530	9%
	Suisun City	13,370	3%
	Benicia	12,710	3%
	Dixon	9,440	2%
	Rio Vista	4,990	1%
	Allendale	990	<1%
	Hartley	960	<1%
	Green Valley	920	<1%

Figure 10: Intra-County Travel Share from Vacaville

Origin	Destination	Trips	%
Vacaville	Vacaville	408,020	77%
	Unincorporated Solano	47,680	9%
	Fairfield	43,750	8%
	Vallejo	10,850	2%
	Dixon	8,580	2%
	Suisun City	5,310	1%
	Hartley	3,220	1%
	Benicia	1,330	<1%
	Allendale	1,010	<1%
	Rio Vista	750	<1%
	Green Valley	140	<1%

Figure 11: Intra-County Travel Share from Vallejo

Origin	Destination	Trips	%
Vallejo	Vallejo	454,240	84%
	Unincorporated Solano	40,600	7%
	Fairfield	17,210	3%
	Benicia	14,200	3%
	Vacaville	11,250	2%
	Suisun City	2,630	<1%
	Dixon	730	<1%
	Rio Vista	170	<1%
	Hartley	170	<1%
	Allendale	110	<1%
	Green Valley	<100	<1%

STA Connected Mobility Implementation Plan
Solano County Market Assessment - DRAFT
Appendix 3: Destinations for Intercounty Trips
Originating in Solano County

August 2022

Solano Transportation Authority

INTRODUCTION

Included below are tables that show the most common destinations outside of Solano County for intercounty trips that originate within the County. The tables also indicate the most common regional trip destinations, outside of Solano, for travelers from specific cities and communities. In general, the statistics reveal the level of demand for intercounty travel between specific locations, and detail the relative need for mobility offerings between different areas of the region.

TRAVEL SHARE STATISTICS FROM CITIES/COMMUNITIES WITHIN SOLANO COUNTY TO DESTINATIONS IN OTHER COUNTIES

Figure 1: Intercounty Travel Share from Allendale

<i>Origin</i>	Destination	Trips	%
<i>Allendale</i>	Other	110	37%
	Sacramento	40	13%
	San Francisco	30	10%
	Davis	20	7%
	Martinez	20	7%
	Winters	20	7%
	Oakland	20	7%
	Arden-Arcade	10	3%
	Santa Rosa	10	3%
	Woodland	10	3%
	Napa	10	3%

Figure 2: Intercounty Travel Share from Benicia

<i>Origin</i>	Destination	Trips	%
<i>Benicia</i>	Other	2,950	29%
	San Francisco	1,460	14%
	Oakland	890	9%
	Pleasant Hill	850	8%
	Concord	820	8%
	Walnut Creek	810	8%
	Martinez	640	6%
	Richmond	590	6%
	Berkeley	450	4%
	Napa	400	4%
	Sacramento	300	3%

Figure 3: Intercounty Travel Share from Dixon

<i>Origin</i>	Destination	Trips	%
<i>Dixon</i>	Other	3,500	35%
	Sacramento	1,670	17%
	Davis	1,570	16%
	Woodland	1,140	11%
	UC Davis	620	6%
	West Sacramento	520	5%
	Roseville	250	3%
	Winters	230	2%
	Elk Grove	160	2%
	Rancho Cordova	160	2%
	Oakland	160	2%

Figure 4: Intercounty Travel Share from Fairfield

<i>Origin</i>	Destination	Trips	%
<i>Fairfield</i>	Other	9,210	38%
	Napa	2,750	11%
	Sacramento	2,470	10%
	San Francisco	2,270	9%
	Oakland	1,730	7%
	Richmond	1,420	6%
	American Canyon	990	4%
	Concord	920	4%
	Pleasant Hill	860	4%
	Berkeley	780	3%
	Walnut Creek	760	3%

Figure 5: Intercounty Travel Share from Green Valley (Unincorporated)

<i>Origin</i>	Destination	Trips	%
<i>Green Valley (Unincorporated)</i>	Other	90	45%
	Napa	20	10%
	San Francisco	10	5%
	Walnut Creek	10	5%
	Oakland	10	5%
	Concord	10	5%
	Richmond	10	5%
	Davis	10	5%
	Windsor	10	5%
	Berkeley	10	5%
	Dublin	10	5%

Figure 6: Intercounty Travel Share from Hartley

<i>Origin</i>	Destination	Trips	%
<i>Hartley</i>	Other	200	33%
	Sacramento	100	16%
	Roseville	50	8%
	Arden-Arcade	40	7%
	Davis	40	7%
	San Francisco	40	7%
	Woodland	40	7%
	UC Davis	30	5%
	Napa	30	5%
	Winters	20	3%
	Oakland	20	3%

Figure 7: Intercounty Travel Share from Rio Vista

<i>Origin</i>	Destination	Trips	%
<i>Rio Vista</i>	Other	1,150	47%
	Sacramento	260	11%
	Antioch	180	7%
	Lodi	160	7%
	Stockton	160	7%
	Pittsburg	140	6%
	Richmond	120	5%
	San Francisco	80	3%
	Elk Grove	70	3%
	Oakland	70	3%
Martinez	60	2%	

Figure 8: Intercounty Travel Share from Suisun City

<i>Origin</i>	Destination	Trips	%
<i>Suisun City</i>	Other	1,800	32%
	San Francisco	960	17%
	Napa	630	11%
	Richmond	450	8%
	Sacramento	400	7%
	Oakland	310	5%
	Pleasant Hill	280	5%
	Concord	240	4%
	Walnut Creek	200	4%
	Martinez	200	4%
	American Canyon	180	3%

Figure 9: Intercounty Travel Share from Unincorporated Solano County

<i>Origin</i>	Destination	Trips	%
<i>Unincorporated Solano County</i>	Other	15,270	43%
	Napa	3,240	9%
	San Francisco	2,930	8%
	Sacramento	2,710	8%
	Oakland	2,220	6%
	Richmond	1,810	5%
	Concord	1,730	5%
	American Canyon	1,490	4%
	Walnut Creek	1,490	4%
	Pleasant Hill	1,440	4%
	Pittsburg	1,200	3%

Figure 10: Intercounty Travel Share from Vacaville

<i>Origin</i>	Destination	Trips	%
<i>Vacaville</i>	Other	12,510	42%
	Sacramento	5,090	17%
	San Francisco	1,950	7%
	Davis	1,770	6%
	Woodland	1,620	5%
	Napa	1,540	5%
	Oakland	1,500	5%
	UC Davis	1,180	4%
	Richmond	1,090	4%
	Concord	830	3%
	Winters	830	3%

Figure 11: Intercounty Travel Share from Vallejo

<i>Origin</i>	Destination	Trips	%
<i>Vallejo</i>	Other	15,190	26%
	San Francisco	9,250	16%
	American Canyon	8,600	15%
	Napa	5,020	9%
	Oakland	5,000	9%
	Richmond	4,340	8%
	Berkeley	2,630	5%
	Concord	2,170	4%
	San Rafael	1,990	3%
	Pleasant Hill	1,800	3%
	Novato	1,580	3%

STA Connected Mobility Guidelines, Performance
Measures, & Benchmarks
June 2022

Solano Transportation Authority – Connected Mobility Implementation Plan

INTRODUCTION

What are Connected Mobility Guidelines, Performance Measures, and Benchmarks?

Guidelines, performance measures, and benchmarks are the policies and parameters used to design, modify, and evaluate transit and other transportation services. Think of them like a toolbox for managing mobility programs. For the purposes of the Solano Transportation Authority's (STA's) Connected Mobility Implementation Plan, these measurement tools are key to determining the current effectiveness, efficiency, and connectedness of Solano County's mobility network.

Transportation agencies in Solano County use these guidelines and measures to optimize the efficiency and effectiveness of their programs while maintaining or improving service. Service standards are intended to serve as a decision-making tool to assist the STA and other transit agency staff, management, and Board members when considering service and programmatic changes.

Linking the Recommendations of MTC's Blue Ribbon Transit Recovery Task Force with Improved Connected Mobility

As a part of its Connected Mobility Implementation Plan, STA seeks to utilize key service standards, performance measures, and benchmarks to determine the ongoing relevance, usability, adaptability, and sustainability of the mobility programs currently offered in Solano County. Specifically, the goals and objectives of the Connected Mobility Implementation Plan will support the recently-delivered recommendations of the Metropolitan Transportation Commission's (MTC's) Blue Ribbon Transit Recovery Task Force, which provide comprehensive guidance for regional mobility programs in delivering effective services in an environment shaped by the ongoing COVID-19 pandemic. By linking its assessment measurements with Task Force recommendations, STA can effectively confirm how existing mobility program availability, orientation, and performance align with what MTC has deemed essential for establishing and sustaining an effective regional transportation network. Overall, comparing its available transportation program offerings with what the Task Force recommends as necessary for provision will determine how Solano County mobility programs contribute to a greater regional connected network, and will identify STA-required system improvements and additions.

The Task Force recommendations include 27 near-term actions intended to be taken by MTC, transit operators, county transportation agencies, and other stakeholders. Of these, nine recommendations are directly actionable by STA, and another nine are relevant to current Solano County transportation program activities. The following diagram indicates how each of the below performance measures relates to an actionable or relevant Task Force recommendation.

MTC Blue Ribbon Transit Recovery Task Force -

Recommendations

For Actionable & Relevant Recommendations:

■ = Underway
 ■ = Completed
 ■ = Not Yet Started

Related Measurements

Recommendation ID	Description	Status	Related Measurements
#1	Act on recommendations of the Fare Coordination and Integration Study, including selecting and funding pilot projects	Actionable	2.1
#2	Determine whether existing authority is sufficient to support uniform implementation of these recommendations		
#3	If needed, seek state legislation for additional authority to ensure timely and uniform implementation of these recommendations		
#4	Fund & finalize regional mapping & wayfinding standards	Relevant	2.5
#5	Fund & complete up to three consistently branded mapping & wayfinding pilot projects in the North Bay & East Bay	Actionable	2.5
#6	Fund & develop a data platform for regional mapping data services to enable standardization of digital/paper maps across services.	Actionable	2.5
#7	Request action by Caltrans to expedite design exceptions that will allow for bus priority on state highways		
#8	Sponsor legislation to remove barriers to transit priority		
#9	Fund the design & delivery of near-term transit corridor projects	Relevant	2.6
#10	Select near-term carpool lane operating policies for advancement		
#11	Define a cooperative agreement process to expedite travel time improvements on arterial streets & bus rights-of-way	Actionable	2.2, 3.1-3.2
#12	Fund, develop, and adopt a transit priority policy and corridor assessment for improving bus speeds & reliability	Relevant	2.6, 3.3-3.9
#13	Fund and complete a business-case analysis of potential transit network management reforms		
#14	Establish & support an MTC advisory group to guide this analysis		
#15	Provide financial incentives for Solano and Sonoma counties to complete their transit integration initiatives	Relevant	1.6
#16	Deliver grant for Phase 1 Rail Partnership and Governance Assessment, and Final Assessment		
#17	Adopt transit equity principles and a process for applying them	Actionable	1.1
#18	Fund, develop, and adopt a Bay Area Connected Network Plan	Relevant	1.7
#19	Adopt transit hub toolkit to optimize station design & connectivity that includes coordination with local governments' access plans	Relevant	2.5
#20	Establish protocols & implement uniform real-time & transit pathway data collection to give customers consistent & accurate info	Relevant	3.10-3.12
#21	Designate a mobility manager to coordinate rides and serve as a liaison between transit agencies in each county	Actionable	2.3
#22	Fund more pilot projects for one-seat paratransit rides & develop cost-sharing policies for paratransit trips that cross jurisdictions	Relevant	3.13
#23	Identify the next steps for full integration of ADA paratransit services with the Clipper fare-payment system	Relevant	2.4
#24	Identify key paratransit challenges and recommend reforms	Actionable	3.13
#25	Adopt standardized eligibility practices for programs that benefit people with disabilities, including paratransit and Clipper RTC cards	Actionable	2.4
#26	Identify cost-saving efficiencies & funding needs for regional transit network mgmt. as part of the Business Case analysis (per #13-14)		
#27	Convene stakeholders to identify priorities & a funding framework for a future ballot measure that would include new transit funding	Actionable	1.8

A Framework for Connected Mobility-Supportive Guidelines, Benchmarks, and Measures

Facilitated by both STA, which provides a variety of countywide mobility offerings, and multiple transit providers which provide transit services in the cities and unincorporated areas located in Solano County, transportation programs across the county are currently subject to numerous agency or program-specific sets of guidelines and measures, and are therefore measured and evaluated as separate entities and not as a part of one consolidated mobility network. Creating a defined set of guidelines, benchmarks, and measures by which all transit systems and mobility programs countywide can be assessed is essential to understanding, as a part of the Connected Mobility Implementation Plan, the existing performance, needs, and overall connectedness of the county's variety of transportation programs. Informing and framing these defined measurement bars are not only the recommendations of the aforementioned MTC Blue Ribbon Task Force, but also the relevant Equity and Performance Outcomes of Plan Bay Area 2050, and key best practices and industry standards that indicate quality transit and other mobility system performance. By defining measurements that are supportive and reflective of this framework, STA will not only be able to determine the effectiveness of mobility programs as they currently operate but can also indicate how programs should be adjusted or expanded to allow Solano County travelers a more seamless and better integrated trip experience, create better access to a wider variety of transportation modes, improve mobility program efficiency and effectiveness, and help discourage and limit single-occupancy-vehicle (SOV) use countywide.

CONNECTED MOBILITY-SUPPORTIVE GUIDELINES, BENCHMARKS, STANDARDS, AND MEASURES

Listed below are overarching guidelines for connected mobility and mobility policy benchmarks, which not only comprise a policy framework for enhancing transportation network connectivity countywide, but also offer means of assessing the effectiveness of existing policy-level aspects of Solano County's mobility services. In addition, design standards and performance measures are discussed, providing quantitative measurement bars for assessing current Solano County transportation network performance and connectedness.

1. Overarching Guidelines for Connected Mobility

To achieve an improved connected mobility network, Solano County must focus on specific higher-level goals and objectives to be addressed collectively countywide, across the county's multiple jurisdictions and transportation providers. Specifically, an effective evaluation of factors such as transit equity, mobility network access, planning efforts, and funding pursuits requires application to the county as a whole, since these factors relate to connected mobility at a countywide, or even regional, level. The guidelines below, which are categorized by their orientation and are informed primarily by the Blue Ribbon Task Force and Plan Bay Area 2050's connectivity recommendations, represent measurements by which Solano County can determine whether or not it offers the conditions or is carrying out countywide the types of efforts that are supportive of improved connected mobility.

Equity and Access

1.1 Solano County should have a defined set of transit equity principles and a clear process for their application.

Offering a clear and directed set of transit equity principles, as a matter of policy to be applied countywide, enables Solano County to assure consistency in the manner by which it measures and ensures equity across STA and the multiple transit providers that operate within the county. A key recommendation of the Blue Ribbon Task Force, consistent countywide equity principles would connect the standards for all county transit programs, and better standardize and connect not only the transit rider experience across the county, but also the process for assessment, monitoring, and improvement.

Evaluation Methodology:	Meets Criteria if:
Review existing STA and transit agency policies.	Transit equity policy exists with a clearly-defined application method.
Relates to: MTC Task Force Recommendation #17	

Guidelines 1.2 through 1.5 relate directly to the equitability and accessibility of mobility across the county. Assessing the extent to which various populations can reasonably use and afford transit, as well as access jobs via transit, biking, and walking, reveals the mobility network’s overall effectiveness and equitability. These guidelines are informed by Plan Bay Area 2050, which focuses on regional equity and performance outcomes that promote improved regional connectivity.

1.2 The average cost per transit trip (fares paid) is equal to or less than \$2.87 for all households, and \$1.49 for households with low incomes.

1.3 At least 5.1% of all Solano County residents and at least 7.9% of Solano County Communities of Concern residents should be able to access their job within 45 minutes by transit.

1.4 At least 2.7% of all Solano County residents and at least 3.4% of Solano County Communities of Concern residents should be able to access their job within 20 minutes by bike.

1.5 At least 0.2% of all Solano County residents and at least 0.4% of Solano County Communities of Concern residents should be able to access their job within 20 minutes by walking.

Evaluation Methodology (1.2-1.5):	Meets Criteria if:
Review existing transit fare structures, fare payment methods, and proximity of Communities of Concern residents’ homes to their workplaces.	Average transit trip cost is equal or less to the benchmark listed in 1.2, and Communities of Concern resident job access rates equal or exceed the benchmarks listed in 1.3, 1.4, and 1.5.
Relates to: Plan Bay Area 2050 “Connected” Metrics	

Planning, Funding, and Direction

1.6 Ensure that transit integration initiatives are prioritized, progressing, and well-funded.

With transit integration efforts underway, Solano County is already making strides toward improved connectivity both within the county and regionwide. The county is advised to prioritize these efforts, ensuring that they are progressing in an effective and timely manner, and are well-funded. By focusing on these aspects, the county can maintain a productive and outcome-driven process that is supported by MTC, which specifically states as a part of its Blue Ribbon Task Force recommendations that Solano County’s initiatives must continue to receive funding.

Evaluation Methodology:	Meets Criteria if:
Review existing transit integration initiatives, STA and transit agency programming prioritization, and funding dedication.	STA and transit agencies have included transit integration initiatives in their Capital Improvement Programs and other plans and programming efforts, with funding sources identified.
Relates to: MTC Task Force Recommendation #15	

1.7 Ensure that transit integration initiatives and other connected mobility-oriented plans and exercises are regionally-focused and supportive of a future Bay Area Connected Network Plan.

The recommendations of the Blue Ribbon Task Force call for the development of a regional Bay Area Connected Network Plan, which would likely strive to frame out and plan for a regional mobility network that reaches across separate operators and jurisdictions and generates a more seamless, usable system. While the details of this plan are not yet defined, Solano County can ensure that its current integration initiatives, as well as any other connected mobility-oriented efforts that are underway or proposed, are cognizant of the greater region and are supportive and integrable of a potential future Connected Network Plan.

Evaluation Methodology:	Meets Criteria if:
Confirm that transit integration initiatives identified as a part of 1.6 are regional in nature and supportive of connectivity across the Bay Area as a whole, and not just in Solano County.	Identified transit integration initiatives reference Bay Area regional needs and are supportive of regional connectivity.
Relates to: MTC Task Force Recommendation #18	

1.8 Convene stakeholders to focus on connected mobility by identifying needs, network priorities, and funding and implementation strategies/opportunities.

To further support connected mobility efforts with essential involvement from representatives of the county’s wide array of communities and population groups, Solano County should convene a representative, connected mobility-focused stakeholder network. Having support from both users of the mobility network and residents across the county is essential to delivering a connected mobility network that is effective, need-responsive, implementable, financially-sustainable, and focused on identifying and securing funding strategies, which is identified as a key connected mobility-supportive activity of stakeholders by the Blue Ribbon Task Force recommendations.

Evaluation Methodology:	Meets Criteria if:
Review current STA and transit agency outreach efforts to identify stakeholder groups focused on connected mobility.	STA and/or transit agencies have assembled, or are in the process of assembling, stakeholder groups focused on connected mobility.
Relates to: MTC Task Force Recommendation #27	

2. Mobility Policy Benchmarks

Improving connected mobility in Solano County also relies on the definition and enactment of targeted policy actions that work to enhance the integration, effectiveness, efficiency, and equity of the overall mobility network. These policies, can be driven and administered by regional agencies, STA, or specific mobility program providers such as transit agencies. They act as a basis for the county’s connected mobility enhancement efforts, and are essential for the delivery of meaningful, publicly, politically-supported, and sustainable improvements. To generate an effective Connected Mobility Implementation Plan, Solano County must assess the existence, direction, and stability of these policies, which serve as true benchmarks for success in better integrating mobility programs and aligning county plans and actions with the recommendations of the Blue Ribbon Task Force

Regional or STA-Level Benchmarks

2.1 Transit fare structures for all Solano County transit agencies should be integrated and coordinated.

Currently, transit agencies across Solano County, as well as across the greater Bay Area region, offer separate fare structures with varying types of passes, discounted fares, and eligibility programs. Integrating these fare structures to generate one unified and understandable set of fare options could greatly benefit users of multiple transit agencies, improving connectivity between transit agencies and enabling easier trips that utilize multiple operators. Standardizing the fare structures of transit agencies across the greater Bay Area region is a key component of MTC’s Fare Coordination and Integration Study, which is recommended for consideration and enactment by the Blue Ribbon Task Force. In November 2021, the Fare Integration Task Force of MTC adopted the creation of an all system pass pilot to commence in 2022 and elimination of transfer penalties between all systems in 2023.

Evaluation Methodology:	Meets Criteria if:
Review the existing fare structures of transit agencies in Solano County, as well as those serving the greater Bay Area, to determine if they are integrated, coordinated or standardized in a way that promotes seamless interagency travel.	Transit agencies within Solano County provide integrated, seamless fare structures that offer pricing, fare and pass options, and payment methods that are coordinated with one another and with agencies serving the greater Bay Area region.
Relates to: MTC Task Force Recommendation #1	

2.2 Solano County should define, or support the regional definition of, a cooperative agreement process to expedite travel time improvements on arterial streets & bus rights-of-way.

A wide array of transit travel time improvement strategies and technologies has been embraced by transit agencies across the Bay Area, with elements in place in various forms and locations throughout the region. However, many regional transit agencies, including those in Solano County, which operate across the boundaries of separate jurisdictions with separate processes for improvement design and implementation, face challenges in implementing these travel time improvements productively across full corridors. For example, an agency that may want to implement Transit Signal Priority (TSP) across the entirety of an intercity transit corridor to improve travel times corridor-wide would likely be required to complete administrative processes with each of the cities that touches the corridor. With a clear cooperative agreement process, defined either for Solano County or the greater Bay Area, transit agencies could more easily coordinate with jurisdictions in Solano County to implement improvements equitably and effectively, and in promotion of a better connected and higher quality transit experience overall.

Evaluation Methodology:	Meets Criteria if:
Review existing transit improvement-oriented cooperative agreement processes offered by jurisdictions within Solano County.	Jurisdictions in Solano County offer coordinated, standardized cooperative agreement processes for transit improvements, which are ideally coordinated with other Bay Area jurisdictions.
Relates to: MTC Task Force Recommendation #11	

2.3 Solano County should have a liaison to better coordinate trips for customers across multiple transit agencies and mobility programs.

Facilitating trips that incorporate the use of multiple transit providers or mobility programs comes with a variety of coordination challenges. By designating a liaison, mobility manager, or some other figure or system to ensure that separate transit agencies and programs are coordinating their services to maximize connectivity and encourage seamless use, Solano County can enhance the connectedness of its transit and other mobility services. Since Solano County transit agencies connect with agencies in neighboring counties, this coordination may best be conducted at the regional level, which is recommended by the Blue Ribbon Task Force.

Evaluation Methodology:	Meets Criteria if:
Review STA staff roles to determine the existence of a countywide mobility manager or liaison.	STA is coordinating with MTC on identifying a mobility manager or liaison.
Relates to: MTC Task Force Recommendation #21	

2.4 Solano County should adopt standardized eligibility practices for programs that benefit people with disabilities, including paratransit and Clipper RTC cards.

Separate transit agencies frequently offer differing eligibility policies and procedures for people with disabilities who are seeking mobility benefits. By adopting a standardized set of eligibility practices, as recommended by the Blue Ribbon Task Force, Solano County would enable all transit riders, regardless of their agency, to access transit benefits via the same set of procedures, and promote improved access and better connected use of transit across multiple systems.

Evaluation Methodology:	Meets Criteria if:
Review Solano County transit agencies' ADA eligibility policies and practices related to transit fare payment, paratransit, and Clipper.	Solano County transit agencies offer ADA eligibility practices that are standardized with one another and with the practices provided by agencies serving the greater Bay Area region.
Relates to: MTC Task Force Recommendation #25	

Transit Agency-Level Benchmarks

2.5 – All Solano County transit facilities should feature standardized maps and wayfinding materials, transit hubs should feature optimized station design and connectivity, and MTC and transit agencies regionwide should collaborate to identify funding opportunities and provide funding for related systems.

Planning transit trips that use the services of multiple agencies can be difficult when the agencies' system maps and other materials have very different appearances, level of detail, and accuracy. In addition, the ride experience of these types of trips can be degraded when facilities, such as transit hubs, vary widely in quality, comfort, and accessibility from agency to agency. Therefore, in developing a better-connected mobility network, Solano County would benefit from ensuring that all of the transit agencies that serve its residents provide the same types and quality of facilities and trip planning materials. Overall, MTC and transit agencies across the region should collaborate together for the purpose of identifying and facilitating funding for the systems that may be required for tools such as dynamic maps, wayfinding tools, and signage.

Evaluation Methodology:	Meets Criteria if:
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Review the current design of, and the amenities currently provided at, existing transit facilities in Solano County.	Transit facilities are designed in a way that promotes inter-route, interagency, and intermodal connectivity, and are equipped with upgraded, standardized amenities that enhance the rider experience of transferring customers. First-time users should be able to easily navigate the facility when making connections.
Relates to: MTC Task Force Recommendations #4, #5, #6, and #19	

2.6 – Solano County should fund, develop, and adopt a transit priority policy and corridor assessment for improving bus speeds & reliability, and Solano County transit operators should have the same process and policies for transit priority in all jurisdictions countywide.

The Blue Ribbon Task Force recommends that transit agencies focus on transit corridor-based improvements, with a supportive transit priority policy and corridor assessment procedure that work to enhance bus speeds and reliability. With a corridor-based approach, as opposed to an approach confined by jurisdictional boundaries or agency service areas, Solano County can improve transit effectiveness, usability, and connectedness for corridors that feature consolidated mobility needs. By focusing on corridors, which may run through multiple jurisdictions, Solano County transit operators can benefit from one standardized process and set of policies for transit priority that apply countywide, regardless of jurisdiction. For example, an agency that may want to implement Transit Signal Priority (TSP) across the entirety of an intercity transit corridor to improve travel times corridor-wide would likely be required to address separate processes and policies for each of the cities that touches the corridor. With one clear standardized countywide process, the transit agency could more easily coordinate across Solano County jurisdictions to implement TSP equitably and effectively for an entire corridor.

Evaluation Methodology:	Meets Criteria if:
Review STA and transit agency policies and policy plans to identify efforts related to transit priority and corridor assessment.	STA and/or transit agencies have adopted or are in the process of funding, developing, and adopting a transit priority policy and corridor assessment program.
Relates to: MTC Task Force Recommendations #9 and #12	

3. Mobility Program Design Standards and Performance Measures

Mobility program design standards and performance measures provide the framework for evaluating service and informing management of transportation programs in Solano County. The service standards and performance measures, detailed in the following pages, help define service delivery levels for transit, including different transit tiers, modes, and types, as well as for other mobility programs, based on various criteria. Furthermore, they facilitate consistent service design and identify standards for modifying service. Assessing service standards and performance measures allows Solano County to ensure that current mobility program performance is consistent with regional connected mobility goals and is aligned with the Blue Ribbon Task Force recommendations.

For transit agencies, performance measures and design standards are oriented around the types of transit services and route tiers that Solano County-based agencies offer or can offer. These are applied to transit services and routes based on characteristics and are not agency specific. Together, these measurements enable STA to evaluate transit services countywide and as part of one connected network. The current and potential service tiers and route types found across the County include the following:

Intercity Express Bus

Fast, Frequent Regional Bus Service:

- Offers higher capacity, higher speed service, with the purpose of connecting different cities and transit markets, both within and beyond Solano County's borders.
- Utilizes freeways, high-occupancy vehicle (HOV) and High Occupancy Toll (HOT) lanes where available, and other priority infrastructure (e.g., traffic signal priority, optimized stops/stations, etc.).
- Service span (peak only or all day) and direction of travel (peak direction only or bi-directional) may vary depending on market served.
- Crosses city and county boundaries, with a significant portion of passengers traveling between jurisdictions.
- Connects passengers to regional and intercity rail, ferries, other express buses, and local service networks.

Existing Solano County-based transit services that meet this criteria include the SolanoExpress network, which provides freeway-based connections between cities in the County and to other major transportation connection points in the Bay Area and Sacramento regions.

Rural Intercity Bus

Longer-Distance Bus Connections to Rural Communities:

- Offers lower-frequency, fixed-route service, with the purpose of connecting rural communities with nearby cities and interregional transit connection points.
- Utilizes major corridors that connect towns, often across rural or sparsely-developed areas.
- Crosses city and county boundaries, with a significant portion of passengers traveling between jurisdictions.
- Connects passengers to regional and intercity rail, other express buses, and local service networks.

Existing Solano County-based transit services that meet this criteria include the Rio Vista Delta Breeze network, which connects the rural community of Rio Vista with the nearby larger cities of Fairfield and Antioch.

Bus Rapid Transit (BRT) and Rapid Bus

High Frequency Corridor Service

- Offers high frequency, higher speed service, in corridors that can support high frequency (minimum 15 minute) all day service.
- Greater spacing between stops compared to local service, incorporates, priority infrastructure (e.g., traffic signal priority, optimized stops/stations, etc.)
- Utilizes exclusive lanes where feasible and may utilize freeways, high-occupancy vehicle (HOV) and High Occupancy Toll (HOT) lanes where available.
- Operates in both directions throughout the day and week.
- May cross city and county boundaries.
- Connects passengers to regional and intercity rail, ferries, other express buses, and local service networks.

Currently, no services in Solano County meet this criteria. However, the Connected Mobility Implementation Plan may identify opportunities for this type of service and develop specific recommendations for implementation.

Local Bus

Local Fixed-Route Bus Service

- Offers local, usually intracity service at a range of frequencies, fulfilling standard transit-based mobility needs for members of a community.
- Utilizes major corridors and local streets.
- Operates in both directions on weekdays and on weekends.
- Primarily serves passengers traveling within a city or fulfilling connections to other service tiers or mobility programs.
- Connects passengers to regional and intercity rail, ferries, other express buses, and local service networks.

This service tier includes the majority of Solano County's existing transit offerings, such as the local routes operated by SolTrans, FAST, and Vacaville City Coach.

Mobility-on-Demand

Microtransit Service

- Offers area-based mobility-on-demand service, supplementing the fixed-route transit network.
- Areas are typically around six square miles to balance wait and travel times, and ensure efficient, effective use of resources.
- May provide community and neighborhood circulation and/or first/last mile service focused on regional mobility hubs.

This service tier includes the Dixon Redit-Ride system, as well as Vacaville's City Coach Direct on-demand service.

Transit Design Standards

The transit agency service standards outlined in this document are primarily oriented toward ensuring quality service design, which informs the operating parameters and service characteristics of Solano County transit agencies’ range of offerings. The standards support service continuity and integration within each offering and ensure that these services come together as a connected network. Specifically, the standards are included and discussed below for the purpose of serving as indicators of quality connected mobility practices. Assessing whether or not transit agencies in Solano County are meeting these standards will help determine the overall effectiveness, efficiency, and usability of the transit network, as well as how current transit service delivery integrates with a better connected regional mobility system.

3.1 Routing: To provide efficient and effective service that offers competitive travel times, routes across Solano County in different service tiers should be strategically aligned on corridors that support tier-specific purposes, based on the following criteria:

- **Intercity Express, BRT/Rapid Bus and Rural Intercity** routes should run on rights-of-way less prone to delays, including: freeways, HOV lanes, High Occupancy Toll (HOT) lanes, Business Access and Transit (BAT) lanes, and HOV direct access ramps. When operating in mixed traffic, routes should use designated limited access highways and major regional arterials. Express routes should avoid operating on secondary arterials and collector/distributor streets, except when necessary to access transit centers, HOV facilities, significant trip generators, or turnaround loops.
- **Local** routes should run on a variety of right-of-way types to fulfill community-based service needs but should maximize service directness and be oriented around transit-supportive corridors wherever possible, such as those that minimize delay with fewer traffic signals or with transit signal priority infrastructure to provide competitive travel times.
- **Microtransit** should provide service to neighborhoods that have densities to justify providing transit service (at least four dwelling units per acre)¹ but either have street patterns that prohibit efficient fixed route alignments or densities that can’t support minimum fixed route productivity standards.

Evaluation Methodology:	Meets Criteria if:
Review the current system maps and route alignments for SolanoExpress routes, as well as for other Solano County transit agencies.	Intercity Express, BRT/Rapid Bus, Rural Intercity, and Local routes are strategically and primarily aligned on the roadway types specified above. Microtransit provides service to areas warranting transit service that can’t be served by fixed routes meeting the criteria specified above.
Relates to: MTC Task Force Recommendation #11	

3.2 Key Connecting Points: Across Solano County, the service network should be coordinated through key mobility hubs to provide efficient and effective transfers between regional and community service tiers.

¹ TCRP Report 165 Transit Capacity and Quality of Service Manual

Intercity Express, BRT/Rapid, and Rural Intercity routes should be coordinated with other transit services to facilitate connections at transit centers and key transfer points. Local routes should also be oriented to serve transit centers and key transfer points, or facilitate easy local connections to those locations.

To the greatest extent possible, schedules should minimize connection time while maintaining reliability at transfer points, where a high volume of passengers are transferring to and from intercity express service. Ideally, all routes and connecting transit service should operate at frequencies that allow for spontaneous customer transfers without schedule timing.

Strategies to minimize wait time include:

- Prioritize each location based on actual or projected number of boardings and alightings.
- Offset the intercity express route schedules, where feasible, to distribute wait time equitably among transfer locations
- Provide more frequent service (i.e. 15-minute headways or better) at key times when transfer volumes are greatest, such as weekday peak periods.
- To the greatest extent possible, schedules should minimize connection time

Evaluation Methodology:	Meets Criteria if:
Review the current route alignments and schedules for SolanoExpress routes, as well as for other Solano County transit agencies.	Transit centers and key transfer points are strategically located on Intercity Express, BRT/Rapid, and Rural Intercity routes to avoid compromising both customer travel time and operating resources on those service types.
Relates to: MTC Task Force Recommendation #11	

3.3 Service Span: The service span for all routes in Solano County should be coordinated with passenger activity and demand and with local transit networks, based on the following criteria for different route types:

- **Intercity Express** service span may vary between routes based on passenger demand and route performance.
- **BRT/Rapid** service should operate at least 16 hours per day on weekdays and 12 hours per day on weekends
- **Rural Intercity** service span may be sharply limited to community demand in rural areas, which is more confined than in areas of greater population.

Evaluation Methodology:	Meets Criteria if:
Review the current route schedules for SolanoExpress routes, as well as for other Solano County transit agencies.	Intercity Express, BRT/Rapid, and Rural Intercity service spans meet the criteria specified above.
Relates to: MTC Task Force Recommendation #12	

3.4 Service Frequency and Headway: Frequencies for routes in Solano County should be based on demand, clock-face scheduling, and the maximum headway guideline for corresponding service tiers:

- **Intercity Express** – 30 minutes during peak periods and 60 minutes during off-peak periods.
- **BRT/Rapid** – 15 minutes on weekdays and 20 minutes on weekends.
- **Rural Intercity** – 60 minutes during peak periods. 60 to 120 minutes during off peak periods based on demand.

Overall, this standard is designed to keep wait times reasonable for passengers who require a transfer. Once service is in place, headways may be improved to provide more frequent service if route productivity consistently exceeds 150% of the system average within its tier or if passenger loads exceed service standards.

Evaluation Methodology:	Meets Criteria if:
Review the current route schedules for SolanoExpress routes, as well as for other Solano County transit agencies.	Intercity Express, BRT/Rapid, and Rural Intercity route frequencies and headways meet the criteria specified above.
Relates to: MTC Task Force Recommendation #12	

3.5 Coordination of Corridor Service: Operation of more than one route of the same tier on the same street (or a closely parallel corridor) should be avoided, except where there is a high demand, an HOV lane, or special transit priority treatment.

Schedules of routes operating on the same corridor should be coordinated to optimize service headways for customers first and service travel times second, where feasible. For example, where multiple routes serve the same stops for a distance where transit customers could use any of the services, even headways should be maintained across all routes to provide an adequate and consistent level of service for intra-corridor travel.

Evaluation Methodology:	Meets Criteria if:
Review the current route alignments for SolanoExpress routes, as well as for other Solano County transit agencies.	Intercity Express, BRT/Rapid, Rural Intercity, and Local routes are aligned to minimize duplication and optimize service headways within corridors.
Relates to: MTC Task Force Recommendation #12	

3.6 Route Anchors: All Intercity Express, BRT/Rapid, and Rural Intercity Local routes and microtransit, should be anchored at current and planned key transit generators.

Transit routes should first facilitate network travel by terminating at or serving major multi-modal service hubs. Secondly, where these hubs are contiguous to major demand generators, transit experiences even greater benefit. When not connecting with a hub, route termini should be at ridership generators like shopping malls, community colleges, medical centers, etc. STA and its

member agencies should work with jurisdictions to coordinate land use planning and development to ensure that equity populations and destinations are well served with high quality mobility options and that major transit corridors serve areas of high transit propensity (dense, diverse, mixed use, walkable).

Evaluation Methodology:	Meets Criteria if:
Review the current route alignments for SolanoExpress routes, as well as for other Solano County transit agencies.	All Intercity Express, BRT/Rapid, Rural Intercity Routes, and Local routes, as well as microtransit services, are aligned to originate and terminate at or close to locations of high transit propensity.
Relates to: MTC Task Force Recommendation #12	

Transit Performance Measures

Service performance measures provide the framework for evaluating service. For Solano County’s transit agencies, the recommended framework is primarily oriented around service effectiveness (productivity), service quality (customer experience), and service efficiency (resource utilization), which should each be analyzed and evaluated to determine system performance levels and their supportiveness for incorporation into a greater regional connected network.

Through its partner agencies, STA should monitor annually all ongoing transit and microtransit services at a network and individual level (routes and zones) to assure that performance objectives are being met. First, overall performance targets (key performance indicator or KPI) will be set for each service tier based on current performance and STA goals and objectives. Second, STA should evaluate each transit service tier to assess ongoing trends for each KPI including identifying those routes and services that were more the 150% more productive than the tier standard or less than 50% of the tier standard for detailed analysis and potential action. Where possible, KPIs should be included that allow for comparison across different service tiers.

3.7 Productivity: Routes across Solano County should meet the productivity levels listed below.

Productivity is determined based on boardings per trip, boardings per revenue hour or mile, and passenger miles per total mile, as defined earlier in *Section 1: Introduction to Service Standards and Performance Measures*. Productivity is a key indicator of service effectiveness, particularly for Intercity Express and BRT/Rapid routes, and helps determine whether or not existing mode and route types are appropriate for a certain market or location.

- **Intercity Express** – 15 Boardings Per Trip
- **BRT/Rapid** – 20 Boardings Per Hour

Evaluation Methodology:	Meets Criteria if:
Review the most recent SRTPs for Solano Express and for other Solano County transit	Productivity rates for Intercity Express and BRT/Rapid meet the levels specified above.

agencies to determine route-based productivity rates.	
Relates to: MTC Task Force Recommendation #12	

3.8 On-Time Performance: Routes across Solano County should meet the following on-time performance rates:

- **Intercity Express** – 75 percent depart no more than five minutes late and zero minutes early
- **Local** – 80 percent depart no more than five minutes late and zero minutes early

For transit agencies to be successful, they must provide convenient and reliable service and follow the published schedules to meet consumer expectations especially for travel that involves transfers. To ensure reliable and predictable service, Solano County transit agencies should facilitate periodic assessment of on-time performance using automatic vehicle location (AVL) or automatic passenger counter (APC) data. In addition, real-time transit service delivery data should be available for all routes and service electronically via APP, tablet, computer and via dynamic signage at major transit hubs.

Evaluation Methodology:	Meets Criteria if:
Review the most recent SRTPs for Solano Express and for other Solano County transit agencies to determine route and agency-based on-time performance rates.	Intercity Express and Local route on-time performance rates meet the levels specified above.
Relates to: MTC Task Force Recommendation #12	

3.9 Customer Complaints: Transit agencies in Solano County should not receive more than 2 complaints per 10,000 boardings, and initial responses to valid complaints should be submitted within one business day of complaint receipt.

Customer complaints can relate to on-time performance, crowding, or amenities, among other things. Transit agencies should be receptive to rider feedback and track customer complaints in order to generate important context for staff to further investigate any service issues, potentially leading to service changes.

Evaluation Methodology:	Meets Criteria if:
Coordinate with STA to determine the number of complaints received in relation to SolanoExpress and all other Solano County transit agency service.	Complaints received do not exceed the rate specified above and are issued responses within one business day of receipt.
Relates to: MTC Task Force Recommendation #20	

3.10 Operated as Scheduled: Transit agencies in Solano County should deliver no less than 99.8 percent of its trips as published.

STA and Solano County transit agencies should track the percentage of scheduled trips for all routes operated as listed in the published timetable, another key performance indicator related to service quality. On average, 99.8 percent of scheduled trips should be operated as published.

Evaluation Methodology:	Meets Criteria if:
Coordinate with STA and all other Solano County transit agencies to determine current service fulfillment rates by agency.	The service fulfillment rates for SolanoExpress and all other Solano County transit agencies meet the criteria specified above.
Relates to: MTC Task Force Recommendation #20	

Performance Measures for Other Mobility Programs

In addition to assessing the performance of its transit systems, Solano County must evaluate the quality, effectiveness, and efficiency of its other mobility programs, which span the ADA, TDM, and alternative mobility program spectrum. Recognizing the Connected Mobility Network Implementation Plan’s goal of developing a singular complimentary, intermodal, multi-program mobility network for all of Solano County that links seamlessly with the larger regional network, non-transit mobility offerings are essential to delivering added first/last mile and other benefits within the greater transportation system. By evaluating their performance, using the measures below that are oriented around assessing how well each program addresses its mobility goals, Solano County can better establish a comprehensive understanding of how its full slate of transportation offerings are operating, as well as the potential for all of them to function collectively as an integrated network.

Each of the below measures is related to a separate existing Solano County mobility program.

3.11 Solano County ADA Eligibility Program: The ADA eligibility process should be standardized for countywide use and should adhere to industrywide best practices.

Solano County should offer a clear, understandable, and accessible ADA eligibility program that is standardized for use by all county residents, regardless of their jurisdiction of residence. To ensure that the program is effective, management of the process should adhere to various industrywide best practices. These include:

- Accommodating accessibility as a part of the ADA assessment process, with various accessible over-the-phone and online opportunities available.
- Issuing clear communications about the program and about all accessible transportation services offered, with information that is readily available, issued in accessible formats and in relevant foreign languages, and easily understandable.
- Accommodating applicant needs by providing transportation to and from interviews and functional assessments, as well as interpretation in sign language.
- Administering interviews and assessments effectively, with ample time provided for applicants to complete necessary processes, adequately preparing applicants for these sessions, and allowing applicants to provide consent for information collection.
- Effectively communicating eligibility decisions by providing responses listing applicant name, agency name, eligibility status, agency contact information, any conditions that may be placed on an individual’s eligibility, an eligibility expiration date if applicable, and information about how to appeal the decision.

Evaluation Methodology:	Meets Criteria if:
Coordinate with STA to review existing ADA eligibility processes in Solano County.	Solano County’s ADA eligibility program is available and standardized on a countywide basis and meets the conditions listed above.

3.12 Solano County Older Adults Medical Trip Concierge Service: The service should be available for use by older adults countywide, including veterans, and should adhere to industrywide best practices.

Solano County’s Older Adults Medical Trip Concierge Service should be oriented for access by all older adult residents in the county, including veterans, regardless of their jurisdiction of residence. To ensure that the program is effective, management and delivery of the service should adhere to various industrywide best practices. These include:

- Adequately informing recipients and other stakeholders about the availability of the service, eligibility for use, the service authorization process, and how to access the service. This should include a variety of informational materials for distribution that accommodates Limited English Proficiency (LEP) individuals.
- Operating a toll-free telephone contact center that allows recipients to request services. The contact center should accommodate recipients with disabilities and/or who are hearing impaired.
- Managing the program to ensure that cost-effective and appropriate services are delivered, with collection and distribution of monthly trip level data reports that indicate performance levels.
- Coordinating with local stakeholders to maximize service cost-effectiveness and quality. This includes collaboration with public transit programs, public welfare programs, and aging services where appropriate, and linkages/integrations with existing older adult medical transportation services.
- Verifying recipient eligibility and need in a clear and standardized way, with a clearly-defined and mutually-accessible application process.

Evaluation Methodology:	Meets Criteria if:
Coordinate with STA to review the existing management and administration process for the Older Adults Medical Trip Concierge Service.	Solano County’s Older Adults Medical Trip Concierge Service is available to older adults countywide, including veterans, and meets the conditions listed above.

3.13 Travel Training: The program should be available to participants countywide, adhere to industrywide best practices, and conduct at least two trainings per month.

Solano Mobility’s Travel Training program currently provides educational resources and direct training for individuals using public transit and other county mobility programs. To ensure its effectiveness, the program must cover industrywide standard elements of educational content, which are considered essential for successful travel training. These topics include:

- Understanding trip planning software
- Reading route maps and schedules
- Locating transit stops
- Flagging-down buses, where applicable
- Calculating and paying fares
- Obtaining and using transit passes
- Recognizing when the desired stop has been reached
- Indicating to bus drivers when to stop
- Obtaining service updates
- Using mobility devices safely on vehicles
- Determining if a vehicle is equipped with mobility devices
- Completion of training is determined by trainee being able to travel safely and independently

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review Travel Training course content and overall curriculum.	Solano Mobility Travel Training program covers the education topics listed above and provides at least two trainings per month.

3.14 Solano Mobility Call Center: Inquiries and requests are handled clearly and responsively in a way that enhances mobility program usability and accessibility, and in a manner that meets the quantifiable conditions listed below.

Overall, Solano Mobility’s call center should be oriented around customer service quality, with a focus on effective responsiveness to caller inquiries. To ensure quality, the program should have customer service standards that detail methods of effectively handling responses, as well as detailing acceptable answer speeds or hold times. These conditions include the following:

- Consistent communication with partnered agencies to keep up to date with relevant information. Fully staffed call center to ensure little to no hold times between the hours of 8-5pm M-F.
- Average call answer time is less than 20 seconds
- Average call hold time is less than 30 seconds
- Return messages within one business day of message receipt
- Respond to valid complaints within 48 hours of complaint receipt
- Five percent increase in program participation annually.

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review Call Center policies and processes.	Solano Mobility Call Center program has clearly-defined customer service standards that meet the conditions listed above and are oriented to ensure quality, effectiveness, and efficiency of responsiveness.

3.15 Solano Mobility Vanpool Program: The program should sustain 90% of its existing vanpools annually, grow at least five vanpools per year, and be managed, funded, operated, marketed, priced, and evaluated in adherence to industrywide best practices.

Solano Mobility’s Vanpooling is oriented to provide transportation to work services to individuals who live at least 15 miles from their workplaces. To ensure its effectiveness, the program must be administered in a way that aligns with the industrywide standards generally recognized as encouraging success. Currently the program is partnered with Commute by Enterprise to provide outreach support and additional subsidies to Solano County employers. Key program aspects include:

- Ensuring broad service coverage with an established, consistent turnkey agreement process between STA and long-serving contractors and vendors.
- Establishing meeting structures that encourage collaboration and idea-sharing between among contractors and vendors.
- Ensuring strategic oversight of program services and delivery and clear definition of agency and vendor responsibilities.
- Delivering consistent program administration with clear billing/invoicing, outreach, and customer service practices.
- Maintaining a single source of vanpooling information that is easily communicated, marketed, and promoted to customers, and that enhances public understandability of the program.
- Conducting incentive programs to encourage participation and use.
- Collecting program use data for performance monitoring purposes.

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review Vanpool program policies and processes.	Solano Mobility Vanpool program sustains 90% of existing vanpools annually, grows at least five vanpools per year, and meets the conditions listed above.
Relates to: MTC Task Force Recommendation #17	

3.16 Solano Mobility Intercity Taxi (ITX) Card Program: The program should adhere to industrywide best practices that ensure service quality, stakeholder participation, and safety compliance.

Solano Mobility’s ITX Card program enables qualified ADA-certified Solano County residents, including veterans, to use local taxis as a form of paratransit, accommodating subsidized rides between separate jurisdictions/transit service areas. To ensure its effectiveness, the program must be administered in a way that aligns with the industrywide standards generally recognized as encouraging success. Key program aspects include:

- Ensuring quality services from taxi companies with an established agreement/commitment from taxi company owners or managers to provide optimal service to ADA paratransit customers, defined customer service standards, an extensive and meaningful driver training program, sufficient driver compensation that is processed in a timely manner, a complaint processing and response program, and ongoing performance monitoring.

- Maintaining regular communications between Solano Mobility, taxi company management, taxi drivers, and customers that establish a good working relationship between all involved parties and mutually benefits all stakeholders.
- Participating with multiple taxi providers and allowing riders to select their provider of choice.
- Ensuring taxi company and driver compliance with regulations.
- Responding to valid complaints within 48 hours of complaint receipt.

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review ITX Card program policies and processes.	Solano Mobility ITX Card program meets the conditions listed above.
Relates to: MTC Task Force Recommendations #22 and #24	

3.17 Solano Mobility Guaranteed Ride Home Program: The program should be accessible to all Solano County employees, should be administered in adherence to industrywide best practices, and should meet the quantifiable service goals listed below.

Solano Mobility’s Guaranteed Ride Home program provides a free ride home from workplaces for individuals who do not drive alone to work, serving as a lifeline for transit and other mobility program commuters and enabling greater access to the mobility system in general. To ensure its effectiveness, the program must be administered in a way that aligns with the industrywide standards generally recognized as encouraging success. Key program aspects and service goals include:

- Allowing all permanent part-time or full-time employees who work to or from Solano County eligibility to participate.
- Defining the qualifying emergency situations during which registered employees can request service.
- Defining the alternative transportation modes that registered employees must have used on the day of requested service to qualify the Guaranteed Ride Home reimbursement.
- Defining the extents of the service, including the types of trips eligible for reimbursement, trip maximum distances from Solano County employment locations, eligible expenses, and both annual and per-trip reimbursement amount limits.
- Administering a clear and accessible registration process, with registration forms available for completion and submission both online and via mail.
- Responding to initial program applications within two business days of application receipt.
- Responding to initial request for guaranteed ride home reimbursement within two business days of request receipt.
- Processing reimbursements to riders within 45 days of receiving the guaranteed ride home request.

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review Guaranteed Ride Home program policies and processes.	Solano Mobility Guaranteed Ride Home program meets the conditions listed above.
Relates to: MTC Task Force Recommendation #17	

3.18 Solano Mobility Bucks for Bikes Program: The program should be administered in adherence to industrywide best practices.

Solano Mobility’s Bucks for Bikes program incentivizes bicycling as a mode of transportation for commuting to work by reimbursing a portion of the cost of a bicycle for any Solano County resident, employee, or college student who will use the bicycle for commuting purposes. To ensure its effectiveness, the program is administered in a way that aligns with industrywide standards generally recognized as encouraging success. Key aspects include:

- Clearly defining participant eligibility, program requirements, and program policies and procedures.
- Requiring participants to provide feedback in three surveys at three-month intervals after receiving the incentive.
- Encouraging Commute Solano on the Ride Amigos platform.
- An increase in program participation with participants from each city in the county.

Evaluation Methodology:	Meets Criteria if:
Coordinate with Solano Mobility to review Bucks for Bikes program policies and processes.	Solano Mobility Bucks for Bikes program meets the conditions listed above.
Relates to: MTC Task Force Recommendation #17	