

Solano County

COMPREHENSIVE TRANSPORTATION PLAN

2040



June 26, 2020

Table of Contents

1) Executive Summary	4
Solano Transportation Authority (STA) Agency Profile	5
CTP Purpose	6
CTP Organization	7
MAP: Land use designations	12
Challenges	16
Opportunities	18
2) Introduction	21
Plan Organization	22
Comprehensive Transportation Plan (CTP) Process	22
Solano CTP Background	23
Relationship to Other STA Plans	27
Relationship to Other Regional Plans	30
Legislative Context	31
2020 Legislation	32
MAP: PDAs, PPAS and PCAs in Solano County	33
3) Solano's Land Use Ties to Transportation	35
Solano County & Cities: Land Use and Transportation Plans, Policies and Programs	36
Existing Federal Land Use & Transportation Policies And Legislation	40
Existing State Policies & Legislation.Addressing Land Use & Transportation	41
Existing Regional Land Use & Transportation.Plans, Policies, And Programs	44
Pending Legislation & Programs Related To Transportation And Land Use	46
Displacement & Gentrification	46
Moving Forward	47
4) Equitable Transportation Access, Benefit, and Participation	49
Addressing Equity Considerations in the CTP	52
Going Forward	53
Definitions	56
MAPS: Solano County Vulnerable Populations	56, 57
Regional Equity Initiatives	61
STA Equity Initiatives	61
STA Solano Mobility Programs	65
Transportation Equity Performance Measures	66
Transportation Equity Principles	66
5) Looking Forward	67
Transportation and Land Use	69
Performance-Based Planning	70
Equity	71
Funding	71
Innovative Technologies	72
Appendices	
Federal, State, and Regional Land Use & Transportation Plans, Policies and Programs	Appendix A
Federal and State Equity Laws & Regulations	Appendix B
Arterials, Highways & Freeways Element	Appendix C
Transit and Rideshare Element	Appendix D
Active Transportation Element	Appendix E

Acknowledgements

STA Board Members

Harry Price, Mayor of Fairfield, Chair
Thom Bogue, Mayor of Dixon, Vice Chair
Elizabeth Patterson, Mayor of Benicia
Ron Kott, Mayor of Rio Vista
Lori Wilson, Mayor of Suisun City
Ron Rowlett, Mayor of Vacaville
Bob Sampayan, Mayor of Vallejo
Jim Spering, County of Solano District 3 Supervisor

STA Active Transportation Committee

Jim Spering, Solano Dist. 3 Supervisor, Chair
Lionel Lagaerspada, City of Benicia
Thom Bogue, City of Dixon
Donald Roos, City of Rio Vista
Lori Wilson, City of Suisun City
Chuck Timm, City of Fairfield
Dilenna Harris, City of Vacaville
Robert McConnell, City of Vallejo

SolanoExpress Intercity Transit Consortium

Claudia Williams, Dixon Redit-Ride
Diane Feinstein, Fairfield and Suisun Transit
Brandon Thomson, Rio Vista Delta Breeze
Beth Kranda, SolTrans
Lori DaMassa, Vacaville City Coach
Joyce Goodwin, County of Solano
Debbie McQuilkin, Solano Mobility

STA Technical Advisory Committee

William Tarbox, City of Benicia
Joe Leach, City of Dixon
Paul Kaushal, City of Fairfield
Robin Borre, City of Rio Vista
Matthew Medill, City of Suisun City
Shawn Cunningham, City of Vacaville
Terrance Davis, City of Vallejo
Matt Tuggle, County of Solano

STA Staff

Triana Crighton
Cecilia de Leoni
Robert Guerrero
Daryl Halls



Equity Working Group

Lori Wilson, Mayor of Suisun City (Chair)
Harry Price, Mayor of Fairfield
Bob Sampayan, Mayor of Vallejo
John Vasquez, County of Solano, District 4 Supervisor
Sakina Ali, Matt Garcia Foundation
Michael Brito, KROC Center & Salvation Army Director of Operations
Richard Burnett, STA PCC / MTC
Robert Fuentes, Faith in Action
Andrea Garcia, Touro University
Cookie Gordon, Vallejo Resident
Amy Hartman, Greenbelt Alliance
O. Johnson, SOFITCITY
Wendy Loomas, Health Promotion & Community Wellness Bureau
Akon Walker, Solano County Health & Social Services
Gerry Raycraft, Solano-Napa Habitat for Humanity
Susan Rotchy, Independent Living Resource Center
Yolanda Sanchez, Fairfield Resident
Rochelle Sherlock, Potentiate LLC
Anthony Summers, Impact Bible Ministries

This page intentionally left blank

1

Executive Summary

Solano County holds a special place in California's vast landscape, its history, and its future. It is blessed with fertile agricultural lands, attractive open space and recreational areas, and an economically advantageous location between two prosperous and growing urban areas; Sacramento and the San Francisco Bay Area. Its seven cities and surrounding lands provide its residents with an appealing choice of lifestyles, ranging from urban waterfront to suburban casual or rural tranquility.



Photo: Kai Schreber

Solano Transportation Authority (STA) Agency Profile

The Solano Transportation Authority (STA) was created in 1990 through a Joint Powers Agreement between the cities of Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville, Vallejo and the County of Solano to serve as the Congestion Management Agency for Solano. The Congestion Management System consists of all State highways within Solano County and principal arterials that provide connections from communities to the State highway system, as well as between the communities within Solano County.

The organization is overseen by a board of eight, with one county supervisor and each of the seven mayors in Solano County. The STA is responsible for countywide transportation planning, programming transportation funds, managing and providing transportation programs and services, delivering transportation projects, and setting transportation priorities in Solano County.

The mission of STA is *"To improve the quality of life in Solano County by delivering transportation projects to ensure mobility, travel safety, and economic vitality for all."* The agency achieves its Mission through actively partnering with federal, state, and regional transportation agencies, the County of Solano and all seven Solano city governments, as well as through robust outreach and engagement with a broad spectrum of interested residents, and businesses.



After a difficult period resulting from the nation's most severe economic recession since the Great Depression, Solano County is well positioned to flourish in the 21st century by building on the spirit of collaboration and strategic investment aimed at improving the lives of its residents and the success of a diversifying business community.

The Solano Transportation Authority (STA) reflects those community attributes through its careful allocation of transportation funds from a variety of sources, and its leadership role that brings transportation planning together with important land use, economic development, environmental, and social equity considerations to create the sustainable future that will serve current and future generations well.

STA's Mission

"To improve the quality of life in Solano County by delivering transportation projects to ensure mobility, travel safety, and economic vitality for all."

Equally important, the agency has become a forum for a broad cross-section of the community and elected leaders to weave Solano's transportation system challenges and opportunities together with broader community efforts, such as housing, jobs, safety, and climate adaptation. This helps to achieve a strong community fabric where all residents can share in the promise of quality housing and work opportunities, cleaner air, habitat conservation, and healthier neighborhoods.

CTP Purpose

The Solano County Comprehensive Transportation Plan will help fulfill the STA's mission by identifying a long-term and sustainable transportation system to provide mobility, reduce congestion, and ensure travel safety and economic vitality to Solano County.

Comprehensive Transportation Plan (CTP) Purpose

The purpose of the **Comprehensive Transportation Plan** (CTP) is to help STA fulfill its mission by envisioning a safe, multi-modal transportation system that meets Solano's diverse mobility needs and sustainable development goals, and then identifies anticipated funding, and prioritized investments to advance the Vision as noted in STA's Sustainable Communities plan. STA has identified "sustainable" communities as those that endure and improve over time, and balance such factors as economic health, environmental impact, and social equity. This CTP analyzes the current state of Solano's transportation systems to establish a set of goals, identify strategies, and implement action plans that best bridge the gap between ideal and existing conditions.

There are two important reasons for STA to maintain an updated planning document. First, the Metropolitan Transportation Commission requires local transportation agencies such as the STA to establish transportation plans as the basis for the Commission's Regional Transportation Plan (RTP). The RTP is a federally required, 25-year planning document. Secondly, STA is responsible for programming

numerous state and federal transportation funding sources for its projects. In order to meet this requirement, the STA needs to document the goals and policies that guide its programming or risk losing critical transportation dollars from those sources.

This CTP addresses the period between now and 2050. It is an update of the previous CTP, which was adopted in 2005.



CTP Organization

STA's existing strategies have worked well to strengthen Solano's transportation infrastructure and increase mobility choices, but there is value in periodically reconsidering how best to serve Solano County residents and businesses going forward.

Three principles have guided this update of the Solano CTP:

1. Strengthen the System through innovative, cost-effective improvements
2. Reduce Stress by developing, operating and maintaining an integrated local and regional transportation system anchored on the I-80 corridor
3. Support Member Agency decisions related to transportation and land use choices, while respecting the Regional Framework set by MTC.

The CTP is comprised of this **Transportation Framework** which defines the agency's roots, its mission, key challenges and opportunities, and STA's approach toward them. It provides an introduction to the three Elements of the Plan:

- **Arterial, Highways, and Freeways**
- **Transit and Rideshare**
- **Active Transportation**

Also within this section, STA's extended history of linking quality land use decisions with transportation investments is described. In addition, it highlights STA's increasing commitment to policies, plans, and investments that prioritize the unique needs of Solano's disadvantaged communities and ensures that those populations are meaningfully included in STA's mobility planning.

Guided by the Principles identified above, the CTP presents specific goals, policies, gap analyses, and funding priorities for its three modal Elements. Based on established goals, explicit Policies define specific actions to guide their implementation. Policies contain clear action words such as *shall, will, assign, or invest* to add clarity and commitment. Utilizing clear Goals and Policies, STA and the community worked

together to identify gaps in infrastructure and/or services for all programs managed by the agency. These gap evaluations were followed with a process to designate the most effective steps to be taken to close them, including consideration of time involved, funding availability, equitable benefit for all users, and impacts on the environment.

All CTP Elements are designed to be both *internally* and *externally* integrated. *Internally* integrated means that each Element's selected projects and programs are complementary to the other Elements. Equally important, CTP recommendations are consistent with those contained in all STA member jurisdictions' planning documents where appropriate.

Externally integrated means each Element's specific choices are compatible with the networks overseen by MTC and Caltrans District 4. Externally integrated also means matching Solano's plans with those of neighboring regions, such as Sacramento and San Joaquin counties. Staff has worked diligently to strengthen these important partnerships.

STA organizes its projects into three identified tiers that reflect design and funding readiness.

Tier 1 – projects or programs already in place, or are ready for near-term implementation.

Tier 2 – projects and programs that are important and have been advanced out of the conceptual stage, but are not yet ready for near-term implementation.

Tier 3 – ideas and concepts that have had little to no work done to advance their implementation yet.

It is common for STA projects to begin in a lower tier and then be elevated as progress occurs. This information is especially helpful to regional and state funding partners, because it reflects the priorities and timing of a project when outside funding is sought.

Performance Measures and Milestones are the tools that STA uses to measure and track progress. Performance measures can be thought of as a unit of measure, such as the scoring of a road's condition or fare box recovery target for a transit service. Milestones are benchmarks that show how much progress has

been made, such as how many miles of road have reached a certain standard, or what percentage of transit routes should achieve the targeted fare box contributions. In the years ahead, STA will expand its collection of measurable baseline information associated with all of its mobility programs so that future decisions can be objectively made based on real world results.

Several important concepts have guided strategies in this CTP:

- I-80 is the backbone of Solano's transportation network, deserving STA's greatest planning emphasis.
- Multimodal corridor planning is useful on Routes of Regional Significance and major interchanges.
- A Complete Streets framework, meaning roadways are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities is the foundation for improving Solano's quality of life.
- Funding in Priority Development Areas (PDA), Priority Conservation Areas (PCA), and Priority Production Areas (PPA) that best support Solano's goal of a sustainable future.
- The unique needs of Solano's disadvantaged communities should be paramount to ensure that those populations fairly benefit from STA's work.
- Reducing Solano's greenhouse gas emissions can be achieved with cleaner fuels, more efficient freight movement, expanded transit, and a safe network of sidewalks, pedestrian trails, and bicycling facilities.

STA is increasing its collection of data related to all forms of mobility in and through Solano County to continue to enable performance-based decisions going forwards.



The **Arterials, Highways, and Freeways Element** focuses on the analysis and enhancement of essential connections between key components of Solano County's transportation network, which are anchored by the regionally significant I-80 corridor. It identifies existing and future safety, capacity, and enhancement needs for the major arterials, highways, and freeways in Solano County that serve intercity and interregional travel.

The AHF system includes all interstate freeways, state highways, and selected local arterials. The AHF system also includes those facilities that are in the right-of-way and act to make the system more useable, such as ramp metering lights, overhead message boards, travel advisory and changeable message signs and landscaping - collectively known as Intelligent Transportation System (ITS) infrastructure.

Solano County roads must be able to adequately serve all modes of transportation, from bicycles to heavy equipment haulers. Caring for Solano's transportation network involves responsible, targeted investments and rests on a delicate balance between allocations to well-traveled highways without neglecting local arterials, and constructing new network links to meet increasing demand without neglecting maintenance of Solano County's existing network.

The AHF system actually impacts every aspect of the Transit and Rideshare system, and those portions of the Active Transportation system located along highly used routes. All of these facilities are a part of an interwoven transportation fabric of Solano County and the broader region, which the CTP addresses by distinguishing portions of the network as Routes of Regional Significance. The criteria for a road to be designated a Solano RORS are:

1. All roadways in the Solano Congestion Management Program network
2. Roadways providing access to and from Transit Facilities of Regional Significance
3. Roadways providing access to and from major employment centers, with higher traffic volumes
4. Roads providing intercity and Freeway/Highway connections
5. Other roads critical to providing countywide emergency response

There are 63 individual roadways in the Routes of Regional Significance network. The major elements of the State Highway system in Solano's defined Routes of Regional Significance consists of SR 12, SR 29, SR 37 and SR 113. There are other state routes (SRs 84, 128 and 220), but they experience no significant congestion. The AHF Element does not address local roadways that are not RORS, even though these roadways are connected to the RORS.

Routes of Regional Significance

The criteria for a road to be designated a Solano RORS are:

- 1 All roadways in the Solano Congestion Management Program network
- 2 Roadways providing access to and from Transit Facilities of Regional Significance
- 3 Roadways providing access to and from major employment centers, identified by STA, with higher traffic volumes
- 4 Roads providing intercity and Freeway/Highway connections
- 5 Other roads critical to providing countywide emergency response

The state of the AHF system is measured in two ways - how well it performs, and how well it is maintained. As with so much of the overall transportation system, these two features interact with each other. There are additional measures of performance for roadways. These include Vehicle Hours of Delay (VHD), which also measures congestion, Vehicle Miles Traveled (VMT) and collision rates. Total volume for a roadway is reported as Annual Average Daily Trips (AADT). Another important measure is the percentage of trucks in the traffic flow, as trucks have an oversized impact upon congestion due to their large size and limited mobility. STA continues to increase its collection of data related to all forms of mobility in and through Solano County to enhance STA's performance-based decisions going forward.

The **Transit and Rideshare Element** serves to identify goals, policies, and actions needed for mass transit and rideshare facilities and services that maximize the ability of Solano residents, workers and visitors to reach destinations of their choice within Solano County, especially regionally significant population centers, employment and civic amenities.

For a transit system to be a viable travel choice, it must get travelers to where they want to go, when they want to go there, at a reasonable price, and it must do that in a manner that is perceived as a better

Solano County traditionally has one of the highest rates of ridesharing in the nine county Bay Area. It is the second most popular commute mode in Solano, behind driving alone.

alternative than driving alone. Focusing on moving people, not just vehicles, as efficiently as possible will maximize mobility, accommodate the needs of Solano's future population and workforce growth, and improve the quality of life in Solano County.

The Transit and Rideshare Element covers five modes of travel that will be referred to as Transit Strategies – four are modes and one is a focus on special users. The four traditional transit modes are:

- intercity buses,
- passenger rail,
- passenger ferry, and
- ridesharing (carpooling and vanpooling, including park and ride hub facilities)

The fifth strategy encompasses specialized transportation services and programs for older adults, people with disabilities, and low-income residents, often referred to as Mobility Management.



The Element is organized to identify individual components of the system today, describe the system's conditions, and then compare that with where it should be in the future. Like other Elements, it establishes three tiers to identify a project or program's status, with Tier 1 being those that are in place or ready to go, and Tier 3 being ideas that have not been fully defined yet.

The primary focus of this Element is on public transit, as most, but not all, transit service is delivered by the public sector. In addition, the following other private transit services exist in Solano County:

- Employer commuter buses
- Greyhound
- Megabus
- Airporter
- VA Medical Shuttles
- Transportation network companies, such as Lyft and Uber

STA's Solano Mobility and Lyft have partnered to provide 80% off Lyft rides up to \$25 dollars to and from participating transportation centers in the county. This includes all Solano Express Bus stops and the two Solano County train stations. Solano Mobility also offers free Lyft connections from Capitol Corridor train service when purchasing 10 rides.

Solano residents have traditionally had the longest average commute as compared to the rest of the Bay Area. Solano's proximity to job-rich Sacramento and Bay Area cities, combined with relatively local low housing costs, have made long-distance commutes commonplace. As a result, carpooling and vanpooling have played a key commute role with Solano County traditionally having one of the highest rates of ridesharing in the nine county Bay Area. Ridesharing is the most popular commute mode after driving alone. The long distances and lower density affordable development patterns have contributed to only 3 percent of Solano County's worker residents using transit to get to work, compared to 12 percent in the Bay Area region.

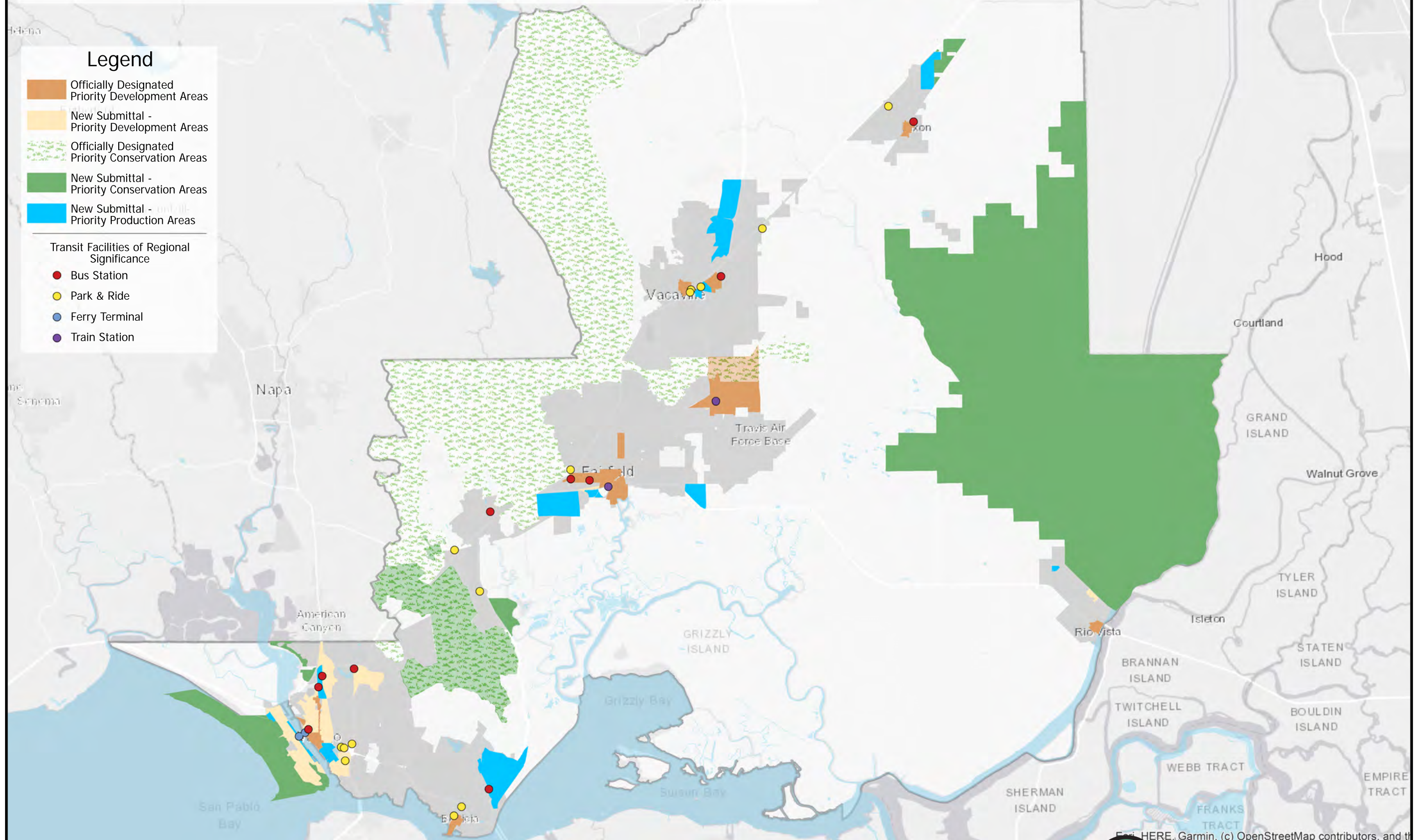
Transit Facilities of Regional Significance

The criteria STA has established for **Transit Facilities of Regional Significance (TFORS)** are:

- 1 All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.
- 2 All ferry facilities, including terminals, maintenance docks and fueling stations, current or planned, identified in an adopted STA Plan.
- 3 Bus stations providing all of the following services:
 1. Routes to destinations outside Solano County or between two or more cities in Solano County
 2. Peak hour headways of 1 hour or less
- 4 Maintenance and parking facilities for busses providing services identified in 1, 2 or 3 above.
- 5 Interchanges that provide access to and from the highway system for stations identified in 1, 2 or 3 above.

Solano County 2020 Land Use Designations

- Priority Development Areas, Priority Conservation Areas, Priority Production Areas -





The Solano Transportation Authority's Vision

Solano Transportation Authority seeks to provide a balanced transportation system to enhance the quality of life, support economic development, and improve accessibility for all members of the community by efficiently linking transportation and land uses utilizing multiple transportation modes.

Many aspects of the Transit and Rideshare Element are addressed in adopted or pending countywide plans and studies, and the Transit and Rideshare Element simply brings their information together in a single location. These plans include:

- I-80/I-680/I-780/SR 12 Transit Corridor Study
- Solano Coordinated Short Range Transit Plan
- Solano Express Intercity Ridership Study
- Solano Rail Crossing Inventory and Improvement Plan
- Solano Rail Facilities Plan
- Solano Mobility Management Plan

STA has designated Transit Facilities of Regional Significance (TFORS) and assigned funding priority to them. All TFORS are located in PDAs. They include the following:

- All passenger rail lines, and all passenger train stations, current or planned, identified in adopted STA Plans.
- All passenger ferry facilities, including terminals, maintenance docks and fueling stations, local water channels, current or planned, identified in adopted STA Plans.
- Bus stations providing all of the following services:
 - Routes to destinations outside Solano County or between two or more cities in Solano County
 - Peak hour headways of one hour or less
 - Maintenance and parking facilities for buses providing services identified above.
 - Interchanges that provide access to and from the highway system for stations identified above.

Solano County relies upon several bus transit providers to serve Solano's intra-city and intercity needs:

The Fairfield and Suisun Transit (FAST) system offers both local and intercity transit bus routes. It operates intercity fixed-route bus service to Vacaville, Dixon, Benicia, YoloBus in Davis, Sacramento bus and light rail systems, Suisun City Amtrak station, Napa VINE service, and three BART stations in Contra Costa County. FAST is governed by the City of Fairfield.

Solano County Transit (SolTrans) was formed in 2011, when two local providers, Benicia Breeze and Vallejo Transit, consolidated their programs in partnership with STA. It provides the highest volume of Solano's intercity bus passengers primarily to/from the East Bay's BART system, but also the SF Bay Ferry Terminal in Vallejo, Napa Vine stops, and those in the Contra Costa County transit systems. It also offers local transit to the cities of Benicia and Vallejo and connects with FAST at key locations. SolTrans is a Joint Powers Authority (JPA) run by its own Board of Directors and consists of Benicia, Vallejo, and STA.

SolanoExpress consists of intercity bus routes that serve the areas with the highest travel demand, offer a higher level of service than the other intercity transit services, and carry the most riders. FAST and SolTrans manage SolanoExpress under operating and funding agreements with STA, which connect cities within Solano County to one another, as well as to regional destinations, including Davis, Sacramento, the Vallejo Ferry Terminal, and three East Bay BART stations.

Each of the SolanoExpress routes provide a headway (time between buses) of one hour or less during the peak commute times. The organizational structure for collaborative intercity transit service planning is the SolanoExpress Intercity Transit Consortium (Consortium) which is described in the Joint Powers Agreement (JPA) of the STA. Governance of the Consortium is guided by representatives from each of the five Solano County transit agencies, STA, and the County of Solano, which provide recommendations to the STA Board. STA hosts and staffs SolanoExpress meetings.

Vine Transit operates two weekday routes in Vallejo and Fairfield/Suisun City connecting to SolanoExpress and the Suisun-Fairfield Train Station, linking Napa County to Solano County. The service is operated by the Napa Valley Transportation Authority (NVTa).

Yolobus with one route into Solano County, making roundtrips daily connecting Vacaville to Winters and Davis and SolanoExpress services. The Yolo County

Transportation District administers the service, which operates local and intercity bus service 365 days a year in Yolo County and neighboring areas.

Dixon Read-Ride is a public dial-a-ride transit system, which provides curb-to curb transit service within Dixon city limits. It is administered by the City of Dixon.

Rio Vista Delta Breeze offers deviated fixed route bus service within the City of Rio Vista and between Isleton, Rio Vista, Fairfield, Suisun City, Pittsburg/Bay Point BART Station and Antioch with connections to Lodi. The system is administered by the City of Rio Vista with the actual service provided by STA in partnership with a contractor.

Vallejo Ferry Service

Since 1986, Solano has had access to San Francisco by way of passenger ferry. Originally contracted service, service was taken over by the San Francisco Bay Water Emergency Transit Authority (WETA) in 2012. By 2016,



annual ridership exceeded one million trips. Currently branded as the San Francisco Bay Ferry, frequent service from Vallejo to San Francisco is available at peak commutes, with more limited service to and from Mare Island and Richmond. In 2018, STA commissioned a study to evaluate the feasibility of expanding water transit from Benicia and Rio Vista to other Bay area destinations under a small boat, water taxi format. The ridership forecast shows additional demand for expanded service between Vallejo and San Francisco, modest demand for service to Marin County (Vallejo to Larkspur), and limited potential among the routes evaluated within the Carquinez Straight.

STA has identified ADA paratransit, the array of services that support Solano's most vulnerable populations, as a particularly difficult challenge given the high costs of the services and limited funding available. Going forward, outside of this update of the CTP, a sustainable ADA paratransit program will be pursued in addition to regular short range transit plan updates for each transit service provider.

The **Active Transportation Element** guides decisions that enable users of Solano County's transportation network to lead a more physically active lifestyle; a group of biking and walking efforts referred to as Active Transportation. Its purpose is to contribute to a balanced transportation system that offers alternatives to the single occupant car, by supporting local land use actions that increase safety and livability in Solano communities.

The Plan focuses on a bikeway network that will provide origin and destination connections, add walkability in downtowns, to schools and transit hubs. Funds sources related to land use and transportation linkages will be prioritized for investments in Priority Development Areas and Priority Conservation Areas.

This Element also is designed to contribute to the state's goals for cleaner air, by prioritizing vehicle trips using new and emerging clean fuel technologies, public fleet demonstration programs, and increasing consumer access to alternative fuel infrastructure.



Active Transportation projects, recently implemented or planned in the short-term include:

- Dixon West B Street Bicycle-Pedestrian Undercrossing – a critical safety improvement and multi-modal connection to a future train station (completed)
- Jepson Parkway Bikeway Phase I – planned cross-county route from SR 12 in Suisun City north to Leisure Town Road in Vacaville (partially completed)
- Vacaville-Dixon Bicycle Route (Hawkins Road)
- Vacaville Ulatis Creek Bicycle Facilities
- Vallejo Bay Trail/Vine Trail
- Bicycle and Pedestrian Wayfinding Signage (Planned)

The direction of the Active Transportation Element and its subsidiary plans has been guided by separate Bicycle and Pedestrian Advisory Committees to obtain different perspectives for the two modes of travel. These documents are organized to facilitate adoption of local plans by the seven cities and the County of Solano with minimal use of staff and financial resources.

At this time, STA is updating its Active Transportation plans, and has decided to blend the needs and interests of bicyclists and pedestrians into a single plan. This work is informed by numerous STA efforts including Safe Routes to School and Safe Routes to Transit Plans, the Solano Mobility Programs, and the Solano Travel Safety Plan.

Challenges

Growth

Solano County and the nine-county Bay Area have both experienced significant growth since the 1970s. In 1970 the population of Solano County was approximately 170,000 and today it is more than 430,000, an increase of 153%. During this same time period,

the Bay Area as a whole increased by 65%. The number of households in Solano County nearly doubled from 1970 to 2017. Meeting the mobility needs of this growing population will require expansion of the current infrastructure, combined with more innovative approaches to shifting individual trips away from single occupant rides to cleaner, more efficient solutions.

Traffic congestion

In spite of significant investments in expanding roadway infrastructure on both state highways and local arterials, during peak morning and afternoon commute periods, traffic slows because of recurring congestion. The greatest congestion occurs on the state highway system, including I-80, I-680, I-780, SR12, and SR37 corridors. In 2017, California voters passed SB1, which increased the gas tax to support a number of road and transit funding categories. In 2018, Bay Area voters approved RM-3, which increased tolls on state-owned bridges in the Bay Area to fund improvements targeted at reducing congestion and expanding mobility alternatives.



Recurring Highway Traffic in Solano County

Systemwide Safety

A primary goal of all transportation system planning is to reduce deaths and serious accidents. In 2017, the California Office of Traffic Safety ranked Solano County 37th out of 58 California counties in total auto-related fatalities and injuries. Many communities have created comprehensive, integrated plans under the branding of Vision Zero, to elevate their efforts to improve safety in their transportation systems.

Transportation system maintenance needs

One of the most significant factors in a road's maintenance needs is simply its age. Pavement dries and it cracks, it bears loads unevenly, water seeps in and washes away the underlying sand and rock, leading to more cracking that allows in more water – all things that lead to the accelerating deterioration of a road. Early preventive maintenance of a roadway surface is a key, highly cost-effective method to reduce long-term repair costs.

An assessment of the Pavement Condition Index (PCI) score for individual roadways throughout the county is conducted periodically. The PCI is the tool to measure and grade roadway condition. PCI is a numeric score, with a PCI of 100 being a perfect, new road with no flaws in the pavement surface or substrata. Solano's roads are mostly in Fair Condition, as defined by their Pavement Condition Index. The 2019 Solano Pothole Report shows an annual shortfall of \$10 million dollars per year simply to maintain current PCI of 65, while an additional \$25 million per year is needed to reach a target PCI of 75 (good).

Solano County is the only Bay Area County without a voter approved local sales tax dedicated to transportation. Since 2013, Solano County has charged \$1,500 per dwelling unit as part of its Public Facility Fee (PFF) that brings roughly \$1.2 million annually to STA's Regional Traffic Impact Fee program. In 2019, the County Board of Supervisors increased the RTIF to \$2500 per dwelling unit, which will increase the annual RTIF amount to \$2 million.

Gentrification

Many of the Priority Development Areas (PDAs) in Solano County coincide with areas considered to be at risk of, or undergoing, gentrification or displacement, according to the most recent data from the Urban Displacement Project at UC Berkeley. Between 2014 to 2019, Solano County experienced home and rent price growth at about the same pace as the greater Bay Area. However, home prices in Solano County remain about 50 percent lower than in the Bay Area, resulting in an outward migration of Bay Area families. This presents a long-term threat to the affordability of homes for current Solano residents. Solano County's new housing permit activity has been almost entirely for single-family homes, with the vast majority issued by the cities of Fairfield and Vacaville. To reach state housing production and affordability goals, there needs to be more multi-family housing.



Equitable Access

In the past decade, MTC has undertaken a number of studies to determine the effect of transportation investments in disadvantaged communities. As part of Plan Bay Area 2040, six measurable Equity Goals were selected to guide future transportation investments. In addition, using a set of health, wealth, and mobility indicators, MTC produced mapping of communities around the Bay that are most at-risk; labelled as Communities of Concern (COC). Five COCs have been identified in Solano County, making them eligible for special consideration for targeted funding to reduce, and eventually eliminate disparities in funding, and increase neighborhood quality of life. In addition, Solano's ADA paratransit needs far exceed the available budget to sustain a comprehensive program.

Clean fuel

Transportation is the largest and fastest growing source of greenhouse gas emissions in the U.S. economy. STA has identified a number of programs that can collectively contribute to cleaner air, including demonstration projects for public agency clean fuel fleets, expanded fueling sites, active transportation gap closures, and support of transit-oriented development that contributes to reduced vehicle miles travelled (VMT) by locating jobs and housing in close proximity to transit hubs. Expanding and electrifying public transit to give large numbers of people a meaningful alternative to driving to work can go a long way in reducing our emissions. Doing so will provide a better chance of avoiding the most dangerous impacts of climate change.

Opportunities

Priority Development Areas (PDA)

MTC/ABAG has established a program for Bay Area cities and counties to voluntarily identify key locations with opportunities to expand jobs, housing, and the public realm in combination with access to frequent transit services. There are 13 identified PDAs in Solano, including at least one in each city. As part of MTC/ABAG's Plan Bay Area 2050, additional designations are being considered. STA has supported PDA studies intended to prioritize and incentivize investments.

PDAs offer the greatest opportunity for Solano County communities to achieve a multitude of goals, ranging from affordable housing, to diversified mixed use employment centers and high quality built environments connected to regional transit service.

Priority Conservation Areas (PCA)

MTC/ABAG has established a program for Bay Area cities and counties to identify particularly unique or sensitive habitat, recreation, and agricultural lands to be preserved to balance more focused development within urbanizing areas. Solano County has selected 5 areas for its PCA program and has an opportunity to expand its preservation areas and access to them in future years. Similar to PDAs, PCAs are being updated to potentially include new PCAs. Ensuring convenient, affordable access from all of Solano's disadvantaged communities should be considered a priority when funding opportunities arise.

Priority Production Areas (PPA)

In addition to Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs), MTC/ABAG have introduced a new designation as part of Plan Bay Area 2050: Priority Production Areas (PPAs). The purpose of identifying PPA's is to identify manufacturing and large employment development priority locations and provide some resources for planning around those areas. The proposed PPA Program would create a third regional land use designation that would address a gap in planning for employment that was identified in Plan Bay Area. Specifically, this Program would provide the opportunity to plan for manufacturing businesses and employers that are often left out of the PDA framework.

Cities have self-identified the following PPAs as part of Plan Bay Area 2050 and are awaiting MTC/ABAG approval:

Benicia: Benicia Industrial PPA (conversion from a PDA)

Dixon: Northeast Quadrant PPA

Fairfield: Solano Business Park PPA

Rio Vista: Rio Vista Industrial Park PPA

Suisun City: East Side PPA, Gentry PPA

Vacaville: Northern PPA

Vallejo: North Sonoma & Broadway Corridor PPA

Regional Funding Opportunities for Designations

The significance of PDAs and PCAs for the STA is that transportation funding was prioritized by the Metropolitan Transportation Commission (MTC) for those locations since the first federal One Bay Area Grant (OBAG) cycle in 2013. Solano County and the other North Bay counties were required to program 50% of the county OBAG share (approximately \$10 million out of \$20 million) within PDAs with a separate allocation of \$1.25 million for PCAs. This funding requirement and amounts carried over into OBAG 2 with \$2.5 million for Solano County for PCAs and will likely be similar in the 2022-23 OBAG 3 cycle.

I-80 Express Lanes

Plan Bay Area created a program, branded as Express Lanes, of expanded access into existing highway High Occupancy Vehicle (HOV) lanes, providing an opportunity for single occupant vehicles to use the lanes for a toll if traffic remains at a minimum speed. Express Lanes rely on congestion pricing to set the cost of the tolls, meaning that the cost to enter the HOV lanes is based on the level of use at the time. Funds from the program will primarily be used to offset the cost of construction of expanded facilities, but over time, are expected to contribute to the cost of transit services. The STA Board has approved a list of priority Managed Lanes Implementation Program (MLIP) facilities located on I-80 and I-680, including extension and conversion of existing HOV lanes into Express Lanes that directly support carpool, vanpool and express bus services.

Expanded rail services

Train service has a significant potential to connect Solano residents with employment centers throughout the Bay Area and in Sacramento, especially if conflicts between freight and commute services are addressed. A second

Capitol Corridor rail station named after State Assembly Member Tom Hannigan was opened in Fairfield in 2017, adjacent to Vacaville, providing a new multi-modal hub surrounded by lands designated as a Priority Development Area. The Suisun-Fairfield station is also located in a PDA. In 2018, an update of the California State Rail Plan identified opportunities to improve rail services and facilities in Solano. In addition, the Sonoma Marin Area Rail Transit (SMART) agency published a report that evaluated the feasibility of starting public commuter rail services on existing lines between Novato and Suisun City. Train service has a significant potential to connect Solano residents with employment centers throughout the Bay Area and in Sacramento, especially if conflicts between freight and commute services are addressed.

Expanded ferry services

Beginning in 2012, Solano residents gained increased access to San Francisco Ferry services. In 2018, Bay Area voters approved RM-3, which increased tolls on state-owned bridges in the Bay Area to fund transportation improvements, including expanded San Francisco Ferry capital and operational costs. Recently, STA has studied whether private ferries can increase the use of water transit, because of the mode's recognized preference for a number of persons seeking to get to San Francisco and other ferry sites from Sacramento River locations in Benicia and Rio Vista.



This page intentionally left blank

2

Introduction

Photo: Joel Rosenbaum



The Solano County Comprehensive Transportation Plan (CTP) identifies, plans, and prioritizes the county's transportation needs through the year 2040. The STA developed the CTP in collaboration with its many transportation partners and the public.

Plan Organization

Programs and projects for the county and the seven cities must be listed in the most current CTP in order to be eligible for regional, state or federal transportation funds and to be included in Plan Bay Area. STA distributes funds based on the priorities identified in the CTP and Plan Bay Area. The previous CTP was finalized in 2005 and incorporated three elements: *Active Transportation* (approved in 2014), *Arterials, Highways and Freeways*, and *Transit and Rideshare*.

This update of the plan is comprised of four major sections:

- This section, the **Introduction**, provides a broad overview of transportation issues, key infrastructure, and major investments across the county, summarizes goals and policies from the other elements, and connects transportation issues with land use and equity considerations.

Additionally three elements previously adopted in 2018, 2014, and 2017 respectively:

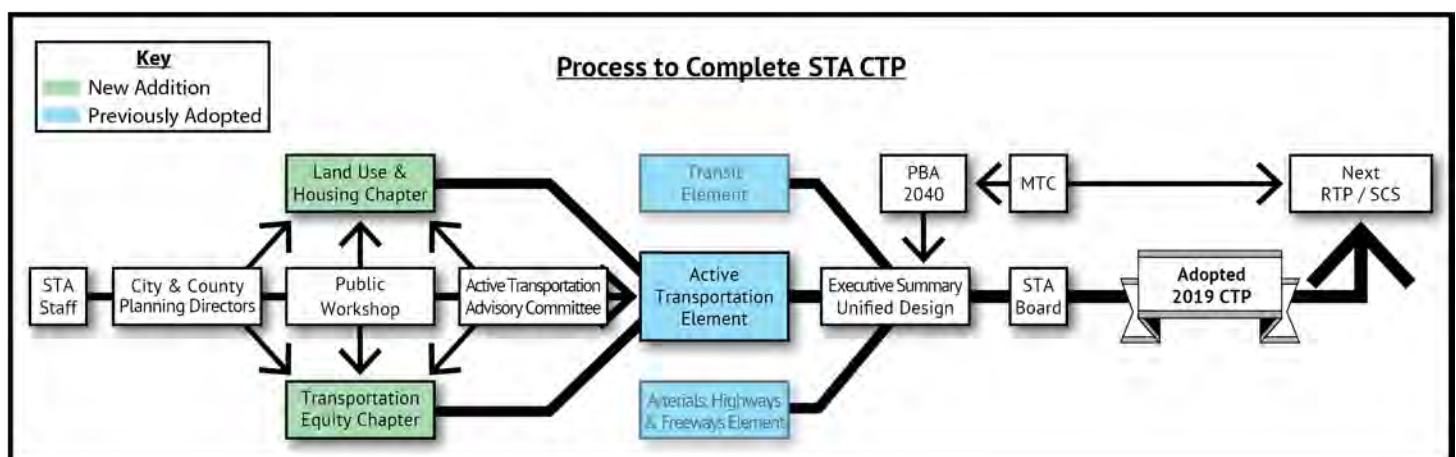
- The **Arterials, Highways, and Freeways Element** identifies key regional and local corridors throughout the county to develop and maintain in order to provide for safe and efficient travel.
- The **Active Transportation Element** identifies best practices and priority projects to improve facilities for pedestrians and cyclists. It also addresses efforts to support alternative fuel technologies and foster sustainable development patterns through focused growth.

- The **Transit & Rideshare Element** focuses on improving transit facilities and supporting transit operators in offering effective mass transit options, as well as promoting accessibility for all residents.

Comprehensive Transportation Plan (CTP) Process

In 1988 State legislators approved Government Code Section 66531, which authorized Bay Area counties to develop Countywide Transportation Plans (CTPs) on a voluntary basis. As the federally designated regional metropolitan planning organization and the state designated regional transportation planning agency, MTC is charged by law to develop guidelines to assist CMAs and other appropriate agencies in the development of the CTPs. MTC adopted the original CTP Guidelines in 1989 as MTC Resolution 2120, and last updated the guidelines in 2016.

The final phase of the current CTP was initiated by the STA board in November 2018 to incorporate the Land Use and Equity chapters. This document was produced in concert with the STA's Active Transportation Committee and an Equity Working Group designated by the STA board. It also incorporates feedback from public meetings including two Equity Workshops and a Housing Summit organized in concert with the Solano City County Coordinating Council in February of 2019.



Solano CTP Background

Over the last forty years forward thinking residents and leaders in Solano have been committed to preserving the balance of their rural and urban lands, while steadily moving towards a sustainable future, with safe, livable communities underpinned by quality housing, services, jobs, and public gathering areas .

Solano County and the Bay Area have both experienced significant growth since the 1970s. In 1970 the population of Solano County was approximately 170,000 and today it is more than 430,000. During this same time period, the Bay Area as a whole has grown from around 4.6 million to 7.6 million. Sacramento, the other metropolitan area contributing to Solano's prosperity has seen growth of nearly 20% in the last decade, reaching a population estimated to be 2,414,783 in 2018.

Solano County's growth was particularly rapid from 1970 to 1990, when it grew at three times the rate of the Bay Area. In recent years however, Solano County has grown slower than the region overall; especially impacted by the economic downturn of the last decade.

Solano County residents have made preserving the County's agriculture and natural resources a priority, beginning in the 1980s. In 1984, the **Solano Orderly Growth Initiative** was first passed by voters, and was subsequently renewed in 1994 and 2006. The Orderly Growth Initiative limits the density of development in lands designated Agriculture or Open Space, preventing large scale residential or mixed-use developments outside of municipal areas. It requires a majority vote to change the designation or increase the density of development in those areas. This effort plays a crucial role in maintaining the character of Solano County and reinforces the value of focusing most future development in Solano's thirteen designated Priority Development Areas.

UGBs, or **Urban Growth Boundaries**, are regional boundaries set by cities (often in conjunction with a Local Agency Formation Commission – so in this case

Solano LAFCo) to aid in the control of urban sprawl. Areas designated outside the UGB are to remain preserved agricultural/open space. UGBs are typically voter-approved – the first approvals in Solano being Fairfield and Benicia in 2003. Current Solano cities with adopted UGBs are Benicia, Fairfield, and Vacaville. The implementation of UGBs encourages climate-smart growth and the investment and improved development into pre-existing urban hubs, such as downtowns. UGBs, in conjunction with Orderly Growth Initiatives, work to improve the quality of life for residents by encouraging green-development; setting up communities for walkability and lessened car-dependency; and increasing efficiency of local transit networks due to increased density. UGBs require renewal – the nearest term ones being Fairfield in 2020 and Benicia in 2023. Following these cities is Vacaville in 2028. Only voter approved UGBs require renewal by the vote.

The land use limitations established by the Orderly Growth Initiative inspired Solano's numerous ongoing efforts to bring Solano's transportation and land use planning together. In 1989, when it became apparent that long-term Interstate 80 corridor congestion would severely hamper Solano communities quality of life, planning for the Jepson Parkway began.

The **Jepson Parkway** was originally envisioned to be a complete streets corridor connecting the cities of Suisun City, Fairfield, Vacaville and portions of unincorporated Solano County. The vision included multimodal access along the corridor with the train station. The Jepson Concept Plan was completed in 2000 and is the 1st complete streets plan in Solano County.

The Jepson Parkway, a bypass through Fairfield and Vacaville's industrial and residential subdivisions that spares commuters from getting onto I-80, epitomizes what can be achieved with long term vision and policy leaders' unrelenting dedication to transportation goals. As time has passed, innovative integration of bus and rail transit, active transportation, and beautifying streetscape improvements have enriched the original Jepson Parkway Plan.

In 2004, STA adopted its first **Transportation for Livable Communities** (TLC) Plan. It defined a vision that formally linked transportation and land use as the key to Solano cities' more vibrant, sustainable future. The plan identified historic suburban development patterns, often characterized as "sprawl", as undesirable over the long term due to fiscal consequences, residents' isolation from key services and public gathering areas, and the excessive travel required to reach many destinations. It recommended ten SMART Growth Principles to be utilized in future land use decisions, including focusing growth into existing communities, increasing the types and price ranges of housing options, expanding the variety of transportation choices, and incorporating public realm amenities that foster a proud sense of place.

In 2006, statewide voters approved a \$42 billion bond package that included \$2.85 billion in bond revenues for infrastructure and housing in California. Shortly thereafter, in 2007, ABAG and MTC, along with the Bay Area Air Quality Management District and the Bay Conservation and Development Commission, launched an incentive-based regional development and conservation initiative known as FOCUS to encourage more housing next to transit and to protect green spaces. Solano communities took advantage of planning funds to identify 9 sites within existing or planned growth areas that would meet the region's goals for compact, transit-oriented development.

At about that time, under a program sponsored by ABAG, five areas within Solano County were highlighted for their open space values and designated as Priority Conservation Areas. **Priority Conservation Areas** (PCAs) are locally identified areas for conservation which provide important agricultural, natural resource, historical, scenic, cultural, recreational, and/or ecological values and ecosystem functions.

In 2012, the **Transportation for Livable Communities Plan** was updated to provide details and justification to help the Solano Transportation Authority (STA) and its member agencies pursue and allocate funding to implement strategic projects and programs, which result in sustainable communities. Six goals with

Solano Transportation & Land Use Milestones

1984	Proposition A- Citizen initiative reaffirming ag protection & city-centered growth
1994	Orderly Growth Initiative- extended Prop A until 2010
2000	Jepson Parkway concept approved as priority
2003	Transportation Land Use Toolkit
2005	2030 Solano Comprehensive Transportation Plan
2007	Rio Vista Waterfront Specific Plan
2008	Orderly Growth Ordinance - amended and extended ag protections thru 2028 North Connector Corridor TLC Concept
2012	Transportation for Sustainable Communities Plan
2013	PDA Growth & Investment Strategy Vallejo's Downtown Streetscape - first PDA project
2014	Updated Moving Solano Forward Jepson Parkway Concept Plan Five PDA Plans funded in OBAG 1
2015	Sonoma Blvd. (Vallejo) Specific Plan
2016	Benicia Industrial Park PDA Plan Suisun City Waterfront District PDA Plan
2017	Rio Vista Downtown Plan (PDA since 2011) Heart of Fairfield Plan (Specific Plan)
2019	Updated PDA and PCAS Introduced new PPAs

supporting objectives were developed to guide the selection of which candidate projects would best match the region's recently designated funding for smart growth projects aligned with regional initiatives. Market demand for more compact, mixed-use development and housing is expected to be strongly influenced by continued population growth and a shortfall in available and affordable housing. A substantial increase in the demand for transit service, housing near transit, and health and support services is likely to occur to support daily living for a growing senior population. Communities that foster attractive and safe places to walk, bike, and gather benefit from economic reinvestment, community pride and improved personal health.

STA adopted its Solano **PDA Investment and Growth Strategy** in 2013 to inform planning and implementation of key transportation infrastructure projects that support sustainable land use development and enhance opportunities for multi-modal transportation. STA also supported cities' development of their own PDA plans – providing funds for the cities of Benicia (\$250,000), Dixon (\$75,000), Fairfield (\$850,000), Rio Vista (\$161,000), and Suisun City (\$163,000).

Solano PDA Strategy Goals

- Balance Transportation System
- Enhance Quality of Life
- Promote Economic Development
- Link Transportation and Land Use
- Support Public Health and Safety
- Conserve Environmental Resources

MTC's **Suburban Housing Incentive Pool** (SubHIP) Pilot Program will allocate \$5 million in competitive grant funding to encourage suburban counties to produce and preserve affordable housing. To be eligible, projects must be located in cities that have an updated housing element that complies with state law, and local policies that reflect recent state housing legislation for density bonuses, ADUs, and surplus land. STA was able to obtain \$4.1 million in funding in coordination with MTC and the cities.

SOLANO COUNTY'S PROGRESS ON PDAS

Pre-OBAG 1	PDA Name	30 Min Transit	PDA Plan	First/Last Mile
	Downtown Fairfield	✓	✗	✗
	Downtown Suisun	✓	✗	✗
	Allison Area (Vacaville)	✓	✗	✗
	Benicia Industrial Park	✗	✗	✗
	West Texas (Fairfield)	✓	✗	✗
	Downtown Vallejo	✓	✗	✗
	Sonoma Blvd (Vallejo)	✗	✗	✗
	Fairfield/Vacaville Train Station	✗	✗	✗
	Downtown Benicia	✗	✗	✗
	Downtown Vacaville	✗	✗	✗
	Downtown Dixon	✗	✗	✗
	Downtown Rio Vista	✗	✗	✗

3 Years into OBAG 2	PDA Name	30 Min Transit	PDA Plan	First/Last Mile
	Downtown Fairfield	✓	✓	✓
	Downtown Suisun	✓	✓	✓
	Allison Area (Vacaville)	✓	✓	✓
	Benicia Industrial Park	✓	✓	✓
	West Texas (Fairfield)	✓	✓	✓
	Downtown Vallejo	✓	✓	✓
	Sonoma Blvd (Vallejo)	✓	✓	✓
	Fairfield/Vacaville Train Station	✓	✓	✓
	Downtown Benicia	✓	✓	✓
	Downtown Vacaville	✗	In Progress	✗
	Downtown Dixon	✗	In Progress	✗
	Downtown Rio Vista	✗	✓	✗

Source: Strategic Economics, July 2019

The **California Complete Streets Act** of 2008 (AB 1358) was the primary guiding legislation for accommodating bicycle and pedestrian inclusion as part of transportation and land use planning. Since that time, all seven cities and the County of Solano have adopted some form of Complete Streets program, ranging from General Plan and zoning policies to supporting resolutions. Complete Streets is both a process and a finished product. Complete Streets include amenities for all users including wide sidewalks, street furniture, trees, bicycle lanes, crosswalks, and bus turnouts to make it easy, safe, and enjoyable for all modes of transportation. STA supports countywide implementation of Complete Streets concepts by assisting each member agency in implementing its own Complete Streets program.

Presently all seven Solano cities and the County have adopted land use policies that transition from those formed in the Transportation for Livable Communities program of the past decade towards support for the new Priority Development Area (PDA) and Priority Conservation Area (PCA) programs. PDAs have become the key framework for linking regional development planning with transit access and transportation funding, as well as focusing growth in communities along key transit networks connecting homes and jobs to minimize development impacts on communities by leveraging existing infrastructure. There are currently 13 PDAs in Solano County, and many jurisdictions have developed PDA plans. A sixth PCA has been designated as the Suisun Valley PCA. With the recent

development of MTC/ABAG's Plan Bay Area 2050 Plan, cities and the County have submitted proposals for new and/or modified designations. If all submittals are approved by MTC/ABAG, there will be a multitude of new and modified designations – which will be discussed in detail further into this document.

Continued funding for PDAs, PCAs, and a new pilot designation Priority Production Areas (PPAs) are nominated to be part of the next Plan Bay Area update process, currently underway.

Parallel with STA's steady progress strengthening the linkage between transportation and land use, the agency and its transportation partners have continued making strategic investments in the infrastructure vital to mobility for the region and Solano County. Interstate 80, the backbone of Solano's highway system, has benefitted from long awaited improvements, and more are in the works. Improved eastbound freight truck scales in Cordelia were completed in 2013, and westbound scales are slated to be improved in the next few years.

Since 2012, the San Francisco Bay Ferry, managed by Water Emergency Transportation Authority (WETA), has expanded direct passenger service to San Francisco. Recently, Mare Island and Richmond stops have been added, and the possibility of private water taxi services may soon be extending the potential of water transit further.



Eighteen miles of **Express Lanes** on I-80 are planned, incorporating both existing and extended HOV lanes into a program that will reduce travel times while generating funds for other transit benefits. Expanding local funding sources for transportation infrastructure projects is increasingly important. Solano County began collecting a Regional Transportation Impact Fee (RTIF) in 2013 as part of the County's Public Facility Fee. RTIF funds are administered by STA and provide over \$2.1 million annually to supplement design and construction of projects that benefit multiple jurisdictions. RTIF revenues can only be used on projects that mitigate the impact of new development. In November 2017, the **Fairfield-Vacaville train station** opened, adding a second Capitol corridors stop in Solano County. The new station will be the centerpiece of both a multimodal transit hub and a greenfield opportunity to illustrate the value and desirability possible within PDAs. Work around the new station included an overpass on Peabody Road to address safety concerns with the former at-grade crossing, a bicycle and pedestrian underpass, and numerous amenities including landscaping, bike lockers, and ticket machines.

Efforts to address longstanding issues with **State Route 37** are gaining momentum. Caltrans is moving forwards with plans to elevate the roadway to address increasing flooding and congestion. The STA continues to collaborate with regional partners to address broader goals, and recently approved a set of guiding principles to clarify their approach to those efforts.

Relationship to other STA Plans

Community Based Transportation Plans – 2004 through 2012

MTC created the Community Based Transportation Plan (CBTP) program to address the needs of economically disadvantaged communities through community transportation planning. The objective of the program is to develop a plan through a collaborative process that identifies transportation gaps, proposes and prioritizes strategies to address them, and identifies potential funding sources and projects for implementation. The program is designed to ensure that the population directly affected by the transportation plan is guiding the process. CBTPs have been developed for Dixon, Vallejo, East Fairfield, Vacaville, and a combined plan for Cordelia-Fairfield-Suisun.

Corridor Plans

The STA has long recognized the value of corridor plans, which can bring the interests of a variety of modes and users into consideration within the context of federal, state, and regional policies and guidance. The approach has been used to develop the I-80/ I-680/ I-780 Transit Corridor Study, I-505 Corridor Plan, SR 113 Major Investment Study, SR 12 and I-80 E Corridor System Management Plan, Caltrans Corridor System Management Plan and Jepson Parkway Plan.

STA Solano Transportation Study for Seniors & People with Disabilities (2011)

The Study for Seniors & People with Disabilities analyzed transportation barriers faced by the disabled and elderly population in Solano County. Given the significant proportion of aging, rural, and auto dependent communities in Solano, the study proposed expanding transit, paratransit and on-demand transportation services, providing transportation training for seniors, partnering with providers of goods and services to provide delivery and transit coordinated scheduling and improving bus stops and stations.

Safe Routes to Transit – 2012

In 2012, STA adopted its Safe Routes to Transit Plan. This Plan identified the most common hazards for transit riders in and around five Transit Facilities of Regional Significance. The plan prioritizes projects that improve access and safety to promote increased ridership, such as crosswalk improvements for pedestrian safety and improved signalization near transit stops.

Countywide Bicycle Plan & Countywide Pedestrian Plan – 2012

These plans were last updated in 2012 and are currently in the process of being updated and integrated into a unified plan. Many of the projects identified as near-term priorities have been completed, including the Dixon West B Street Bicycle-Pedestrian Undercrossing, Allison Drive Sidewalk & Bike Path, and other streetscape improvements.

Safe Routes to School Plan – 2013

For over a decade STA has worked to reverse the downward trend of walking and biking to school. In 2008 the Safe Routes to School program was launched to encourage students to walk and bicycle to school to reduce traffic congestion around schools, increase physical activity and create a sense of community. The program brings together city planners, traffic engineers, law enforcement, educators and parents to identify engineering projects near schools that make walking and bicycling easier and safer for students. The 2013 Solano County Safe Routes to School Report identifies challenges and priority projects in school districts across the county. In the past 10

Bicycle & Pedestrian Priorities

In 2012 the Countywide Bicycle Plan identified the following priority projects for implementation in the short-term :

- **Jepson Parkway Bikeway Phase I**
Planned cross county route from SR 12 in Suisun City north to Leisure Town Road in Vacaville
- **Dixon West B Street Under-crossing**
a critical safety improvement and multi- modal connection to a future train station
- **Vacaville-Dixon Bicycle Route (Hawkins Road)**
- **Vacaville Ulatis Creek Bicycle Facilities**
- **Bicycle and Pedestrian Wayfinding**
- **Vallejo Downtown Streetscape Improvements**

years, 28 infrastructure projects were completed, with 7 additional projects nearing completion, and efforts to evaluate successful strategies and priorities are ongoing.

Alternative Fuels and Infrastructure Plan – 2013

The STA recognizes the importance of alternative transportation fuels in reducing dependency on petroleum, providing environmental benefits, and cost savings. The Alternative Fuels and Infrastructure Plan was compiled to reduce emissions of greenhouse gas and other pollutants, encourage alternative fuels and vehicle technologies that provide economic benefits to Solano, and take advantage of alternative fuel funding opportunities. The plan includes consideration of ethanol, biodiesel, natural gas, propane, hydrogen, and electricity.



Congestion Management Plan - 2019

The Congestion Management Program (CMP) is a mobility monitoring and planning tool for California counties that contain an urbanized area with a population of 200,000 or more. The 1991 CMP legislation allowed the local Congestion Management Agency (CMA) to prepare, monitor, and update the CMP. As the CMA for Solano County, STA has revised the Solano County CMP frequently since 1991. STA adopted its most recent CMP in October of 2019.

Solano Pothole Report – 2019

STA's Pothole Report reports the Pavement Condition Index (PCI) for roadways throughout the county. The PCI is the tool to measure and grade roadway condition on a 100 point scale. Solano's roads are mostly in Fair Condition, as defined by their Pavement Condition Index. Early preventive maintenance of a roadway surface is a key, highly cost-effective method to reduce long-term repair costs. The Report shows an annual shortfall of \$10 million dollars per year simply to maintain current PCI of 65, while an additional \$25 million per year is needed to attain a target PCI of 75. The recent passage of Senate Bill (SB) 1 in 2017 will invest \$54 billion across the state over the next decade and includes a goal of bringing 90% of roads to fair or better condition.

Solano Rail Facilities Plan – 2015

The Solano Rail Facilities Plan evaluates the demand for freight facilities, additional passenger rail stations along the Capitol Corridor, and new passenger rail opportunities between Napa and Solano counties in great detail. While it predicts only limited increase in demand in the near term, it emphasizes the importance of prioritizing rail investments to gain the most in a competitive funding environment. The Plan also mentions significant infrastructure enhancement concepts that are currently being considered as part of vision efforts for the Capitol Corridor, and it suggests that in the future new alignments may bring considerable change to Solano's rail system.

Goals of Moving Solano Forward

- Enhancing industry sectors and concentration
- Fostering existing business and industry expansion
- Developing and deploying human capital aligned with jobs
- Improving infrastructure and the efficiency of the built environment
- Creating effective public and civic institutions

Moving Solano Forward - 2017

Moving Solano Forward is a collaborative effort of the County of Solano, the seven cities, and the Solano Economic Development Corporation. It is intended to develop a countywide strategic approach to diversify the economic base of Solano County to enable residents and businesses to thrive and prosper. The economic diversification study project builds upon the Shared Economic Framework that emerged from past collaborative efforts to understand and move the economy forward. The project is currently raising additional public and private funding to take action on the priorities identified by the study. STA is partnering with Solano EDC to link economic opportunity zones with new Priority Production Areas (PPAs) and updated Priority Development Areas (PDAs).

Solano Mobility Management – 2017

In February 2014, the STA expanded their services to include The Solano Mobility Call Center. This was one of four Solano Mobility priorities identified in the Solano Transportation Study for Seniors and People with Disabilities, completed in 2011. In addition to providing commuters and Solano county employers with information on a variety of transit services and incentive programs, the Mobility Call Center provides older adults and people with disabilities with a range of mobility information.

Relationship to other Regional Plans

Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation - 1994

The Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation was an impressive result of successful joint planning between Benicia, Fairfield, Vallejo, and Solano County and an established Tri-City and County Cooperative Planning Group. The plan details numerous objectives, policies, and guidelines in order to protect and preserve 10,000 acres of open space. The plan also sets forth protections for both agricultural and recreational uses within the Planning Area, reiterating the social and economic benefits of these activities. The Plan has been successful as an effective resource to obtain outside funding sources (many of which ask applications to demonstrate joint planning efforts) and establishing a working relationship between the Planning Group and the local land trust.

MTC/ABAG's Plan Bay Area - 2017

Plan Bay Area (PBA) is intended to be a roadmap to help Bay Area cities and counties plan for transportation needs and preserve the diverse character of existing communities while adapting to the challenges of future population growth. The federal and state-mandated, integrated long-range transportation, land-use and housing plan aims to support a growing economy, provide more housing and transportation choices and reduce transportation-related pollution. It fulfills state requirements to maintain both a Regional Transportation Plan and a Sustainable Communities Strategy. The next update is currently underway and is intended to be adopted in 2021 by MTC/ABAG.

In addition to addressing transportation and land use issues, PBA has developed a broad range of goals to improve equity in the region. Six goals to improve equal access to transportation, housing and economic opportunity, for all communities within the Bay Area are identified in the plan. To target efforts to address those goals, the plan identifies Communities of Concern (COCs) which have a concentration of vulnerable populations including minority, senior, disabled, and rent burdened residents.

California State Rail Plan - 2018

In 2018 Caltrans released an updated California State Rail Plan (Rail Plan). Caltrans' mission in developing the plan was to provide a framework for a safe, sustainable, integrated, and efficient California rail network that successfully moves people and goods while enhancing the State's economy and livability. The Rail Plan recognizes that commuter rail services are essential to supporting and connecting regional economies. It emphasizes "connectivity" between transportation services as a key goal, and establishes a statewide vision describing a future integrated rail system that provides comprehensive and coordinated service to passengers through more frequent service, and convenient transfers between rail services and transit. It also identified the Suisun Train Depot as a major hub for a SMART East-West connection as well as a more frequent (15 minute) service facility directly to San Francisco.

The State has committed to fund transformative capital improvements that focus on connectivity between systems. Commuter rail capital funding comes from Federal, State, and local sources, while operating funding is the responsibility of local and regional entities.

The Rail Plan recommended evaluating expansion of passenger service connecting the SMART system to the Capitol Corridor system in Suisun City, and a study was recently released. SMART is a voter-approved commuter rail service that runs from Santa Rosa in Sonoma County to San Rafael in Marin County. Rail service on the initial segment commenced in 2018 and was expanded to Larkspur in 2019. In 2019 SMART released a high level engineering evaluation of expanding to Solano County that estimated service could begin within 5 years and would cost between \$780 mil to \$1.3 billion. Before passenger rail service can be implemented the Rail Plan proposes using express bus service to connect Marin, Sonoma, and Napa with the state rail network at the Fairfield-Suisun station or in Vallejo at Six Flags/Fairgrounds on SR-37.

Legislative Context

SB 375 (2008)

SB 375 requires metropolitan planning organizations to develop a “Sustainable Communities Strategy” that integrates transportation, land-use and housing policies to reduce automotive greenhouse gas emissions to levels determined by the California Air Resources Board. The last two Regional Transportation Plans (RTPs), Transportation 2035 and Plan Bay Area 2040 comply with SB 375.

SB 535 - CalEnviroScreen 3.0 (2012)

SB 535 created California’s cap and trade system to reduce greenhouse gases and generate funding for emissions reduction projects. SB 535 requires that a minimum of 25 percent of the available proceeds be allocated to projects that provide a benefit to disadvantaged communities; and at least 10 percent of the available proceeds are to be allocated to projects located within disadvantaged communities.

SB 535 directed CalEPA to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria. These communities may include, but are not limited to:

- Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.
- Areas with concentrations of people that are of low-income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment.

New state funding sources for affordable housing production are starting to come online, following Governor Brown’s 2017 housing package and a voter-approved bond for \$4 billion that passed in 2018. These funding sources, administered by the Department of Housing and Community Development (HCD), are awarded via the following programs:

- The **No Place Like Home Program**, which dedicates nearly \$2 billion in bond proceeds for the development of permanent supportive housing, targeted to assist persons with mental illness and persons experiencing homelessness.
- The **Multifamily Housing Program** (MHP), which provides deferred long-term loans for construction, rehabilitation, and acquisition-rehabilitation of permanent and transitional affordable rental housing.
- **Infill Infrastructure Grants** (IIG), which were formerly funded by Prop 1C in 2006. This program provides gap funding to the infrastructure improvements required for transit-oriented development and infill development.
- **CalHome Program**, which provide grants to local agencies and developers to develop ownership housing and provide other housing assistance to low-income homeowners.
- **SB 2** (Building Homes and Jobs Act) imposed a new real estate recording fee of \$75 on selected real estate transactions. SB 2 funding will be dedicated to local governments for various eligible uses, including: planning and technical assistance to streamline housing development, development or preservation

of affordable housing, and assistance for persons experiencing or at-risk of homelessness (rapid rehousing, emergency shelters, rental assistance, etc.)

Availability of Housing Grant Funding in Solano County

<i>Jurisdiction</i>	<i>Population</i>	<i>AB 101</i>	<i>SB 2</i>
Benicia	27,570	\$150,000	\$160,000
Dixon	19,794	\$65,000	\$160,000
Fairfield	117,149	\$500,000	\$310,000
Rio Vista	9,416	\$65,000	\$160,000
Solano County	19,580	\$65,000	\$160,000
Suisun City	29,447	\$150,000	\$160,000
Vacaville	98,807	\$300,000	\$310,000
Vallejo	119,544	\$500,000	\$310,000
Total Grant Funding:		\$1,795,000	\$1,730,000

Revenues from SB 2 began being collected on January 1, 2018. In the first year, 50 percent of SB 2 funds go towards statewide homelessness programs, namely the Housing for a Healthy California Program and the California Emergency Solutions and Housing Program (CESH), both administered by HCD; the other 50 percent will go to local jurisdictions for planning and technical assistance. In the second year and beyond, 70 percent of SB 2 funds will be allocated to local jurisdictions, with a mix of competitive and non-competitive allocations. These funds can be used for a variety of eligible uses, including the development or preservation of affordable housing and provision of services and housing for the homeless. The remaining 30 percent will go to farmworker housing, CalHFA Missing Middle housing, and other incentives to streamline housing development.

In addition to those funding sources, the state has also implemented new bills to streamline housing development projects, allow cities to enact inclusionary ordinances. These bills are described below:

- **SB 35** (Weiner) – Streamlined housing approval process for developments that have not met their housing targets, provided that development is on an infill site and conforms with local zoning plan. At least 10% of units must be affordable for lower- income families.
- **AB 1505** (Bloom) – Authorized cities to enact inclusionary ordinances (on-site or off-site low- income housing)
- **SB 540** (Roth) – Created an opt-in mechanism for cities to create Workforce Housing Opportunity Zones (WHOZ) close to jobs and transit where workforce and affordable housing is streamlined
- **SB 73** (Chiu) – Created opt-in mechanism for cities to create housing sustainability districts to streamline housing by completing zoning and environmental reviews up front.

2020 Legislation

There is a wide variety of housing and land use policy currently under consideration at the state level that would expand resources for affordable housing, incentivize housing production, and facilitate housing development near transit.

This page intentionally left blank

3

Solano's Land Use Ties to Transportation



Photo: City Coach

INTRODUCTION

The successful integration of land use and infrastructure planning with transportation investments provides regions and communities with many potential benefits, including:

- Better balance between jobs and housing, reducing traffic and congestion
- Enhanced access to a variety of transportation options for households of all incomes
- Improved access to local and regional job centers
- Improved workforce access to jobs and a better commute
- Healthier communities that encourage walking, biking, and transit use

This section presents the land use plans, policies, and programs that will support the infrastructure and transportation investments in the CTP. It incorporates information from the 2019 Solano Housing Summit, interviews with landowners and developers, UC Berkeley research on regional housing issues, and the Solano EDC's Moving Solano Forward Report.

SOLANO COUNTY AND CITIES: LAND USE AND TRANSPORTATION PLANS, POLICIES, AND PROGRAMS

Over the past forty years Solano County has balanced preservation of rural lands, natural resources, and agricultural opportunities with expanding opportunities for housing development and economic growth. Going back to the 1980s, the Orderly Growth Initiative was crafted to limit the density of development in lands designated Agriculture or Open Space and focus residential and mixed-use development in Solano's cities and towns.

Developed in 2004, the Transportation for Livable Communities Plan illuminated the importance of focused growth to reduce environmental impacts. The plan identified historic suburban development patterns, often characterized as "sprawl", as undesirable over the long term due to fiscal consequences, residents' isolation from key services

and public gathering areas, and the excessive travel required to reach many destinations. It recommended ten Smart Growth principles to be utilized in future land use decisions, including focusing growth into existing communities, increasing the types and price ranges of housing options, expanding the variety of transportation choices, and incorporating public realm amenities that foster a proud sense of place.

As regional thinking has evolved, Solano has aligned its planning efforts with land use concepts embedded in SB 375 and developed by the Metropolitan Transportation Commission. STA has moved steadily to focus investments in PDAs to support higher density, mixed use development that offers walkability and access to transit, while maintaining key agricultural and open space areas. STA's planning efforts are underway to address displacement, gentrification, affordable housing.



Priority Development Areas (PDAs)

Priority Development Areas are locally nominated areas within walking distance of high frequency transit, that play an important role in accommodating the Bay Area's future growth. Solano's 13 PDAs were identified by the cities in conjunction with STA and ABAG in 2008. These areas are designated for investment in housing, and job growth. All Solano County jurisdictions have identified at least one PDA.

Solano County's PDAs are highly varied in nature owing to the local land use context. Although all of the PDAs represent infill settings – with the important exception of the Fairfield-Vacaville Train Station PDA – PDA types include historic downtowns, suburban centers and commercial corridors, rural town centers, and one "Employment Center PDA" in Benicia which is an industrial zone. Seven of the PDAs overlap with recently adopted Specific Plans for station areas and downtowns. These include the Sonoma Boulevard PDA in Vallejo; the Fairfield-Vacaville Train Station, West Texas Street, and Downtown/South Jefferson Street PDAs in Fairfield; the Northern Gateway Industrial Park PDA in Benicia; the Suisun City Downtown/Waterfront PDA; and the Downtown Rio Vista PDA. The plans provide a land use vision, zoning regulations, and identify needed infrastructure improvements.



Priority Conservation Areas (PCAs)

In addition to PDAs, the county also contains six Priority Conservation Areas. These are areas that have been designated for the preservation of natural habitats, open space, or agricultural lands. They can be established either on public lands or through agreements with property owners via conservation easements.

STA has invested over \$40 million in planning and capital funds in Solano County's PCAs over the last two decades, including the completion of the North Connector Project and a PCA Assessment & Implementation Plan. 90% of land in unincorporated Solano County is either designated as agricultural (70%) or undeveloped natural resources (20%), such as marsh, watershed, or conservation areas. Using funds from the One Bay Area Grant Cycle 1, STA utilized \$1.25 million in funds to develop the Solano Priority Conservation Area Assessment and Implementation plan; and fund the Suisun Valley Farm to Market – Mankas Corner Project Phase 1. With the One Bay Area Grant Cycle 2, STA utilized \$2 million in funds to support the Suisun Valley Farm to Market – Mankas Corner Project Phase 2.

The Solano Priority Conservation Area Assessment and Implementation Plan funded through OBAG 1 assesses the current PCAs in Solano County, the potential for designating new PCAs, and identifying potential projects to be funded through future funding sources including, but not limited to, One Bay Area Grant. The Solano PCA Assessment and Implementation Plan culminates a two-year effort to understand and implement the ABAG guidelines and to identify transportation projects to enhance the open space and agricultural land in Solano County. The most noteworthy section of the Plan is the Next Steps section, which contains two important features: a prioritized list of improvement projects within PCAs, and identification of areas to be considered for future PCA designation. The Suisun Valley Farm to Market project was dedicated to improving public access to Suisun Valley by providing pedestrian and bicycle enhancements, signage, lighting, bike facilities which accommodate higher bike volumes for all skill types, and staging areas.

The map below displays the location of the PDAs and PCAs in Solano County.

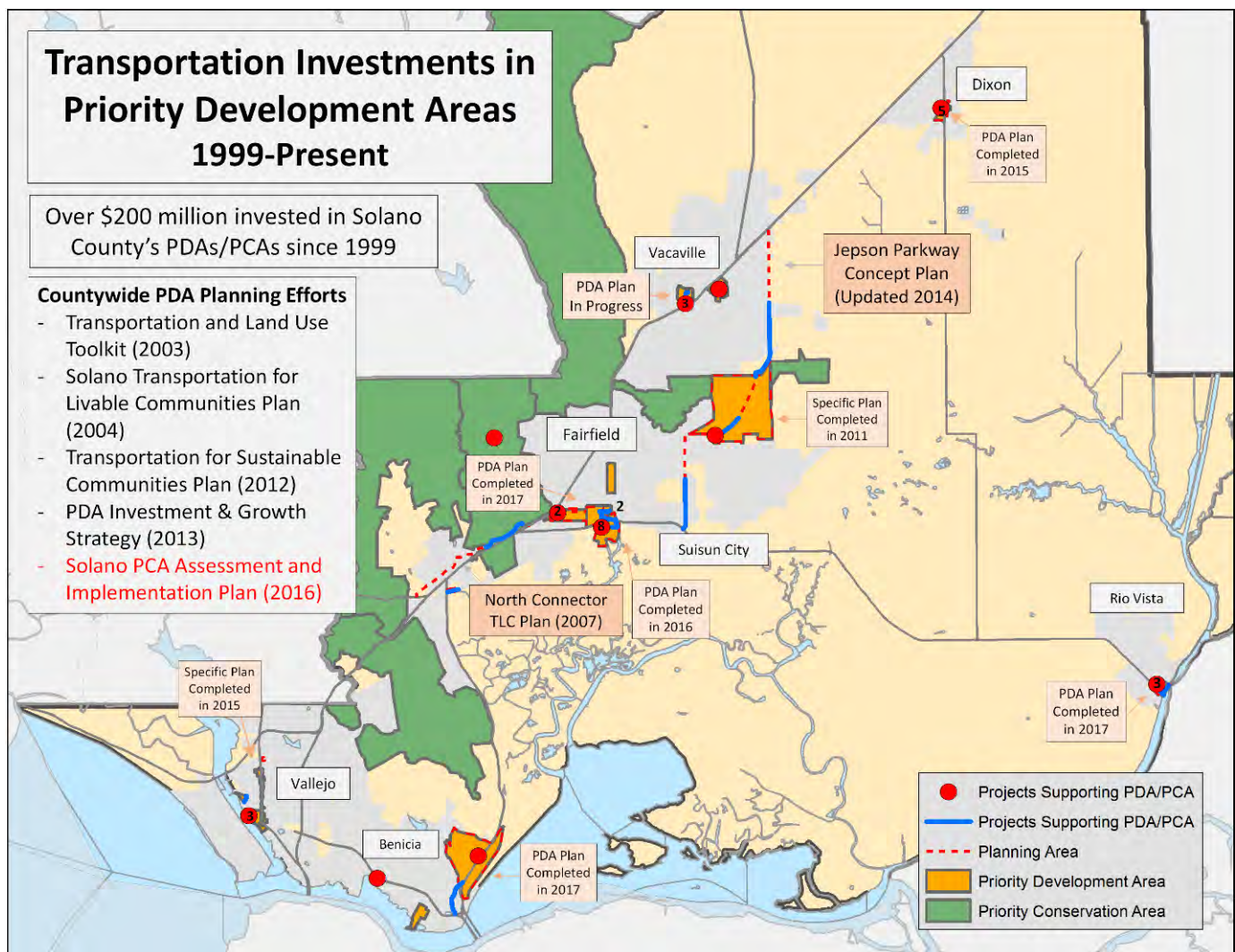
Most of Solano County's PDAs have received recent investments in infrastructure in the last nine years, with the total value of investments summing to over \$225 million. Investments have frequently supported active transportation improvements such as bike lanes and Safe Routes to School improvements, and there have also been several notable transit station improvements. Several jurisdictions received funding to support the elaboration of a PDA plan.

In addition to PDAs and PCAs, there is a third planning designation that is currently under consideration for formal adoption by ABAG/MTC: Priority Production Areas, or PPAs. PPAs, which are nominated by local jurisdictions, are industrial lands that serve an

important economic purpose (typically production, distribution, and repair) in the region.

Most of the new PPA designations are consistent with Solano Economic Development Corporation's (EDC) Moving Solano Forward report, which was developed in partnership with Solano County and the seven Cities. The report identifies catalyst economic areas throughout Solano County that would stimulate job opportunities developed by Solano Economic Development Corporation's (EDC) Moving Solano Forward Report.

It is likely that MTC/ABAG will set aside transportation funds to implement projects for access improvements to PPAs. The goal will likely be to preserve, enhance and create new industrial/manufacturing activities



Source: Solano Transportation Authority, 2019

NOTE: For current designations please see Map, page 12 & 32.

As part of Plan Bay Area 2050, MTC opened a submittal process for new and modified designations for PDAs, PCAs, and PPAs. All seven cities and the County submitted proposals that are now pending MTC/ABAG approval. If all submittals are approved, it will result in the following:

- Benicia: 1 New PPA (conversion of the Industrial Park PDA to a PPA)
- Dixon: 1 New PPA (Northeast Quadrant PPA)
- Fairfield: 2 Modified PDAs, 2 New PPAs (Solano Business Park PPA and Train Station Employment Center PPA)
- Rio Vista: 1 New PDA (Airport and Church Road PDA), 1 New PPA (Rio Vista Industrial Park PPA)
- Suisun City: 2 New PPAs (East Side PPA and Gentry PPA)
- Vacaville: 1 Modified PDA, 1 New PPA (Vacaville Industrial PPA)
- Vallejo: 1 Modified PDA (Sonoma Blvd PDA), 5 New PDAs (Mare Island PDA, Carquinez Heights PDA, Solano 360/I-80/SR-37 Gateway PDA, Central Corridor West PDA, and Central Corridor East PDA), 3 New PCAs (Mare Island PCA, White Slough PCA,

and Napa-Sonoma Marshes Wildlife Area PCA), 3 New PPAs (North Sonoma & Broadway Corridor PPA, South Vallejo PPA, and Mare Island PPA)

The MTC-ABAG Designated Geographies; PDAs, PCAs, and PPAs; offer cities and transit agencies to consider the nexus of transportation in other planning efforts to create equitable, livable, attractive communities. Transportation plays an important role in economic development, housing, and accessibility to resources. Areas designated for development and conservation, make cities eligible for significant pools of funding that help to positively build their communities and improve the quality of life for residents. These include improved access to resources such as medical facilities, areas of employment and education, community centers and amenities, and open space/recreational areas via active transportation or public transit options that are safe, viable, and affordable. Funding dedicated to these designated geographies can aid in completing these types of projects.

PDA	Recent infrastructure investments	Total value of investments
Allison Area, Vacaville	Vacaville Transportation Center; Allison Drive Sidewalk & Class 1 Bike Lanes to Transit Center	\$11,400,000
Fairfield-Vacaville Train Station, Fairfield	Fairfield/Vacaville Train Station Specific Plan; Fairfield-Vacaville Train Station; Jepson Parkway Phase 2A	\$83,250,000
Northern Gateway, Benicia	Benicia Industrial Park Transportation and Employment Center Plan, Benicia Industrial Bus Hub; Park Road Bike Improvements	\$6,650,000
Downtown & Waterfront, Suisun City	Grizzly Island Trail Phase 1; Amtrak Station Park and Ride EV Charging Station; Suisun/Fairfield Train Depot Rehabilitation; Suisun City Waterfront District Specific Plan; Driftwood Drive SR2S Class I Path	\$5,780,000
Downtown South (Jefferson Street), Fairfield		\$1,720,000
West Texas Street Gateway, Fairfield	Bike, pedestrian, and transit improvements	\$1,780,000
Downtown, Dixon	West B Street Undercrossing; Downtown Dixon PDA Plan	\$9,730,000
Waterfront & Downtown, Vallejo	Vallejo Ferry Intermodal Terminal; Downtown Streetscape Improvements Phases 1-3	\$103,500,000
Sonoma Boulevard, Vallejo		\$40,000
Downtown, Rio Vista	Rio Vista Waterfront Promenade; SR 12 Lighted Crosswalk; Rio Vista Waterfront PDA Plan	\$1,720,000
Solano County PDA Total		\$225,570,000

Source: Solano Transportation Authority, 2019; CivicKnit, 2019; Strategic Economics, 2019

Existing Federal Land Use And Transportation Policies And Legislation

Since 1978, the Federal-aid highway program (FAHP) has been authorized as part of larger, more comprehensive, multi-year surface transportation acts that cover Federal-aid transit funding as well. Since 1991, the Intermodal Surface Transportation Efficiency Act (ISTEA / pronounced Ice-Tea) has established the terms and conditions under which federal programs operate, authorized the enactment of appropriations, and described how appropriated funds must be used. It also provides for separate Authorization bills that create, modify, and/or extend agencies and programs. It also limited the term of each new ISTEA Act to approximately five years, unless extended through specific legislative action. The current law, the Fixing America's Surface Transportation (FAST) ACT, is set to expire in October 2020.

ISTEA requires a fiscally constrained Metropolitan Transportation Plan (MTP) with a time horizon of at least 20 years to be updated every 4 to 5 years, depending on the region's air quality attainment status. Currently, Congress is debating the structure, programs, and funding for the next ISTEA. In addition to funding for roads and bridges, the bipartisan bill includes:

- \$3 billion to support projects that lower highway-related carbon emissions,
- a \$500 million competitive grant program to lower per-capita emissions
- a \$1 billion competitive grant program to build hydrogen, natural-gas
- EV fueling infrastructure along designated highway corridors



A four-year Transportation Improvement Program (TIP) implements MTC's MTP. The agency has begun using performance-based criteria to select projects that support the plan's goals and community priorities. When the final list of projects is approved by MTC and receives the Governor's approval, it is incorporated directly into the Statewide Transportation Improvement Program (STIP). STIP approval must be granted before projects can move from planning to implementation.

Beyond legislation, the federal government, through its Department of Transportation, has adopted numerous policies and programs to bring investments in transportation into alignment with land use policies. Federal programs play an enormous role in supporting the real estate sector and directing new development. With nearly \$1 trillion in direct tax subsidies and \$4 trillion in loan guarantees over the last 5 years, the U.S. government has a significant impact on the real estate market, including where new development is built and what types of housing are created.

The Federal Transit Agency's (FTA) policies direct growth around transit nodes and into corridors that will help maintain and increase transit's base of riders in the future. They encourage modification of parking regulations to locate spaces behind buildings, reduce the total number of spaces required, and promote shared use of parking.

Opportunity Zones were created by the 2017 Tax Cuts and Jobs Act. These zones are designed to spur economic development and job creation in distressed communities throughout the country. They provide tax incentives for investors to finance new infrastructure, development projects, affordable housing, and workforce development, among other things. Currently there are nine census tracts that have been designated as eligible Opportunity Zones in Solano County. They are located in Fairfield and Vallejo, within areas designated by MTC as COCs.

Existing State Policies And Legislation Addressing Land Use And Transportation

The State of California has existing legislation and programs in place that require cities and counties to plan for housing, and to coordinate transportation investments with land use planning in order to reduce greenhouse gas emissions. In addition, the State provides funding and other technical assistance to local governments to support affordable housing development. Some of these policies are described in more detail below.

Regional Housing Needs Assessment (RHNA)

Every eight years, the State Department of Finance draws projections for housing needs for each region in the state, broken down by affordability levels relative to the area median income. Subsequently ABAG/MTC is responsible for assigning housing allocations to each Bay Area jurisdiction.

Solano has seen a high degree of cooperation between the county and cities. For 2015-2023 RHNA, Solano County established a subregion of the seven Cities and Unincorporated Solano County. A subregion can work together to allocate units among its members rather than the accept the region's ABAG allocations.

The breakdown for Solano County jurisdictions for the 2015-2023 planning period is detailed below.

There are currently only four and a half years of data available to track housing permitting trends during the present eight-year RHNA cycle. The results from these first two years indicate that most of the local jurisdictions in Solano County are on track to surpass their RHNA performance during the previous eight-year cycle. Most jurisdictions are creating housing opportunities for above moderate income households; in particular, Vacaville, Rio Vista, and unincorporated Solano have each permitted 85% or more of their above moderate income housing allocation. Solano County is exceeding its allocation for moderate income housing as well.

Like most cities in the Bay Area, Solano County's jurisdictions have struggled to meet their allocations for lower income housing categories. This is largely due to a lack of local, state, and federal funding sources to subsidize lower income housing units with the loss of redevelopment housing set aside funds. There are also a limited number of non-profit housing developers and few local policies enacted to help produce affordable housing.

This issue is not unique to Solano County. The level of housing production — both inside and outside of PDAs — is falling far short of meeting the Bay Area's needs. MTC's Regional Growth Strategies Perspective Paper introduces a suite of potential strategies for shaping the Bay Area's future housing and job growth while creating a more affordable, connected, diverse and environmentally sustainable region.

Key strategies include:

- Expanding the range of places prioritized for housing growth, particularly transit-rich and high opportunity communities
- Promoting job growth in centers located closer to households with long commutes
- Accelerating the reuse of obsolete shopping centers and office parks as mixed-income communities
- Mitigating the potential displacement impacts associated with infrastructure investments
- Increasing dramatically regional and state investments in the infrastructure required to create successful communities in the places taking on new growth

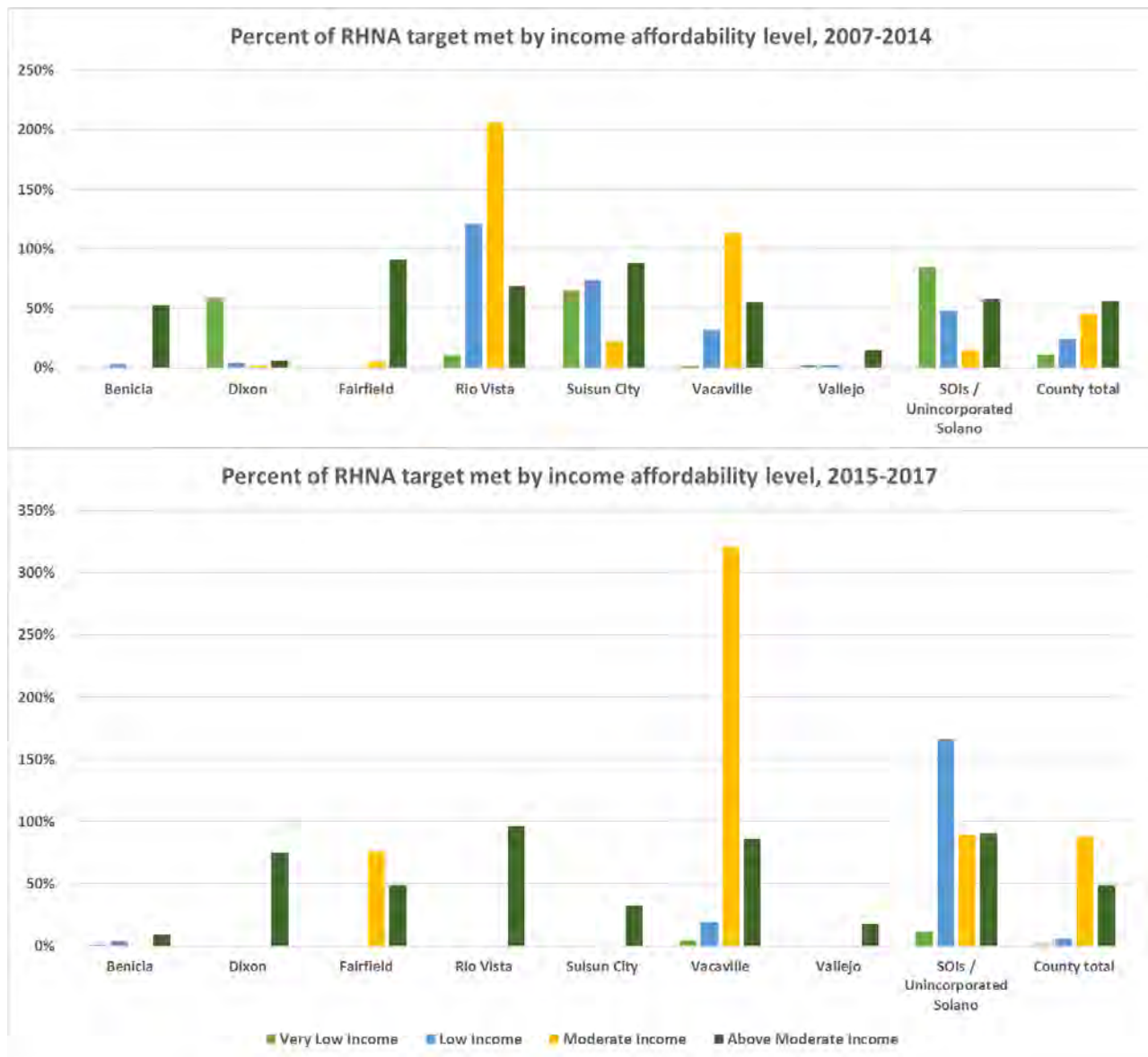
Solano County Current 2015 – 2023 RHNA Progress

(Numbers Updated to Reflect 2018 Annual Progress Reports as of June 2019 – Year 5 of 9)

	Very Low Income Required	Very Low Income Permits Issued	Percent Complete	Low Income Required	Low Income Permits Issued	Percent Complete	Moderate Income Required	Moderate Income Permits Issued	Percent Complete	Above Moderate Income Required	Above Moderate Income Permits Issued	Percent Complete	Total # of Permits Required	Total # of Permits Issued	Total RHNA Remaining
Benicia	94	1	1.1%	54	3	5.6%	56	3	5.4%	123	15	12.2%	327	22	305
Dixon	50	0	0%	24	54	225%	30	59	196%	93	147	158%	197	260	50
Fairfield	779	0	0%	404	0	0%	456	360	78.9%	1,461	1,713	117%	3,100	2,073	1,279
Rio Vista	45	0	0%	36	4	11.1%	48	155	323%	170	317	187%	299	476	77
Suisun City	147	0	0%	57	0	0%	60	0	0%	241	84	35%	505	84	421
Vacaville	287	48	17%	134	96	72%	173	533	308%	490	657	134%	1,084	1,334	277
Vallejo	283	0	0%	178	0	0%	211	0	0%	690	146	21.4%	1,362	146	1,216
Solano County (Unincorporated)	26	5	19%	15	55	367%	19	22	116%	43	59	137%	103	141	21
Total	1,711	54	3.2%	902	174	19.3%	1,053	1,120	106%	3,311	2,886	87.2%	6,977	4,536	3,646

Legend

	Very Low Income
	Low Income
	Moderate Income
	Above Moderate
	RHNA Target Met



Source: ABAG/MTC

Senate Bill 743 was signed into law by Governor Brown in September 2013 in an effort to implement SB 375 for Sustainable Communities. It subsequently changed how transportation impacts will be measured under the California Environmental Quality Act (CEQA) law starting July 1, 2020. In summary, the past congestion metric under CEQA, Level of Service (LOS), will be replaced by Vehicles Miles Travelled (VMT) in an effort to assess and reduce greenhouse gas (GHG) emissions. The theory behind this is that the VMT measures how long a gas powered vehicle

produces GHG emissions and that GHG would be reduced if VMT was reduced. The new SB 743 law is primarily applicable to cities and counties with local land use authority. However, the STA, as the Congestion Management Authority, will continue to work with its member agencies and Caltrans to provide modeling tools to measure VMT as a result of new development impacts and will assist in finding Transportation Demand Management (TDM), transit and active transportation solutions to reduce VMT.

GOVERNOR'S BUDGET

Governor Newsom has pledged to build 3.5 million homes statewide by 2025. AB101 was recently signed in to law, creating incentives for cities to provide sufficient housing, as well as remedies that the state can use in court when cities fail to comply with housing element law. The bill includes \$1 billion in funding to fight homelessness, and \$1.75 billion for new housing production. Planning grants of up to \$500,000 each for the larger jurisdictions in Solano (Vallejo, Fairfield, Vacaville) are available to assist in the RHNA process.

The governor's 2019 budget included a plan for HCD to revise the RHNA process to account for the number of jobs and the share of cost-burdened households in each jurisdiction, which may impact future housing allocations for all local jurisdictions, including those in Solano County. In addition to funding sources, the state has announced plans to fine and/or sue jurisdictions that block any new housing that is permitted by state law, though mechanisms to withhold transportation funding were not in the final version of the bill.

Existing Regional Land Use And Transportation Plans, Policies, And Programs

In 2008, California's landmark Senate Bill 375 became law, requiring each region to develop a Sustainable Community Strategy that would integrate economic development, transportation, and housing in order to reduce greenhouse gas emissions from cars and light trucks. In 2013, Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (ABAG/MTC) adopted Transportation 2035, the first Regional Transportation Plan (RTP) to comply with the state's mandate. Plan Bay Area allocated approximately 80 percent of the future household growth and 63 percent of new jobs to be located in Priority Development Areas (PDAs). The 2040 update of the RTP included expanded consideration of equity and increased the focus on PDAs.

MTC and ABAG are currently wrapping up a new planning effort, the Horizon Initiative, to explore challenging issues and emerging trends that will impact the region's future growth and resiliency through 2050. The Horizon Initiative will set the stage for developing the next regional plan, expected to be adopted in the summer of 2021. Plan Bay Area 2050 will prioritize making the region more equitable and resilient.

Between 2017 and early 2019, MTC brought together leaders from city governments, regional agencies, housing development, philanthropy, tenant advocacy groups, and employers as the Committee to House the Bay Area, or CASA. The group developed strategies that would increase housing production, including affordable housing production. 10 specific actions were recommended in order to produce 35,000 new housing units within the Bay Area each year, including 14,000 units affordable to low-income families and 7,000 units affordable to moderate income families. Many of the recommended programs required state legislative changes in order to be enacted.

Suburban Housing Incentive Pool (SubHIP)

In October of 2017, the MTC Board adopted Resolution 4308, the 2018 Regional Transportation Improvement Program (RTIP) Policies, Procedures and Project Selection Criteria. A proposed Housing Incentive Pool (HIP) program was established with \$76 million in regional funding proposed and MTC staff developed criteria for the distribution of the funding. Based upon the proposed criteria, 90% of the \$76 million would go to 3 counties (Alameda, San Francisco and Santa Clara). 10% of the funding would go to the six more suburban counties. Solano County would receive .003% of the funding (\$250,000) for 1 housing unit produced that met the new program criteria.



Solano County's MTC representative, Jim Spering raised a number of concerns about the proposed criteria for distributing the HIP funding not recognizing issues pertaining to housing production and affordability in the suburban counties. What resulted was the SubHIP program.

The Suburban Housing Incentive Program (SubHIP) Pilot recommends criteria that would facilitate and incentivize the production of regionally affordable housing in Priority Development Areas (PDAs) located in Solano County cities with access to regional transit services. When this SubHIP pilot was developed, it initially focused on three cities with adopted PDA plans that also met or were about to meet the four state housing laws required by MTC/ABAG's new regional HIP program. All three cities, Fairfield, Suisun City and Vacaville now meet the four state housing laws.

STA is working with the cities of Fairfield and Vacaville to identify two affordable housing projects with developer partners that meet the recommended SubHIP pilot criteria. STA was successful in requesting MTC/ABAG allocate \$4 million of the \$5 million regional set aside funds for the SubHIP to enable this pilot to work; STA will be working with eligible projects to utilize the awarded funds.

Solano Housing Investment Partnership (SolHIP)

In 2017, the Governor Jerry Brown signed a 15 bill housing package aimed at addressing the state's housing shortage and high housing costs. Senate Bill 2: Building Homes and Jobs Act (SB2) was included in this package and established a \$75 recording fee on real estate documents to increase the supply of houses in California. The first year of implementation was geared primarily toward planning funds grants being available for each city and county to plan for

the production of housing. Subsequent yearly SB2 allocations will be focused on competitive capital funding that supports housing production.

Solano County's seven cities and the County unincorporated area were eligible to receive over \$1.5 million in SB2 planning funds during the first round of funding. Cities and Counties with a population of 60,000 to 200,000 people were eligible to receive \$310,000 in SB2 planning funds while smaller cities and unincorporated counties of less than 60,000 people are eligible to receive \$160,000.

STA staff has organized meetings with each of the seven cities and the County to discuss their potential housing production, this funding opportunity and their future PDA implementation status. As part of these meetings, STA staff discussed the potential for partnering with the local agency to provide match funding to a small contribution from interested cities/county agencies to develop a countywide housing production resources and planning tools – the Solano Housing Investment Partnership (SolHIP).

The purpose of SolHIP is for Solano's eight local agencies to partner with the STA to accomplish the following goals: create an inventory of housing sites, examine policy options available for Solano's seven cities and the County (including best practices) that want to provide for more housing options and meet their Regional Housing Needs Assessment (RHNA) targets, identify and examine public and private funding sources, identify catalyst housing sites within Priority Development Areas (PDAs), and develop strategies to move these projects towards development. A focus is on housing within each community's PDAs and adjacent to regional transit services (Express Bus, Ferry and Rail). STA and the eight agencies are currently working through funding agreements to begin work on SolHIP.

Pending Legislation And Programs Related To Transportation And Land Use

In addition to the programs and policies outlined above, the State and region are also exploring new policies to create funding sources for affordable housing, streamline approvals for housing development projects, preserve existing affordable housing units, and protect tenants from displacement. These proposals are summarized in the appendix.

Displacement and Gentrification

The foundation is in place to build a solid future for Solano County, but there is a clear need for mechanisms that will generate affordable housing and protect diversity. Without incentives and regulations to promote affordable housing, there is a risk that development will displace the most vulnerable residents, and that the mix of housing will be unaffordable for many workers.

Moving Solano Forward, which was a multi-year economic development and diversification effort conducted by Solano Economic Development Corporation (EDC) in partnership with Solano County and its seven cities, concluded that "Population growth has been outpacing job growth since 2010, an economic indicator that Solano has become a place to live for the Bay Area workforce".

A recent study by the Turner Center (California's SB 375 and The Pursuit of Sustainable and Affordable Development) found that "Insufficient housing construction, in combination with growing housing demand in regions with strong economies, has contributed to skyrocketing housing prices, reduced housing affordability and longer commute times. The study also found that far-flung development encourages reliance on cars for transportation. The study concluded that "Development consistent with climate change goals may simply cost too much to feasibly build enough to alleviate the housing affordability crisis."

The Turner Center study noted that “Aligning land use, transportation, and sustainability is more important than ever as it becomes clear how interrelated these issues are.”

Moving Forward

Land use choices in conjunction with transportation planning has become increasingly important as the Bay Area faces a housing crisis resulting from a robust job market and a failure to keep pace with housing construction. According to the Metropolitan Transportation Commission (MTC), since 2010, the Bay area has added almost 500,000 jobs but only 50,000 new housing units. This imbalance has created a housing and housing affordability crisis. The elimination of redevelopment took away a local funding source for affordable housing. MTC has historically played a limited role related to housing. However, its role is growing with its recent staff merger with the Association of Bay Area Governments (ABAG), the region’s council of governments and the agency responsible for the development of the regional housing needs assessment (RHNA) for the nine Bay Area counties. Solano County’s moderate home price is \$396,480, which is lower than the low income median home price in 6 of the 9 Bay Area counties. It is also lower than the very low income median home price in 4 of the 9 Bay Area counties. It is easy to see why people move to Solano County and commute to jobs elsewhere. Solano County is serving as an affordable housing producer for the Bay Area.

Market demand for more compact, mixed- use development and housing is expected to be strongly influenced by continued population growth and a shortfall in available and affordable housing. A substantial increase in the demand for transit service, housing near transit, and health and support services is likely to occur to support daily living for a growing senior population. Communities that foster attractive



and safe places to walk, bike, and gather benefit from economic reinvestment, community pride and improved personal health.

Solano’s 40 year history of containing sprawl, linking transportation and land use, and investing in infrastructure that improves livability and public spaces have put the county in a strong position to prioritize future STA efforts in well-planned PDAs.

STA will work at the regional level to receive adequate funds to offset gentrification and displacement, while simultaneously working in collaboration with local governments and employers to target specific industries that will lift up lower income workers and expand middle income job opportunities.

This page intentionally left blank

4

Equitable Transportation Access, Benefit, and Participation



Introduction

Solano County's political leaders began the twenty-first century by embracing an ambitious vision of sustainability that tied together economic, social, and environmental considerations in their community planning and actions. Implementing this type of integrated decision making demands more thoughtful policy and planning consideration and greater organizational and staff effort before proceeding, but it offers a bright future with cleaner air and water, growing financial prosperity, and a shared sense of well-being and involvement for Solano residents, businesses, and visitors.

The single greatest obstacle to reach this bold vision will be ensuring that Solano's most vulnerable populations and disadvantaged neighborhoods can also experience fulfilling lives. Structural and systemic racism is deeply rooted in our nation's history and remains embedded in many financial and governmental regulations, housing policies, healthcare access, policing, and other social practices, in spite of a half century of federal and state civil rights legislation and regulation. The impacts from these inequities and inequalities have fallen disproportionately on historically disenfranchised

and oppressed communities of color and low-income populations. However, these problems are also experienced by others, including those with physical and mental disabilities, strong religious beliefs, gender identity judgments, and age-related limitations.

Breaking down these long-held barriers will require sustained leadership with a heartfelt commitment to core principles of justice and equal opportunity, dedication to understanding the historic and contemporary needs and concerns of different socioeconomic groups, and decision making procedures that invite meaningful participation for all.

Working toward an equitable future must be pursued against a backdrop of rising poverty and growing income inequality around the globe. Increasing income inequality is among the most important challenges facing advanced economies today and is at historically high levels in the U.S. and the Bay Area. Steadfastly high levels of inequality are undermining the fundamental American belief that hard work and fair play pays off, and that opportunities for upward mobility are available to all. Individual trust in the basic fairness of American society is shrinking.



Throughout America, the economy was challenged by the past decade's economic downturn. The rebound has been uneven, and today, California has the dubious distinction of being the least affordable state in the nation when it comes to housing.

In the Bay Area, a strong economic recovery with rising job levels and declining unemployment hasn't benefitted all. Bay Area low-income populations and renters are heavily burdened by skyrocketing rents, worsening an already intense problem of homelessness, and forcing state legislators to act on the need for significantly more affordable housing production and renter protection.

Middle income jobs are growing more slowly relative to the top and bottom of the wage scale. Growing numbers of high-wage workers increase demand for housing in neighborhoods closest to transit with blossoming amenities, such as personal services, restaurants, and public parks. The expanding polarization of wages, combined with limited housing production puts immense pressure on these transitioning neighborhoods' current residents, who are frequently forced to relocate.

As households relocate to more affordable areas within or outside the region, residents may lose not only their homes but also their social networks and support systems. Those who are able to remain are affected as well by the migration of family, friends, and familiar merchants and service providers, as well as the erasure of their historic places and cultural traditions.

The Urban Displacement Project and California Housing Partnership have documented that low-income people of color suffer the most as housing prices rise, and displacement pressures push them into higher poverty, and neighborhoods with limited services. Families face the "double burden" of not only their own poverty, but also the disadvantages of concentrated poverty around them.

People living in poor neighborhoods must endure higher crime rates, police harassment, low-performing schools, worse health outcomes, limited access to goods and services, and fewer job opportunities on

top of their housing and mobility challenges. And, as families move farther from center cities and other job centers in search of more affordable housing, the combined cost of housing and transportation increases with the distance from job centers. These heightened disadvantages affect not just low income residents, but entire communities, by curtailing long-term economic growth potential and limiting the impact of public investments.

As outlined in Plan Bay Area (PBA) 2040, this pattern of displacement has resulted in a significant shift of the lower-income population from urban to suburban and exurban areas with the consequences being social isolation, stress and other negative health impacts, limited access to transit, job opportunities and many amenities and services. More choices for housing close to transit and job centers can relieve this pressure, but the Bay Area's large deficit of housing production dating back to the 1970s will take a long time to eliminate.

These rising housing costs and migration patterns have contributed to new concentrations of segregation and poverty in the region's outer edges, including cities and neighborhoods in Solano County. The housing boom of the mid-2000s offered affordable homeownership, as escalating home prices in the urban core encouraged homeowners to sell their houses for larger homes in Solano and similarly situated suburbs. When the housing bubble burst in 2007, local home values plummeted, and the frenzy of housing construction collapsed when demand dried up, leading to further job losses and increased poverty in Solano's communities.

The population in poverty rose twice as fast in suburban parts of the Bay area compared to its urban centers. The share of the poor living in suburban tracts increased across all racial groups, with the change being highest among African Americans. In 2014, the Vallejo/Fairfield metropolitan area was identified by the U.S. Census Bureau as the most diverse in the nation. MTC's demographic analyses confirm Solano County's greater diversity, including greater concentration of African Americans and Latinos when compared with other Bay Area counties.

Suburbs with growing poverty face a distinct set of challenges. Because they are more geographically isolated from job centers, they lack reliable and affordable transit options to better employment opportunities, have limited social services, educational shortcomings, and limited reserves to prevent layoffs in the public sector.

Addressing Equity Considerations in the CTP

The STA Board of Directors recognize the value and importance of engaging local residents to help identify and dismantle longstanding obstacles to achieving a safe, innovative, equitable transportation system in Solano County. To help the agency prepare this CTP, an eighteen-person Equity Working Group was established, bringing together a diverse cross-section of elected leaders, non-profit managers, and representatives whose life experiences reflect the challenges facing Solano's vulnerable populations. The group was chaired by Suisun City Mayor Lori Wilson. – with membership also including Fairfield Mayor Harry Price, Vallejo Mayor Bob Sampayan, and Solano County District 4 Supervisor John Vasquez. STA staff supported the ad hoc committee, along with Rutgers University researcher/adjunct professor, Charles T. Brown, MPA of the Alan M. Voorhees Transportation Center and Alta Planning+Design.

The EWG held four meetings between March and October 2019. In addition, EWG members participated in two community workshops, one in Suisun City and the other in downtown Vallejo. STA staff and Professor Brown designed and led an online workshop on May 25th, 2019.

During the course of the Committee's work, members had the opportunity to describe their own understanding of the inequities facing Solano's vulnerable populations. They also learned about key federal and state legislation that has been enacted over the past fifty-five years in an attempt to protect civil rights for specific groups of people, including those facing mental and physical health challenges, or racial, religious, sexual, or age-related discrimination.

The Committee was presented with demographic information associated with vulnerable populations in the Bay Area, including mapping of both MTC's Communities of Concern in Solano County, and at-risk census tracts identified by the California Environmental Protection Agency's CalScore 3.0 program to fulfill its responsibilities under SB 535. They also received an STA staff report on the range of services that STA provides through its Solano Mobility program.

The Committee's primary work product was a series of Guiding Principles that were developed and reviewed by the Committee on two occasions, and shared with the larger community at the Community Workshops. The Principles were then sent to the STA Board, which adopted them on October 9, 2019.

At its final meeting, the EWG reviewed and commented on the draft Equitable Access chapter, included in the CTP's Transportation Framework.

In addition they recommended that the STA Board modify the agency mission statement to reinforce its broad commitment to equitable effort by adding the following words, "for all" at the end of the current text.



STA Guiding Principles

The following Guiding Principles reflect STA's commitment to the entire community in all of its activities. These Principles were developed by the Equity Work Group at their meetings on April 11 and May 23, 2019.

- 1** - STA works in partnership with local, regional, and state governments and our whole community to provide and maintain a safe, innovative, equitable multi-modal transportation system in Solano County.
- 2** - STA seeks to advance a just, healthy, and prosperous quality of life in all Solano County communities while addressing transportation and the diverse mobility needs of our residents, businesses, and visitors.
- 3** - STA values and commits to meaningful participation of Solano County's vulnerable populations in all aspects of mobility and infrastructure planning to ensure that disadvantaged communities unique and unmet needs are prioritized.
- 4** - STA supports locally-decided land uses that stimulate economic opportunity and produce affordable housing in proximity to downtowns, public rail stations, and along major bus service corridors, in conjunction with acting to protect Solano County's key agricultural and open space areas.
- 5** - STA routinely measures, evaluates, and clearly presents transportation performance results for public review to insure that its policies, plans, and budgets are fair, effective, and reflect community-focused priorities of Solano County residents and businesses.

Going Forward

Many of the tools that most affect poverty and economic opportunity require action at the regional, state and national level. National tools include tax and wage policy, immigration reform, trade agreements, monetary policy and economic security programs. State tools include minimum wages, environmental laws, tax policies and overall investments in education, workforce, and infrastructure.

While local and regional governments have fewer tools to dramatically reduce poverty, they do control policies and investments that affect overall economic prosperity. If local leaders prioritize investment that benefit its at-risk residents, Solano's diversity can

contribute to the community's success over the next 25 years. Economic mobility for those at the bottom will result in an economy that makes best use of all workers and provides a pathway to better employment for those who seek it.

Achieving improved economic opportunity requires working on three goals simultaneously: help lower-wage workers build pathways into middle-wage employment, expand the number of middle wage jobs, and improve the quality of jobs for current and future lower- wage workers. Solano County's ongoing economic development collaboration, Moving Solano Forward, recognizes the importance of aligning workforce skills with the needs of targeted business cluster employers.

When Solano's low- and moderate- income residents obtain better housing, education, improved job opportunities, and can reliably get where they need to go, the entire county will become stronger, more resilient, and more efficient. Solano's low-income communities need a strong, equitable development policy agenda that invests in just and affordable transportation as well as housing near transit systems. This will reduce greenhouse gas emissions as well as benefit those communities most at risk from the impacts of climate change.

Expanding clean, sustainable mobility options can provide innumerable societal benefits, including positive health impacts, increased quality of life, and greater employment and education opportunities. Creating connected communities where residents have access to affordable housing and can safely and conveniently meet their daily needs on foot, bicycle, scooter, public transit, or ride-sharing, will help reduce households' transportation costs, connect workers to jobs, and facilitate upward mobility.

Improving wages and working conditions for those in lower-wage jobs helps them achieve enough stability to invest in their futures. Providing housing for a mix of income groups can contribute to the vitality and success of a neighborhood. Restructuring educational, vocational, and internship programs to match the needs of Solano's diversifying economy must be included, too. When low-income residents and communities of color prosper, the entire economy benefits.

Three key practices are needed to address equity issues associated with affordable housing and transportation. Housing developers must consider location and accessibility in siting affordable housing to ensure residents' quality of life. Housing and transit advocates need to collaborate to promote affordable housing sites where reliable public transportation is available, and identify transit needs for low-income communities. Finally, planning must include more than the jobs and residents to come, but also consider the unique needs of people already in the neighborhoods.



Many Bay Area jurisdictions have adopted a wide variety of strategies to address displacement. Some have implemented policies to expand the production of deed-restricted affordable housing, retain units that are affordable to low and moderate income residents, and avoid unjust evictions. Policies are in place in most cities to expand the production of affordable housing through density bonuses, which allow developers to build more market rate units in exchange for a certain number of affordable units, and inclusionary zoning, which requires developers to include a certain percentage of affordable units in new developments. Additional state legislation is also pending at this time.

Mixed use development near transit has become Solano's dominant strategy for accommodating future growth. Each of Solano's seven cities has identified infill areas within their city limits, known as Priority Development Areas (PDA), where focused investment in infrastructure such as roads, transit, streetscapes, parks, and housing can attract private investment and commercial activity. Central locations for affordable housing can more efficiently use existing programs and infrastructure. Cities can also use tools like public/private investment, reduced parking requirements, and permitting incentives to encourage the intensification of land uses around transit stations in order to enable more people to take advantage of transit mobility. Providing housing for a mix of income groups contributes to the vitality and success of a neighborhood.

Transit investments provide higher benefits to low-income and minority populations relative to their share of the region's population. This is primarily due to their propensity for using transit. Low-income populations account for the majority of transit trips in the region, at 52 percent, which is more than twice their regional share of the population. Minority populations account for 62 percent of transit trips regionally.

An affordable, reliable, and connected public transit system is one of the fundamental building blocks of a sustainable future. With the needed investment and the right policies, transit can also be a key component of the transition to a just and climate-friendly economy.

While there are many potential benefits assigned to Solano's evolving smart growth strategy, they will not be fully realized if historic inequities are allowed to remain in the new developments that occur. Local leaders make decisions every day that affect the quality and affordability of transportation and housing in their communities, whether deciding to build a new street, repave an existing road, locate a school or park, or approve or deny a development proposal. It is imperative that equity issues be prioritized.

Two important planning techniques will be useful to make sure that the unique needs of Solano's vulnerable populations are built into future development. Foremost, many different departments, agencies, and organizations play a role in housing and transportation decision making, and all must have a place at the table in order to create connected communities. This includes the participation and leadership of vulnerable populations in transportation, housing, zoning and land-use decision-making. Secondly, as new development occurs, key equity performance measures should be in place that allow progress to be measured, and adjustments made if affordability and transit efficiency targets aren't achieved.

As pervasive as discrimination and injustice have been throughout America's history, the unique opportunities and diverse experiences of Solano's multi-faceted constituency can be tapped to come together to acknowledge the depths of the problem, and to collaborate on shared efforts that dismantle the obstacles standing in the way of Solano's vision for a sustainable future.

Communities of Concern

The Metropolitan Transportation Commission designates Communities of Concern to identify a diverse cross-section of populations and communities that could be considered disadvantaged or vulnerable. The designation includes all census tracts with a concentration of low-income households that also include a concentrated population of minority residents, or concentrations of more than three of the following factors:

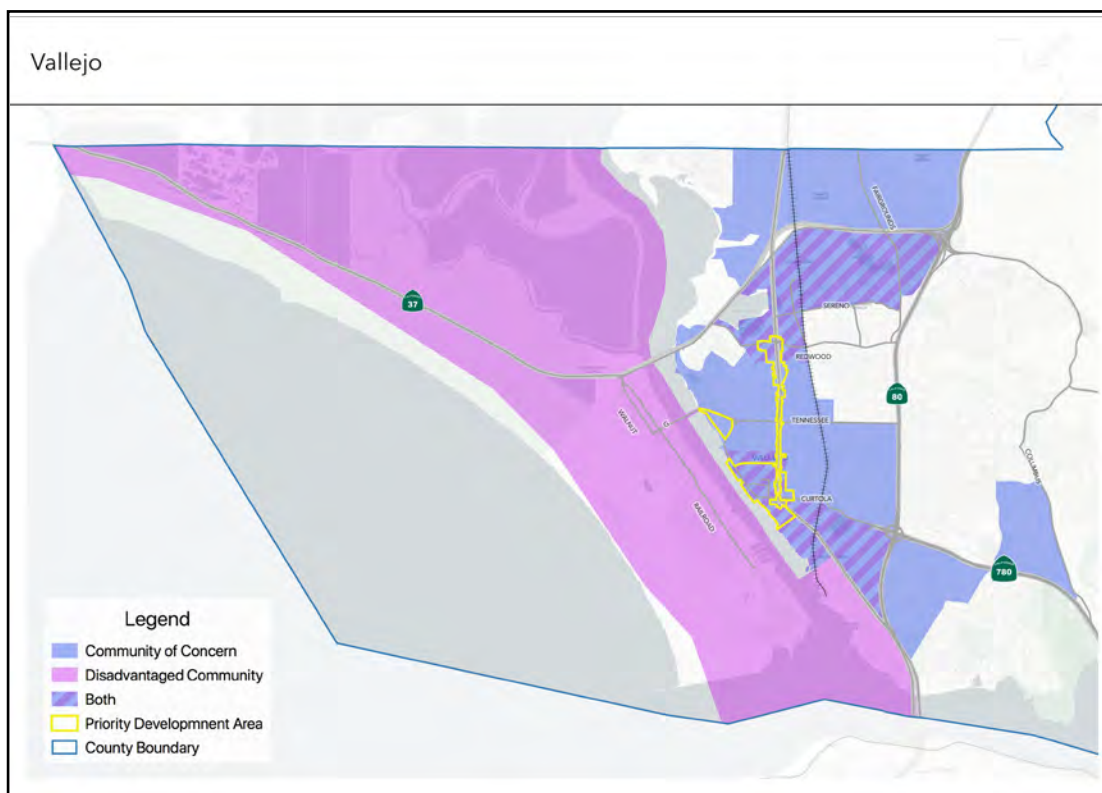
- Zero vehicle households
- Seniors 75 years and over
- People with disabilities
- Single-parent families
- Severely rent-burdened households
- Limited English proficiency populations

Definitions

When discussing matters associated with equity, it is common for the vocabulary to include acronyms, words, and principles that the audience may find subjective. To facilitate STA's ongoing work to increase equity in its planning and actions, the following terms are defined:

Communities of Concern (COC)

MTC determines Communities of Concern (COC) based on low-income communities that also have a concentrated population of minority, limited English proficiency, mobility challenged, senior, disabled, single parent, or rent burdened households. The definition of "communities of concern" is intended to represent a diverse cross-section of populations and communities that could be considered disadvantaged or vulnerable in terms of both current conditions and potential impacts of future growth.



A map of the Fairfield - Suisun City area. The map shows a large blue-shaded region representing the 'Community of Concern'. Within this blue region, several smaller areas are outlined in yellow, representing 'Priority Development Areas'. The map includes various labels for locations and roads: 'MANKAS CORNER' in the top left, 'AIR BASE' in the top right, 'TAMOR' in the upper right, 'TRAVIS' in the center, 'SUNSET' in the lower right, 'WALTERS' on the far right, 'PETERSEN' at the bottom right, 'CORDELLA' in the bottom left, and 'ALBANY' on the left. A green shield with the number '80' is located on the left side of the map. A legend in the bottom right corner identifies the blue area as 'Community of Concern' and the yellow outline as 'Priority Development Area'.

The map displays the Vacaville area with various geographical features and infrastructure. A yellow outline delineates the 'Priority Development Area', which includes the central urban core. A blue shaded region, labeled 'Community of Concern', is situated to the east of the yellow area, encompassing the Elbowarmstrong and Alamo neighborhoods. Major transportation routes are shown, including Highway 80 running diagonally from the bottom left to the top right, and Highway 502 running vertically on the right side. Other labeled areas include Vaca Valley to the northwest, Pleasant Valley to the southwest, and Alamo to the south. The map also shows residential streets, green spaces, and a body of water in the bottom left corner. A legend in the bottom right corner identifies the blue shaded area as the 'Community of Concern' and the yellow outline as the 'Priority Development Area'.



For Plan Bay Area 2040, the definition of Communities of Concern includes all census tracts that have a concentration of BOTH minority AND low-income households at specified thresholds, or that have a concentration of low-income households AND three or more of the following factors: persons with Limited English Proficiency, zero-vehicle households, seniors aged 75 and over, persons with a disability, single-parent families, and housing units occupied by renters paying more than 50% of household income on rent.

CalEnviroScreen helps identify disadvantaged communities that are disproportionately burdened by multiple sources of pollution. It is managed by the California Office of Environmental Health Hazard Assessment and uses a suite of statewide indicators to track both Pollution Burden and Population Characteristics by census tract.

Complete Streets

Complete Streets are streets designed, operated, and maintained to enable safe use and support mobility for all users. Those include people of all ages and abilities, regardless of whether they are travelling as drivers, pedestrians, bicyclists, and public transportation or shared mobility riders. Complete Streets create a more equitable transportation system by providing affordable, convenient, and accessible modes of transportation for all people, including vulnerable populations. Vulnerable populations are more likely to rely on walking, biking, and public transit as their sole source of transportation.

Cumulative Impacts

The California EPA defines cumulative impacts to be “exposures, public health or environmental effects from the combined emissions and discharges, in a geographic area, including environmental pollution from all sources, whether single or multi-media, routinely, accidentally, or otherwise released,” and will factor in sensitive populations and socioeconomic factors, when applicable and possible.

	Population	Low-Income Population	Low-Income Population in Concentrated Poverty
Alameda	21%	28%	44%
Contra Costa	15%	25%	41%
Marin	3%	19%	22%
Napa	2%	27%	35%
San Francisco	11%	28%	37%
San Mateo	10%	20%	29%
Santa Clara	25%	23%	32%
Solano	6%	27%	46%
Sonoma	7%	29%	35%
Bay Area	100%	25%	37%

Environmental Justice

The fair treatment of people of all races, cultures, and incomes with respect to development, adoption, implementation and enforcement of environmental laws and policies.

California Senate Bill 115 - Chapter 690, Statutes of 1999

Disadvantaged Communities are defined by Cal EPA as the top 25% scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations.

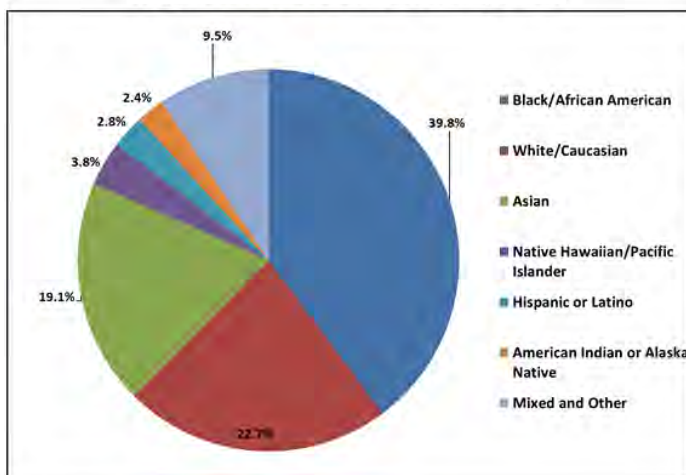
Displacement Risk Areas (DRA)

Areas where the share of lower-income households are living in neighborhoods that have been losing lower-income residents over time, thus earning the designation “at risk.” DRAs represent areas that are undergoing displacement or are in advanced stages of gentrification.

Environmental justice

The state of California Government Code defines environmental justice in statute as: The fair treatment of people of all races, cultures and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations and policies (Government Code Section 65040.12).

Solano Express Riders by Race & Ethnicity



Source: STA 2018 On-Board Transit Survey

Equity

“The quality of being fair and impartial; justice according to natural law or right; freedom from bias or favoritism” - Merriam-Webster dictionary

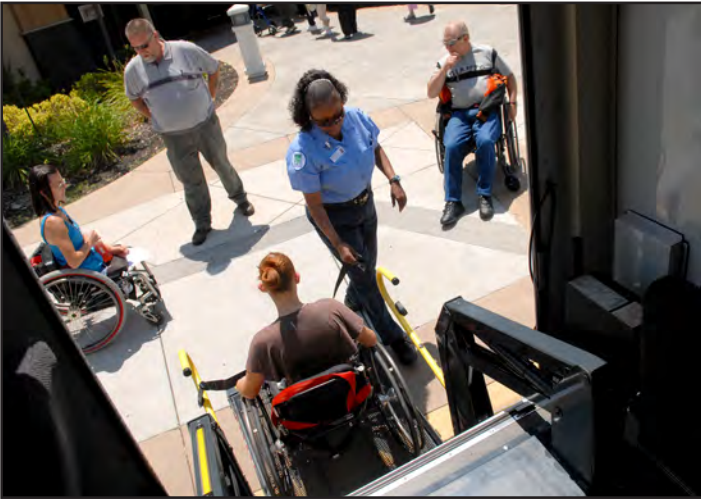
High Opportunity Area (HOA)

HOAs are considered “exclusion areas” that provide limited housing opportunities for low-income and middle-income renter households. For an individual or household, opportunity means having access to quality education, well-paying jobs, community amenities, a safe home and a healthy living environment. High Opportunity Areas therefore offer their residents access to services, and amenities, such as good schools, safe and walkable neighborhoods, multiple transportation options, quality parks and open space, grocery stores, and better public services.

Income Distribution in Solano County

Jurisdiction	Income Distribution			
	Very Low	Low	Mod	Above Mod
Benicia	28.7%	16.5%	17.1%	37.6%
Dixon	25.3%	12.1%	15.2%	47.2%
Fairfield	24.6%	12.9%	14.7%	47.6%
Rio Vista	15.1%	12.1%	16.1%	56.5%
Suisun City	29.5%	11.2%	11.5%	47.6%
Vacaville	26.4%	12.3%	15.9%	45.2%
Vallejo	20.7%	13.0%	15.4%	50.6%
County	25.3%	14.2%	19.0%	41.2%

Source: Solano City-County Coordinating Council Housing Summit Presentation, RHNA Allocations



Structural Racism identifies a system in which public policies, institutional practices, cultural representations, and other norms work in various, often reinforcing ways to perpetuate racial group inequity. It identifies dimensions of our history and culture that have allowed privileges associated with “whiteness” and disadvantages associated with “color” to endure and adapt over time. Structural racism is not something that a few people or institutions choose to practice. Instead it has been a feature of the social, economic and political systems in which we all exist.

Sustainable Communities

A sustainable community manages its human, natural, and financial capital to meet current needs while ensuring that adequate resources are available for future generations.

White Privilege, refers to whites’ historical and contemporary advantages in access to quality education, decent jobs and livable wages, homeownership, retirement benefits, wealth and so on.

Institutional Racism refers to the policies and practices within and across institutions that, intentionally or not, produce outcomes that chronically favor, or put a racial group at a disadvantage. Poignant examples of institutional racism can be found in school disciplinary policies in which students of color are punished at much higher rates than their white counterparts, in the criminal justice system, and within many employment sectors in which day-to-day operations, as well as hiring and firing practices can significantly disadvantage workers of color.

Mobility Equity

A transportation system that increases access to high quality mobility options, reduces air pollution, and enhances economic opportunity in low-income communities of color.

Social Equity

The fair and just distribution of societal benefits and burdens. Social equity refers to “fair access to livelihood, education and resources; full participation in the political and cultural life of the community; and self-determination in meeting fundamental needs.”

Social equity has diverse roots, including the environmental justice movement, which came about in response to the growing recognition that minority and low-income communities experience greater exposure to environmental hazards.

Environmental Justice Populations

Minority

- Black or African American
- Hispanic or Latino
- Asian American
- American Indian and Alaska Native
- Native Hawaiian and Other Pacific Islander

Low Income

- A person whose household income is at or below the US Department of Health and Human Services (HHS) poverty guidelines level

Regional Equity Initiatives

Bay Area regional agencies have been at the forefront of various equity efforts for over two decades. Initially, this involved customizing federal and state transportation funding programs to meet specific needs of the region's minority and low-income populations. Over time, regional agencies have expanded beyond specific programs to address the decision making process itself, including representatives from protected classes on advisory bodies, and developing measurable performance metrics to be used to monitor progress and evaluate success.

The Metropolitan Transportation Commission (MTC) works with local, state and federal partners to plan, fund and implement transportation projects and services designed to improve mobility for:

- Communities with high numbers of minority and/or low-income residents
- People with disabilities
- Seniors
- Residents with limited English proficiency

See Appendix for more on Regional Equity Initiatives.

STA Equity Initiatives

Community-Based Transportation Plans

The Metropolitan Transportation Commission created the Community Based Transportation Plan (CBTP) program to address the needs of economically disadvantaged communities through community transportation planning. The objective of the Community Based Planning Process is to develop a plan through a collaborative process that identifies transportation gaps, proposes and prioritizes strategies to address the gaps, and identifies potential funding sources and project leads for implementation. This process ensures that the low-income population directly affected by the transportation plan is guiding the process.

Plan Bay Area Equity Goals

Healthy & Safe Communities

Goal 3

Reduce adverse health impacts associated with air quality, road safety, and physical inactivity by 10%

Equitable Access

Goal 5

Decrease the share of lower-income residents' household income consumed by transportation and housing by 10%

Goal 6

Increase the share of affordable housing in PDAs, TPAs, or high-opportunity areas by 15%

Goal 7

Do not increase the share of low- and moderate-income renter households in PDAs, TPAs, or high-opportunity areas that are at risk of displacement

Economic Vitality

Goal 8

Increase by 20% the share of jobs accessible within 30 minutes by auto or within 45 minutes by transit in congested conditions

Goal 9

Increase by 35% the number of jobs in predominantly middle-wage industries

Dixon CBTP (2004)

The City of Dixon's CBTP identified existing transit options, gaps in service, and acknowledged the challenges of improving transportation in a small town whose needs often fall outside traditional transit offerings. Significant needs identified include, limited paratransit eligibility, language barriers for potential limited-English proficiency riders, uninviting and unsafe bus stop shelters, insufficient service times and need for taxi scrip for low-income seniors, and the hardship of transit costs for low-income residents.

Vallejo CBTP (2008)

The City of Vallejo's CBTP identified a number of challenges with transit in the area including service cuts, lack of access to social services, educational facilities and school district offices on Mare Island, insufficient service for workers especially evenings and weekends, lack of convenient service to new Solano Community College.

The plan also identified priority projects to improve the situation including increasing frequency, operation hours, weekend service, and route coverage, especially to Mare Island and Solano Community College, improving bus stop facilities, expanding the taxi scrip program, paratransit eligibility and senior escort

services, establishing a transit ambassador program for low income residents to receive transit orientation or accompaniment, and providing better information about the system in Spanish.

Cordelia-Fairfield-Suisun CBTP (2008)

One CBTP was prepared jointly for Fairfield, Suisun City and Cordelia, and it listed a number of gaps and barriers to use identified by stakeholders including lack of early morning, late evening, and weekend service for workers, lack of understanding by limited english proficiency residents, expiration of transfers due to long wait times, lack of assistance for low income seniors whose needs exceed traditional public transportation offerings, insufficient shelters and benches and the hardship of transit costs for low income individuals. Priority projects identified to address gaps and barriers included partnering with local employers to provide a late night shuttle, expanding Sunday service through a dial-a-ride program, offering day passes or longer transfer times, improving bus stop infrastructure, lower fares, posting schedules at all stops, establishing a transit ambassador program, utilizing faith based volunteerism to improve services necessary for seniors, and providing better route and fare information in Spanish.



Vacaville CBTP (2010)

The City of Vacaville's CBTP also reported gaps and challenges categorized as amenities, bicycle/pedestrian, connectivity, funding, cost, information, land use, paratransit, spatial, and temporal shortcomings.

To address these needs the plan called for expanding hours, days, and frequency of service, marketing transit services in a targeted way, improving information available to Spanish speakers, educating and training students and seniors, offering free rides for shoppers, expanding volunteer driver programs, continuing support for Safe Routes to School, developing school pool programs, and offering bicycle and pedestrian safety programs.

STA Safe Routes to Transit Plan (2011)

The Safe Routes to Transit Plan analyzed cyclist and pedestrian safety in the area surrounding the five most important transit facilities in the county and prioritized projects that improve access and safety to promote increased ridership. Top priority projects were focused on signalization and crosswalk improvements for pedestrian safety. They were selected using four criteria: 1) gap closure, 2) improved pedestrian, cyclist or disabled access, 3) improved safety, and 4) improved convenience.

STA Solano Transportation Study for Seniors & People with Disabilities (2011)

The Study for Seniors & People with Disabilities analyzed transportation barriers faced by the disabled and elderly population in Solano County. Given the significant number of aging, rural, and auto dependent communities in Solano, the study proposed expanding transit, paratransit and on-demand transportation services, providing transportation training for seniors, partnering with providers of goods and services to provide delivery and transit coordinated scheduling and improving bus stops and stations.

Soltrans (2011)

Solano County Transit (SolTrans) was established in 2011 as the result of a merger between Vallejo Transit and Benicia Breeze. SolTrans provides local and regional fixed routes, complementary paratransit, and subsidized taxi programs, which provide crucial transportation opportunities for minority and low-income communities.

Solano Mobility Program (2014)

Starting in 2014, STA expanded their services to include the Solano Mobility Call Center, one of four priorities identified in the 2011 Study for Seniors and People with Disabilities. In addition to providing commuters and Solano county employers with information on a variety of transit services and incentive programs, the Mobility Call Center provides senior and disabled residents with a range of mobility information. Solano Mobility provides a number of programs to assist people in obtaining transportation, including reduced fare taxi rides and paratransit services for ADA certified individuals. Solano Mobility also offers travel training to individuals and groups to promote understanding and use of transit.

A number of programs are also in place to support employers including financial incentives to promote vanpooling and bicycling, as well as emergency rides for commuters who use alternative transportation to get to work. Solano Mobility and Lyft have partnered to provide 80% off Lyft rides up to \$25 dollars to and from participating transportation centers in the county, including all Solano Express Bus stops and the two Solano county train stations.





STA Solano Transportation Authority Title VI Update (2014)

The Title VI Public Participation Plan documented Solano's efforts to increase the engagement of underserved communities for the purpose of informing them about transit services and planning efforts. Key strategies identified for reaching a broader range of people in this diverse county include translating promotional and planning materials, bilingual meeting facilitation, expanding digital outreach with translation, and leveraging the outreach abilities of advisory committees and community organizations, an extensive list of which is included in the plan.

Paratransit Coordinating Council

The Paratransit Coordinating Council (PCC) is the social services transportation advisory committee for STA. The PCC participates in the development of plans to improve availability of transit services for seniors, people with disabilities, and the economically disadvantaged.

Consolidated Transportation Services Agency (2015)

STA formed the CTSA Advisory Committee in 2015 to provide countywide coordination to pursue mobility management funding and identify and facilitate implementation of various programs and services to support seniors, people with disabilities and low income residents. This committee includes representatives from the SolanoExpress Intercity Transit Consortium (3 Transit operators), Paratransit Coordinating Council, Seniors and People with Disabilities Transportation Advisory Committee, Lifeline Advisory Committee, Solano County Health and Social Services, Area Agency on Aging, and 4 STA Board Liaisons. The CTSA Advisory Committee makes recommendations to the STA Board.

STA Solano Mobility Programs

The Solano Mobility Program (in existence since 1979 and formerly named SNCI) is led by the Solano Transportation Authority (STA) where staff work to support the transportation needs and services of all Solano County residents including commuters, employers, students, older adults and people with disabilities.

In February 2014, STA expanded its services to include the Solano Mobility Call Center. In addition to providing commuters and Solano County employers with information on a variety of services and programs, the Call Center also provides personalized assistance, transportation services, programs and information specifically for older adults and people with disabilities. Below are the programs that specifically support older adults and people with disabilities:

Travel Training

Travel Training is one-on-one instruction designed to teach people how to travel independently on fixed-route public transportation in their community. Travel Training is free to all Solano County residents who travel within Solano and neighboring counties. There are two options for Travel Training: Personalized one-on-one training to and from a specific location and Group trainings and presentations.

Regional Transit Connection (RTC) discount cards to qualified individuals with disabilities

Regional Transit Connection (RTC) cards are available to qualified persons with disabilities for a 50% discount on fixed- route bus.

Discounted Senior Clipper cards

Senior Clipper cards are available to adults 65 years and over that provide the same discount. These specialized Clipper cards can be utilized in all 9 Bay Area counties.

InterCity Taxi Card Program (ADA Certification)

People that are unable to use a fixed route because of a cognitive or physical disability can qualify for an American Disability Act (ADA) card. Once this card is obtained, they can take advantage of the Intercity Taxi Card program. Currently, clients can put \$100 worth of taxi funds on their card for \$40 dollars or \$20 for \$100, if client is low-income. This program is vital for people who need to get to medical appointments out of their residing city.

In 2018, STA will be implemented Phase II of this program to incorporate non ambulatory clients. In addition to the Taxi Card Program, those with an ADA card can also utilize countywide taxi-based intercity paratransit services. This service provides trips from city to city for current ambulatory and proposed non-ambulatory ADA-eligible riders and has been identified as an ADA Plus service.

Solano College Students Ride for Free

Solano Community College students passed a ten-year extension of a student fee for transit in Solano County. 85% of students voted to approve the extension. This fee is part of their semester student fee and enables SCC students to ride SolanoExpress or local transit services provided by Fairfield and Suisun Transit (FAST), Solano County Transit (SolTrans) or Vacaville City Coach for free by showing their SCC student ID.

Older Adult Program – Medical Trips

For those that can enter and exit a car without assistance and are 60 years and older, can sign up for the Go-Go Grandparent Medical Concierge Service. This service provides seniors 10 Uber/Lyft rides a month for trips to their medical appointments. The client will only pay 40% of their ride or 20% if they are qualified as low income.

Transportation Equity Performance Measures

MTC recommends developing performance measures and collecting accurate data to monitor them as a routine basis for future decision making. As part of its Plan Bay Area 2040, MTC adopted 10 measures, six of which relate to transportation equity. (See p. 56)

Individual counties are encouraged to consider other indicators that can help achieve equitable transportation investments and operations. Additional Equity metrics worth additional consideration include the following:

- Proximity of assets/services to sensitive populations
- Public health / Historic exposure to environmental hazards
- Emergency preparedness / Proximity to Critical facilities
- Public access / Access to Parks and Open Space

STA will develop and adopt its own set of Performance Measures for use in future CTP updates. This will require routine collection of additional data to inform its planning. These measures will be developed through a public process that includes full participation of Solano County's vulnerable populations.



Transportation Equity Principles

STA benefits by developing clear principles associated with its mission. For this CTP update, the Equity Working Group proposed five Guiding Principles, which were presented to the community in two workshops and an online public workshop. (See p. 46) The STA Board released the draft Guiding Principles in June 2019.

MTC has also developed principles to guide its regional plans and counties in their CTP planning. As part of its Plan Bay Area 2035, MTC adopted two principles:

1. Create an open and transparent public participation process that empowers low-income communities and communities of color to participate in decision-making that affects them.
2. Collect accurate and current data essential to defining and understanding the presence and extent of inequities, if any, in transportation funding based on race and income.

Going forward, STA will consider developing additional Principles to benefit minority and low-income individuals and families. Consideration will be given to the following issues:

1. Standards to ensure that the investment of public dollars is aligned with the goal of economic opportunity.
2. Focusing public dollars on critical needs and improved alignment between housing and transportation investments.
3. Developing partnerships and programs to facilitate connected communities.

Based on these Principles, STA will review its adopted plans and policies and consider adopting revisions that reflect these Principles.

5

Looking Forward



Photo: Kevin Etter

The value of this Plan is that it provides a framework for addressing our community's near-term needs while also looking ahead to ensure that STA continues to lead the way to a strong future for Solano County. This chapter will highlight several key strategies that are at the forefront of our effort.

The CTP reflects our agency's commitment to meet Solano's diverse mobility and sustainable development goals by moving beyond a traditional definition of transportation planning as devising a simple transaction to get from here to there; moving people and goods from one destination to another. STA will increasingly plan with a broader focus in recognition that our communities' health and prosperity demand solutions that intertwine transportation solutions with housing affordability, economic opportunity, and heightened consideration of our most vulnerable populations. Employing

a holistic planning framework is integral to the development of a more sustainable Solano County; one that recognizes the triple bottom line of economy, environment, and equity.

At the time of this writing, it is important to acknowledge that the unfolding nationwide coronavirus crisis presents formidable challenges to our community's immediate well-being, with grave consequences for our personal health, economy and mobility. More than any other aspect of our multi-modal network, Solano's transit operators face unprecedented operational and funding challenges, leading to lasting impacts unless we have the will to reimagine how to more efficiently organize for the future. STA will remain focused on helping people get to work during the crisis and continue doing so until the lingering disruptive effects of the pandemic have been resolved.



Transportation & Land Use

STA has long recognized the value of integrating land use and transportation considerations. STA's vision statement, which calls for the organization to enhance the quality of life, support economic development, and improve accessibility for all members of the community, acknowledges that those goals can only be realized through united planning efforts. Focused growth that creates housing with active transportation opportunities and transit access to jobs will bring cascading benefits including reduced congestion, improved air quality, better public health, and more fulfilling lives. Achieving these linked rewards depends upon STA's continued leadership in aligning PDA, PPA, and PCA designations with varied funding streams to achieve transformative results.

Achieving compact growth in PDAs will become the signature demonstration of Solano's longstanding orderly growth policy. Every city in Solano has designated PDAs where future growth will be focused. STA's expanding land use coordination

role will be especially helpful to our cities and the County, attracting regional and state funding to increase affordable housing production, especially in PDAs with integrated transit opportunities.

The more recent addition of the PPA designation to STA's regional planning framework aligns well with our efforts to promote economic vitality in the county. Relative to the region, there is an abundance of housing in Solano, but fewer jobs. STA's work with the Solano EDC and interested jurisdictions has focused on supporting existing businesses while attracting specifically targeted new ones. We will continue helping forge Public/Private Partnerships, as recommended in Solano EDC's ***Moving Solano Forward*** report, to generate matching funds for projects that accelerate economic growth and improve workforce income.

Equally important, designating PCAs that protect Solano County's unique natural resources will provide current and future generations with places for recreation, renewal, and appreciation of the natural world's vital role in our lives.

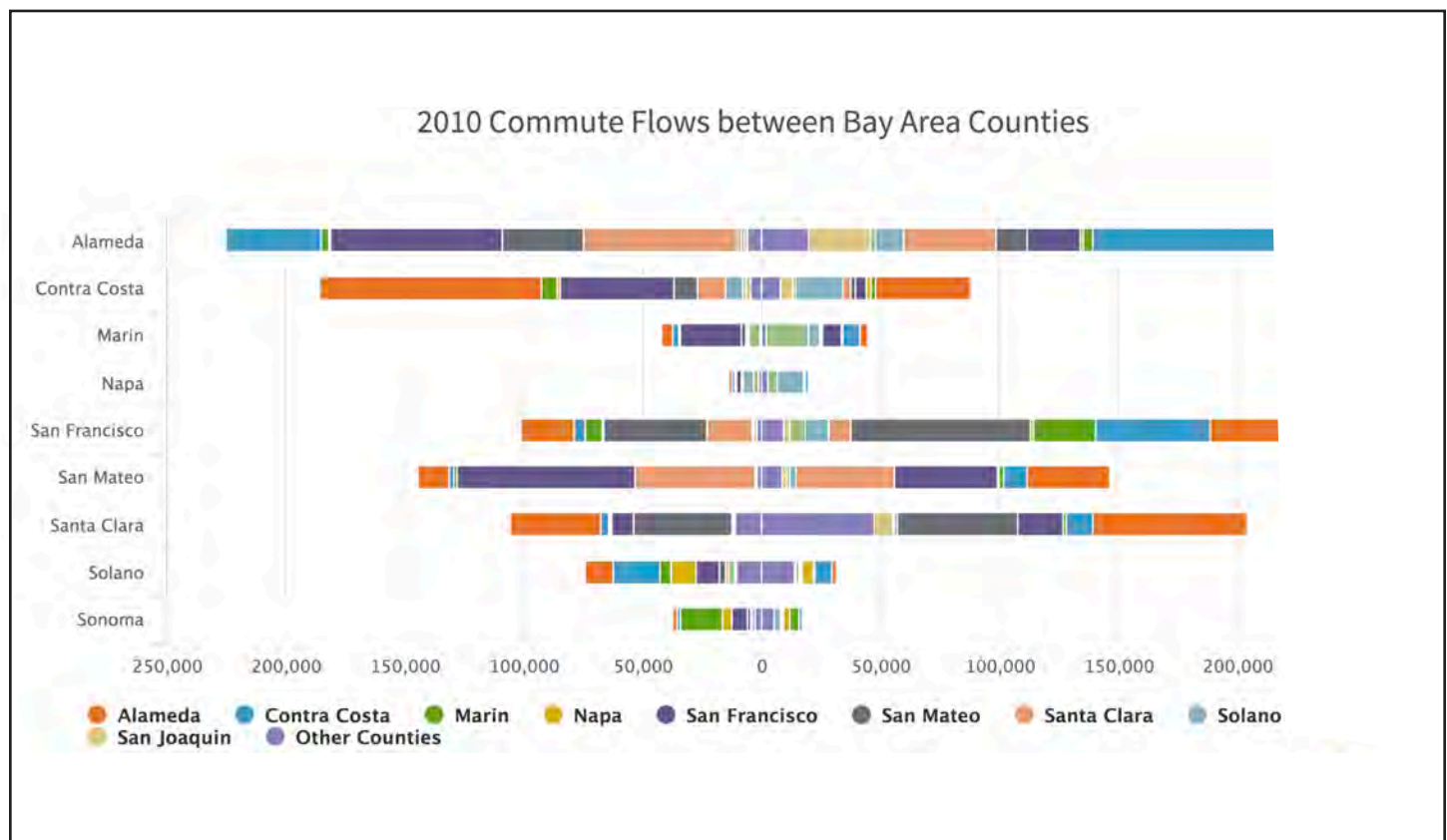


Performance-based Planning

Understanding the impacts of major transportation investments over time is critical to gauging their effectiveness. An ever-increasing pool of information is available to identify the interrelationships between transportation, housing, and economic opportunity. STA will keep expanding our inventory of GIS data and refining traffic models to enhance our ability to make decisions based on expected benefits. Selecting key metrics to watch in the coming years and regularly assessing the result of our actions will provide us with a deeper understanding of challenges facing Solano communities and the impact of our investments to address them.

Extensive regional resources are also being made available to STA to help us understand key issues from a countywide perspective and community by community. [MTC's Vital Signs](#) program maintains data by county and census block that STA can use to compare our performance with the region as a whole. The various metrics being tracked provide valuable information on transportation, housing, health, and economics.

Increased tracking and availability of data will also lead to improved safety for everyone traveling in Solano. Accurate and comprehensive mapping of traffic incidents helps target dangerous locations and facilitates planning safety improvements. Monitoring STA's 2018 Travel Safety Plan results as projects are implemented will help us identify the most impactful investments.



Equity

In this CTP, STA has broken new ground with the inclusion of the Equitable Access, Benefit, and Participation chapter. Its Key Principles codify our commitment to work collaboratively with communities and regional authorities to improve the quality of life for all persons throughout Solano County.

Ensuring that all residents benefit from transportation investments will become a key measure of fulfilling STA's mission. Concentrating development in PDAs can provide many benefits, but it can also add displacement pressure on existing vulnerable communities. Increasing economic vitality while minimizing displacement requires a delicate balance to ensure that projects retain Solano's character as a diverse, affordable place to live, while encouraging beneficial growth that realizes the County's full economic potential. Including affordable workforce housing in the mix of new development is essential to reduce unacceptable displacement of senior, disabled, and low-income persons.

Through the *Solano Mobility* program, STA has been a leader in addressing the transportation needs not just for the everyday commuter, but for older adults, people with disabilities and youth/students. Innovative micromobility offerings, such as the First/Last Mile Program and the Benicia Subsidized Lyft Program, will continue to grow, increase transportation efficiency and allow for expanded access, especially in areas where fixed route transit is not viable.

Going forward, STA will make an extra effort to engage Solano's diverse communities, in project planning, performance reviews, and funding decisions. We will expand our communication capacity to include multiple languages. Incorporating new ideas, such as Vallejo's participatory budgeting process, will engage a greater community cross-section in transportation decisions, increasing a sense of civic pride and personal growth.

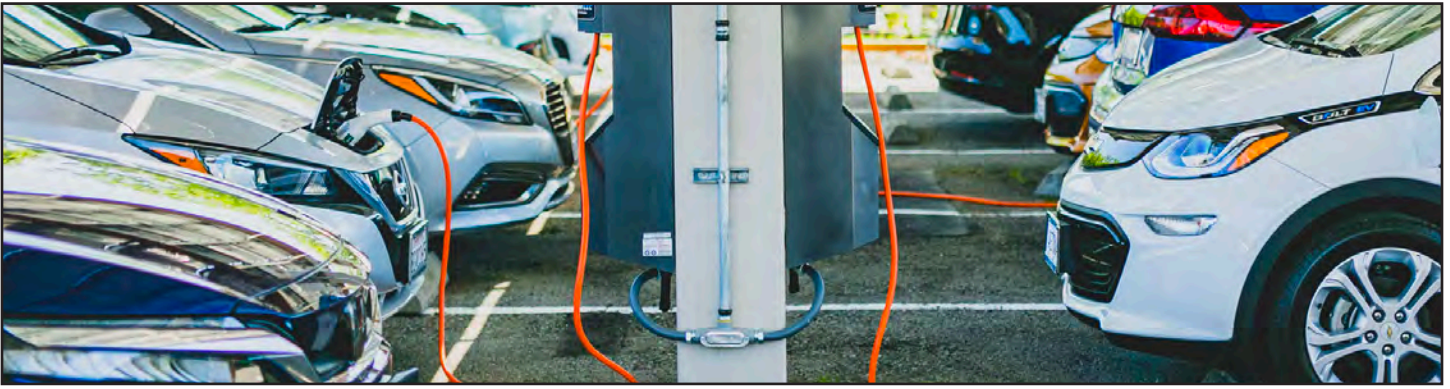
Maintaining progress in transportation equity will also require STA to collect accurate information of needs, investments, and outcomes. Continued monitoring will help us confirm that our choices have achieved their goal of improving the lives of all residents and workers in Solano.

Funding

At a time when most existing transportation funding sources are devoted to maintain the existing system, expanding federal, state, and regional government partnerships will be key to developing the mobility infrastructure required to support new housing and economic opportunities. STA will be proactive in developing revenue streams with agencies at all levels of government, and our own business community. Improvements will need to utilize novel financing mechanisms, bonds, and loan programs to support. Strengthening partnerships with key transit agencies, including WETA and Capitol Corridor can help link local needs with larger regional efforts and funding sources.



Photo: Robert Couse-Baker



The Moving Solano Forward Report by the Solano Economic Development Corporation identified several tools to help generate funding for infrastructure necessary to propel economic growth. Those tools include Special Assessment Districts, Tax Increment Financing, developer funding, financing and incentives, as well as Federal and State loan programs. STA will continue to work to secure a local source of transportation funds, because those dollars will significantly attract and leverage other sources.

Increasing regional funding sources for transportation projects is critical to allow making the infrastructure investments necessary around the bay. The recent passage of RM3 will enable numerous regional connection improvements to move forward. The measure designates over \$250 Million for improvements to I-80, \$100 Million for SR-37, as well as supporting increased ferry service and expanded offerings from Solano Express.

To make the most effective impact on regional transportation challenges we must increase our collaborative planning alongside fundraising efforts. FASTER Bay Area, a group of policy, government, business, transportation and community leaders, has been working with stakeholders and community leaders throughout the Bay Area to create a plan for a seamless, modern transit system that provides more affordable transportation options, reduces pollution and improves economic opportunity for low- and middle-income residents. FASTER's goal is to raise \$100 Billion through a sales tax measure that could be in front of voters as soon as 2021.

Innovative Technologies

As the twenty-first century proceeds, a wide variety of changes have the potential to dramatically reshape our communities. In some instances, internet technologies will replace the need to travel at all, reducing congestion and benefitting cleaner air at the same time. New modes of travel such as on-demand transit, ridesharing, autonomous vehicles, electric bikes, and motorized scooters are emerging as attractive micro-transit alternatives.

SolTrans has already identified these services as potential components of a unified transportation platform through its Solano County Transit Mobility-on-Demand (SCT-MOD) Project. The long range vision of the effort is to make a range of flexible, on-demand services and traditional transit offerings available through a single portal. Importantly, the SCT-MOD project has the potential to improve access for underserved communities while simultaneously reducing costs through improved efficiency. It is an excellent example of how public-private partnerships can achieve mutually beneficial results.

Expanding use of electric vehicles, such as through the Solano Electric Vehicle (EV) Transition Program, will be an integral component of California's strategy to reduce greenhouse gas emissions and increase energy independence. Efforts are currently underway to install new charging facilities at key locations around the county and will increase in support of this technological shift.

In sum, STA is dedicated to integrating innovation, strategic partnerships, increased community participation, and focused community development collaboration into our ongoing delivery of projects and programs that Solano residents and businesses rely upon.

A

Appendices



Existing Federal Land Use And Transportation Policies And Legislation

Intermodal Surface Transportation Efficiency Act (ISTEA)

Authorizing legislation for highways began with the Federal-Aid Road Act of 1916 and the Federal Highway Act of 1921. These acts provided the foundation for the Federal-aid highway program (FAHP) as it exists today. Multi-year authorization acts have subsequently continued the FAHP. Since 1978, Congress has passed highway authorization legislation as part of larger, more comprehensive, multi-year surface transportation acts that covered Federal-aid transit funding as well.

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) (pronounced Ice-Tea) is a federal law that brought major change to transportation planning and policy, as the first U.S. federal legislation on the subject in the post-Interstate Highway System era. It established the terms and conditions under which federal programs operate, authorized the enactment of appropriations, and how appropriated funds must be used. It also provided for Authorization bills that create, modify, and/or extend agencies and programs. Finally, it limited the term of each new ISTEA Act to approximately five years, unless extended through specific legislative action.

The current law is referred to as the Fixing America's Surface Transportation (FAST) ACT. It is a funding and authorization bill that governs federal surface transportation spending. It was passed by Congress on December 3, 2015 and is set to expire in October 2020.

Currently, Congress is debating the structure, programs, and funding for the next ISTEA authorizing law. It is referred to as the America's Transportation Infrastructure Act of 2019 (ATIA). In addition to funding for roads and bridges, the bipartisan bill includes \$3 billion to support projects that lower highway-related carbon emissions, such as efforts to reduce traffic congestion and provide alternatives to

single-occupant vehicle trips. States will be able to compete for an additional \$500 million by making progress on lowering their per-capita emissions.

The bill also includes a competitive grant program funded at \$1 billion over the five-year period for states and localities to build hydrogen, natural-gas and EV fueling infrastructure along designated highway corridors. While the funds are not dedicated exclusively to EV charging, market demand is likely to drive investments in EV infrastructure over the alternatives.

Federal laws require a fiscally constrained Metropolitan Transportation Plan (MTP) with a time horizon of at least 20 years and is updated every 4 to 5 years depending on the region's air quality attainment status. The plan must address:

Policies, strategies, and projects for the future;

- A systems-level approach by considering roadways, transit, nonmotorized transportation, and intermodal connections;
- Projected demand for transportation services over 20 years;
- Regional land use, development, housing, and employment goals and plans;
- Cost estimates and reasonably available financial sources for operation, maintenance, and capital investments; and
- Ways to preserve existing roads and facilities and make efficient use of the existing system.

The TIP is the four-year transportation program for the urbanized area. This is the region's way of allocating limited transportation resources among various needs of the region. The TIP implements the region's MTP. MTC has begun using performance-based criteria to select projects that support plan goals and community priorities. This list of projects is updated at least every four years, is approved by the MPO and governor, and is incorporated directly into the Statewide Transportation Improvement Program (STIP).

Beyond legislation, the federal government, through its Department of Transportation, has adopted numerous policies and programs that are intended to

bring investments in transportation into alignment with land use policies. Federal programs play an enormous role in supporting the real estate sector and directing new development. With nearly \$1 trillion in direct tax subsidies and \$4 trillion in loan guarantees over the last 5 years, the U.S. government has a significant impact on the real estate market, including where new development is built and what types of housing are created. It is important that land use and transportation planning decisions complement, not contradict, one another. Creating overlap and links between the transportation and land use processes is necessary to ensure that complementary land use and transportation decisions are made.

The Federal Transit Agency has adopted policies that direct growth around transit nodes and into corridors that will help maintain and increase transit's base of riders in the future. They encourage modification of parking regulations to encourage locations behind buildings, reduce the total number of spaces required to encourage public transit use, and promote shared parking agreements to help reduce vacant lots that create barriers for pedestrians and generate a less secure environment. Their guidance documents also advocate for street designs which not only provides transit priority but also are friendly to pedestrians. Federal regulations are also aimed at supporting freight generating land uses that can bring tax benefits to a region. Freight generating industries also provide jobs, and proximity of goods to growing populations and businesses.

Freight volumes, and their attendant impacts, are anticipated to grow significantly in the future, growing by over 60 percent (nationally) over the next 25 years. Accordingly, federal regulations include both long-range and short-range strategies/actions leading to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods.

The STIP is a consolidated list of transportation projects covering four years at the state level. The state prioritizes projects from rural, small urban, and urbanized areas of the state. TIPs from MPOs are incorporated directly without change into the STIP.

The STIP is approved by the U.S. DOT (FHWA and FTA). STIP approval must be granted before projects can move from planning to implementation.

Opportunity Zones were created by the 2017 Tax Cuts and Jobs Act. These zones are designed to spur economic development and job creation in distressed communities throughout the country. They provide tax incentives for investors to finance new infrastructure, development projects, affordable housing, and workforce development, among other things. Currently there are nine census tracts that have been designated as opportunity zones in Solano County, which are located in Fairfield and Vallejo. They are within areas designated as COCs and encompass much of Vallejo's PDAs.

Approved State Legislation

There are a number of recently adopted laws in Sacramento that would impact housing production in Solano County. Below is a summary of adopted legislation that would accelerate or modify housing production; create new source of funding or financing for affordable housing; or create incentives for building housing in transit areas or infill locations.

New Funding Sources

New state funding sources for affordable housing production are starting to come online, following Governor Brown's 2017 housing package and a voter-approved bond for \$4 billion that passed in 2018. These funding sources, administered by the Department of Housing and Community Development (HCD), are awarded via the following programs:

- The No Place Like Home Program, which dedicates nearly \$2 billion in bond proceeds for the development of permanent supportive housing, targeted to assist persons with mental illness and persons experiencing homelessness.
- The Multifamily Housing Program (MHP), which provides deferred long-term loans for construction, rehabilitation, and acquisition-rehabilitation of permanent and transitional affordable rental housing.
- Infill Infrastructure Grants (IIG), which were

formerly funded by Prop 1C in 2006. This program provides gap funding to the infrastructure improvements required for transit-oriented development and infill development.

- CalHome Program, which provide grants to local agencies and developers to develop ownership housing and provide other housing assistance to low-income homeowners.
- SB 2 (Building Homes and Jobs Act) imposed a new real estate recording fee of \$75 on selected real estate transactions. SB 2 funding will be dedicated to local governments for various eligible uses, including: planning and technical assistance to streamline housing development, development or preservation of affordable housing, and assistance for persons experiencing or at-risk of homelessness (rapid rehousing, emergency shelters, rental assistance, etc.)

Streamlining Housing Development

In addition to the new funding described above, the state has also implemented new bills to streamline housing development projects, allow cities to enact inclusionary ordinances. These bills are described below:

- SB 35 (Weiner) – Streamlined housing approval process for developments that have not met their housing targets, provided that development is on an infill site and conforms with local zoning plan. At least 10% of units must be affordable for lower-income families.
- AB 1505 (Bloom) – authorized cities to enact inclusionary ordinances (on-site or off-site low-income housing)
- SB 540 (Roth) – creates an opt-in mechanism for cities to create Workforce Housing Opportunity Zones (WHOZ) close to jobs and transit where workforce and affordable housing is streamlined
- SB 73 (Chiu) – creates opt-in mechanism for cities to create housing sustainability districts to streamline housing by completing zoning and environmental reviews up front.

Proposed State Legislation

The current legislative session has a number of proposed bills that would expand resources for affordable housing, incentivize housing production,

and facilitate housing development near transit. These are described below:

- AB 11 (Chiu) “Redevelopment 2.0” -- Would restore roughly \$1 billion for affordable housing statewide by employing tax increment financing. Property taxes would be diverted from county governments and schools in order for redevelopment agencies retain these funds within local government boundaries. Supporters (including Gavin Newsom) suggest that cities would have enhanced financial incentives to zone for housing if property taxes could be funneled into local coffers. If redevelopment 2.0 follows the model of 1.0, local jurisdictions would also bond against property taxes that are captured, increasing their fiscal capacity.
- AB 68 (Ting) - Overrides local lot size minimum requirements for accessory dwelling units (ADUs) or basement apartments; speeds up approval processes for ADUs to 60 days; and implements a couple of other changes to increase the viability of ADU construction.
- AB 264 (Melendez) – Would create state tax credit to compensate real estate developers for local development impact fees that are incurred when developers construct new housing.
- AB 553 (Melendez) – Would divert funding from high-speed rail bonds to HCD’s Multifamily Housing program.
- AB 725 (Wicks) -- Would require that no more than 20% of cities’ above moderate income allocation could be met by zoning land for single-family homes.
- AB 1279 (Bloom) – State would create a “high resource designation” and proposed affordable housing developments would be permitted by-right. Also calls for impact fees on any housing project affordable to households about 100% of AMI, equivalent to 10% of the difference in the actual sales/rental price and the sales/rental price that would be affordable for someone earning 100% or less of AMI.
- AB 1482 (Chiu) “Rent Cap” –Prevent landlords from raising rent more than 5% plus CPI (corresponds with CASA Compact). The bill is headed to the governor’s desk at the time of writing.
- AB 1483 (Grayson) – Requires cities to maintain

planning/zoning standards and schedules of fees/assessments readily accessible online (corresponds with CASA Compact Item #6)

- AB 1484 (Grayson) – Requires local governments to provide comprehensive impact fee information to developers in an application project; those impact fees are then locked in place as the project proceeds through the development process (corresponds with CASA Compact Item #6).
- AB 1486 (Ting) - Lays groundwork for public agencies to utilize their surplus lands for housing development (corresponds with CASA Compact Element # 8)
- AB 1487 (Chiu) – Would establish regional housing agency in the Bay Area which would have the authority to raise and administer housing funds (corresponds to CASA Compact Element #10).
- SB 50 (Weiner) – SB 50 calls for mandatory upzoning near transit stations. Jurisdictions would be required to allow apartment buildings (min. of '45 to '55 depending on local context) in locations that are (1) within ½ mile of a transit stations (including ferry lines and ports), (2) within ¼ mile of a high frequency bus stop, or (3) within a “job-rich” neighborhood (maps forthcoming). Exceptions granted for projects that would require demolishing apartments that currently house renters, and for sensitive communities/communities of concern (which can receive a 5-year delay in implementing zoning changes). The Fairfield Downtown (Jefferson) PDA, Suisun Waterfront/Downtown PDA, and Vallejo Downtown/Waterfront and Sonoma Blvd PDAs would all have substantial portions of their perimeters subjected to mandatory upzoning, but would qualify for delayed implementation because the areas immediately surrounding these PDAs are “communities of concern” or “sensitive communities.” Additional research would be needed to determine which PDAs also qualify as being within a ¼ mile radius of high-frequency bus service and would therefore be subjected to mandatory upzoning. Mandatory inclusionary requirements for low-income households would be 15-25% depending on the size of the project. The bill also extends displacement protections to mobile home residents. The bill has been put on

hold until 2020.

- SCA-1 (Weiner) - This Senate Constitution Amendment would remove Article 34 of the CA Constitution (passed in 1950) that requires cities to seek approval of voters to construct “low-rent” housing; removing Article 34 would speed up the approvals process for affordable housing.

Regional Housing Efforts

The Committee to House the Bay Area, or CASA, was a regional effort from 2017 to 2019 that brought together leaders from city governments, regional agencies, housing development, philanthropy, tenant advocacy groups, and employers to develop strategies that would increase housing production, including affordable housing production. CASA established a goal of producing 35,000 new housing units each year, which would include 14,000 units affordable to low-income families and 7,000 units affordable to moderate income families. After over a year of deliberations, MTC and ABAG adopted the CASA 10-point Compact. Many of the programs and policies recommended will require state legislative changes in order to be enacted.

The following are the elements of the CASA Compact that could impact Solano County jurisdictions:

- **Compact Element 1** : Just Cause eviction policy (requires landlords to cite specific “just causes” (either fault or no-fault) for termination of tenancy.
- **Compact Element 2**: Emergency rent cap (establishes a permissible annual percent rent increase, CPI + 5%)
- **Compact Element 3**: Emergency Rent Assistance and Access to Legal Counsel (to be maintained by the Regional Housing Enterprise, funded via Compact Item 10)
- **Compact Element 4**: Remove regulatory barriers to ADUs (CASA recommends that a state law be created on this, but city governments also are encouraged to adopt owner occupancy requirements for properties containing ADUs, and that cities’ impact fees be imposed on ADUs only under certain conditions.)
- **Compact Element 5**: Minimum zoning near major transit areas (there are only three of these in Solano, one in Vallejo and two in Fairfield). CASA calls for

state law to be changed, but city governments could adopt standards described in the meantime; note that this Compact item calls for exceptions to be granted to Sensitive Communities so that they can develop context-specific plans. There are three Sensitive Communities in Solano County.

- **Compact Element 6:** Good government reforms to housing approval process (create “transparency, predictability, reliability, and timelines to the housing approvals process”). Involves local jurisdictions maintaining a list of all of their rules, codes, and standards, and “annually document all local agency impositions that increase the hard cost...of housing construction, including fees and inclusionary zoning requirements.” Compact element also calls for several changes to state law, and several corresponding bills have been introduced.
- **Compact Element 7:** Expedited approvals of zoning-compliant housing projects, and creation of financial incentives for enabling on-site affordability and prevailing wages (a bill has been introduced)
- **Compact Element 8:** Unlock Public Land for Affordable Housing – promotes an increased utilization of surplus/underutilized public land for affordable housing, including all properties owned by cities, counties, state agencies, and public agencies.
- **Compact Element 9:** Raise \$1.5 billion in revenue to fund and finance the CASA Compact, including from the following potential sources: vacant homes taxes, parcel taxes, commercial linkage fees, gross receipts taxes... could have broad implications for local governments.

Existing Regional Land Use And Transportation Plans, Policies, And Programs

Plan Bay Area

Transportation 2035 was the first long-range, regional plan adopted by the Association of Bay Area Governments (ABAG) and the Metropolitan

Transportation Commission (ABAG/MTC) to comply with the state’s mandate to create a Sustainable Communities Strategy. California’s landmark Senate Bill 375 required each region to develop a Sustainable Community Strategy that would integrate economic development, transportation, and housing in order to reduce greenhouse gas emissions from cars and light trucks. Plan Bay Area, adopted in July 2013, projected that the nine-county San Francisco Bay Area region would increase by 660,000 households and 1.1 million jobs from 2010 to 2040. The regional plan allocated approximately 80 percent of the future household growth and 63 percent of new jobs in Priority Development Areas (PDAs). Transportation 2035 also identified major transportation and infrastructure projects that would help to support and sustain the region’s growth and development. The 2040 update of the RTP was the first to adopt the name Plan Bay Area and included expanded consideration of equity and an increased focus on PDAs.

Horizon Initiative

MTC and ABAG are currently in the process of a new planning effort, the Horizon Initiative, to explore challenging issues and emerging trends and their impacts on the region’s future growth and resiliency through 2050. The Horizon Initiative is examining new technologies (autonomous vehicles), climate change and sea level rise, earthquakes, economic cycles, political cycles, and other possible challenges Bay Area residents may face through 2050. The Horizon Initiative will set the stage for developing the regional Plan Bay Area 2050. The Metropolitan Transportation Commission and the Association of Bay Area Governments are expected to adopt Plan Bay Area 2050 in the summer of 2021. Plan Bay Area 2050 will prioritize making the region more equitable and resilient.

Regional CASA Compact

The Committee to House the Bay Area, or CASA, was a regional effort from 2017 to 2019 that brought together leaders from city governments, regional agencies, housing development, philanthropy, tenant advocacy groups, and employers to develop strategies that would increase housing production,

including affordable housing production. CASA established a goal of producing 35,000 new housing units each year, which would include 14,000 units affordable to low-income families and 7,000 units affordable to moderate income families. After over a year of deliberations, MTC and ABAG adopted the CASA 10-point Compact. Many of the programs and policies recommended will require state legislative changes in order to be enacted.

The following section identifies legislation currently being considered by the State. Many CASA elements have been included in a variety of bills.

MTC Suburban Housing Incentive Pool (HIP) Pilot Program

This \$5 million set-aside from MTC is part of the Housing Incentive Program (HIP), referred to as SubHIP. Each CTA is responsible for managing the distribution of funds within its respective county, but MTC maintains a variety of suggested guidelines for projects, including that the projects be located in cities that have an updated housing element that complies with state law, and local policies that reflect recent state housing legislation for density bonuses, ADUs, and surplus land. Currently, Fairfield, Suisun City, and Vacaville meet these criteria (or will very soon). Dixon, Benicia, Rio Vista, and Vallejo are required to update their ADU or density bonus ordinances to be in compliance with state legislation and become eligible for the SubHIP funds.

SB2 is the first permanent source of state funding dedicated to helping local governments increase housing production. The program is funded by fees levied on certain real estate transactions and is expected to generate between \$250 and \$300 million annually. The California Department of Housing and Community Development (HCD) is administering the program. The revenues generated for the first year of funding will be split between homelessness programs and planning grants.

Local governments are eligible to apply for planning grants that can be used on a range of qualifying activities related to streamlining and accelerating housing production. Eligible activities include updates

to general and specific plans, updates to zoning ordinances, and process improvements that expedite planning approval for housing development.

Regional Equity Initiatives

In 2002, MTC created the Community-Based Transportation Plan (CBTP) Program to address the needs of economically disadvantaged communities through community transportation planning. The objective of the program is to develop a plan through a collaborative process that identifies transportation gaps, proposes and prioritizes strategies to address them, and identifies potential funding sources and projects for implementation. The program is designed to ensure that the population directly affected by the transportation plan is guiding the process. CBTPs have been developed for Dixon, Vallejo, East Fairfield, Vacaville, and a combined plan for Cordelia-Fairfield-Suisun City. City of Vallejo to update their plan.

In 2005, MTC created the Lifeline Transportation Program (LTP) to fund projects and programs that would improve mobility and access needs of low-income populations in the region. Currently, the Lifeline Program is focused on Communities of Concern.

In 2011, MTC committed \$10 million in seed funding to the Transit-Oriented Affordable Housing (TOAH) fund, which provides flexible, affordable loans to developers for the purchase of properties near transit for the development of affordable housing, retail space, and other critical services such as child care centers, fresh food outlets and health clinics. By supporting growth along transit corridors in Priority Development Areas, TOAH promotes compact land use patterns, which aligns with the region's Sustainable Community Strategy. MTC committed an additional \$10 million to the fund in 2014.

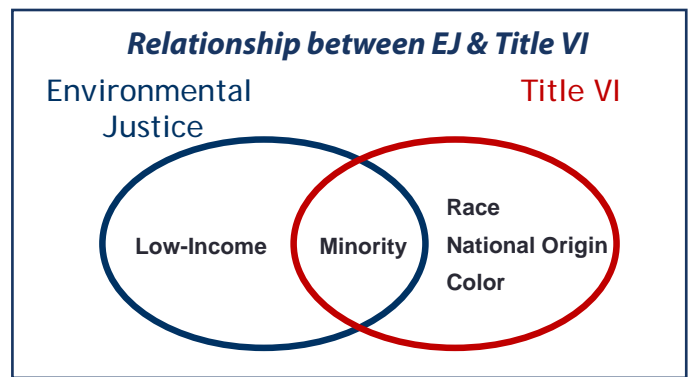
In 2012, SB 375 required metropolitan planning organizations to develop a "Sustainable Communities Strategy" that integrates transportation, land-use and housing policies to reduce automotive greenhouse gas emissions to levels determined by the California Air Resources Board. The last two Regional

Transportation Plans (RTP), Transportation 2035 and Plan Bay Area 2040 have been organized to comply with SB 375. For Plan Bay Area 2040 an Equity Analysis Report summarized key findings from a regional Title VI analysis as well as an investigation of equity measures developed by MTC. The report called out housing affordability as the most significant equity challenge for the Bay Area. Equity is one of the three overarching themes in PBA 2040. The three themes are equity, environment, and economy, or the “Three Es” of sustainability.

In late 2011, HUD awarded MTC and the Association of Bay Area Governments (ABAG) a Sustainable Communities Grant to fund efforts to improve Bay Area housing and economic conditions for low- and moderate-income residents and workers. The grant provided just under \$5 million over three years for planning and implementation work. MTC’s Economic Prosperity Strategy is the framework and strategy for the economic development portion of the Bay Area’s Sustainable Communities Grant.

In conjunction with this work, in 2018 MTC approved implementation of a **pilot Regional Means-Based Fare Program** as a way to provide greater mobility options for low-income persons on participating transit systems in the Bay Area. Persons with income below 200% of the Federal Poverty Level (approximately \$70,000 per year for a family of four in the Bay Area) are eligible. It began its study to evaluate the feasibility and effectiveness of implementing a transit fare subsidy program based on household income in 2015.

In 2018, MTC completed its **Equity Analysis** as part of preparing for the next RTP. The primary purpose of the equity analysis is to estimate the distribution of benefits and burdens of proposed land use and transportation policies and projects on disadvantaged communities, and to assess whether these benefits and burdens are shared equitably across all population groups. The main finding of the equity analysis was that housing affordability remains the most significant challenge for the Bay Area.



The report summarized key findings from the equity analysis for Plan Bay Area (PBA) 2040, the combined Sustainable Communities Strategy (SCS) and Regional Transportation Plan (RTP) for the San Francisco Bay Area. The analysis includes both the federally-required disparate impact and non-discrimination (Title VI) and environmental justice analyses, as well as an analysis of the overall performance of PBA 2040 based on equity measures adopted by the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG).

In 2018, MTC updated its **Coordinated Public Transit–Human Services Transportation Plan** (Coordinated Plan), which seeks to improve transportation coordination in the region to address the mobility needs of low-income populations, seniors, persons with disabilities and veterans. This program sets criteria for how funds can be used to finance capital, planning and operating expenses when the projects selected are derived from a locally developed, coordinated public transit-human services transportation plan. STA became a Consolidate Transportation Services Agency (CTSA) in 2015, making it eligible to receive funding through the regional program.

In 2018, the Committee to House the Bay Area, or **CASA**, brought together leaders from city and regional governments, regional agencies, housing development, philanthropy, tenant protections, and tech companies groups to collaboratively consider, and negotiate around, strategies that would increase housing production, including affordable housing production. CASA’s goal was to change Bay Area housing conditions such that 35,000 housing units could be produced each year, with 14,000 being

affordable to low-income families and 7,000 being affordable to moderate income families. After over a year of deliberations, the final result was a 10-point compact, most of which requires state legislative changes in order to be enacted.

Federal and State Equity Laws and Regulations

Despite more than a half century of efforts to address discrimination and inequality through federal policy, inequity in our nation persists. Though great strides have been made towards overcoming oppression and injustice, creating fairness within the procedures of our institutions or systems, demands addressing the root causes of inequality.

Key policies aimed at promoting equity in transportation funding, access, and impact include:

Civil Rights Act (1964)

The Civil Rights Act outlaws discrimination based on race, color, religion, sex, or national origin. It prohibits unequal application of voter registration requirements, and segregation in schools, employment, and public accommodations, including courthouses, parks, restaurants, theaters, sports arenas and hotels. The act forbids the use of federal funds for any discriminatory program, authorized federal assistance with school desegregation, and prohibited the unequal application of voting requirements.

Title VI of the Civil Rights Act is a Federal statute and provides that no person shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. This is a crucial consideration in regional transportation funding decisions.

Americans with Disabilities Act (1990)

The Americans with Disabilities Act is the first law in the United States prohibiting discrimination against people with disabilities by regulating five broad areas: Employment, Services provided by State

and Local Government, Public Accommodations & Privately Operated Services, Telecommunications, and Transportation.

Federal Executive Order (EO) 12898 (1994)

EO12898 was issued by Bill Clinton in 1994 to identify and address the disproportionately high and adverse health and environmental effects of government programs on minority and low-income populations. The order directs federal agencies to develop a strategy for implementing environmental justice. The order also seeks to provide minority and low-income communities with expanded access to public information and opportunities for public participation. A memorandum accompanying EO 12898 identified Title VI of the Civil Rights Act of 1964 as one of several Federal laws that must be applied “as an important part of . . . efforts to prevent minority communities and low-income communities from being subject to disproportionately high and adverse environmental effects.”

USDOT Order 5610.2 - Instituting an Environmental Justice Strategy (1997)

Following EO12898, USDOT Order 5610.2 established the Department of Transportation’s environmental justice strategy. It defines procedures for analysis of environmental justice issues and inclusive public engagement with minority and low-income communities in the transportation planning process.

USDOT Circular FTA C 4703.1 - Environmental Justice Policy Guidance for FTA Recipients (2012)

Circular FTA C4703.1 is a guidance document for recipients of federal transit funding. It provides strategies and methods to effectively engage environmental justice populations in the public transportation decision-making process, to determine whether environmental justice populations would be subjected to disproportionate impacts as a result of a transportation plan or project, and to avoid, minimize, or mitigate these effects.

FHWA Order 6640.23 - policies to comply with (EO) 12898 and USDOT Order 5610.2.I (2012)

FHWA Order 6640.23 further clarifies the Federal Highway Administration’s environmental justice

analysis requirements in the preparation of NEPA documents. The policy seeks to minimize impacts on environmental justice populations by identifying and evaluating impacts, avoiding, minimizing and mitigating disproportionate adverse impacts, considering lower impact alternatives, and informing and involving the public in project planning. and Local Government, Public Accommodations & Privately Operated Services, Telecommunications, and Transportation.

In California, regulations guiding the state towards a sustainable future have expanded dramatically in the past decade, and efforts to address climate have become linked with environmental justice goals.

AB32 – Global Warming Solutions Act (2006)

AB32 established historic state regulations aimed at reducing greenhouse gas emissions through a “cap and trade” approach. The act aims to reduce greenhouse gas emissions to 1990 levels by 2020, and to a level 80% below that by 2050. To achieve this the act gave the California Air Resources Board the authority to limit the amount of allowable carbon emissions, and auction emission allowances. Revenues from allowance auctions are deposited into the state Greenhouse Gas Reduction Fund (GGRF) which is used to support programs and projects which reduce greenhouse gas emissions.

SB 375 – Sustainable Communities and Climate Protection Act (2008)

SB 375 requires metropolitan planning organizations to develop a “Sustainable Communities Strategy” that integrates transportation, land-use and housing policies to reduce automotive greenhouse gas emissions to levels determined by the California Air Resources Board. The last two Regional Transportation Plans (RTP), Transportation 2035 and Plan Bay Area 2040 comply with SB 375.

AB 1358 – The Complete Streets Act (2008)

Assembly Bill 1358 requires all cities and counties to consider all users of roads when they update their general transportation plans. Caltrans concurrently

updated their own policies (see Deputy Directive 64) to apply the same “complete streets” philosophy to state-owned roads. Complete streets incorporate wide sidewalks, street furniture and trees, bicycle lanes, crosswalks, and bus turnouts to make it easy, safe, and enjoyable for all modes of transportation including motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and public transit riders.

SB 535 - CalEnviroScreen 3.0 (2012)

SB 535 established environmental justice goals and requirements for cap and trade funds to address concerns that actions taken to achieve the goals laid out by AB 32, must not disproportionately affect low-income and disadvantaged communities. It states that 25 percent of the available funds are required to be used for projects that will benefit disadvantaged areas, and that at least 10 percent must be allocated to projects actually located in disadvantaged communities.

To achieve this, the bill directed CalEPA to identify disadvantaged communities based on geographic, socioeconomic, public health, and environmental hazard criteria. These communities may include, but are not limited to:

- Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.
- Areas with concentrations of people that are of low-income, high unemployment, low levels of home ownership, high rent burden, sensitive populations, or low levels of educational attainment.

The result, known as CalEnviroScreen, assigns a score to each census tract which represents a combined measure of pollution and the potential vulnerability of a population to the effects of pollution. CalEnviroScreen 3.0 does not include indicators of race/ethnicity or age, however these characteristics remain important to examine in the context of pollution burdens and vulnerabilities.

AB 1550 (2016)

Increases the percent of funds for projects located in disadvantaged communities from 10 to 25 percent. This supplants the requirement in SB 535 that 25 percent of the funds must benefit disadvantaged communities. AB 1550 also created new investment requirements for low-income communities and households requiring that:

- At least 5 percent of the moneys allocated from the GGRF must fund projects located within and benefiting individuals living in low-income communities or fund projects benefitting low-income households statewide; and
- At least 5 percent of the moneys allocated from the GGRF must fund projects located within and benefiting individuals living in low-income communities, or benefiting low income households, that are within ½ mile of a disadvantaged community. CalEnviroScreen 3.0 does not include indicators of race/ethnicity or age, however these characteristics remain important to examine in the context of pollution burdens and vulnerabilities.

STA Land Use Chapter Pubic Comments Received
(4/8/2020 – 5/10/2020)
Updated 6/26/2020

Comment Made By	Date Received	Method of Transmission	Comment Received	Action Taken
Elizabeth Patterson (STA Board Member)	4/8/2020	Verbal (at the STA Board Meeting on 4/8/2020)	Requested that staff add to the goals and identify reducing vehicle miles traveled to comply with the CEQA requirement and state requirement under SB 375	Language regarding SB 743 (Pg. 42) was added.
Bill Emlen	4/8/2020	Via E-Mail	Commented that the PCAs on the map shown on Pg. 36 did not reflect the current PCAs following ABAG's recent update of Regional PCA designations.	A note was added to the map to redirect readers to the maps on Pgs. 12 and 32 for maps of the recent PCA designations for Solano County.
Mathew Walsh	4/8/2020	Via E-Mail	Commented that the RHNA language indicated is a 7-year cycle, which is inaccurate.	Comment noted. Edit was incorporated.
Joseph Green-Heffern	5/5/2020	Via E-Mail and Letter	1) No mention of SB 743 within the document.	1) Section regarding SB 743 was added to Pg. 42.
			2) STA should note the "status and future availability of forthcoming SB 743 guidance and policy documents from STA...and Cities within the County".	2) Comment noted. STA is working with the cities to keep them informed on state and regional requirements regarding SB 743 and to support them in the process.
			3) No mention of VMT in the Land Use Chapter.	3) VMT is mentioned on Pg. 18 and Pg. 30 (SB 375). More on STA and VMT can be found in the Arterials, Highways, and Freeways Element of the CTP. (Pg.17, 51, 75, 76)

			4) No mention of Urban Growth Boundaries (UGBs).	4) Language to include UGBs was added on Pg. 23.
Bob Berman (Solano County Orderly Growth Committee)	5/10/2020	E-Mail	1) Importance of the Orderly Growth Initiative on Solano County land use patterns should be further discussed.	1) The OGI is mentioned more in depth in the Introduction Chapter on PG. 23.
			2) The Land Use Chapter should reference and show the existing UGBs on an exhibit and state when they will come up for renewal.	3) Language to include UGBs was added on Pg. 23.
			4) Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation and other similar plans should be discussed in the Land Use Chapter.	2) Language added to Pg. 30.
			5) Discussion on MTC's Designated Geographies is written in the wrong tense.	3) Comment noted. Edit was incorporated.
			6) RHNA Graphics placements are not optimized.	4) This was recognized by staff and the changes are reflected in the current version.
			7) Discrepancy between 2014-2022 RHNA vs 2015-2023 RHNA usage.	5) Comment noted. Edit was incorporated.
			8) Comments that the text does not mention the issues between RHNA goals for low-income housing and request it be discussed.	6) Comment noted. The plan acknowledges that Solano cities are struggling with producing affordable housing as a result of a lack of local, state, and federal funding sources to subsidize lower income housing units, etc. (Pg. 40)



2020



Solano Transportation Authority

Solano County Comprehensive Transportation Plan

The Future of Transportation | Arterials, Highways & Freeways Element

Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

STA.CA.GOV
(707) 424-6075
info@sta.ca.gov

ARTERIALS, HIGHWAYS AND FREEWAYS ELEMENT

TABLE OF CONTENTS

Executive Summary	3
Chapter 1: Introduction	5
Chapter 2: Purpose	8
Chapter 3: The Arterials, Highways and Freeways Systems	11
The Arterials, Highways and Freeways System Defined	11
1. All Roadways in the Solano Congestion Management Program (CMP) Network	12
2. Roadways providing access to and from Transit Facilities of Regional Significance	12
3. Roadways providing access to and from major employment centers with higher traffic volumes	12
4. Roads providing Intercity and Freeway/Highway Connections	13
5. Other roads critical to providing countywide emergency response	13
6. Supporting Facilities in the Right-Of-Way	14
The RORS System - By The Numbers	15
Interstate Freeways	15
State Highways	16
Local Arterials	17
Other Right-of-Way Facilities	17
Chapter 4: State of the System	19
Chapter 5: Arterials, Highways and Freeways Goals and Goal Gap Analysis	47
Chapter 6: Arterials, Highways and Freeways Element Resources	58
What is a Roadway?	58
Roadway Construction - Past Revenue	59
Federal	59
Table 1: Federal Construction Funds FY 2009-10 to FY 2016-17	62
State	62
Fuel Tax	63
Table 3: State Fuel Tax Rates (Fiscal years 2010-11 through 2016-17)	63
Highway Safety Improvement Program (HSIP)	64
Highway Bridge Program (HBP)	64
Bonds	64
Table 4: State Funding for Construction	65
Regional Funding	65
Table 6: Regional Funding for Construction	66
Local Funding	66
The Whole Funding Picture	67
Table 8: Total Construction Funding FY 2009-10 through FY 2016-17	67
Conclusions - Construction Funding	67
Roadway Maintenance - Past Revenue	68
Table 10: State Gas Tax Funds for Solano Road Operations and Maintenance	69

Table 11: OBAG 1 Local Streets and Roads Projects	69
Table 12: SHOPP Funds	70
Table 13: Total Operation and Maintenance Funds	71
Future Revenue	71
Roadway Construction - Future Revenue	72
Federal funds	72
State funds	73
Revenue Gap	76
Construction Funds	76
Table 12: Projected Federal Funds for Road Construction	77
Table 13: Projected State Funds for Road Construction	77
Table 14: Projected Regional Funds for Road Construction	77
Table 15: Projected RTIF Funds for Road Construction	77
Table 16: Projected Total Funds for New Capacity Road Construction (best case)	77
Maintenance Funds	78
Table 18: Projected Total Funds for Road Operation and Maintenance	74
Table 19: Identified Projects on Routes of Regional Significance	79
Table 20: Identified Projects on RORS that may be Self-Funded	80
Chapter 7: Arterials, Highways and Freeways Element Policies, Performance Measures and Milestones	82
Chapter 8: Priorities	90
Table 21 - Tier 1 Arterials, Highways and Freeways Projects and Programs	92
Table 22 - Tier 2 Arterials, Highways and Freeways Projects and Programs	93
Table 23 - Tier 3 Arterials, Highways and Freeways Projects and Programs	94
Chapter 9: Moving Forward; or, Making A Better Garment	96

Executive Summary

The Arterials, Highways and Freeways (AHF) Element of the Solano Comprehensive Transportation Plan (CTP) focuses on the analysis and enhancement of key connections between key components of Solano County's transportation network, which are anchored by the regionally significant I-80 corridor. The nexuses between various modes of transportation are particularly poised for investment as Solano County residents increasingly embrace multimodal commuting to ease congestion and reduce greenhouse gas emissions. At every level of the roadway hierarchy, Solano County roads must be able to adequately serve all modes of transportation, from bicycles to heavy equipment haulers. Should any component fail to meet this standard, through errors of design or neglect, the integrity of the network as a whole is compromised. Caring for transportation network involves responsible, targeted investments and rests on a delicate balance between occasionally conflicting goals; funding must be allocated to well-traveled highways without neglecting local arterials, and to constructing new network links to meet demand without neglecting to maintain Solano County's existing network.

In order to meet this goal, the AHF element of the CTP must not only define Solano County's transportation network but also analyze the current state of the system to establish a set of goals and identify strategies to bridge the gap between ideal and existing conditions. Defining the roadway network includes identifying regionally significant roads and routes, and analyzing whether increasing usage would be best met through strategies that increase efficiency, or require a roadway expansion to meet traffic needs. In addition to meeting Solano County's own goals and benchmarks, the CTP aims to ensure that Solano County efforts are coordinated and consistent with regional roadway plans, including the Metropolitan Transportation Commission's Plan Bay Area, and that these efforts factor in state-mandated transportation initiatives.

The current state of system reveals a number of pressing issues that require targeted mitigation strategies and innovative solutions. Many of Solano County's major highways on the I-80 corridor experience recurring congestion. Many arterials lack pedestrian and bicyclist facilities, creating gaps in the active transportation network. Perhaps most significantly, the pavement on many of Solano County's major roads is in a state of deterioration, representing a sizeable backlog of unfunded maintenance work that will only be exacerbated by time and increasing usage.

The CMP aims to address these issues through projects within its main priorities, which include developing corridor plans, maintaining consistent width to avoid congestion, and implementing site-sensitive Complete Street strategies whenever possible. Meeting these goals will be difficult given the lack of local funding for roadway improvements. Current funding sources include limited local discretionary funds in addition to federal, state, and regional funds, some

of which are awarded competitively to projects that best fit a given set of parameters. Moving forward, the introduction of SB 1 gas tax funding and the prospective RM 3 bridge toll funds offer an opportunity to address overdue maintenance projects and undertake new construction projects to revitalize Solano County's AHF network.

The AHF element focuses on data-driven solutions rather than prescriptive measures wherever possible. It includes a goal/gap analysis and defines objective performance measures to allow STA and its member agencies to evaluate the efficacy of potential solutions and select the projects with the highest need or benefit for more immediate investment and implementation. These demonstrably beneficial projects will have a significant and positive impact on Solano County's roadway network. More importantly, these key initiatives will noticeably improve the transportation experience of all Solano County residents, regardless of mode or ability.

The analyses conducted through the AHF element of the CMP reveal that STA's existing strategies are working well, but that new steps must also be taken to best serve Solano County's transportation network. On the basis of this understanding, STA's should continue to focus on obtaining funds to design and deliver planned Tier 1 projects on the I-80 corridor with both allocated and competitive funds. Gas tax and SB 1 funds should be allocated to local agencies for local streets and road maintenance. STA should supplement these ongoing efforts by developing and updated I-80 Corridor Plan. STA should also develop a local roadway plan, selecting Routes of Regional Significance and planning targeted efforts that are not only consistent with Complete Streets policies but also support local economic development by facilitating the movement of goods and people throughout the county.

Taken together, this four-pronged approach to improving and maintaining Solano County's AHF network, founded on data-driven strategies derived from a goal/gap analysis and defined by objective performance measures, will improve the daily lives of Solano County residents and demonstrate faithful stewardship of public resources. It strikes a balance between meeting local and regional needs, between strengthening Solano County's profitable external ties and developing a strong local economy, and between adopting new policies and strategies without neglecting the causes that local residents and community leaders have championed for years. This comprehensive approach will build public trust and demonstrate to local residents that Solano County's roadway network is worth investing in, ensuring that resources remain available for future transportation projects. By honing in on the most productive projects for investment and delivering them in a timely manner, STA and its member agencies can build public trust and continue to serve public interest moving forward.

Chapter 1: Introduction

“It really boils down to this: that all life is interrelated. We are all caught in an inescapable network of mutuality, tied into a single garment of destiny.

Whatever affects one destiny, affects all indirectly.”

Martin Luther King Jr.

Connections – that is the core of the Arterials, Highways and Freeways (AHF) Element of the Solano Comprehensive Transportation Plan (CTP). The roadways covered by the AHF Element are what connect us all: not just cities and regions to one another, but also various modes of travel. Roadways handle cars, buses, local delivery vehicles, bicycles, taxis, carpools, heavy equipment haulers and long distance cargo trucks, and local agricultural machinery. The only transportation not on the roadways are trains, ships and airplanes - and access to rail, port and airport facilities all comes by way of roads. Like a garment, the whole is greater than the individual parts, and the failure of one part impacts the whole.

There are two other ways in which the AHF system resembles a garment. First, it must change as the community does or it will no longer fit its purpose. Second, it wears out over time, and proper care and attention can only slow, not prevent, that process.

The overarching theme of the Solano CTP is to *Strengthen the System and Reduce Stress by developing, operating and maintaining an integrated local and regional transportation system anchored on the I-80 corridor (Interstate highways 80, 680 and 780)*. The I-80 corridor is the core of the AHF system, and if its functionality breaks down, the remainder of the system - both locally and regionally - also begins to fail. As a result, the greatest emphasis found in this Element is on the proper form and function of the I-80 corridor.

The I-80 corridor is not the whole system, and all of the other elements that feed into it, from state highways to local arterials, must also function for the whole system to be useful. One of the most vital balancing tasks in the Element is how to allocate re-



sources between the core I-80 system and the connecting highways and arterials.

The I-80 system is the core of the Solano transportation system – but it is not the whole of the system

A second vital balancing task is between system construction and system maintenance. The funding sources for these two tasks are mostly separate (money in a construction account can't be used for maintenance and vice-versa), and there are currently few local



funds available for either purpose. Expansion of the system adds to the maintenance burden, with one exception: Express Lanes can provide toll revenues that help maintain the roads on which they are located, and have the potential to also support facilities and programs that reduce stress by moving single occupant drivers into some form of transit. This is why expansion of the Express Lane system in Solano County is one of the highest priorities in the Solano CTP Transit and Rideshare Element.

Another aspect of AHF investments is how critical they are to local and regional economic health. Even in the modern “knowl-

edge-based” economy of software and social media, movement of goods is THE most basic factor in a healthy economy. Those goods may be Suisun Valley wine grapes, Discovery Kingdom visitors, Genentech pharmaceuticals, Montezuma Hills lambs - or workers at

Freight is the economy in motion

those afore-mentioned Knowledge Economy businesses in Benicia, Dixon and Fairfield. No matter what the goods are or where their trip starts or ends, some of the journey is on the AHF network.

Construction and maintenance costs for the AHF system are also far greater - as much as an order of magnitude greater - than are those of the Transit and Rideshare system. Decisions on roadways also tend to have a larger influence on land use policy than do Transit and Rideshare or Active Transportation policies and investments. This means that AHF decisions are some of the most important ones contained in the Solano CTP, and the analysis needed for those decisions should be correspondingly more thorough. This includes using the Solano Napa Travel Demand Model to anticipate where traffic congestion will be in future years, in order to direct projects and programs to those areas that have the greatest anticipated needs.

An important difference between the overall Bay Area and Solano County is the question of road network maturity. In some portions of the central Bay Area, the roadway network is at or near maturity - there simply is not room to add more major roadways, and those that

exist are at their practical limits regarding the number of lanes. The AHF Element will use the Solano-Napa Travel Demand Model and land use projections from the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the Solano cities to project future roadway needs, but will also begin the discussion on what the mature AHF network in Solano look like should.

This brings us to the final potentially controversial area to be addressed in the AHF element - the concept of “induced demand,” or, in a more common phrase, “if you build it, they will come.” This is the theory - broadly but not completely accepted in the transportation field - that new roadways do not just serve existing traffic, they actually produce new traffic by making trips easier (faster, more reliable). Given the current emphasis at the state and national level on reducing emissions of greenhouse gasses, projects that result in more trips, and therefore more greenhouse gas (GHG) emissions, are seen as counterproductive. But a lack of projects, resulting in more time with vehicles spent idling or moving slowly down a congested roadway, also contributes to the generation of GHG and other air pollutants.

In the world of transportation, everything really is interconnected, and most of how those connections occur is by roadway. Pull, push, build, restore or ignore one segment of the system, and all the others are impacted as well. This Element of the Solano CTP provides the best guidance as to which roadways should get which sort of attention.

Chapter 2: Purpose



The Solano CTP: Arterials, Highways and Freeways Element is the STA's foundational document for planning and maintaining the major roadway network that connects Solano's communities with each other and with the broader region. The AHF Element is designed to serve the following purposes:

- Define the roadway network covered by this element. Those roadways are collectively referred to as Routes of Regional Significance (RORS). This step includes identifying roadways with special state and national designations such as goods movement corridors.
- Identify those roadways eligible to receive funding administered in some way by the STA.
- Compare the RORS system of today with the system desired by 2040, and identify the most important gaps between what exists and what is desired.
- Address the costs and funds available to both develop and maintain the current and ultimate RORS network.
- Identify programs and projects that allow for more efficient use of the existing system.
- Identify and prioritize projects to expand the RORS system in order to meet anticipated increases in traffic that cannot be accommodated by increased system efficiency.
- Ensure that Solano County efforts are coordinated and consistent with regional roadway

plans, most notably MTC's Plan Bay Area; and, are taking into account state-mandated initiatives such as achieving a reduction in GHG emissions.

Like the other Elements of the Solano CTP, the AHF Element is designed to be both internally and externally integrated. Internally integrated means that the roadways in the AHF match those identified in the Transit and Ridesharing and the Active Transportation Elements. Just as importantly, these roadways match those contained in the planning documents of the STA member jurisdictions.

Externally integrated means that the AHF roadway network matches network identified by MTC and Caltrans District 4. Externally integrated also means matching with the plans of neighboring regions such as Sacramento and San Joaquin counties.

The AHF Element interacts with the long range planning done by the 8 STA member jurisdictions and MTC. The cities and county of Solano can make their land use and transportation plans based in part upon the policies and projects identified in this document, which is in turn periodically modified to take into account the member agency's plans. The AHF Element identifies priorities for Solano County that will be recommended for inclusion in the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS), and the RTP/SCS policies and investments will then help shape the AHF Element when it is updated. The document serves as a guide for local and regional planners and engineers, elected officials and citizen committees, members of the public and advocacy groups.

If the Element is externally integrated, the question arises – who do we work with on roadway issues? The answer is...

Who's Who, and What Do They Do?

United States Department of Transportation (US DOT) - The federal Department, with a Cabinet Secretary, that coordinates all federal transportation activities. Within the Department are a number of specialized agencies. The one that most directly influences this Element is:

- **Federal Highway Administration (FHWA)** - The FHWA's role in the Federal-aid Highway Program is to oversee federal funds used for constructing and maintaining the National Highway System (primarily Interstate Highways, U.S. Routes and most State Routes). This funding mostly comes from the federal gasoline tax and mostly goes to state departments of transportation. FHWA oversees projects using these funds to ensure that federal requirements for project eligibility, contract administration and construction standards are adhered to.

Other US DOT agencies that impact surface transportation are:

- Federal Motor Carrier Safety Administration (FMCSA)
- Federal Railroad Administration (FRA)
- Federal Transit Administration (FTA)
- National Highway Traffic Safety Administration (NHTSA)

The Surface Transportation Board (STB) was spun off from the US DOT as an independent federal agency in 2015.

California Department of Transportation (Caltrans) – The state equivalent of the US DOT, and is a part of the California State Transportation Agency (CalSTA). Caltrans is responsible for construction, operation and maintenance of the state highway system, as well as other functions such as operating the state ferry system and oversight of state-supported Amtrak rail routes which includes the Capitol Corridor passenger train service. Solano County is in Caltrans District 4, headquartered in Oakland.

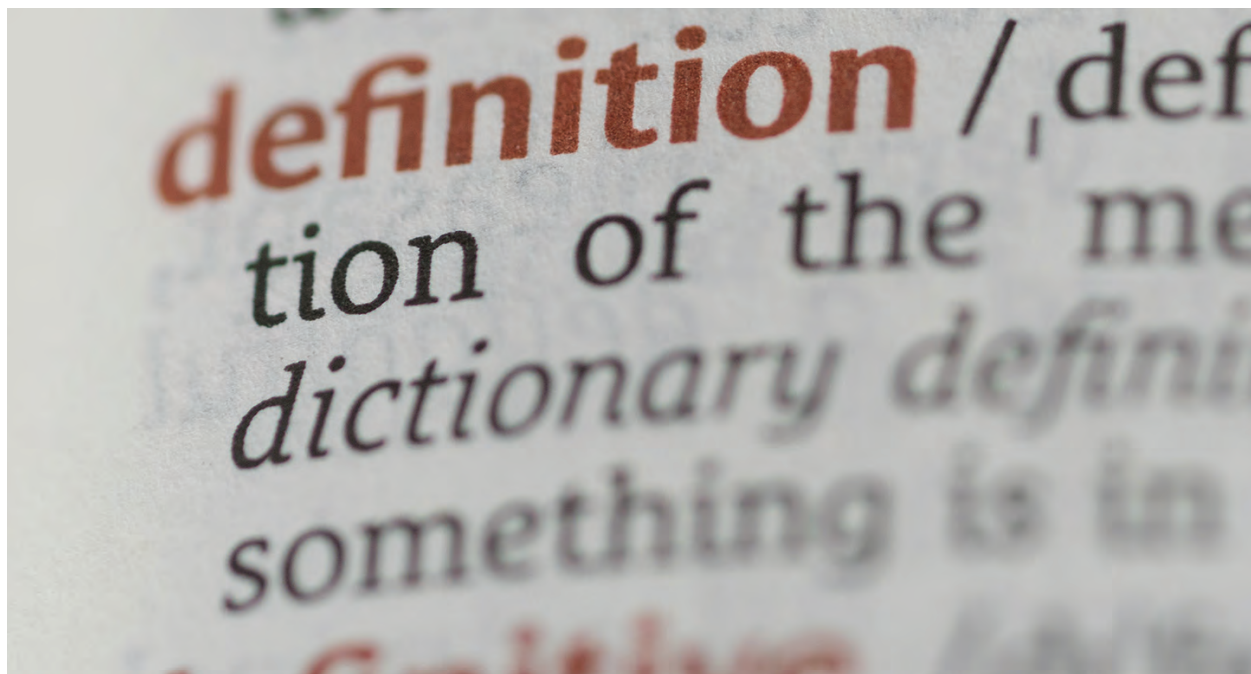
California Highway Patrol (CHP) manages incidents on the State Highway System.

Metropolitan Transportation Commission (MTC) – MTC is the transportation planning agency for the nine-county Bay Area, including Solano County. There are two agencies that are sub-sets of MTC that are important to Solano County's transportation system and decision making:

- **BAIFA** is the Bay Area Infrastructure Financing Authority, which oversees the planning, financing, construction and operation of freeway express lanes and related transportation projects.
- **BATA**, the Bay Area Toll Authority, manages the revenues from the region's seven state-owned toll bridges and manages the Bay Area's FastTrack electronic toll payment system. BATA funds the toll bridges' operations, maintenance and administration; and the long-term capital improvement and rehabilitation of the bridges.

Association of Bay Area Governments (ABAG) is similar to MTC, but deals primarily with land use and housing issues such as the every-eight-year Regional Housing Needs Analysis (RHNA). ABAG also addresses regional earthquake preparedness, environmental concerns and regional trail systems.

Chapter 3: The Arterials, Highways and Freeways System



The Arterials, Highways and Freeways System Defined

The AHF system is the essential roadways and interchanges that connect the cities in Solano County with each other and the region, and provide access to key activity centers. It includes all interstate freeways, state highways, and selected local arterials. The AHF system also includes those facilities that are in the right-of-way and act to make the system more useable, such as ramp metering lights, overhead message boards, travel advisory and changeable message signs and landscaping - collectively known as Intelligent Transportation System (ITS) infrastructure.

In many instances, there is significant overlap in facility use between the various modes of transportation in Solano County. For example, an intercity arterial may include a Class 2 bike lane, a state highway may be crossed by students by means of a Safe Routes to Schools pathway, and interstate freeways carry both express buses and large trucks moving freight to a local employment center.

The AHF element addresses the Solano Routes of Regional Significance, which are defined below, and explained in detail in the following paragraphs. The AHF Element does not address local roadways that are not RORS, even though these roadways are connected to the RORS. Appendix A contains the definition, map and list of all RORS. The criteria for a road to be designated a Solano RORS are:

1. All roadways in the Solano Congestion Management Program network
2. Roadways providing access to and from Transit Facilities of Regional Significance
3. Roadways providing access to and from major employment centers, identified by STA, with higher traffic volumes
4. Roads providing intercity and Freeway/Highway connections
5. Other roads critical to providing countywide emergency response

1. **All roadways in the Solano Congestion Management Program (CMP) network.** The CMP “is a mobility monitoring and planning tool for California counties that contain an urbanized area with a population of 200,000 or more.” The 1991 CMP legislation allows the local Congestion Management Agency (CMA) to prepare, monitor, and update the CMP. As the CMA for Solano County, the Solano Transportation Authority (STA) has revised the Solano County CMP once every two years since 1991. The CMP network is defined as “all State highways within Solano County and principal arterials, which provide connections from communities to the State highway system and between the communities within Solano County.” Appendix A is a list and map showing the CMP network.
2. **Roadways providing access to and from Transit Facilities of Regional Significance.** The criteria STA has established for Transit Facilities of Regional Significance (TFORS) are:
 1. All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.
 2. All ferry facilities, including terminals, maintenance docks and fueling stations, current or planned, identified in an adopted STA Plan.
 3. Bus stations providing all of the following services:
 - a. Routes to destinations outside Solano County or between two or more cities in Solano County
 - b. Peak hour headways of 1 hour or less
 4. Maintenance and parking facilities for busses providing services identified in 1, 2 or 3 above.
 5. Interchanges that provide access to and from the highway system for stations identified in 1, 2 or 3 above.

The Transit and Rideshare Element has a more detailed discussion of TFORS, including a list and map showing all designated RORS.

3. **Roadways providing access to and from major employment centers with higher traffic volumes.** Major employment centers, as designated by the STA, are those facilities that employ workers from throughout the county or region, rather than primarily local residents,

or that draw visitors or customers from throughout the county or region, rather than primarily local residents. In addition, they are of sufficient size that they require one or more two-lane arterials to serve their peak hour traffic demands. The arterials serving these employment centers are RORS.

There are major employment centers with higher traffic volumes in Benicia (the port and the Benicia Industrial Park, including the Valero refinery), Dixon (the Northeast Dixon Industri-



al Park), Fairfield (Cordelia Business Park, SR 12 Industrial Park, Fairfield (Tolenas Industrial Park, County Government Center and Court complex, Solano Town Center Mall, Anheuser Busch, and Travis Air Force Base), Vacaville (California State Prison-Solano, Vacaville 80/505 Industrial Park and the Factory Stores/Nut Tree area) and Vallejo (Solano County Fairgrounds/Six Flags Discovery Kingdom, Kaiser-Vallejo and Mare Island).

Appendix B contains a map and more detailed description of the major employment centers in Solano County.

4. **Roads providing intercity and Freeway/Highway connections.** A small number of arterial roadways provide important, short-length connections between freeways and highways, such as Vaca Valley Parkway between I-80 and I-505 in Vacaville and Lake Herman Road between I-80 and I-680.
5. **Other roads critical to providing county-wide emergency response.** This final RORS category covers other roadways that are important to providing access through chokepoints in Solano County in the event of an emergency, whether that emergency is a short-term event like an automobile accident or a long-term disaster such as a levee breach or a landslide. Several roadways meet this criteria, including McGary Road



(parallel to I-80 between American Canyon Road and Red Top Road); Lopes Road (parallel to I-680 from Red Top Road to Lake Herman Road and McCormack Road) and associated shorter roads (parallel to SR 12, between SR 113 and Liberty Island Road).

6. **Supporting Facilities in the Right-Of-Way.** A RORS consists of more than just the pavement on which vehicles drive. Other hardscape features include the curb, gutter, stormwater drainage inlets and sidewalk. Additional elements include signs providing directions and traffic or road condition information, traffic signals, ramp metering loops and lights, and signal priority/preemption equipment. In some cases, equipment also includes emergency call boxes and roadway monitoring cameras. Many of the signs and detectors work together to provide what is referred to as an Intelligent Transportation System (ITS). ITS is meant to reduce congestion by providing drivers with information about road conditions ahead, and by smoothing out the peaks in traffic volume that often lead to roadway congestion on either a local or system-wide basis.

A final element of the right-of-way improvements is landscaping and sound walls. These facilities generally don't impact the performance of the system (although median landscaping and barriers block headlights of oncoming vehicles and reduce head-on accidents). In the case of soundwalls, they do provide a very real benefit to the community by reducing noise impacts and improving community livability.

The RORS System - By the Numbers

Interstate Freeways. The interstate freeway system in Solano County covers 72.9 linear miles and 284.6 lane miles, as detailed below. Freeways have limited access (only provided through grade separated interchanges) and are designed for high-speed travel. Annual Average Daily Trips (AADT) data is from the 2017 Caltrans traffic volume report.

	Designation	Start	End	Linear Miles	Lane Miles	Description
Interstate Freeways	I-80	Yolo County Line (Davis)	Contra Costa County Line (Al Zampa Bridge)	43	165	6- to 10-lane divided interstate freeway. Main freeway corridor in Solano County. AADT 131,000 (Solano/Contra Costa county line) to 150,000 (Solano/Yolo county line) trucks average 5.8% of AADT Designated freight corridor.
	I-680	I-80 (Fairfield)	Contra Costa County Line (George Miller Bridge)	12.5	50	4-lane divided freeway along the Suisun Marsh. AADT 69,000 (Solano/Contra Costa county line) to 83,000 (I-80/I-680 interchange) trucks average 5.3% of AADT Designated freight corridor.
	I-780	I-80 (Vallejo)	I-680 (Benicia)	6.8	27.2	4-lane divided freeway connection I-80 and I-680. AADT 63,000 (I-680/I-780 interchange) to 74,600 (I-780/I-80 Interchange) trucks average 4.5% of AADT.
	I-505	Yolo County Line (Winters)	I-80 Interchange (Vacaville)	10.6	42.4	4-lane divided freeway, connection I-80 in Solano County to I-5 in Yolo County. AADT 41,000 (I-80/I-505 interchange) to 30,000 (Solano/Yolo county line) trucks average 9.9% of AADT.

State highways. The state highway system in Solano County covers 83.2 linear miles and 215.9 lane miles, as detailed below. Highways have more access than freeways (both grade separated and at grade) and, in some cases, act as city main streets (in Solano County this occurs in Dixon, Rio Vista and Vallejo), and access is frequent and may come from city streets.

	Designation	Start	End	Linear Miles	Lane Miles	Description
State Highways	SR 12 (west)	Napa County Line	I-80 (Fairfield)	2.8	11	4-lane divided state highway connecting Solano and Napa counties. Newly improved. Connections to SR 29 and I-80 remain to be improved.
	SR-12 (east)	I-80 (Fairfield)	Sacramento County Line (Rio Vista)	24.5	64.7	2- and 4-lane state highway connecting Fairfield Suisun and Rio Vista. Significant truck traffic related to wine, agriculture and Travis AFB.
	SR 29	Napa County Line (American Canyon)	I-80 (Vallejo)	5.9	23.6	4-lane divided highway and urban arterial through Vallejo; primary entryway into Napa County. Designated freight corridor.
	SR 37	I-80 (Vallejo)	Sonoma County Line	11.5	32.6	Divided 2-lane and 4-lane state highway providing connection to Sonoma and Marin counties. Designated freight corridor.
	SR 84	SR 12	Sacramento River Crossing (Ryer Island Ferry)	2.3	4.6	2-lane highway from Rio Vista to the Ryer Island Ferry.
	SR 84	Sacramento River (Ryer Island Ferry Crossing)	Sacramento County Line	10.9	21.8	2-lane north-south state highway on Ryer Island.
	SR 113	SR 12	I-80 (Dixon)	20.8	45.8	2- and 4-lane state highway through central Solano County, and 2-lane arterial through Dixon.
	SR 113	I-80	Yolo County Line (Davis)	.7	4.2	6-lane divided state highway from I-80 north through Davis to I-5 in Woodland.
	SR 128	Napa County Line	Yolo County Line	.7	1.4	2-lane undivided highway giving access to Lake Berryessa.
	SR 220	SR-84	Sacramento County Line	3.1	6.2	2-lane east-west state highway on Ryer Island.

Local Arterials. There are 96 individual roadways that make up the RORS - Arterials network in Solano County, as shown in Appendix A. They account for approximately 191 linear miles of mostly 4-lane roads, with almost 775 lane miles of pavement.

Other Right-of-Way Facilities. Other aspects of the RORS are found in the right-of-way. They are Intelligent Transportation System (ITS) infrastructure and landscaping.

ITS Infrastructure. ITS infrastructure consists of cameras, electronic message boards and changeable message signs, ramp metering lights, road sensors and command centers.

- **Cameras:** Caltrans has closed circuit TV cameras in two locations in Solano County - I-80 just east of the I-80/I-680 interchange, and I-680 just south of the I-80/I-680 interchange. These cameras give Caltrans, CHP and the general public the opportunity to observe traffic conditions in real time at these locations.
- **Electronic Message Boards:** Caltrans operates 7 electronic message boards/changeable message signs in Solano County. These message boards can have new messages sent to them remotely, allowing them to provide timely information on traffic conditions or other important information. The message boards are located in Vallejo on I-80 and SR-37; in Fairfield on I-80 and I-680; and in Dixon on I-80. Additional temporary message signs can be placed by Caltrans to warn of construction or lane closures, or for events such as the SR 12 safety campaign in 2008. These are complemented by the Caltrans Highway Advisory Radio (HAR) network.

Mainline Vehicle Detection (MVD) & Vehicle Detection System (VDS) to conduct traffic counts.

- **Ramp Metering:** Ramp metering is the process by which the rate at which cars enter the freeway is controlled by lights on the entry ramps. The system is designed to maintain a stable flow of traffic on the freeway by avoiding temporary clustering of traffic where a large number of vehicles all enter the freeway at the same point and time. Sensors measure the traffic flow on both the freeway and the on-ramp, and red/green lights meter the rate at which cars are allowed to enter the freeway. The Metropolitan Transportation Commission (MTC) has required the installation, and eventual activation, of ramp metering facilities for all freeway entrances in Solano County, and for some freeway-to-freeway connections. In 2015, Caltrans activated ramp metering for both east-bound and westbound



ramps from Redwood Street in Vallejo to I-505 in Vacaville as part of their 2nd phase of Ramp Metering Implementation in Solano County. Metering for the remaining ramps in Solano County (Phase 3) is not funded or scheduled at this time.

- **Truck weight and inspection stations.** In addition to the ITS infrastructure listed above and found in almost every California county, Solano County also hosts a pair of Caltrans truck scales. These facilities, located on I-80 just east of Suisun Valley Road and the I-80/I-680/SR-12 interchange, weigh large cargo trucks and conduct other safety inspections. The eastbound scales were redesigned, relocated and rebuilt in 2013 by Caltrans and STA; the westbound truck scales were constructed in 1958 and will be rebuilt in the near future.



Landscaping and soundwalls. These elements of the RORS system are generally intended to buffer adjoining land uses from the negative impacts of nearby roadways - sound and light. Center-of-the-road landscaping can also buffer the impacts of on-coming traffic by blocking visibility of headlights. Finally, walls and landscaping can provide safety benefits by keeping unauthorized people and vehicles out of road rights-of-way and providing a physical barrier that prevents head-on accidents.

Soundwalls and landscaping on the interstate freeways and state highways are owned and maintained by Caltrans. Similar facilities on arterial roadways are owned and maintained by the jurisdiction in which it is located. The STA does not have an inventory of soundwalls or landscaping in Solano County.

Chapter 4: State of the System

The Arterials, Highways and Freeways State of the System

The previous section of the AHF Element describes the system - the roadways and other components that make up the Routes of Regional Significance. This next section describes the state of the Routes of Regional Significance system as of 2018. The reason for reporting on the state of the system is simple: if the purpose of the CTP - AHF element is to identify the desired future AHF system and set policies to get us from where we are to where we want to be, we need to know where we are. The state of the system chapter defines where we are.

The state of the AHF system is measured in two ways - how well it performs, and how well it is maintained. As with so much of the overall transportation system, these two features interact with each other. Well maintained roads can handle more traffic, and more traffic leads to more wear and tear on the roadways. Well maintained roads can also handle more transit vehicles quickly, which leads to less wear and tear; and, they support a local economy that generates more taxes that support keeping the roads in good shape.

How Well It Performs

Drivers on Solano roadways know to expect delays in certain locations and times: I-80 west-bound around the I-80/I-680/SR-12 interchange in the morning, and in both Vallejo and much of Fairfield in the evening, SR 37 west around the Mare Island Bridge in the morning are some of the most prominent examples. But where else does long-lasting congestion occur, and how is it measured?

The traditional measure of local roadway performance is Level of Service (LOS), usually measured by the Volume-to-Capacity (V:C) ratio. LOS measurement is summarized as: every roadway and intersection has a capacity, based primarily on the number of lanes and design speed. During the peak hour of traffic, the number of cars traveling the roadway is measured, and the ratio of capacity to actual volume is measured and reported as a letter grade. When the volume exceeds the capacity - a V:C ratio of 1 or greater - the roadway receives an "F" grade, and is essentially in gridlock.

The following graphic, prepared by the Virginia Department of Transportation, provides a good summary of capacity-based LOS.

Level of Service Descriptions

Highway traffic congestion is expressed in terms of Level of Service (LOS) as defined by the Highway Capacity Manual (HCM). LOS is a letter code ranging from "A" for excellent conditions to "F" for failure conditions. The conditions defining the LOS for roadways are summarized as follows:

LOS A

- Free-flow (FF) operation

LOS B

- Reasonably free-flow
- Ability to maneuver is only slightly restricted
- Effects of minor incidents still easily absorbed

LOS C

- Speeds at or near FF
- Freedom to maneuver is noticeably restricted
- Queues may form

LOS D

- Speeds decline slightly with increasing flows
- Density increases more quickly
- Freedom to maneuver is more noticeably limited
- Minor incidents create queuing

LOS E

- Operation near or at capacity
- No usable gaps in the traffic stream
- Operations extremely volatile
- Any disruption causes queuing

LOS F

- Breakdown in flow
- Queues form behind breakdown points
- Demand is greater than capacity

There are additional measures of performance for roadways. These include Vehicle Hours of Delay (VHD), which also measures congestion, Vehicle Miles Traveled (VMT) and collision rates. VMT is often used as a proxy for measuring air emissions, especially greenhouse gases; more VMT means more air emissions, so long as the makeup of the fleet remains constant. Collision rates on freeways and highways are reported in comparison to the statewide average for similar roads because this is the standard reporting metric used by Caltrans.

Total volume for a roadway is reported as Annual Average Daily Trips (AADT) – the average number of trips on a roadway, in a specific direction. AADT gives an idea of the volume

of traffic on a road. Another important measure is the percentage of trucks in the traffic flow, as trucks have an oversized impact upon congestion due to their large size and limited mobility.

Cities and counties set their own LOS standard; most typically have a standard of C, D or E. LOS C allows for better traffic flow than LOS E, but typically requires wider roadways

Caltrans to use the speed of traffic flow as a measure of system performance

and more turn lanes. These wider roadways are more expensive to construct and maintain. On the other hand, once a roadway has an LOS that has deteriorated to E, the cost of

expanding that roadway to bring the LOS back to C can be prohibitive. The community must then balance several competing outcomes: accepting congestion, funding expanded streets or changing the number, mix and timing of vehicle travel on the road network.

Caltrans uses a different measure of congestion. Caltrans Mobility Performance Report and Analysis Program (MPRAP) reports freeway system operations in its Annual Mobility Performance Report (MPR) and in Annual /Quarterly Statistics web releases. The Caltrans methodology is summarized below.

Except for areas where a highway or freeway acts as a ‘main street,’ such as SR 12 in Rio Vista, SR 113 in Dixon and SR 29 in Vallejo, all Caltrans freeways and highways have similar speed limits (55 MPH, 65 MPH or, rarely in Solano County, 70 MPH). This allows Caltrans to use the speed of traffic flow as a measure of system performance. Caltrans uses a standard of 35 MPH; if traffic is moving below that speed, the roadway is considered congested. The MPRAP uses the Caltrans Performance Monitoring System (PEMS) which collects and archives vehicle counts and calculates speeds at all hours of the day and all days of the week and has analytical tools. Delay is determined by comparing the travel times over a segment of roadway at the speed of travel and the threshold speed where congestion is considered to occur.

The following pages show maps and tables showing how well the Routes of Regional Significance system is performing as of May 2015, when STA had actual traffic counts collected on several key arterial roadways. The information comes from a variety of sources: direct measurements taken by the cities and county by placing measuring tubes cross the road (captures all traffic), cell phones, Bluetooth transmitters and other electronic device (measures speed of vehicles with electronic devices onboard), cameras that measure vehicle numbers and occupancy, and even on-site observers using the standard Mark I eyeball and manual counters. As the Bay Area economy improves, all of these systems are expected to show that local and regional traffic conditions are worsening.

Freeway Performance. The Interstate Freeway portion of the Routes of Regional Significance consists of I-505, I-780 I-680 and I-80.

A freeway is considered congested when the speed of traffic flow drops below 35 miles per hour. Congestion is referred to as recurring or non-recurring. Recurring congestion happens on a regular, often daily, basis. An example of this is the Bay Bridge toll plaza on a weekday morning. Non-recurring congestion happens irregularly, and is usually associated with a one-time event like a vehicle break-down or an accident. The location of recurring congestion can be mapped

and predicted, and engineering solutions such as improved exit ramps can be implemented. Non-recurring congestion occurs because of an unplanned event and cannot be predicted, and the response is usually a mobile service such as a Freeway Service Patrol vehicle. Recurring and non-recurring congestion is a measure used on freeways and highways only. Local roads, because of their frequent controlled intersections, do not measure recurring or non-recurring congestion.

Caltrans has a formal reporting system for recurrent congestion. The MPR also reports Bottleneck locations. EPeMS is also used to determine bottleneck locations. PEMS defines a bottleneck as “a persistent and significant drop in speed between two locations on a freeway.” Bottlenecks are determined by the bottleneck identification algorithm (BIA) in PEMS. This algorithm looks at speeds along a facility and declares a bottleneck at a location where there has been a drop in speed of at least 20 mph between the current detector and the detector immediately downstream. This speed drop must persist for at least five out of any seven contiguous five-minute data points, and the speed at the detector in question must be below 40 mph. While PEMS identifies the detector locations where these conditions are met, these bottleneck locations are only approximate (based on the locations where detectors are present). The bottlenecks identified through the PEMS BIA are filtered by a number of factors to obtain the bottlenecks mapped in the documents below. This filtering was done to create a consistent bottleneck analysis process for all districts, and to only report bottlenecks that are recurrent and causing large amounts of delay. The bottlenecks reported include bottleneck locations that were active on at least 20 percent of all weekdays during the year, persisted for at least 15 minutes on average, and caused more than 100 vehicle hours of delay (VHD) per weekday.

The following pages show Caltrans’ most recent Average Annual Daily Trips (AADT) maps for Solano County and the surrounding area. Note that these maps are based on 2016 data. North is upward for all maps.

Using more recent data and observations, the figure below shows STA's analysis of significant recurring congestion on the freeways and highways in the county.

Figure 1 – Recurring Freeway and Highway Congestion in Solano County



Figure 2 – Annual Average Daily Traffic (AADT) in Solano County (2016)

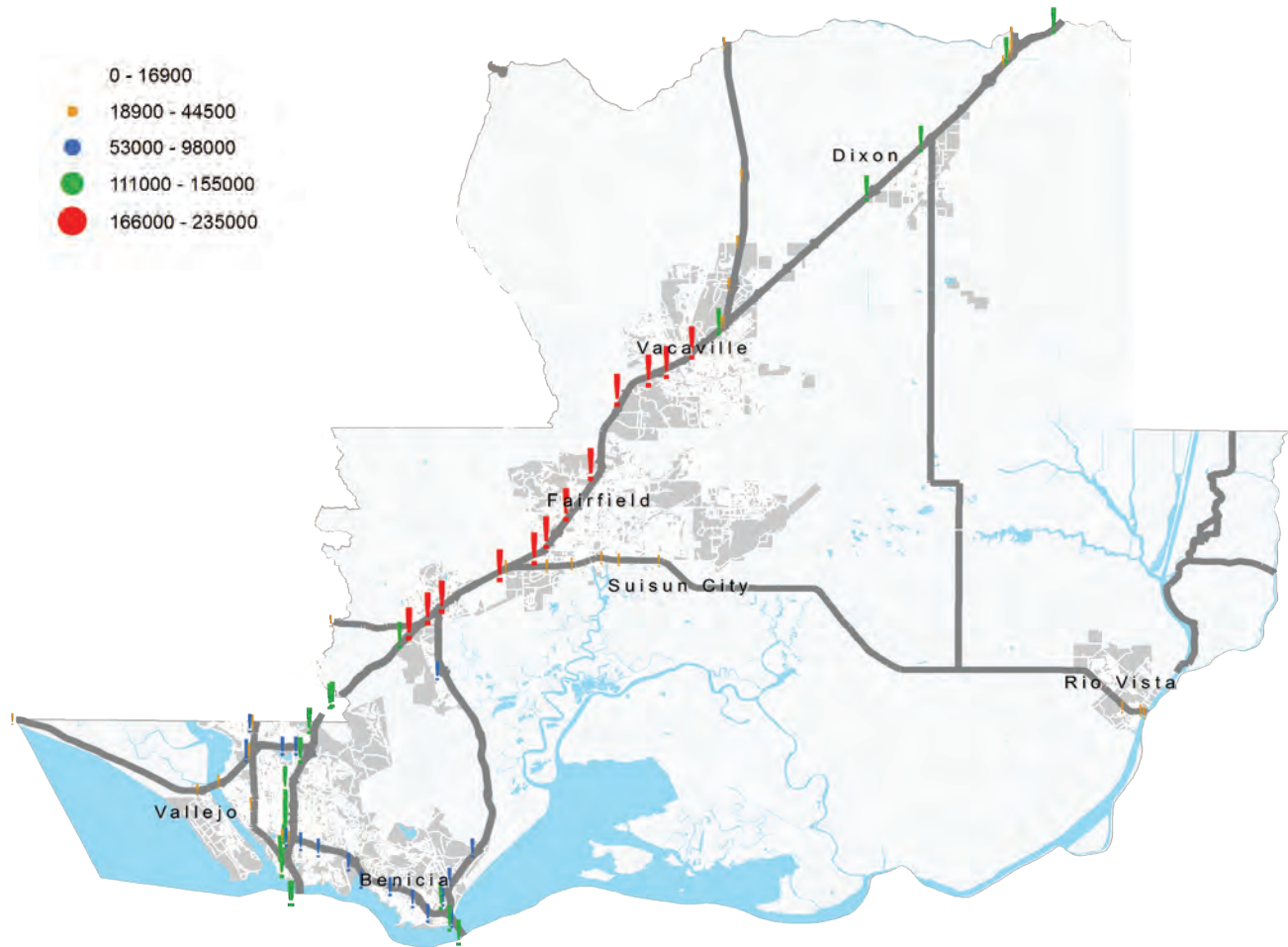


Figure 2 shows the four highest quintiles of AADT on Interstate and State Routes throughout Solano County. See Figure 3 for a separate visual graphic for State Routes only. As seen in Figure 2, I-80 between the western edge of Fairfield to the heart of Vacaville experiences the heaviest motor vehicle volumes in Solano County. Portions of SR 37, I-680, and I-780 also experience heavy volumes, but not to the same extent seen on I-80. A more detailed look at each major roadway in Solano County follows.

I-505 is located in Vacaville and rural Solano County. It runs from I-80 north to the Yolo County line, and then on to I-5. Caltrans reported in 2011 that I-505 in Solano County operated at a V:C ratio of 0.3 (LOS of A) for its entire length in Solano County, indicating that it has significant unused capacity. Even during the busiest times of the day, there is no appreciable congestion on any portion of I-505, and no reported VHD. Caltrans statistics show that I-505 has an accident rate below the state-wide average for similar roads. I-505 has the unique characteristic in Solano County of having a 70 MPH speed limit.

I-780, in the cities of Benicia and Vallejo, connects I-80 and I-680. Caltrans' 2012 report on I-780 shows the roadway operating at a V:C ratio of 0.6 (LOS of C). Reports from city and STA staff and observation of real-time traffic reports show periodic short-term con-

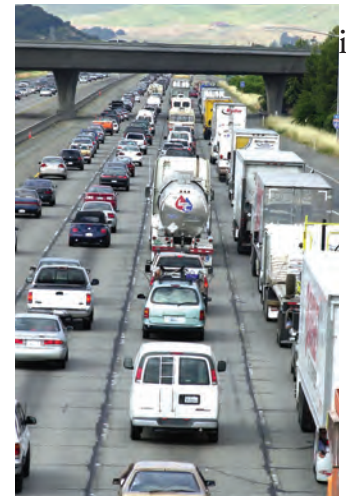


gestion at some off-ramps in Benicia during the evening commute, and at the I-780/I-80 interchange in Vallejo during both morning and evening peak hours, but I-780 generally operates at an acceptable LOS and has some unused capacity. There is no reported VHD. I-780 has an accident rate below the statewide average for similar roads. In 2016, I-780 had an AADT that ranged from 58,000 vehicles to 68,000 (western Benicia, as shown below. In 2014, trucks accounted for approximately 4.5% of the AADT on I-780.



I-680, in Solano County runs from I-80 to the Benicia Martinez Bridge (two spans) and the Contra Costa County line. It then continues south, through Contra Costa and Alameda counties to US 101 in Santa Clara County. The 2013 report from Caltrans for I-680 in the cities of Benicia and rural Solano County shows this roadway also operates at a low V:C ratio of 0.7 (LOS D). For the portion of the roadway in Fairfield, however, traffic congestion is

much more significant at times. Specifically, the north-bound lanes approaching the interchange with I-80 and SR 12 see frequent PM peak congestion, with the worst being found on Friday evenings. The most recently reported (2010) V:C ratio for northbound I-680 approaching I-80 is only 0.46, but the actual LOS is reported as D because of delays caused by the compact location of the I-680/SR 12 and I-80 merges. Accident rates on I-680 are below the statewide average for similar roads. Except for Friday evenings, especially on holidays, this degraded ratio and resulting congestion usually do not last for an entire hour.



I-80, the main roadway through Solano County, has significant variations in V:C and operations during the course of a typical day. The other freeways all have distinct morning and evening commute directions, while I-80

handles morning commutes to both the east (Davis and Sacramento) and west (Marin/Sonoma and Napa via SR 37 and SR 12, and



the inner Bay by the Carquinez bridge), with reverse commutes in the evening. I-80 also handles in-county commuters during approximately the same time. Friday evening and holiday traffic patterns are similar to regular commutes but with larger peak hour volumes, while weekend traffic typically follows a somewhat different pattern.

I-80 has the only High Occupancy Vehicle (HOV) lanes in Solano County. There is one lane in each direction of travel. They extend from Red Top Road to halfway between Airbase Parkway and North Texas Street, and operate during the morning and evening weekday peak hours.

Unfortunately, the most recent Caltrans report on I-80 in Solano County (approved in 2010) does not include V:C data. Instead, congested areas are shown on report maps, and vehicle hours of delay are reported. The report does indicate 2,200 VHD in 2008 alone. The segments of I-80 just north of the Carquinez Bridge in Vallejo and between the two con-

nections with SR 12 in Fairfield have accident rates above the statewide average for similar roadways. The remaining portions have accident rates below the average.

Following is a summary, based upon the 2010 Caltrans report, observations by STA and agency staff, and monitoring of real-time traffic reports such as the Caltrans Quickmap site, of I-80 congestion patterns in Solano County:

Weekday Commute Congestion - morning commute

Eastbound commuters from central and eastern Solano cities do not routinely face significant morning congestion. There are some locations - such as east of Leisure Town Road in Vacaville where the number of lanes drops from four to three - where there are short-term delays, but these do not last for the whole of the peak commute period. Similarly, I-80 EB at the merge point from I-780 sees short-term periodic congestion due to the configuration of the ramp.



Westbound commuters face significant back-ups over a multi-hour time period during their morning commute. From east to west, recurring periodic congestion is encountered in the

Lagoon Valley area of Vacaville and at Airbase Parkway and West Texas Street in central Fairfield. The next point of significant recurring congestion is in the area of the I-80/I-680/SR 12 interchange complex, beginning around the westbound truck scales and continuing to the lane-reduction point west of the SR 12 West (Jameson Canyon) ramp. Finally, there are frequent spots of slow traffic in Vallejo as new vehicles enter the freeway, but the more persistent congestion caused by lane drops or complex weaving movements found in the central county are typically not found in Vallejo during the morning commute.



Weekday Commute Congestion - evening commute

Eastbound commuters face several congestion points in Solano. From west to east, they begin in Vallejo at the I-80/I-780 interchange, where traffic exiting I-80 onto Benicia Road mix with vehicles from I-780 entering I-80 on a short ramp. This mixing of traffic trying to decelerate with traffic trying to accelerate on the same short ramp segment leads to traffic backing up onto I-80. Traffic on I-80 again becomes congested at the Columbus Parkway/SR 37 ramp off of I-80.

Traffic flows smoothly until the I-80/I-680/SR 12 interchange complex; traffic is often congested from this point through Fairfield, as far east as the North Texas Street off ramp or even Cherry Glen Road. The most significant point of congestion is where the freeway width is reduced from 5 lanes to 4 between Air Base Parkway and North Texas Street in Fairfield. Congestion at a smaller scale is also common at the Alamo Drive exit in Vacaville. Friday evening congestion occurs at the same points mentioned above, but lasts longer and extends further back down the freeway.

Westbound I-80 commuters face little in the way of evening congestion in Solano County.

Holiday Congestion

During holidays, particularly the Friday of a three-day weekend and the Wednesday before Thanksgiving, the evening commute congestion points remain the same as a regular week day, but the length of the backup queues and their duration are both larger. In addition, the lane drop east of Leisure Town Road in Vacaville is also congested, and the multi-lane drop at Richards Boulevard in Davis (Yolo County) can extend into Solano County.

Weekend Congestion

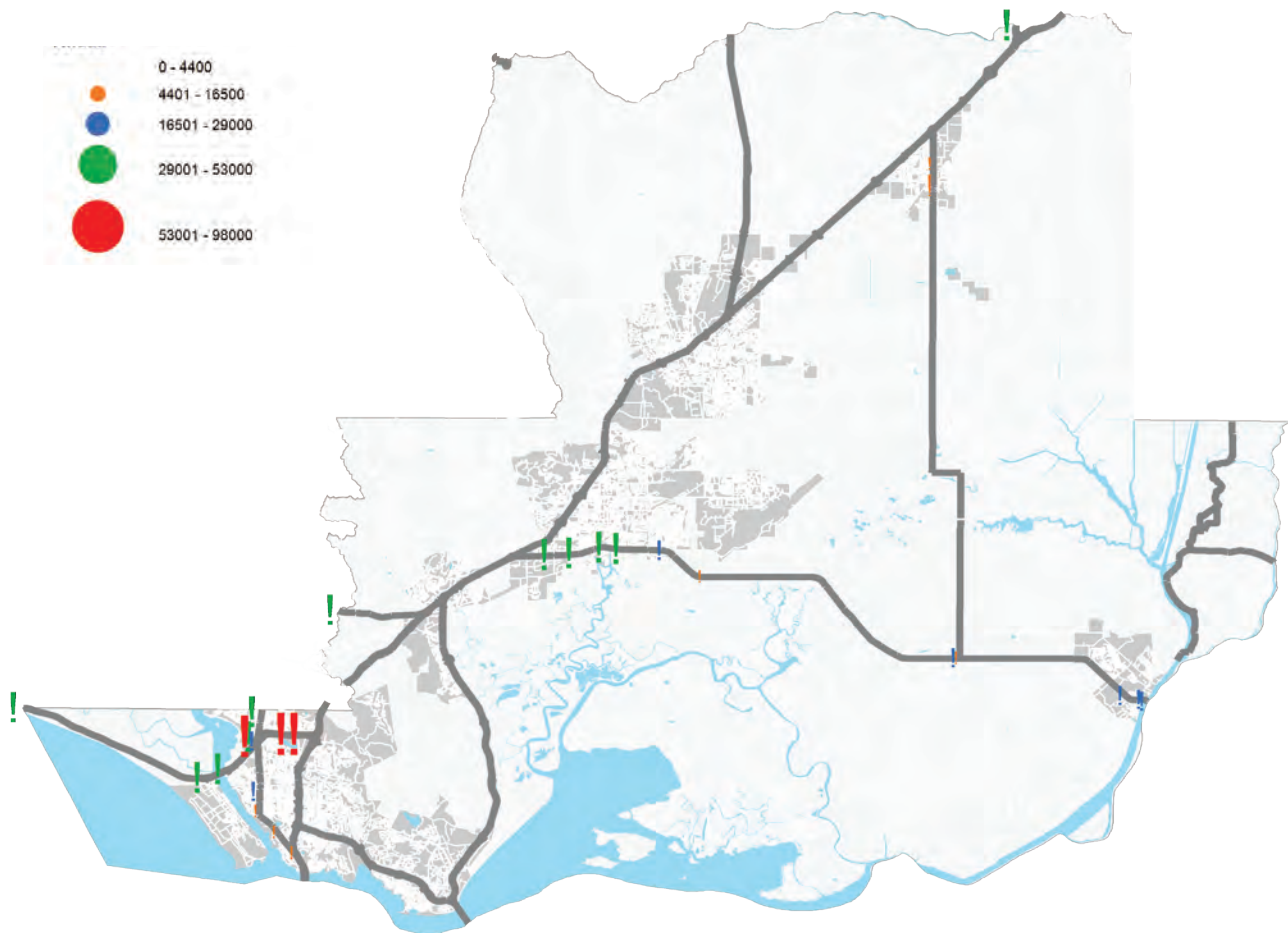
Weekend congestion on I-80 is mostly variable, depending upon where and when special events (such as the Dixon May Fair or the Solano County Fair) are taking place. However, on Sunday afternoons and evenings, there are three typical congestion spots, all impacting westbound traffic. From east to west, these are in Dixon, from Kidwell Road to as far west as Pitt School Road; in Vacaville approaching the lane drop at the I-505 interchange; and, in Fairfield at the I-80/I-680/SR 12 interchange complex.



Highway Performance. The major elements of the State Highway system in Solano County consists of SR 12, SR 29, SR 37 and SR 113. There are other state routes in the Routes of Regional Significance (SRs 84, 128 and 220), but they experience no significant congestion, and are not analyzed further in this chapter.

Figure 3 below shows AADTA for the four highest volume quintiles for State Routes only.

Figure 3 – Annual Average Daily Traffic (AADT) On State Routes Only In Solano County (2016)



SR 12 has two segments in Solano County - from the Napa County line to I-80 (the Jameson Canyon or SR 12 West segment) and from I-80 to the Sacramento County line in Rio Vista (SR 12 East).

SR 12 west (a.k.a. Jameson Canyon) is primarily a commute corridor, with a handful of rural residences, a winery and access to a golf course on the Napa side. The corridor has recently

undergone a major expansion from a two-lane highway to a four-lane divided expressway, and past information on congestion, delay and safety is no longer applicable. Anecdotal descriptions of the roadway's operation show that there is no westbound congestion on SR 12 west in Solano County, while eastbound traffic does experience evening peak hour and weekend congestion backing up from the lane reduction at Red Top Road. The shoulders on SR 12 west are allowed to be used as a bike lane, although connections for bicyclists onto SR 12 are currently inadequate. This is a good example of 'context sensitive' application of Complete Streets.



SR 12 east has two areas of congestion - the cities of Fairfield and Suisun City, and approaching the Rio Vista Bridge. In Fairfield and Suisun City, the congestion occurs during the morning commute (westbound) and evening commute (eastbound), and occurs at the controlled intersections (from west to east, Beck Avenue, Pennsylvania Avenue, Marina Boulevard and Sunset Avenue). The delays are almost entirely caused by the need to stop through traffic on SR 12 so that traffic from side streets can cross or enter onto SR 12. Vehicles may take several light cycles to pass

through an intersection - one of the definitions of LOS F. During weekday morning commute hours, congestion is exacerbated by the need for children to cross SR 12 as they walk from home to school.

The portion of SR 12 in Fairfield and Suisun City exceeds the state average for accidents, primarily due to rear-end accidents at controlled intersections. The portion of the roadway between Suisun City and Rio Vista is a double fine zone due to the lack of shoulders, turn pockets and median separation and high number of fatal accidents in the 2007-2015 time period.

In Fairfield, the shoulders of SR 12 are not designed or designated for bicycle or pedestrian use. There are several collector and arterial streets to the north, including West Texas Street, that provide a parallel alternative to SR 12. In Suisun City, there is an extensive network of bike paths on one or both sides of SR 12 to provide bicycle, pedestrian and student travel options. There are no bus turnouts on SR 12 in Suisun City.

In Rio Vista, traffic on portions of SR 12 stops when the draw bridge is opened to allow water traffic to pass. As documented in the Rio Vista Bridge study of 2010, these backups can extend for more than a mile on either side of the bridge. Commercial waterborne traffic is not generally predictable, but recreational traffic (involving smaller boats and therefore shorter span openings) is more common in the summer months. The stopped traffic on SR 12 impacts not only through traffic on the

highway, but also in-town traffic that is obstructed by the queued vehicles when trying to cross SR 12. Accidents in this segment do not exceed the state average for similar roadways.

In Rio Vista, the Complete Streets status of SR 12 is variable, but in no place is it high quality. From Summerset Drive to Drouin Drive, there is no access at all due to the lack of shoulders and steep drop-offs or cuts through hills. Once the main urban area of Rio Vista is entered, there is a variable mix of shoulders and sidewalks that can allow for bicycle and pedestrian access along the SR 12 corridor, but there are gaps in this system.

SR 29 in the City of Vallejo runs from the Napa County line south to I-80, near the Carquinez Strait. It is also known as Sonoma Boulevard. SR 29 acts as a primary arterial for Vallejo, including the historic downtown area (Florida Street to Maine Street). SR 29 is crossed by railroad tracks north of downtown near Missouri Street, and south of downtown south of Ryder Street. There is little use of these tracks right now, so they do not impact traffic flow. If their use increases in the future, they could be a source of additional congestion on SR 29.



Caltrans has not published recent safety data on SR 29 in Solano County.

Traffic on SR 29 is restricted by a large number of controlled intersections and by cross-streets that also carry heavy traffic. In fact, the main characteristic of SR 29 in Vallejo is that it acts more as an arterial street and a downtown main street than as a highway. As a result, traffic congestion on SR 29 in downtown Vallejo is more of a condition than an incident; it occurs at many times of the day, and the duration of the congestion is variable. Some level of congestion is common through the course of the day.

SR 29 through Vallejo does not provide consistent Complete Streets facilities. From Mini Drive south to Lewis Brown Drive, there are shoulders that are adequate for bicycle use, but are not designated as such. South of Lewis Brown Drive, there are sidewalks on one or both sides of SR 29 in many, but not all, areas. South of Redwood Street, sidewalks become commonplace, although on-street parallel parking makes bicycle access difficult. There is adequate room for transit stops. South of Cherry Street, the shoulder is marked by a solid white line, but the shoulder area is still not painted as a bike lane.

Outside of downtown Vallejo, congestion can occur on SR 29 at the intersection with SR 37 during peak traffic periods, but this is not a consistent problem. South of Curtola Parkway, congested traffic is rare.

SR 37 is located in the City of Vallejo and unincorporated Solano County, and runs from I-80 across the Napa River Bridge, and then along the northern edge of San Pablo Bay to the Solano/Sonoma County line. SR 37 is a 4-lane highway with grade separated interchanges from I-80 to just west of the Mare Island bridge, where it drops down to



2 lanes. During the week, congestion on SR 37 occurs in the westbound direction during the morning commute, as vehicles merge from the two-lane segment to the one-lane segment. The back-up sometimes extends onto the Mare Island Bridge. While the most recent Caltrans document on SR 37 does not contain safety data, the overall impression is of a safe corridor due to the concrete median barrier along its entire Solano County length.

On weekends, congestion on SR 37 can occur at the lane merge as discussed above, but may occur at any time of the day. Congestion is especially common when events are held at the Sonoma Raceway at Sears Point. In addition, occasional congestion can occur in both the westbound and eastbound direction at Fairgrounds Drive/Marine World Parkway, where visitors to the county fairgrounds and/or the

Discovery Kingdom theme park exit and enter the highway. The timing of this congestion is variable, depending upon the opening time of the two facilities.

The White Slough Trail is a Class 1 bikeway (multi-use path) parallel to SR 37, from SR 29 to Sacramento Street. There are no Complete Streets facilities on the remainder of the route.

SR 113 runs from SR 12 in rural Solano County north to I-80 in the City of Dixon. A second, short segment runs from I-80 north to the Yolo County Line in the northeast corner of the county. Most of SR 113 operates without congestion at any time of the day or week due to low V:C ratio of at worst 0.38 (2009, Caltrans). The accident rate for the segment of the roadway from SR 12 north to Dixon is slightly above the statewide average for similar roads. For the segment through Dixon, and from I-80 north to the Yolo County line, the



accident rate is below the statewide average.

As noted in STA's 2008 SR 113 Major Investment Study (MIS), there is peak hour congestion on SR 113 within the City of Dixon. This occurs generally in the area from A street

north to I-80 at controlled intersections. It is largely due to the number of trucks moving through Dixon on SR 113, rather than because of local auto traffic. Since the 2008 MIS was adopted, the high school in Dixon has been relocated to a site east of SR 113, near the southern city limits. This has resulted in periodic congestion based upon the times just before school starts and just after it lets out.

From SR 12 north to Parkway Boulevard in Dixon, there are no Complete Streets facilities on SR 113. North of Parkway Boulevard, there are sidewalks on one or both sides of SR 113, and designated bike lanes in some areas. There is adequate room for bus turnouts. In downtown Dixon, the presence and frequent use of parallel parking on SR 113 makes bicycle use of the road more difficult, and the presence of many storefronts makes bicycle use of the sidewalks hazardous.

Arterial Performance. The third major element of the Routes of Regional Significance consists of local arterials, and streets serving Transit Centers of Regional Significance and major employment and civic centers. There are 63 individual roadways in the Routes of Regional Significance network. However, the operational section of the State of the System report will focus on only 12 of them; those that provide intercity connections or critical routes that parallel interstate freeways or state highways. Those roadways are:

- Midway Road, from SR 113 to I-505
- Jepson Parkway, from I-80 to SR 12
- Peabody Road, from Elmira Road to Air-base Parkway

- Hillborn Road/Waterman Blvd/Abernathy Road/Rockville Road/Suisun Valley Road, from I-80 to I-80
- Cordelia Road, from Suisun Main Street to I-680
- Lake Herman Road, from I-680 to Columbus Parkway
- Columbus Parkway, from I-80 to I-780
- Military West, from I-780 to E. 5th Street
- Fry Road (Leisure Town Road to SR 113)
- McCormack, Canright and Azevedo Roads

STA's Travel Safety Report is being updated and will provide information on roadways that have the higher reported numbers of collisions, whether or not they are Routes of Regional Significance.

Midway Road, from SR 113 to I-505, is a two-lane roadway mostly in unincorporated Solano County. The western 0.6 miles (Leisure Town Road to I-505) are in the City of Vacaville. The road serves businesses and public facilities near the intersection with I-80, and will provide future access to Vacaville's North Village development project. Midway Road is also the access road for the Sacramento Valley National Cemetery, located just east of I-80. For most of its length, the road provides access to agricultural properties and widely-spaced rural residences. The roadway also acts as an alternative to I-80 for traffic between Vacaville and Dixon, or for those seeking to bypass freeway congestion on I-80 in the Dixon and Davis area.

Midway Road does not currently experience significant traffic congestion.

There are no Complete Streets facilities on Midway Road.

Jepson Parkway, from I-80 in Vacaville to SR 12 in Suisun City, is located in four jurisdictions: Vacaville, Solano County, Fairfield and Suisun City. Jepson Parkway is made up of several local roadways: Leisure Town Road, Vanden Road and Walters Road. For several



years, Peabody Road will be a portion of Jepson Parkway until the northern extension of Walters Road is constructed.

In Vacaville, Jepson Parkway is a mix of two, three and four lane segments from I-80 to Alamo Drive. South of Alamo, it is a mix of three-lane and two-lane segments to Vanden Road. Vanden Road is a two-lane road from Leisure Town Road to Peabody Road. Peabody Road is a similar mix of two and three lanes. Air Base Parkway is a 4-lane expressway, and Walters Road is a divided four-lane roadway.

Peak hour congestion on the northern and central portions of the Jepson Parkway is episodic, rather than continuous. The southern segments, primarily Air Base Parkway and Peabody Road, often see significant Peak hour

congestion. AM peak hour congestion is almost exclusively on southbound Peabody Road, and can extend as far north as the Putah South Canal. During the PM peak hour, the congestion is on Air Base Parkway eastbound at the Peabody Road intersection, and on Peabody Road northbound to the lane-drop at the Putah South Canal.

The Jepson Parkway is a highly-mixed Complete Streets corridor, with bus shelters (and room for turn-outs), sidewalks and bike lanes in some areas and nothing but narrow shoulders on others. However, the Jepson Parkway Concept Plan identifies a comprehensive Complete Streets system for the entire length of the roadway when it is completed.

Peabody Road, from Elmira Road in Vacaville to Air Base Parkway in Fairfield, is a six to four lane arterial in the City of Vacaville, a two-lane arterial in the unincorporated portion of the county between the two cities, and a two- and three-lane arterial in the City of Fairfield. As discussed in the Jepson Parkway segment above, Peabody Road periodically experiences peak hour congestion in the Fairfield segment. In the Vacaville segment, briefer periods of congestion occur at major intersections, but they typically resolve quickly. The two-lane county segment does not suffer from peak hour congestion.

Peabody Road has comprehensive Complete Streets aspects from Elmira Road south through the entirety of the City of Vacaville. In the unincorporated county, it has a designated bike lane. Once in the City of Fairfield, it again has sidewalks, bike lanes and room for bus turnouts

for most of its length, although the area just south of Waterworks Drive is lacking in facilities.

Hillborn Road/Waterman Blvd/Abernathy Road/Rockville Road/Suisun Valley Road is mostly in the City of Fairfield, although some portions are in the unincorporated county. This linked series of roads provides a parallel route to I-80, and can be used to bypass accidents or other major congestion points on the Interstate. This complicated network is broken down as follows:

- *Hillborn Road* runs for 2.2 miles from North Texas Street to Waterman Boulevard. It is a four-lane arterial that is primarily bordered by residences; other adjacent uses are an elementary school and open space.
- *Waterman Blvd.* runs from Hillborn Road west to Abernathy Road. Its western segment is called Mankas Corner Road. Waterman Blvd. is, like Hillborn Road, a four-lane arterial that serves primarily residential areas, but also abuts open space and agricultural areas.
- *Abernathy Road* in Solano County runs for 1.8 miles from Mankas Corner Road to Rockville Road. It passes through largely agricultural areas in the Suisun Valley.
- *Rockville Road*, from Abernathy Road to Suisun Valley Road, is similar to Abernathy Road in all important aspects.
- *Suisun Valley Road*, from Rockville Road to I-80, is in both the unincorporated county and the City of Fairfield. It is a rural two-lane road in the north, but a four-lane arterial providing access to Solano Community

College and other corporate campuses in the south.

An alternative at the southwest end is to follow Abernathy Road to the Suisun Parkway (a.k.a. the North Connector), and take this road to Suisun Valley Road.

As with many of the other most important Routes of Regional Significance, congestion on this roadway system is variable. The ends of the system are most likely to be congested, especially where the major roadways intersect and are controlled by traffic lights. At the southern end, congestion is most frequently associated with classes at Solano Community College and workers traveling to/from the office buildings in the area. The southern end is particularly impacted by irregular on/off ramp configuration for Suisun Valley Road and Green Valley Road, and the two-lane bridge that provides for access to east-bound I-80.

The provision of Complete Streets on this series of roadways is, as in other areas, variable. The initial segments of Hillborn Road and Waterman Blvd. have extensive bike lane and sidewalk facilities, with adequate room for transit vehicle stops. Once Waterman Blvd. becomes Mankas Corner Road, the corridor becomes rural, with no sidewalks or transit facilities and no shoulders. The more rural segments along Abernathy and Rockville have shoulders but no sidewalks. Suisun Valley Road does have shoulders and, in some areas, sidewalks and room for transit stops. The Suisun Parkway alternative has Complete Streets facilities for its entire length.

Cordelia Road, from Suisun Main Street to I-680, is located in Suisun City, Fairfield and the unincorporated County. It is a two-lane road of 6 miles length. Cordelia Road also provides an alternative route to the interstate



system, allowing local traffic to bypass the I-80/I-680 interchange. It is primarily useful to residents of Suisun City.

Recent information on congestion on Cordelia Road is difficult to assess because of a multi-year closure of the road where it crosses the Union Pacific Railroad Tracks near Hale Ranch Road.

The roadway segment in Old Town Cordelia has sidewalks and bike lanes. The rest of the roadway does not provide Complete Streets facilities.

Lake Herman Road, from I-680 to Columbus Parkway. This 5 mile roadway starts in the City of Benicia, passes through unincorporated Solano County, and connects to Columbus Parkway in Vallejo. It is a two-lane road for almost its entire length, with a four-lane segment extending for a quarter of a mile southeast from Columbus Parkway. Lake

Herman Road provides an alternative means of access from Vallejo into the Benicia Industrial Park. It does not experience significant recurring congestion.

Lake Herman Road has shoulders useable to bicyclists along its length, with wider shoulders at either end. There are no other Complete Streets facilities at this time.

Columbus Parkway, from I-80 to I-780, is in the City of Vallejo for almost its entire 5.4 mile length. The southern end is in the City of Benicia. It is a 4-lane divided arterial for most of its length, with a 1-mile segment of 2-lane divided roadway from Benicia Road to Regents Park Drive. Columbus Parkway provides access to numerous newer residences along its length, with commercial complexes at each end. It does not experience significant recurring congestion.

Complete Streets facilities on Columbus Parkway do not begin until the intersection with Admiral Callaghan Way. A sidewalk/bike path is then present until Aragon Way, along with shoulders that are adequate for bicycle use. From Aragon Way to the Benicia city limits, a shoulder adequate for bicycle use is present. Within the City of Benicia, there are sidewalks and marked bike lanes.

Military Road, from I-780 to E. 5th Street, is the shortest of the selected Routes of Regional Significance arterials. It is entirely within the City of Benicia, and has a changing configuration - two, three and four lanes. This roadway provides access to residences, schools, and downtown Benicia.

Military Road experiences periodic congestion on its western segment during the opening and closing hours of the adjacent schools, but is otherwise uncongested. The downtown area (1st to 5th Street) is much more likely to be congested throughout the day due to high volumes of traffic and closely-spaced traffic signals.

Military Road is an example of a developed Complete Streets corridor, with pedestrian, bicycle and transit facilities along its length, and room for transit stops generally available. Limits on effective bicycle and transit access is found only in the eastern segment of the corridor, where parallel parking is used.

Fry Road, Leisure Town Road to SR 113, provides a link from the Fairfield/Vacaville area to SR 113, and from there to either Dixon to the north or SR 12 and Rio Vista to the south and east. Fry Road is six miles long, has two lanes with no turn pockets and stop signs at only 3 locations – Leisure Town Road, Meridian Road and SR 113. Aside from acting as a link from Vacaville to SR 113, Fry Road also provides access to agricultural areas in central Solano County. Fry Road is occasionally used by recreational bicyclists, but is not designated as a bike route.

McCormack Road, Canright Road and Azevedo Road. These three roads in unincorporated Solano County provide a parallel route to SR 12 between SR 113 and the City of Rio Vista. They form a 4.5 mile route that can be used when road repair work or a collision closes down SR 12. The roadway typically serves agricultural uses and a few rural residences, and is not usually used by bicycle riders.

The three segments are:

- McCormack Road, from SR 113 east for 3 miles to Canright Road. This is a gravel road for its entire length, and has no turn lanes, stop signs or shoulders.
- Canright Road, from McCormack to Azevedo Road, is 1 mile long, and is paved, with gravel shoulders. There is a stop sign on Canright Road where it joins McCormack Road.
- Azevedo Road is 0.5 miles long, paved with no shoulders, and has stop signs at Canright Road and SR 12. There is no painted center line except at the intersection with SR 12.



How Well It Is Maintained

As with traffic congestion, there is a traditional measure of a roadway's physical condition. Another parallel between measures of roadway operation and roadway maintenance is that local agencies and Caltrans use different tools to measure maintenance and condition.

Arterials - For arterials and other local roads, the Pavement Condition Index, or PCI, is the tool to measure and grade roadway condition. PCI is a numeric score, with a PCI of 100 being a perfect, new road with no flaws in the pavement surface or substrata (such as the sand and gravel bed underlying the pavement). PCI also includes the smoothness of driving on the roadway.

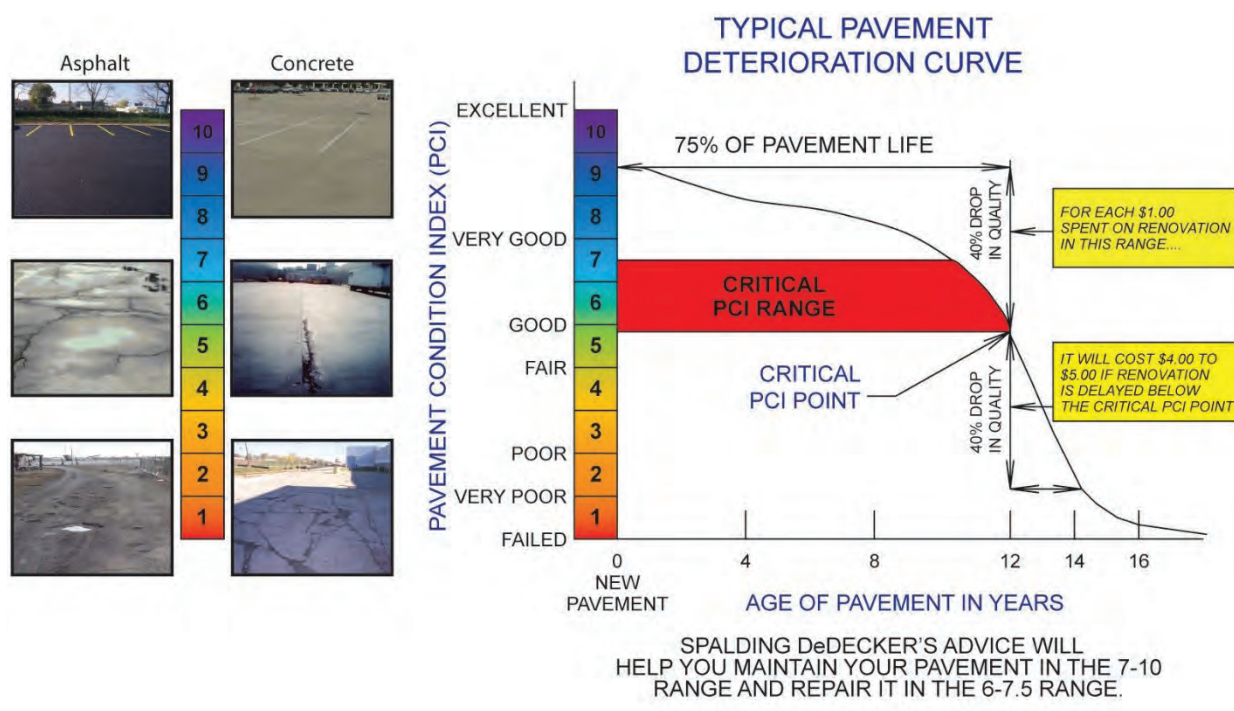
Pavement Condition Index (PCI)	Very Good-Excellent (PCI = 80-100)	Pavements are newly constructed or resurfaced and have few if any signs of deterioration. distress
	Good (PCI = 70-79)	Pavements require mostly preventive maintenance and have only low levels of distress, such as minor cracks or peeling or flaking off of the top layer of asphalt as a result of water permeation.
	Fair (PCI = 60-69)	Pavements at the low end of this range have significant levels of distress and may require a combination of rehabilitation and preventive maintenance to keep them from deteriorating rapidly.
	At Risk (PCI = 50-59)	Pavements are deteriorated and require immediate attention including rehabilitative work. Ride quality is significantly inferior to better pavement categories.
	Poor (PCI = 25-49)	Pavements have extensive amounts of distress and require major rehabilitation or reconstruction. Pavements in this category affect the speed and flow of traffic significantly.
	Failed (PCI = 0-24)	Pavements need reconstruction and are extremely rough and difficult to drive on.

A roadway's PCI goes down as the surface deteriorates and cracks or holes appear in the pavement. This is especially important because surface flaws allow water to penetrate into and degrade the substrata, which then further accelerates deformation of the roadway surface.

As a result of the shortfall in available funds and the resultant deferral of maintenance and repair work, the 3-year rolling average of PCI in Solano County is:

		2016	2017	2018
Solano County PCI	BENICIA	56	55	54
	DIXON	69	67	66
	FAIRFIELD	72	71	71
	RIO VISTA	56	60	61
	SOLANO COUNTY	80	81	81
	SUISUN CITY	58	60	62
	VACAVILLE	69	68	68
	VALLEJO	51	53	52
	COUNTYWIDE	66	67	67

Roadway PCI deteriorates at a predictable rate, as shown in the following figure:



Early preventive maintenance of a roadway surface is a key, highly cost-effective method to reduce long-term repair costs. A dollar of maintenance expended when a roadway's PCI is in the Good range generally avoids \$5 needed to repair not only the surface but also the substrata that becomes necessary when the roadway falls into the Fair category.

In 2014, STA adopted its first annual Pothole Report, which reports the PCI for individual roadways throughout the county. The overall PCI for all roadways in each jurisdiction is reported – individual roadways may have a higher or lower PCI than the overall jurisdiction average. A summary of the 2014 Pothole Report is provided below, with the entire report included as Appendix C.

As of June 2014, unincorporated Solano County and its 7 cities are cumulatively investing slightly less than half of the \$44M needed annually to maintain local streets and roads with a Pavement Condition Index (PCI) of 60 “fair condition.” To reach the higher PCI goal of 75 “good condition”, the approved goal in the Solano Comprehensive Transportation Plan, \$50M additional funds are needed annually over the next 15 years to reach a ‘state of good repair’ – two and a half times more than our current investment. Solano County needs a healthy investment in our roadway infrastructure or pavement quality will decline substantially. More money spent now in long-term roadway maintenance can save our communities millions in the future and strengthen our local economy.

An updated Solano Pothole Report was adopted in early 2019. The update focuses on current funding availability, including new SB1 revenues, current road conditions, and projected road quality into the future.

Freeways and Highways - Caltrans rates pavement by visual inspection of the pavement surface and uses high tech lasers mounted on a Caltrans vehicle to collect the International Roughness Index (IRI) data; a measurement relating to ride quality. For asphalt pavement visual inspection, samples are taken at the beginning of each highway post mile. For concrete pavement visual inspection, the concrete slabs are continuously rated by their number and type of faults in one mile segments.

Concrete slab faulting is determined by Caltrans engineers who measure the faulting height and number of faults. To monitor the pavement smoothness, a Caltrans vehicle gathers accurate data from speeds of 10 miles per hour (mph) up to 70 mph and the IRI is computed for every tenth of a mile. The IRI data measures the relative up and down movement of the vehicle. This IRI is collected in each wheel path on the road in inches per mile. The Federal Highway Administration (FHWA) standard of greater than 170 inches per mile is also the Caltrans standard for poor ride.



In 2015, Senate Bill 486 was signed into law by Governor Brown, requiring Caltrans to develop and implement a robust Asset Management Plan by the end of the 2020. The State Highway Operations and Protection Program (SHOPP) is the primary program available to Caltrans to execute the Asset Management Plan. The SHOPP addresses the State's fix-it-first approach to the State Highway System. For future SHOPP cycles, priorities will be evaluated to match funding and the goals established in the Caltrans Strategic Management Plan, such as Safety, Sustainability, Livability, Economy and Performance. SHOPP projects can address a variety of needs such as Complete Streets, pavement condition, Transportation Management Systems and strategies, the Americans with Disabilities Act (ADA) and sea level rise, depending on project category. The SHOPP is limited to maintenance, safety, and rehabilitation projects on existing State highways and bridges, with generally no projects that add new traffic capacity.

The following information and charts is from the 2013 Caltrans State of the Pavement Condition Survey (PCS). Because it is a statewide report, details for Solano County are not provided.

About 16% of California's highway miles (7,820 lane miles) are in poor condition, which is an improvement of 9% from the previous PCS, and 12,364 lane miles need low cost preventive maintenance to keep it in good condition. The remaining 29,534 lane miles had no distress. This examination shows that the system is recovering and continues to monitor the health of a 60-year-old system.

The state highway system has about 15,000 centerline miles and 50,000 lane miles. In the past, Caltrans conducted the PCS once a year to measure the changes in the pavement condition. However, in 2008, the data collection method was changed to provide pavement performance data for the future Pavement Management System (PMS).

To maintain the health of the system and assist in tracking pavement performance, the pavement condition data has been mapped to condition states. As shown in Figure 1, there are pictures of the three different pavement condition states with corresponding colors of green, yellow and red. These condition states are:

State 1: Green

Pavement in good/excellent condition with no or few potholes or cracks. This pavement requires a preventive maintenance pavement project.

State 2: Yellow

Pavement is in fair condition with minor surface distress that only needs corrective maintenance. The types of minor surface distress include minor cracking, slab cracking, raveling and potholes. The repair is a corrective maintenance pavement project.

State 3: Red

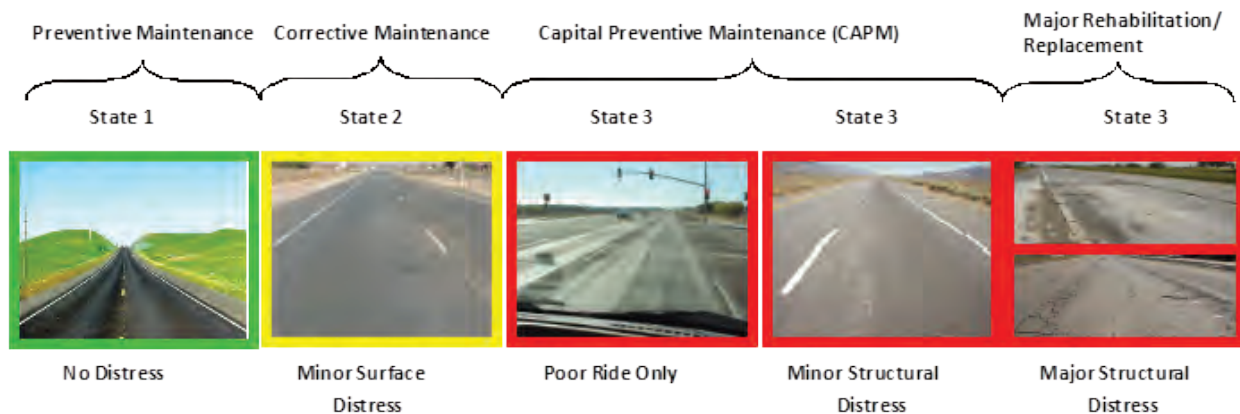
Pavement includes major distress (pavement in poor condition with extensive cracks), minor distress (pavement in poor condition with significant cracks), and poor ride only. The severity of distressed pavement is defined by both the visual appearance of the pavement and the IRI. The ride quality is based on the FHWA standard that defines an acceptable IRI as 170 or less. The repair is a Pavement Rehabilitation or Reconstruction, lane replacement project or a Capital Preventive Maintenance (CAPM) project.

Table 1. 2013 Pavement Classification by Condition

Pavement Condition	2011			2013		
	Lane Miles*	Percent of Distressed Pavement	Percent of System	Lane Miles*	Percent of Distressed Pavement	Percent of System
Major Structural Distress	5,594	45	11	2,635	34	5
Minor Structural Distress	4,253	34	9	2,702	34	6
Poor Ride Quality (Only)	2,486	20	5	2,483	32	5
Total Distressed Pavement	12,333	100	25	7,820	100	16
Pavement Maintenance	11,053	—	22	12,364	—	25
Good/Excellent Pavement	26,132	—	53	29,534	—	59
Total System Lane Miles*	49,518	—	100	49,720	—	100

* Excludes bridges, ramps and frontage roads.

Caltrans uses the graphic below in their system planning documents to describe the various levels of pavement degradation and the rehab/restore process.



State 1: Good/excellent condition with few potholes or cracks ⇒ Preventive maintenance project

State 2: Fair condition with minor cracking or slab cracking ⇒ Corrective maintenance project

State 3: Poor condition with significant to extensive cracks or poor ride only ⇒ CAPM, rehabilitation or reconstruction project

Using the 2011 and 2013 PCS, the health of each Caltrans district can be compared as shown in Figure 2. All districts have improved the health by targeting pavement projects at the right locations and reducing the distressed lane miles. The most notable improvements in distressed lane mile reduction were made by Districts 2, 3, 4, 6, 7 and 8.

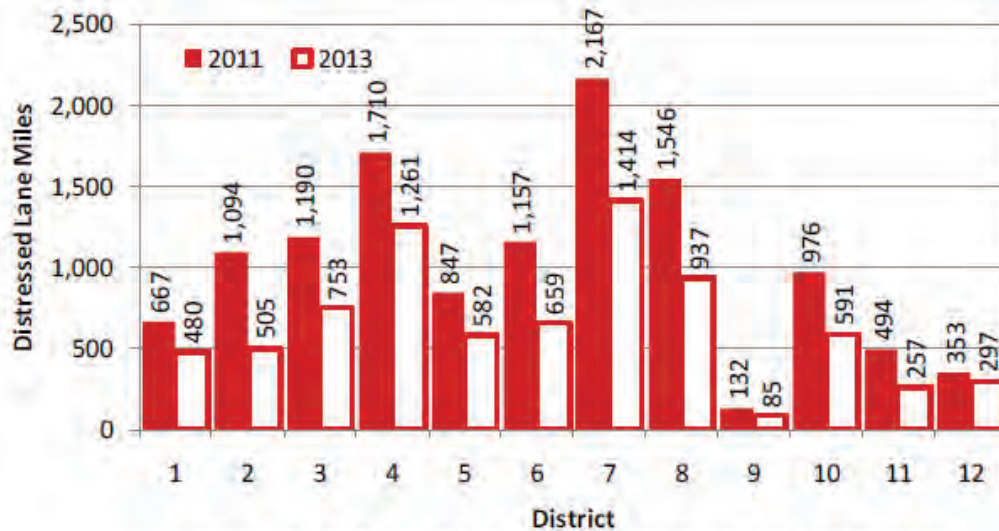


Figure 2. Distressed Lane Miles by District and Survey Year

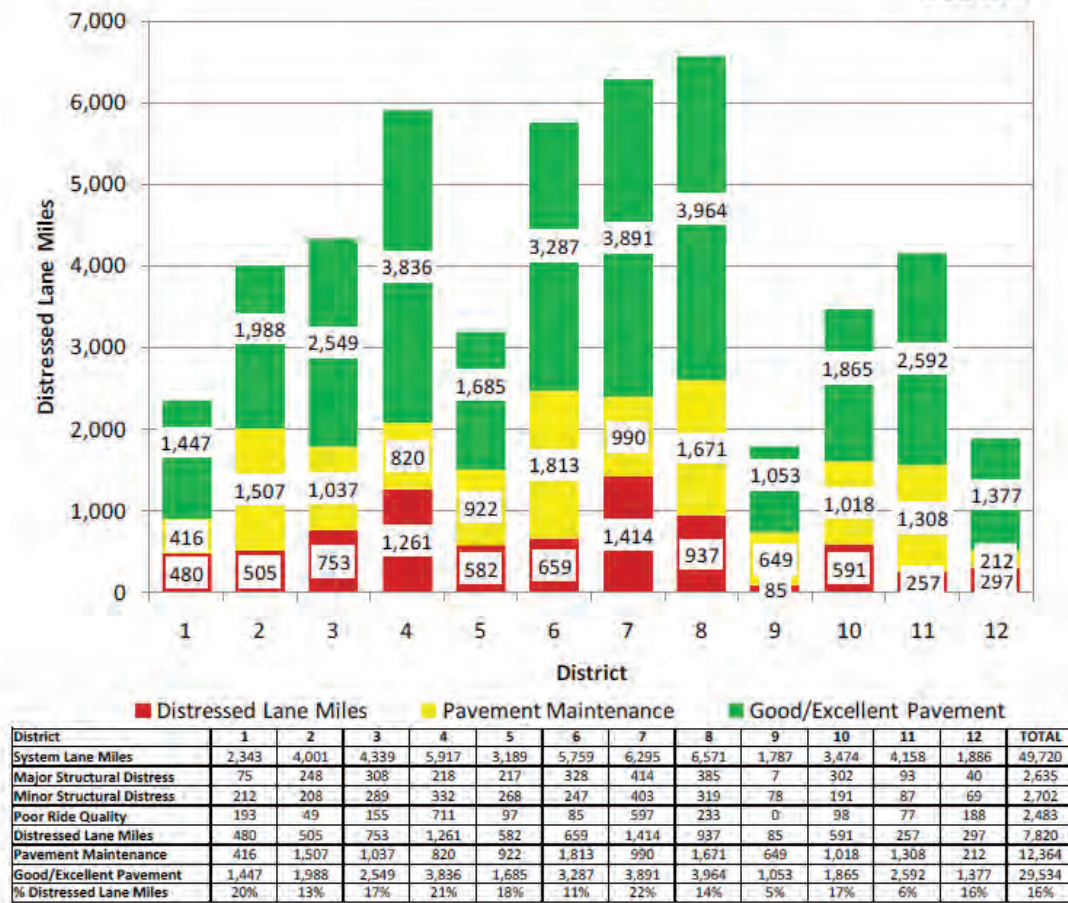
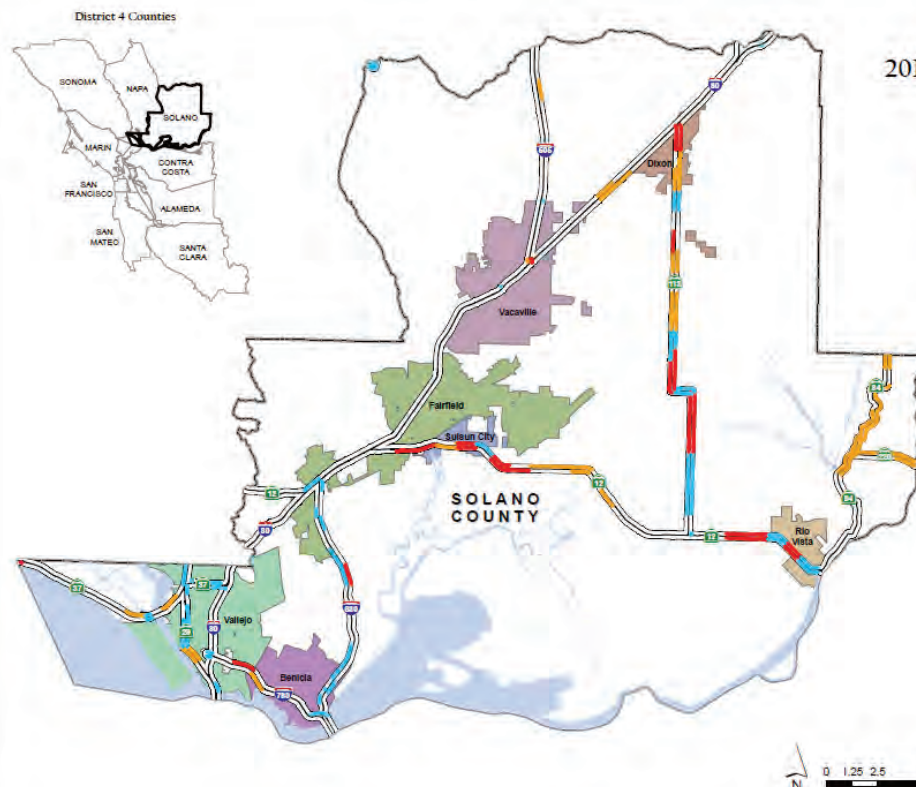


Figure 4. Pavement Condition by District (2013)

As noted in the above-information from Caltrans' 2013 report, District 4, including Solano County, has seen an improvement in pavement condition. Such projects as the new Jameson Canyon segment of SR 12, the completed repavement of I-80 and I-505 and the ongoing repavement of I-680 have substantially improved the average condition of the highways in freeways in Solano County. The most notable exceptions to this are the segment of SR 12 from Somerset Drive to Drouin Drive in Rio Vista, and SR 113 from SR 12 north into the City of Dixon. Segments of SR 12 in the Fairfield/Suisun City area are also distressed. The following map shows the results of Caltrans' 2013 Pavement Condition Survey for Solano County.



Solano County

2013 Pavement Condition Survey By Alignment



State of California
Department of Transportation
April 2014

DISCLAIMER

While the data on this map has been examined for accuracy, Caltrans disclaims any responsibility for the accuracy or correctness of the data. In no event shall Caltrans become liable to users of this map, or to any other party, for any loss or damages, consequential or otherwise, arising from the use of this map product.

- Major Pavement Distress
- Minor Pavement Distress
- Bad Ride Only
- State Highway
- County Boundary
- Park
- Water Feature

Source: Pavement Condition Survey - Location Summary from Caltrans Division of Maintenance



Map prepared by
Office of Traffic & Engineering, CTS Project

Chapter 5 - Arterials, Highways and Freeways Goals and Goal Gap Analysis

The previous chapter, the State of the System, described the conditions on Solano County's arterials, highways, and freeways as of 2019. The AHF Goals and Goal Gap Analysis outlines how the STA intends to improve the system in future years, and examines the extent that these goals have been met. Goals are the milestones by which achievement of the Purpose Statement are measured. In order to implement the Arterials, Highways, and Freeways Element of the overall purpose of the Solano CTP, the following goals are established:

Create an Arterials, Highways and Freeways System that improves mobility for all modes of travel.

1. Prioritize funds for projects that improve Routes of Regional Significance.
 - Special emphasis should be given to roadways that support regionally important economic centers and goods movement.

As has been noted several times, the focus of both the Solano CTP and this Element is the RORS network, anchored by the I-80 network. Roadways that are not identified as a RORS should only receive STA administered funding in extraordinary circumstances.

STA and its member agencies have also identified the further development of the Solano County economy as a priority for a number of reasons, including additional tax revenues (which includes transportation funds) and shorter commutes for Solano residents. To advance this goal, STA has identified locations and projects that merit priority in investing transportation funds.

2. Freeways – support development and operation of a comprehensive Express/High Occupancy Vehicle (HOV) network on I-80 and I-680.

Express/HOV lanes support a variety of transit modes, help achieve both air pollution and congestion reduction goals, make goods movement easier and, in the case of express lanes, help pay for their own construction and operation. As such, they are one of the most effective tools available to improve mobility in and through Solano County.

3. Seek consistent width to avoid congestion caused by reduction in number of lanes.

Traffic modeling, real-time congestion mapping and comments from citizens all identify congestion from lane reductions as both frequent and frustrating. Studies of traffic patterns related to Induced Demand also show that projects that eliminate lane reductions of fill-in network gaps are examples of the rare project that does not induce new trips.

The major lane reduction back-up areas in Solano County are I-80 eastbound at North Texas Street, I-80 eastbound east of Leisure Town Road, I-80 westbound east of Dixon and I-80 westbound at I-505.



4. Implement Complete Streets appropriate to the context of the roadway.

Complete Streets recognizes and plans for the fact that not all roadway users will be driving cars; many will be walking or riding bicycles. Complete Streets incorporates bicycle and pedestrian infrastructure into roadways, such as bike lanes, sidewalks, to improve the safety of the roadway for all users. Doing so encourages more trips to be taken on foot or by bike, and in turn can help with congestion and air quality.

5. Improve system efficiency through technology prior to adding lanes.

System efficiency technologies include advance notification of congestion and alternative means and routes, arterial street prioritization for transit vehicles and ramp metering. These solutions are notably less expensive than constructing and maintaining new travel lanes.

6. Identify and preserve needed rights of way for future transportation projects.

Right of way can be a difficult element to transportation projects. In order to ease the process for future transportation projects, steps should be

taken to identify and protect needed right of way to support such projects.

7. Develop and implement corridor plans for all interstate freeways and state highways, in conjunction with Caltrans. Develop corridor plans in cooperation with STA member agencies for multi-jurisdictional arterials on the RORS network. Use these corridor plans to prioritize improvements within each corridor. Periodically update the corridor plans and adjust project priorities as needed. Due to the long timeframes needed to deliver roadway projects, priority should generally be assigned to projects that have already been initiated.

The various forms of corridor plans allow for sufficiently detailed examination of project locations, features and relationships to act as the best means of assigning funding priorities. Using priorities identified in these Plans can also provide the needed long-term commitment to projects that justifies the early investment in planning and design that leads to a project ready for development funds. The STA Board may need to periodically review priorities that come from different corridor plans.

Improve system safety

8. Identify locations on local arterial streets with above-average number or rates of collisions, and fund improvements to reduce collisions to average.

Consistently update Travel Safety Plans to identify the aforementioned locations where collisions occur at higher rates on local arterial streets. The



identified projects should be used to set priorities for funding for safety projects, such as the Highway Safety Improvement Program (HSIP) from Caltrans.

Maintain the system at an appropriate level

9. Invest funds to maintain a minimum Pavement Conditions Index (PCI) of **Fair** and an average rating of **Good** on the RORS network. Work with Caltrans to ensure that a similar standard is maintained on the State system.

Pavement conditions are rated by their PCI score with the following ranks:

Score	Rating
80-89	Very Good
70-79	Good
60-69	Fair
50-59	At-Risk
25-49	Poor

The STA currently allocates federal Surface Transportation Program funds for Local Streets and Roads projects through a funding distribution formula. Funding amounts are determined

based on a formula using population, lane mileage, arterial and collector maintenance shortfall, and preventative maintenance activity. This is different from the MTC regional formula established in Plan Bay Area, which is based upon population and housing production.

Support the creation of Solano County jobs and other locally-decided land uses

10. Identify roadway improvements that improve goods movement or reduce the impact of goods movement in Solano County. *Currently, Solano County has no comprehensive study related to freight or goods movement. Freight plans exist at the regional level with MTC, and the state level with Caltrans. STA has identified individual projects on important freight corridors, such as the I-80/I-680/SR-12 Interchange project, and will continue to implement such projects.*
11. Identify roadway improvements that support retention or expansion of regionally important employment centers, retail centers and civic facilities. *STA has identified Routes of Regional Significance, many of which serve regionally important employment centers, retail centers, and civic facilities. Identifying and implementing roadway improvements that support such facilities is important to the economic vitality of Solano County.*
12. Prioritize available funds to support Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs), with special emphasis being given to support for Transit Facilities of Regional Significance. *Each Solano County city has at least one PDA*

and the County of Solano has 5 PCAs. Prioritizing roadway improvements in these areas will assist future growth in concentrated areas of Solano County, as well as supporting regional transit facilities that move Solano County's residents throughout the county and beyond.

- All TFORS are in or adjacent to PDAs

Anticipate and mitigate system construction and operation impacts

13. Special emphasis should be given to projects and designs that reduce emissions of criteria pollutants and greenhouse gasses.

California has set targets to reduce greenhouse gas (GHG) emissions to 1990 levels by 2020, then to further reduce emissions to 80% below 1990 levels by 2050. STA will continue to develop and support projects that further these statewide goals.

- Support projects that reduce emissions of criteria pollutants in sensitive communities or Communities of Concern.

Particular focus should be given to these Communities of Concern (COC) in order to ensure an equitable distribution of resources and to mitigate the effects of pollution and climate changes in Solano County's sensitive communities and COCs.

14. Where possible, use the avoidance and mitigation standards from the Solano Habitat Conservation Plan for STA transportation projects.

When planning and constructing transportation projects, avoidance and mitigation standards for protecting habitats must be taken into account. The Solano Habitat Conservation Plan, adopted in 2012, has established these standards that have been adopted by 6 of STA's member agencies. STA should strive to use these standards when implementing applicable projects.

GOAL GAP ANALYSIS

PURPOSE STATEMENT: The Solano Comprehensive Transportation Plan will help fulfill the STA's mission by identifying a long-term and sustainable transportation system to provide mobility, reduce congestion, and ensure travel safety and economic vitality to Solano County.

Arterials, Highways, and Freeways Element Purpose Statement: Identify existing and future safety, capacity, and enhancement needs for the major arterials, highways, and freeways in Solano County that serve intercity and interregional travel.

Measuring Goals. The following criteria are used to measure the progress on meeting the goals of the AHF Element:

- **Completed** – this is a goal with a specific end-point that has been reached, such as the construction of a facility or the identification of Transit Facilities of regional Significance. This also includes studies that have been adopted (even if recommendations have not yet been implemented) and the initiation of an ongoing program.
- **Significant Progress** – this is a project with substantial completion; typically more than 10% Plans, Specifications and Estimates (PS&E) but not yet into construction or completion. It also includes studies where data collection and analysis has started, but final recommendations have not been adopted.
- **Preliminary Proposal** – finally, this category covers projects that have less than 10% PS&E, plans that have not started data collection, and programs that have no administrative and/or financial commitments and no start date.

For some AHF Goals, the Gap analysis is mixed: **Significant Progress** in terms of policy establishment, but only **Preliminary** implementation. This is largely a function of the ongoing significant shortfall of funding for both new projects and maintenance of existing facilities.

The following outlines the progress made in implementing the goals of the Arterials, Highways, and Freeways Element:

Create an AHF System that improves mobility for all modes of travel.

1. Prioritize funds for projects that improve Routes of Regional Significance. This goal has seen **Significant Progress**. STA funding choices have been focused on RORS, but STA staff reports and recommendations do not routinely identify to the TAC and Board whether or not a roadway is a RORS.

- Special emphasis should be given to roadways that support regionally important economic centers and goods movement. **Preliminary Proposal** – Formal identification of a goods movement (aka freight) network is a relatively new task, both at a local and a regional level. However, the National Freight Strategic Plan was recently completed and does include I-80 on the National Highway Freight Network. Additionally, the **California Freight Mobility Plan** was adopted in December 2014. I-80 and State Route 12 corridors are on the State freight network. In addition, MTC has recently completed a regional goods movement plan in early 2016, and this complements goods movement investment efforts at the state and national level. STA has significantly invested in goods movement infrastructure in the past, notably the I-80 Eastbound truck scales in Cordelia and the first construction Package of the I-80/I-680/SR 12 Interchange. As the routes of regional significance definition has been expanded to include roadways serving major economic centers in Solano County, this will increase the ability of STA to make future investment decisions on projects that support goods movement. STA will use information from these plans to help further identify and seek funding for goods movement facilities. It should be noted that goods movement also includes air, rail and shipborne traffic, and not just vehicles on roadways.
2. Freeways – support development and operation of a comprehensive Managed Lanes network on I-80 and I-680.
Preliminary Proposal. An HOV lane extends for 8.7 miles in each direction on I-80 (Red Top Road to Air Base Pkwy), and design is 100% complete on a project to convert the existing HOV lanes to Express lanes and extend them past I-505. In addition, the Express Lane connector ramps in the I-80/I-680/SR-12 Interchange complex and the actual construction of Express Lanes is proposed for regional funding in Plan Bay Area. The remaining portions of the network are from Vacaville to the Yolo County line, through the City of Vallejo, and along the length of I-680 in Solano County.
 3. Seek consistent width to avoid congestion caused by reduction in number of lanes. **Preliminary Proposal.** This goal is a direct response to comments received during the public outreach performed by STA in May – October of 2015 and to observations included in the AHF State of the System report. Most of the significant areas of recurring delay on the interstate freeway and the state highway system are found where the number of lanes is reduced. One major drop lane location is along Eastbound I-80 at Air Base Pkwy. This drop lane will be removed once the I-80 Express Lanes are constructed past I-505. This project will reduce the congestion caused by the drop lanes at this location.

4. Implement Complete Streets appropriate to the context of the roadway. This goal has seen **Significant Progress in terms of Policy**. Most Solano jurisdictions have Complete Streets incorporated into their General Plan, Zoning Ordinance, or have a resolution committing to Complete Streets implementation. This means new development proposals have the opportunity to fully incorporate Complete Streets standards. No jurisdictions in Solano County have chosen to adopt a Complete Streets Plan that designates specific locations to implement Complete Streets improvements. Implementing this goal will be an ongoing activity for the County.
Preliminary Proposal in terms of implementation. Complete Streets features have been incorporated into the construction of roadways such as Military West (Benicia), Wilson Avenue (Vallejo), Suisun Parkway (Solano County) and Jepson Parkway (Fairfield/Vacaville). Most Routes of Regional Significance were constructed before Complete Streets became a requirement, and require some sort of retrofit to properly accommodate all forms of transportation. Jurisdictions have typically not updated their standard specifications to include Complete Streets standards. Typically, such projects are implemented on a case-by-case basis.
5. Improve system efficiency through technology prior to adding lanes. **Significant Progress.** In 2010 the STA adopted the Solano Highways Operations Plan. This Plan identified ITS strategies to improve

operations along the I-80 corridor through lower cost capital investments. Implementation of the Plan has been ongoing through the recent installation of Ramp Metering on I-80 in Fairfield and Vacaville. Further, pavement detection loops along I-80 were installed as part of the major roadway rehabilitation work that was completed. MTC is developing a Managed



Lanes Implementation Plan (MLIP) that will link transit through the corridor to increase throughput.

6. Identify and preserve needed rights of way for future transportation projects. **Significant Progress for four projects.** Right-of-Way has been identified and/or set aside for the Jepson Parkway, North Connector, Vaca Valley Parkway and I-80/I-680/SR 12 projects.

Preliminary Proposal for other projects. Even though this is a Goal in the adopted Solano CTP – AHF element, no specific steps have been taken to implement this Goal for projects aside from those listed above. However, the I-80/I-680/SR 12 Interchange Environmental Document has

been completed, and can serve as guidance for land development within the identified foot print of the project.

7. Prepare and periodically update corridor studies to identify and prioritize specific projects. This goal has seen **Significant Progress**. Corridor plans have been completed for I-80, I-680 and I-780; SRs 12 and 113; and some corridor planning work has been done for SR 29. Significant planning work is ongoing for the SR-37 corridor. The only major roadway lacking recent corridor planning is I-505. The conditions and volumes on I-505 place this route on a low priority for a corridor study, and as such the existing Caltrans Interstate 505 Corridor Plan is sufficient at this time. Similarly, roadways such as SRs 84, 128 and 220 are adequately covered by Caltrans documents, and do not require additional work by STA. A schedule or set of conditions to trigger updates of these plans has not been developed. Staff is recommending that each corridor plan be reviewed for minor updates every five years to update traffic volumes and the status of implementation with a more detailed update every ten years.

Improve system safety

8. Identify locations on local arterial streets with above-average number or rates of collisions, and fund improvements to reduce collisions to average. This goal has seen **Significant Progress**. The STA adopted a Solano Travel Safety Plan in 2018; this was

an update to the 2016 Solano Travel Safety Plan. Recent corridor studies, such as the SR 12 multi-jurisdictional study, have gathered and analyzed safety and accident



data. However, there is not a standard format for gathering and analyzing such data, and not all corridor plans of other studies have up-to-date safety information. In addition, STA will continue to work with Caltrans to identify and address portions of the freeway and highway system with above-average collision rates or conditions that can increase the likelihood of severe or frequent collisions.

Maintain the system at an appropriate level

9. Seek to fund an average PCI rating of all RORS at 75, with no RORS being rated below 60. This goal has seen **Significant Progress** in terms of policy and focus. The adopted 2005 Solano CTP – AHF element does not have a PCI Goal. MTC's 2013 Plan Bay Area has a PCI goal of 75. The Solano County Pothole Report, first adopted in 2014, also contains information on the PCI of local roadways and the

funds needed to maintain or improve that PCI, but does not call out the PCI of the RORS.

This is a **Preliminary Proposal in terms of implementation.** Establishing a target PCI is only a first step. The next task is to identify those roadways that fall below the target PCI. The 2019 Solano Pothole Report includes maps that indicate the PCI ratings of streets throughout each Solano County jurisdiction.

The 2019 Solano Pothole Report also identifies the trend in PCI over the last five years. Those communities building new roadways have seen an increase or steady PCI. Those strictly seeking to maintain existing roadways, without the new roadways associated with new construction, have seen their PCI decrease. PCI decreases can be largely attributable to a substantial reduction in state gas tax revenues provided to the cities and county to achieve the PCI targets established in the Solano CTP. Information in the 2019 Pothole Report shows that, at the current funding levels, the existing PCI for local streets and roads and arterials cannot be maintained. The Solano Pothole Report shows an annual shortfall of \$24 million dollars per year simply to maintain current PCI of 65, while an additional \$50 million per year is needed to maintain a target PCI of 75. The recent passage of Senate Bill (SB) 1 in 2017, which will generate \$5.24 billion per year in transportation funding statewide, aims to help reduce this shortfall.

10. Work with Caltrans to ensure that a similar standard is maintained on the State system. This goal has seen **Significant Progress in terms of Policy and Implementation.** Caltrans rates pavement by visual inspection of the pavement surface and uses lasers mounted on a Caltrans vehicle to collect the International Roughness Index (IRI) data, and has set a target of an IRI of 170 inches or less per mile.

Funding for maintenance of the state highway system is done throughout the SHOPP. The SHOPP faces a situation similar to local roads maintenance; namely, lack of funding. Caltrans does not currently have adequate funding to maintain the entire state freeway and highway system at the desired level, though SB 1 will increase the amount of funding available to such projects. Solano County has, however, had recent significant SHOPP investment along I-80, and I-680, and SR 12 in recent years, and has more projects upcoming through this program.

Support the creation of Solano County jobs and other locally-decided land uses

11. Identify roadway improvements that improve goods movement or reduce the impact of goods movement in Solano County. **Preliminary Proposal.** Both MTC and the Alameda County CMA have completed Goods Movement plans, and there are freight plans at state and federal levels as well. These plans cover the gamut of goods

movement modes – road, rail, port and air. All four of these modes are present in Solano County. At every level of goods movement planning (Federal, State and Regional), the I-80/I-680/SR 12 interchange is identified as a key facility. In addition, the I-80 Cordelia Truck Scales are also key goods movement facilities. The West-bound Truck facility needs to be replaced and has been identified as a project in MTC's Regional Goods Movement Plan. The I-80 corridor is identified in the National Freight Plan and the SR 12 corridor is recognized as a Goods Movement corridor along with I-80 in the State Freight Plan.

While STA has identified individual projects that are important to local and regional goods movement, it has not undertaken a comprehensive study to identify these facilities in a single document. An initial list of goods movement priorities will be included as part of the CTP.

12. Identify roadway improvements that support retention or expansion of regionally important employment centers, retail centers and civic facilities. This goal has seen **Significant Progress**. STA has identified regionally significant employment centers, and designated the major roads that serve them as Routes of Regional Significance. STA has not identified those improvements to the roadways that are needed to support each center's continued economic viability. This task was undertaken as part of the Solano County's Moving Solano Forward (MSF) Phase 2 effort, completed in 2017

MSF was a multi-agency effort to identify and find users for major industrial sites in Solano County while still keeping existing employers in the county.

13. Prioritize available funds to support PDAs and PCAs, with special emphasis being given to support for Transit Facilities of Regional Significance. This goal has seen **Significant Progress**. STA has assisted local agencies in funding road and transit projects in PDAs in each of the seven Solano cities, and has designated PCA funding (both planning and project construction) in Solano County. The requirements of the One Bay Area Grant (OBAG) 2 funding program require that at least 50% of those funds be spent on projects located in or directly supporting PDAs. In addition, the STA Board has approved a list of priority Managed Lanes Implementation Program (MLIP) facilities. These facilities include express lanes that directly support carpool, vanpool and express bus services. Large facilities such as the Curtola Park and Ride and Fairfield Transportation Center expansions and upgrades, which serve both carpool and express bus services, are located in or directly adjacent to the PDAs.
 - All TFORS are in or adjacent to PDAs.

Anticipate and mitigate system construction and operation impacts

14. Special emphasis should be given to projects and designs that reduce emissions of criteria pollutants and greenhouse gasses. **Preliminary Proposal**. Analysis of GHG

emissions occurs during the environmental phase of a project, but so far has not been an explicit quantitative criteria in the early prioritization and selection of projects or programs. New state requirements require projects to use Vehicle Miles Traveled (VMT) as a measure of assessing a project's traffic impacts, rather than the traditional Level of Service (LOS). This will change how project GHG emissions are calculated at an early stage in the project's development, and may serve as an effective tool to implement this policy. STA can use the VMT or other Best Available Technology to assess GHG emissions and reduction strategies.

STA has elected to focus funds for recapitalization of express buses on alternative fuel vehicles to meet federal and state low and zero emission requirements. STA has also adopted an Alternative Fuels Plan, an Electric Vehicle Transition Program Final Report, and sought Cap and Trade funds for projects to reduce GHG emissions.

- Support projects that reduce emissions of criteria pollutants in sensitive communities or Communities of Concern. Preliminary Proposal. STA has not done a statistical analysis or mapping project to identify projects within Communities of Concern.

15. Where possible, use the avoidance and mitigation standards from the Solano Habitat Conservation Plan for STA transportation projects.

Preliminary Proposal. The Solano HCP was adopted in 2012, however the STA is not a signatory to the HCP. STA regularly mitigates projects in accordance with the draft HCP's mitigation ratios.

Chapter 6 – Arterials, Highways and Freeways Element Resources

Roads of all types are expensive to build. Once they are built, they are also expensive to operate and maintain, although how they are built has a significant impact on their long-term maintenance costs. The purpose of this Chapter of the Solano CTP AHF element is to:

- Look at the financial resources STA has received since 2010 to pay for road construction, operations and maintenance
- Look at the anticipated revenue over the next 5 years to pay for road construction, operations and maintenance
- Project the difference between anticipated revenues and needs

It is important at this point to remember that the Element focuses on Routes of Regional Significance – those roadways that connect the communities of Solano County to each other and to the broader region, and within Solano County to downtowns, transit centers and major employment centers. Many local roadways, such as collector streets in a residential subdivision, are built and maintained solely with local resources.



What is a Roadway?

When people talk about roads, they most typically think of the surface upon which they drive. Actual roadways are much more than this. The right-of-way – the land on which the roadway is located – extends out beyond the pavement area. Right-of-way can include landscaping, control boxes for traffic lights, street lights and, in some cases, the edge of the right-of-way is demarcated by a fence or sound wall. Beneath the pavement is found sand, gravel and rock that acts as the base for the roadbed. Also under the roadway are facilities to collect and carry away storm water, utilities such as water and wastewater lines, and conduits for power, phone and internet cables.

Adjacent to almost all arterial roadways, and some state highways, are curbs and in most cases sidewalks.

Building or expanding a roadway network is expensive. The actual construction of the driving surface is only part of the story. The need for and general location of a roadway must be established in a document such as a city General Plan or an STA or Caltrans corridor study. Environmental impacts of the project must be assessed, and any negative impacts either avoided or mitigated. The land on which the roadway is built must be acquired. The project must be designed by registered engineers. Only when all these steps have been completed can the roadway be built.

Depending upon the size of the roadway project, it can take several years to complete. The longer the roadway, or the more major structures such as bridges that are involved, the longer the construction time. The amount of time it takes to build a project is often delayed by conditions such as winter weather, the need to avoid environmentally sensitive areas during some portions of the year, or the breeding and nesting season for sensitive bird species living in the project area.

Roadway Construction – Past Revenue

It is rare for a roadway project to be built with money from a single fund source because of how extensive the projects are and how high costs can rise. Because of this, nearly every road is built with money that comes from multiple sources, whether they be Federal,

state, regional or local.

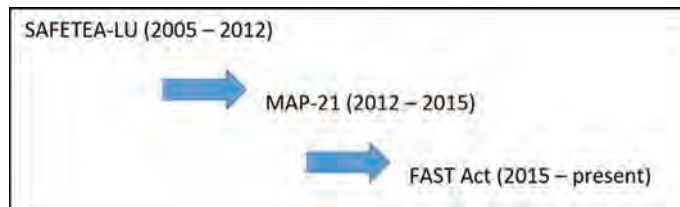
So, if the roadways that are the skeleton of the transportation system, connecting everything to everything else, are expensive and time consuming to build, what are the financial resources that are available to build (and maintain) them?

Federal

Federal transportation funds come from a tax on gasoline sales. The Federal gasoline tax has been fixed at \$0.184 per gallon since 1994. One result of this has been a reduction in the purchasing power of this tax by some 40% due to inflation. Because of the Federal government's ability to shift money between funds and to run a deficit, it is difficult to say that the only source of Federal transportation funds is the Federal gasoline tax. Some of it is also from deficit borrowing, which is a tool unavailable to state and local jurisdictions. In the most recent Federal transportation bill, the \$305 billion in authorized funds included \$140 billion in general federal revenues.

Federal funding for transportation projects is determined by legislation approved and periodically renewed by Congress. Federal transportation funding was guided by what was known as SAFETEA-LU (Safe, Accountable, Efficient Transportation Equity Act: A Legacy for Users) from 2005 until September 2012. SAFETEA-LU was originally intended to guide transportation funding for four years but was repeatedly extended. SAFETEA-LU continued some longstanding funding programs and created some new ones.

In 2012, a new two-year transportation bill was approved, known as Moving Ahead of Progress in the 21st Century, or MAP-21.



Subsequent to MAP-21's original expiration date of September 30, 2014, Congress enacted short-term extensions through the end of October 2015. In December 2015, a new five-year transportation funding bill was approved and became known as the FAST (Fixing America's Surface Transportation) Act. The FAST Act is the current Federal transportation bill.

Federal funds come in one of two ways. First of all, "formula funds" are distributed from the Federal government to states and, from there, to large metropolitan regions. In the Bay Area, the recipient of Federal formula funds is the Metropolitan Transportation Commission.

The second way that Federal funds are distributed is through competitive grant programs. These include the Better Utilizing Investments to Leverage Development (BUILD) and the Infrastructure for Rebuilding America (INFRA) grants, both of which are explained below and have been the subject of Solano County applications. In 2010, the old system of congressional earmarks, where members of the House and Senate could assign funds to priority projects in their districts, was discontinued.

When MTC receives federal formula funds, they first take a portion of them for regional programs, such as MTC planning activities and support of future programs addressing climate change. MTC usually claims about 60% of these funds. The remaining funds are distributed to the CMAs based upon a formula adopted by MTC. In previous years, the MTC formula was based upon roadway factors such as the total lane miles and the maintenance backlog in each county. Starting with the OneBayArea Grant (OBAG) Cycle 1 in 2012, MTC changed the basis of the formula to population and housing, in order to better reflect the priorities found in one of the state's signature climate change bills, known as SB 375.

MTC's federal funds distribution formula for 2017's OBAG 2 is based 50% on current population, 30 % on actual housing production from 1999 to 2014, and 20% on the Regional Housing Needs Allocation from 1999 to 2014. Within the two housing allocations, extra weight is given to the production or commitment to produce affordable housing.

Federal formula funds have been generally split into two categories over the time period covered by this Element, along with several smaller funding categories that have been changed. The current split of Federal surface transportation funding is expected to continue at least until the expiration of FAST Act in 2020. The categories of Federal transportation funding are:

- Surface Transportation Block Grant Program (STBG) – formerly the Surface Transportation Program or STP. STBG funds can be used for a broad variety of purposes, includ-

ing adding capacity to roadways, roadway maintenance and repair, safety projects and transportation planning.

- Congestion Mitigation and Air Quality (CMAQ). CMAQ funds must be used for projects that reduce congestion or improve air quality. The sorts of projects that qualify for CMAQ include active transportation (bike lanes are an example), programs that promote and support transit use, pilot transit programs and zero emission vehicle support.
- Transportation Enhancement (TE). This fund category was discontinued when MAP 21 was passed, but was previously used for roadway enhancements such as lighting and landscaping.

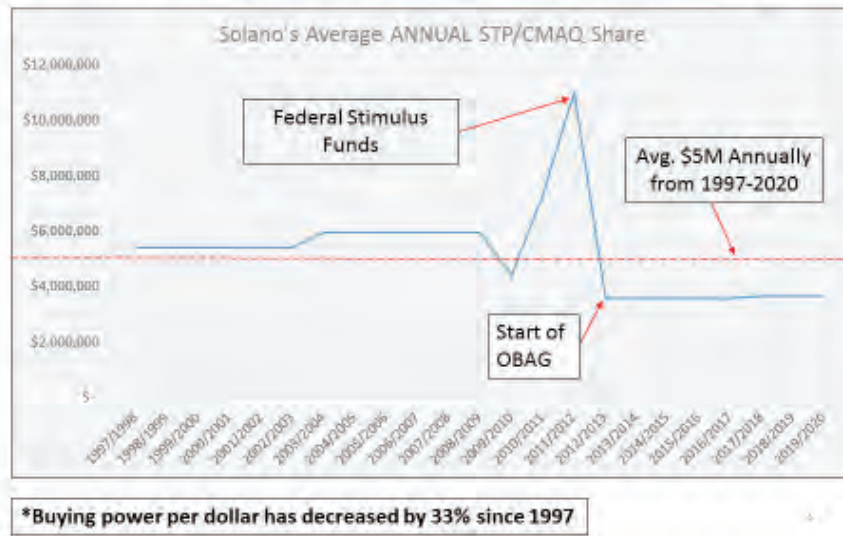
The FAST Act contains the following competitive grant programs that are applicable to Solano County projects:

- INFRA funds specifically designed to support the interstate movement of cargo. The FAST Act authorizes \$1.5 billion in funding for the INFRA program for fiscal year 2018, with 25 percent reserved for rural projects, and 10 percent for smaller projects.
- The BUILD grant program is another Federal transportation grant program that is designed to “support innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs.”

The American Recovery and Reinvestment (ARRA) of 2009 augmented funds available to STA member agencies for roadway construction and maintenance. Maintenance funds will be discussed later on in this chapter. ARRA provided \$31.2 million over a three year period to fund ready-to-build construction projects in Solano County. The very first California project was the I-80 Pavement Rehabilitation from just west of the SR 12 overcrossing to about one mile east of the Air Base Parkway overcrossing, finishing up the resurfacing project from Vallejo to Vacaville. This was the missing piece of the \$120 M rehabilitation of the I-80 corridor – one of 4 major trade corridors in California, and was done in conjunction with the construction of the new High Occupancy Vehicle (HOV) lane

Federal funds for road construction and maintenance have been stagnant for the last decade. When inflation is factored in, the actual purchasing power of those funds has been in decline. This is illustrated by the following figure.

Federal Funds Stagnant or Declining*



The table below shows federal funds provided to Solano County since 2010 for roadway construction.

Table 1: Federal Construction Funds FY 2009-10 to FY 2016-17

Actual (in \$1,000s)									
SOURCE - Federal		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Federal Funds To Solano County	STP	\$3,835	\$2,650	\$8,651	\$2,120	\$4,982	\$1,717	\$784	\$1,796
	CMAQ	\$580	\$4,658	\$2,365	\$1,875	\$3,270	\$908	\$1,260	\$1,796
	TE	\$400	\$77	-	\$1,141	-	-	-	
	Earmark	\$2,452	\$895	\$880	\$1,030	\$907	\$5,302	\$2,020	0
	ARRA	\$10,431	\$10,431	\$10,431	-	-	-	-	0
	TOTAL	\$17,698	\$18,711	\$22,327	\$6,166	\$9,159	\$7,927	\$4,064	\$3,593

The average over this 8 year period is \$11.2 million per year, but the large addition provided by the ARRA in the 2009-2012 time period distorts this amount.

State

State transportation funds come from two primary sources: ongoing fuel taxes and periodic state bond measures.

Fuel Tax

California's fuel tax system is complex. Originally, there were two taxes on gasoline and an excise tax on diesel fuel. The gasoline taxes consisted of the general sales tax applied to all purchases in the state, and a specific tax on gasoline sales. The state sales tax on gasoline has been 2.25% since mid-2010, and the fuel excise tax has been in the range of \$0.36 to \$0.278. The tax rates are shown in the following table:

Table 3: State Fuel Tax Rates (Fiscal years 2010-11 through 2016-17)

Fiscal Year	Base Tax	Price-Based Tax	Total Gas Tax Rate
2010-2011	\$0.18	\$0.17	\$0.35
2011-12	\$0.18	\$0.18	\$0.36
2012-13	\$0.18	\$0.18	\$0.36
2013-14	\$0.18	\$0.22	\$0.40
2014-15	\$0.18	\$0.18	\$0.36
2015-16	\$0.18	\$0.12	\$0.30
2016-17	\$0.18	\$0.10	\$0.28
2017-18	\$0.18	\$0.12	\$0.30

The table above lists an excise tax rate. In the California system, this is not a traditional excise tax. Instead it is an estimation of what the sales tax would be if the state legislature had not shifted the gasoline sales tax calculation and terminology in 2010.

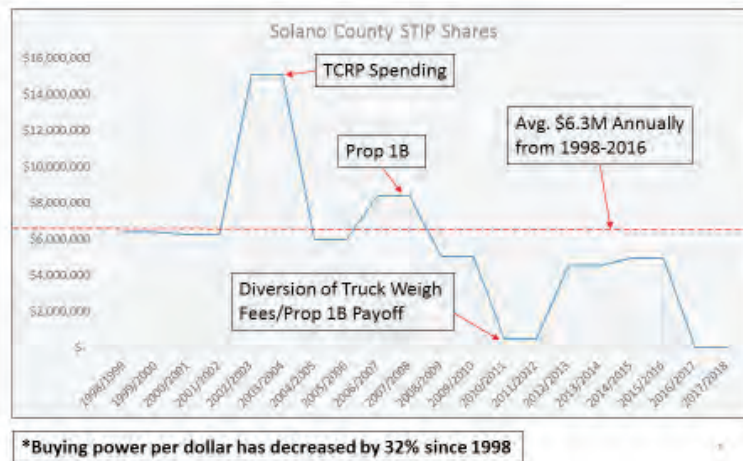
The state also charges an excise tax on motor vehicle fuel at a rate of \$0.18 per gallon.

State gas tax funds are distributed directly to local agencies, and do not go through regional agencies such as MTC or STA. These funds are primarily used for local streets and roads maintenance, but can also be used for new roadway capacity.

Gas tax funds that are collected at the state level are put into the State Transportation Improvement Program (STIP) and the State Highway Operations and Preservation Programs (SHOPP) accounts. SHOPP projects are for operations and maintenance projects focused on state highway systems prioritized by Caltrans, and are addressed in that section of this Chapter. The STIP account is the primary state funding source for the construction of new capacity in California, and is programmed by regional agencies and the California Transportation Commission (CTC).

As with federal funds, the funds from the STIP for Solano projects have been decreasing, as shown in the following figure.

STIP Funding Over Time



Highway Safety Improvement Program (HSIP)

The HSIP is a program created under MAP 21, but administered by the state. The HSIP is “for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads”. HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means. Funding cycles for this funding source occur every 2 years. For the time period of FY 2009-10 through FY 2017-18, there have been 4 cycles of HSIP funding. Solano cities, and the unincorporated county have been awarded \$9.33 million in HSIP funds. \$6.8 million of those funds have been obligated to projects, with the remaining scheduled for obligation and construction in FY 17-18.

Highway Bridge Program (HBP)

The purpose of the federal HBP is to “replace or rehabilitate public highway bridges over waterways, other topographical barriers, other highways, or railroads when the State and the Federal Highway Administration determine that a bridge is significantly important and is unsafe because of structural deficiencies, physical deterioration, or functional obsolescence.” As with HSIP, it is administered on a competitive basis by the state. The County of Solano has aggressively pursued HBP funds, and \$51.9 million has been received during the time period of FY 2009-10 through FY 2016-17.

Bonds

State bonds are debt instruments sold on the open market in order to generate a large amount of funds at a single time. The bonds (principle and interest) are then repaid over time with funds

generated from the state property tax. Other fund sources, such as fuel taxes or road tolls, can also serve as the basis for bond repayment funds. Bond sales to either have specific expenditure plans and listed projects, or guidelines for what sort of projects can be funded.

Within the last decade, there has only been one California transportation bond – Proposition 1B (Prop 1B), approved by California voters in November of 2006. Prop 1B was designed to finance a major transportation infrastructure program in California. Project selection was done by the CTC, based upon criteria that were included in the bond package approved by voters. In Solano County, Prop 1B funds were used to fund the Jameson Canyon (SR 12) widening, the Eastbound Truck Scales on I-80 and several projects that are part of the I-80/I-680/SR 12 interchange (I-80 HOV lanes, North Connector and construction package 1 of the Interchange) as well as transit operations support.

The table below shows state funds provided to Solano County since 2010 for roadway construction.

Table 4: State Funding for Construction

		Actual (in \$1,000s)							
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	Prop 1B	\$4,998	-	-	\$309	-	\$15,500	\$12,259	\$0
	Gas Tax	-	-	-	-	-	-	-	
	STIP	\$5,020-	\$470	\$470	\$4,513	\$4,513	\$4,926	\$4,926	\$400
	HSIP	-	\$2,406-	-	\$3,300		\$1,063		\$2,560
	HBP	\$3,400	\$1,052	\$2,559	\$17,338	\$18,688	\$2,496	\$4,627	\$1,754
	TOTAL	\$13,418	\$3,928	\$3,029	\$25,460	\$23,421	\$24,032	\$24,199	\$4,714

Regional Funding

Regional funds for roadway construction come from bridge toll funds, referred to as Regional Measure 1 (RM 1) and RM 2 approved by Bay Area voters in 1988 and 2004 respectively (the latter also referred to as AB1171-AB144 funds), which are limited to projects that reduce traffic on one of the Bay Area toll bridges. The sorts of projects that qualify for these funds include express lane improvements and local roadways that improve access for Express buses from a local transit center to the freeway system.

The table below shows regional funds provided to Solano County since 2010 for roadway construction. It is important to note the capital program from RM 2 was for 10 years and began to conclude in FY 2016-17.

Table 6: Regional Funding for Construction

		Actual (in \$1,000s)							
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	RM 1	\$47,619	\$46,775	\$10,708	\$23,403	\$22,645	\$18,591	\$10,950	\$0
	RM 2	-	-	\$7,000	\$36,863	\$29,276	\$34,039	750	\$0
	TOTAL	\$47,619	\$46,775	\$17,708	\$60,266	\$51,921	\$52,630	\$11,700	\$0

Local Funding

There are several local sources of construction money for roadways. The most substantial source of funds for local roadway construction is development impact fees. Impact fees are collected at the time building permits are issued, and they are intended to pay some or all of the costs of improvements needed to offset the traffic impact of new development. Each city, and the county, establishes its own impact fee using what is known as an AB 1600 process. Impact fees can also be covered by a developer installing a new roadway themselves. Impact fees are usually spent on local roadways and occasionally paid to Caltrans for improvement on the state highway system.

Sometimes, because of the size and nature of the project, its transportation impacts are not fully covered by collection of impact fees. In these cases, the impact is usually identified in the project's environmental documentation. At this time, a mitigation measure can be identified and required as a condition of the project's approval. While this process is different from the collection of impact fees, the practical result is the same – a developer funded or built new roadway.

In 2013, Solano County began collecting a Regional Transportation Impact Fee (RTIF), as part of the County's Public Facility Fee, to help cover some of the costs of projects that benefit multiple jurisdictions. The RTIF is administered by STA. Since its inception in 2013 (FY 2013-14) and through Q4 FY 18/19, the RTIF has collected \$7.08 million; 91% of these fees have already been obligated or committed to priority RTIF projects.

Finally, 7 of the 8 jurisdictions in Solano County have locally approved sales tax measures.

While these measures are all general fund measures, allowing the city to spend the money as the

City Council sees fit, local streets and roads are typically identified as one of the local priorities for the local sales tax measure.

Local sales tax funds spent on roadway construction may be on strictly local streets or on Routes of Regional Significance, so they are not reported below.

The Whole Funding Picture

Based on the tables and figures above, the table below show overall construction funding for Routes of Regional Significance in Solano County from FY 2009-10 through FY 2016-17.

Table 8: Total Construction Funding FY 2009-10 through FY 2016-17

		Actual (in \$1,000s)							
		2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	Federal	\$17,698	\$18,711	\$22,327	\$6,166	\$9,159	\$7,927	\$4,064	\$3,593
	State	\$13,418	\$3,928	\$3,029	\$25,460	\$23,421	\$24,032	\$24,199	\$4,714
	Regional	\$47,619	\$46,775	\$17,708	\$60,266	\$51,921	\$52,630	\$11,700	\$0
	RTIF	0	0	0	0	\$383	\$1,374	\$1,287	\$1,457
	TOTAL	\$78,735	\$69,414	\$43,064	\$91,892	\$84,884	\$85,963	\$41,250	\$9,764

Conclusions – Construction Funding

There are few roadway projects that can be constructed with a single fund source, and those projects that can be are typically smaller, local-serving roads. The Routes of Regional Significance that connect the communities of Solano County, and that connect Solano to the broader Northern California region, are by definition multi-jurisdiction and almost always multi-fund source projects.

That broad range of funding needs is matched by the broad range of funding sources, and that is a source of difficulty for delivering projects. Federal, state and regional funding providers want to see funds spent quickly, while multi-sourced projects take time to assemble funding packages (much less obtain project permits). Local funds, which can be spent with fewer of the procedural restrictions than those funds from other sources, are often the best way to get a project “shovel ready.” Shovel ready projects are those that have all environmental, right-of-way and design work completed, and need only adequate funding to be ready for shovels to begin moving dirt

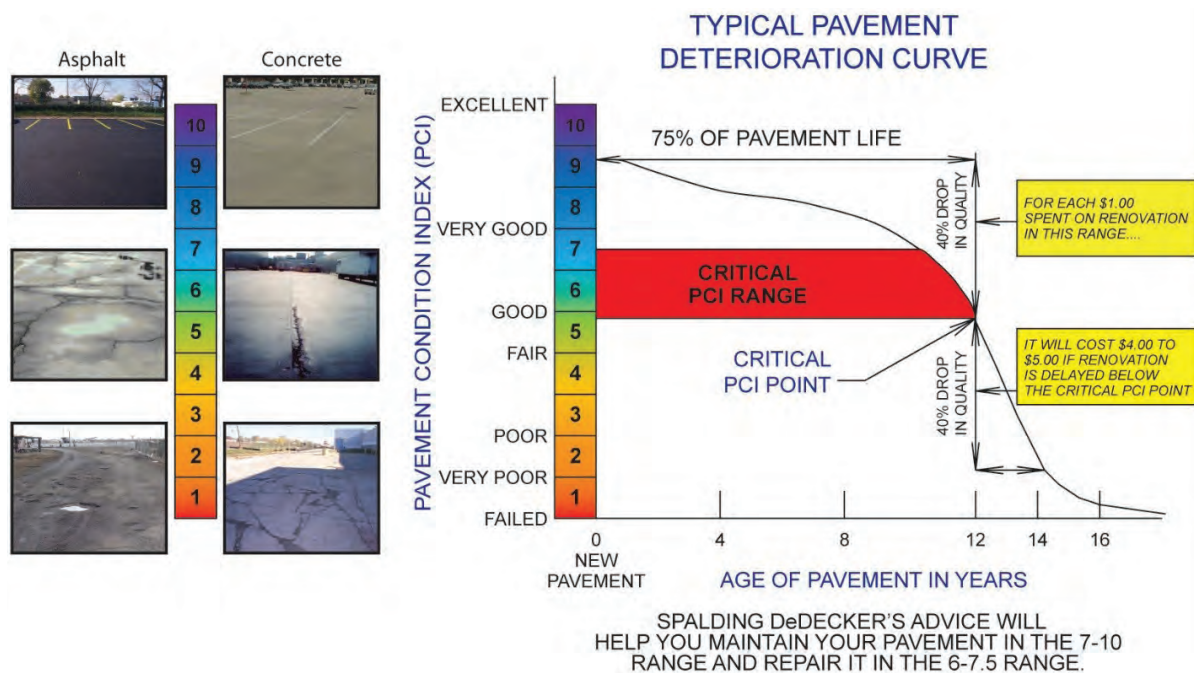
(i.e. construction started). The lack of a dedicated countywide transportation fund source makes construction of major roads in Solano County much more difficult.

Roadway Maintenance— Past Revenue

Building or expanding a roadway network is expensive. Once it is built, the maintenance expenses kick in. Depending upon the type of construction and the volume and nature (proportion of cars, buses and trucks) of the traffic, the early maintenance can range from cleaning and keeping gutters clean to patching cracks and dealing with subsidence.

In general, one of the most significant factors in a road's maintenance needs is simply its age. Pavement dries and it cracks, it bears loads unevenly, water seeps in and washes away the underlying sand and rock, leading to more cracking that allows in more water – all things that lead to the accelerating deterioration of a road. The wet winter of 2016-17 has been a reminder that sometimes non-scheduled maintenance and repair of roadways is needed due to extreme events such as flooding.

The condition of a road is measured by the Pavement Condition Index (PCI), as explained earlier in the State of the System chapter. The chart below shows how the cost to maintain a road goes up over time.



Unlike construction funding, maintenance resources do not come from a large variety of sources. Instead, there are two primary sources of maintenance funding: gas tax funds returned to the

local community, and locally-adopted sales taxes. State gas tax revenues are reported below by calendar year rather than fiscal year.

Table 10: State Gas Tax Funds for Solano Road Operations and Maintenance

Actual (in \$1,000s)									
	2010	2011	2012	2013	2014	2015	2016	2017	2018
	\$13,751	\$19,781	\$22,074	\$18,981	\$23,980	\$23,507	\$17,333	\$15,695	\$30,881,227

In addition to the yearly sales tax receipts, there were two one-time infusions of money for roadway maintenance since 2010: The American Recovery and Reinvestment Act of 2009 (ARRA), which provided money in 2010, and the One Bay Area Grant (OBAG) funds from the 2013 Regional Transportation Plan (RTP).

As noted above, the American Recovery and Reinvestment (ARRA) of 2009 augmented funds available to Solano County's seven cities and the County for roadway construction and maintenance. ARRA provided \$31.2 million over a three year period to fund ready-to-build construction and rehabilitation projects in Solano County.

OBAG is a block grant program administered by MTC, and includes CMAQ and STBG funds. During the time period of FY 2011-12 through FY 2018-19, STA allocated \$10,784,000 of federal STBG funds for local streets and roads maintenance. The funds were spent on the following projects:

Table 11: OBAG 1 Local Streets and Roads Projects

Agency	Project	OBAG Funds	Total Cost	Amount of Miles Reconstructed/Overlaid/Sealed
Benicia	East 2nd Street	\$ 495,000	\$ 495,000	1.94 Miles Sealed
Benicia	Park Road Improvements	\$ 2,731,000	\$ 5,200,000	1.2 Miles Resurfaced
Dixon	West A Street	\$ 584,000	\$ 659,663	0.95 Miles Overlaid
Fairfield	Beck Avenue	\$ 1,424,000	\$ 1,800,000	0.6 Miles Overlaid
Suisun City	Walters Road and Pintail Drive	\$ 356,000	\$ 402,123	0.66 Miles Overlaid
Suisun City	Railroad Avenue Repaving	\$ 491,000	\$ 555,000	0.3 Miles Repaved/Sealed
Vacaville	2014 Pavement Resurfacing	\$ 1,231,000	\$ 1,525,000	6.2 Miles Resurfaced
Vacaville	2019 Vacaville Overlay Project	\$ 1,193,000	\$ 2,320,068	4.2 Miles Overlaid
Vallejo	Georgia Street from Santa Clara to Sacramento	\$ 384,000	\$ 2,556,000	0.1 Miles Overlaid
Solano County	STP Overlay 2013	\$ 1,389,000	\$ 1,654,600	14.3 Miles Sealed/Overlaid
Solano County	2020 Solano Paving Project	\$ 506,000	\$ 820,000	4.1 Miles Overlaid
Total		\$10,784,000	\$17,987,454	34.55 Miles Sealed/Overlaid

Improvements to the freeways and highways come from the SHOPP account. SHOPP projects range from repaving and other typical maintenance to new shoulders and turn lanes that improve operations but do not add to roadway capacity. The recent history of SHOPP funding in Solano County is shown in the following table and two maps.

	Actual (in \$1,000s)							
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
SHOPP	\$4,400	\$689	\$1,550	\$30,345	\$28,016	\$13,851	\$35,461	\$19,951

[illegible]

Taken together, the gas tax, SHOPP and OBAG 1 funds for the last nine fiscal years total:

Table 13: Total Operation and Maintenance Funds

Actual (in \$1,000s)									
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Gas Tax	\$13,751	\$19,781	\$22,074	\$18,981	\$23,980	\$23,507	\$17,333	\$15,695	\$30,881,227
SHOPP	\$4,400	\$689	\$1,550	\$30,345	\$28,016	\$13,851	\$35,461	\$19,951	\$33,969
OBAG 1 & 2	\$977	\$977	\$977	\$977	\$977	\$977	\$977	\$977	
TOTAL	\$19,128	\$21,447	\$24,601	\$50,303	\$52,973	\$38,335	\$53,771	\$36,623	

Future Revenue

Some of the future funding stream for local streets and roads construction and maintenance can be predicted, but much of it cannot. There are few stable funding sources.

One thing that can be predicted about the funding is that, barring a major change, it will not be enough to meet either construction or maintenance needs.

This important point bears repeating. There is not enough funding for new roads to handle existing congestion. There is not enough funding to build new roads to handle expected growth in housing and jobs. There is not enough funding to improve the condition of existing roads to an acceptable PCI, much less properly maintain new roads as they begin to age.

There is not enough funding for new roads to handle existing congestion, build new roads to handle expected growth in housing and jobs, or to improve the condition of existing roads to an acceptable PCI – much less properly maintain new roads as they age.

There are several fund sources that have at least some level of predictability. Other are based upon variables such as economic performance, and therefore tax or building permit revenues.

As with the Past Revenue section of this chapter, the Future Revenue section will examine construction and maintenance funds separately.

With the approval by the California Legislature of SB 1 (Road Repair and Accountability Act of 2017) on April 6, 2017, the funding picture is somewhat improved. Additional funds will start being collected in the fall of 2017, and likely find their way into regional and local accounts starting in early 2018. The statewide tax and fee increases that will fund SB 1 are:

- Base excise tax raised by \$0.12/gal and tacked to inflation thereafter. (November 1, 2017)
- Excise tax on diesel fuel raised by \$0.20/gal. (November 1, 2017)
- Annual vehicle fee ranging from \$25 to \$175, depending on value of the car. (January 1, 2018)
- Price-based excise tax raised to \$.17/gal; currently \$.098/gal (July 1, 2019)
- Electric cars pay a \$100 fee (January 1, 2020.)



Roadway Construction – Future Revenue

Federal funds

As discussed previously under roadway construction, Federal formula funds are split into two categories:

- Surface Transportation Block Grant (STBG). STBG funds can be used for a broad variety of purposes, including adding capacity to roadways, roadway maintenance and repair, safety projects and planning.
- Congestion Mitigation and Air Quality (CMAQ). CMAQ Funds must be used for projects that reduce congestion or improve air quality. The sorts of projects that qualify for CMAQ include active transportation (bike lanes are an example), programs that promote and support transit use, pilot transit programs and zero emission vehicle support.

The predictable federal funds come to STA through MTC's OBAG 2 program, which covers FYs 2017-18 through FY 2021-22. During that time period, OBAG 2 will provide \$7,397,027 of STBG funds (including \$1,500,000 of Federal Air Secondary funding reserved exclusively for projects in the unincorporated County) that can be used for either construction or maintenance of roadways.

Also as discussed previously, the FAST Act contains the following competitive grant programs that are applicable to Solano county projects. There is no assurance that any projects in Solano County will receive funding.

- Infrastructure for Rebuilding America (INFRA). INFRA). Funds are specifically designed to support the interstate movement cargo.
- Transportation Investment Generating Economic Recovery (BUILD) grant program. BUILD is another Federal transportation grant program that is designed to "support innovative projects, including multi-modal and multi-jurisdictional projects, which are difficult to fund through traditional federal programs."

There may be other federal grant programs in future years, but the existence, funding and requirements of such programs is dependent upon federal legislative action and administrative rule making. Similarly, the federal fuel tax could be updated (raised and/or indexed) in a manner that would provide supplemental STBG or CMAQ funds. These are not reliably predictable actions.

State funds

Future state revenues have been an unreliable source of future funds. The primary state construction funding mechanism is the STIP, and the maintenance fund is the SHOPP, both discussed previously. The source of these funds is state fuel tax/excise tax.

Over the 2010-2016 time period, changes made by the state government made the STIP a much less reliable stream of funding. The reasons for these changes have ranged from a desire to encourage less driving by creating fewer lane miles, to a response to the financial crash of 2008 and the resultant drop in fuel tax revenues, to a desire to pay off state transportation bonds quickly. A specific example of this is the diversion of truck weight fees collected by the state. Previously, these fees had been allocated to the State Highway Fund and used to fund the SHOPP. In 2010, the state shifted these fees to pay off Prop 1B bond debt. The result has been about \$1 billion per year that should be (but is not) programmed into the SHOPP.

As a result, prior to the April 2017 approval of SB 1 the identified STIP for allocation

to Solano County in FY 2016-17 was \$33,197,300 – all of which is already committed to the Jepson Parkway project, which is designed and ready for construction.

With the passage of SB 1, the Solano County STIP share is expected to be restored, at a rate of about \$9 million per year, starting in 2018-19.

There are two other state fund sources for future roadway work in Solano County. Funds for both programs are awarded on a competitive basis rather than distributed according to a formula, so they are not reliable revenue sources.

- HSIP – This is a program created under the FAST Act but administered by the state. The HSIP is “for the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads.” HSIP projects must be identified on the basis of crash experience, crash potential, crash rate, or other data-supported means. There are currently two HSIP awards for Solano jurisdictions - \$3,269,600 for FY 2016-17, and \$1,651,400 for FY 2017-18.
- HBP – The purpose of this federal program is to “replace or rehabilitate public highway bridges over waterways, other topographical barriers, other highways, or railroads when the State and the Federal Highway Administration determine that a bridge is significantly important and is unsafe because of structural deficiencies,

physical deterioration, or functional obsolescence.” As with HSIP, it is administered on a competitive basis by the state. The County of Solano has aggressively pursued HBP funds as noted previously, and currently has one HBP award of \$3,400,000 for FY 2017-18.

Regional fund sources are all described under the existing revenues section. At this time, STA and its member agencies cannot predict any roadway construction funding from existing regional fund sources for fiscal years 2016-17 and beyond. A new bridge toll program, RM3 has been approved by the California Legislature and is scheduled to be on the June 5, 2018 ballot. The expenditure plan for this regional measure has been approved and Solano County stands to receive a significant portion of the planned revenue. Programs and funding categories will be eligible for competitive categories, but some projects are earmarked for specific amounts. These projects include:

- I/80-I680/SR12 Interchange: \$150M
- I-80 Westbound Truck Scales: \$105M
- SR 37 Improvements: \$100M
- I-80 HOV/Express Lanes: \$75M

Local funds for roadway construction are one of the few areas where some level of predictability exists, but dependent upon a factor that is outside of local control: the health of the construction market, which directly translates into collection of the RTIF. Based upon development predictions from the County and seven Cities, STA estimates it will receive \$11.7 million during the period of 2017 through 2021. State gas tax subvention to local governments

for maintenance work have been severely reduced in the last few years by legislative action. From FY 2009-10 through FY 2016-17, the gas tax receipts to Solano County averaged \$19.9 million per year. Prior to SB1 being enacted, the amount of gas tax each city was receiving was declining steadily. This legislation will go a long way to maintain and improving roadways in our

Support for SHOPP funds for Solano County projects by the CTC and Caltrans have been positive in recent years. There are two SHOPP allocations for Solano County in future years - \$17,300,000 for FY 2017-18, and \$29,200,000 for FY 2018-19. However, SHOPP funds are awarded based on project need, and there is a tremendous need across the state for highway and freeway maintenance, even before accounting for the damage from the early 2017 storms.

With the approval of SB 1, local agencies are expected to see an across-the-board increase in gas tax funding of 75% starting in FY 2018-19. Projections estimate \$14 million in additional funding for local streets and roads maintenance as a result of this new funding source.

Revenue Gap

There are two types of new road capacity construction needed: new capacity to address existing traffic congestion, and new capacity to handle new development. While both of these have funding gaps, the lack of resources to add capacity for existing traffic is more substantial.

Road capacity to address growth has an identified funding source, even if it is sometimes inadequate. That source is the impact fees collected by local jurisdictions, including the Solano RTIF. In theory, an impact fee can be set to collect 100% of the costs of new capacity needs, although in reality it is often lower.

Local impact fees are traditionally directed towards projects on local roads, and not on the highway and freeway system. Impact fees collected by the cities and the county can be spent on a roadway that is impacted by growth, and in Solano County this includes Routes of Regional Significance (RORS) identified in this Element as well as strictly local roadways. As a result, it is difficult to know what resources are truly available to address the funding gap for RORS.

Development impact fees can only be used to build capacity that addresses growth. They cannot be used to correct existing capacity deficiencies.

The most common fund source for dealing with existing deficiencies is the STIP, combined with a local sales tax. Solano County is the only Bay Area County without a voter approved local sales tax dedicated to transportation, and with no projected STIP funding. This combination is leading to a large gap between need and capacity to address that need. The provision every five years of Federal STBG funds that can be used for additional capacity provide a small amount of funds for meeting a growing need for local road construction, and STBG funds can be used for either main-

tenance or new capacity. In addition, MTC rules restrict the ability of STBG funds to be used for new capacity.

The main cause for this gap is a lack of locally controlled funding source that can be used for projects that address existing capacity shortfalls. Every Bay Area county except for Solano has a countywide sales tax dedicated to transportation improvements. These funds can be used for new capacity, maintenance, transit support and active transportation. The uses depend upon the local measure that is approved by the county voters. Because these are local funds, they cannot be diverted by the state. In Solano County, this fund source does not exist. Individual cities have locally approved sales tax measures, but these are multi-purpose measures that also fund law enforcement, fire personnel and road maintenance. New capacity gets few or none of these funds.

A second cause for the lack of new funds for existing shortfalls is the rapidly diminishing STIP. As discussed previously, the state has substantially changed the way the STIP is funded and directed. Fewer dollars are coming to Solano County, and there is now more pressure from the CTC to spend those dollars that we do receive on the state highway or interstate freeway system.

Federal rules allow STBG funds to be used to expand capacity that addresses current shortfalls, although MTC regulations disallow this. STBG funds can also be used for local streets and roads maintenance. This makes it a valu-

able and flexible fund source. Unfortunately, it only comes in small amounts allocated every five years.

There is an additional program that can deal with existing capacity issues. The program is the bridge toll program known as RM 2. This funding source is particularly important for roadway projects that directly support Solano CTP Transit and Rideshare Element projects, such as arterial roadways that connect transit centers to the freeway system and the extension of regional express lanes.

Finally, there are Federal grant programs such as the INFRA and BUILD programs, and state and federal goods movement grant programs, that can provide funds for new capacity. As has been discussed earlier in this chapter, those are highly competitive – and therefore unreliable – fund sources.

What then are reasonable expectations of funding in comparison to the expected demand for funds over the next five years?

Construction Funds

Projecting roadway construction funding is challenging. There are a variety of sources, and their funding amount is unpredictable. State and federal sources have been subject to legislative action or inaction that makes them difficult to rely upon, although the passage of SB 1 gives hope that this may be changing. Aside from FY 2018-19, there is now the prospect of \$9 million per year in STIP funding for Solano County. In the case of OBAG funds, they are further subject to state and local restrictions, amount to only \$4.6 million (for CMAQ), and come around only on a 5-year cycle. Regional funds have been useful but are nearing the end of their expenditure plans, and new funds are not guaranteed. Local funds are limited to the RTIF, which can be used only on growth-related facilities.

There are some trends that can reasonably be expected to continue, including the local success with the HSIP and HBP programs. Given these facts and possibilities, the following tables show reasonably projected construction funds for the next five years:

Table 12: Projected Federal Funds for Road Construction

Federal Funds Projected (in 2018 \$1,000)					
SOURCE-Construction	2017-18	2018-19	2019-20	2020-21	2021-22
STBG	\$0-	\$1,139-	\$1,840-	\$2,178-	\$1,172
CMAQ	\$1,237-	\$1,209	\$260-	\$4,207	-
TOTAL	\$1,237	\$2,348	\$2,100	\$6,385	\$1,172

Table 13: Projected State Funds for Road Construction

State Funds Projected (in 2018 \$1,000)					
SOURCE-Construction	2017-18	2018-19	2019-20	2020-21	2021-22
Prop 1B	-	-	-	-	-
Gas Tax	\$22,130-	\$33,598-	\$33,598-	\$33,598-	\$33,598-
STIP	\$400-	\$5,350-	\$5,350-	\$5,350-	\$5,350-
HSIP		\$2,332		\$2,332	
HBP	\$7,092	\$6,556-	\$6,556--	\$6,556--	\$6,556--
TOTAL	\$29,622	\$47,836	\$45,504	\$47,836	\$45,504

Table 14: Projected Regional Funds for Road Construction

REGIONAL FUNDS Projected (in 2018 \$1,000)					
SOURCE-Construction	2017-18	2018-19	2019-20	2020-21	2021-22
RM 2	\$0	\$0	\$0	\$0	\$0
TOTAL	\$0	\$0	\$0	\$0	\$0

Table 15: Projected RTIF Funds for Road Construction

LOCAL FUNDS Projected (in 2018 \$1,000)					
SOURCE-Construction	2017-18	2018-19	2019-20	2020-21	2021-22
RTIF	\$1,678	\$2,313	\$2,642	\$2,427	\$2,160
TOTAL	\$1,678	\$2,313	\$2,642	\$2,427	\$2,160

Table 16: Projected Total Funds for New Capacity Road Construction (Best Case)

TOTAL FUNDS Projected (in 2018 \$1,000)					
SOURCE-Construction	2017-18	2018-19	2019-20	2020-21	2021-22
Federal (CMAQ)	\$0-	\$1,139-	\$1,840-	\$2,178-	\$1,172
State (STIP)	\$400-	\$5,350-	\$5,350-	\$5,350-	\$5,350-
Regional	\$0	\$0	\$0	\$0	\$0
Local	\$1,678	\$2,313	\$2,642	\$2,427	\$2,160
TOTAL	\$2,078	\$8,802	\$9,832	\$9,955	\$8,682

This amount totals almost \$39.4 million, and could increase, perhaps substantially, if a new bridge toll and/or a federal infrastructure bill that includes transportation infrastructure is approved. Possible funds don't finance projects. They are also actions that can only be taken by others. They might also have limited direct impacts on Solano County transportation needs. For example, a federal infrastructure bill could emphasize ports, or water treatment facilities, or states other than California.

Maintenance Funds

The ability to maintain what we already have is also drastically underfunded. Using the past five years of funding to predict the next five years for maintenance, and adding \$18 million per year for local funds from SB 1, the following are the predicted available maintenance funds in thousands of 2017 dollars. SHOPP funds will increase statewide, but there is no indication of how much, if any, of that money will come to Solano County.

Table 18: Projected Total Funds for Road Construction

State Funds Projected (in 2018 \$1,000)					
SOURCE-Construction	2018	2019	2020	2021	2022
Gas Tax	\$22,130-	\$33,598-	\$33,598-	\$33,598-	\$33,598-
SHOPP	\$26,313	\$ 21,616	\$21,616	\$21,616	\$21,616
OBAG 2	\$0-	\$1,139-	\$1,840-	\$2,178-	\$1,172
TOTAL	\$48,443	\$56,353	\$57,054	\$57,392	\$56,386

As with construction funds, this does not include local agency sales tax funds that may (but not necessarily that must) be used for roadway maintenance, and it does not include any future funds from legislative actions that have not yet been taken. For roadway maintenance, the best we can reliably predict over the next 5 years is \$275.6 million. Based on figures provided by MTC and contained in the 2014 Solano Pothole Report, countywide local streets and roads face a funding shortfall over the next 28 years of \$1.7 billion to maintain current conditions and \$2.7 billion to reach a state of good repair.

In preparing this Element and submitting projects to MTC for the 2017 update of the RTP, the STA developed the list below of major projects on the RORS, and identified the existing gap between project costs and committed funds:

Table 19: Identified Projects on Routes of Regional Significance

Project	Needed funds (in \$1,000)
I-80/I-680/SR12 Interchange Improvements (Packages 2-7), including new connections, ramps and direct-connect Express Lanes	\$400,000
Construct 4-lane Jepson Parkway from Route 12 to Leisure Town Road at I-80	\$40,000v
Improve interchanges and widen roadways serving Solano County Fairgrounds, including Redwood Parkway, in Vallejo	\$76,000
Parkway Blvd Overcrossing, in Dixon	\$10,040
Provide auxiliary lanes on I-80 in eastbound and westbound directions from I-680 to Airbase Parkway	\$57,000
Relocate the westbound I-80 Truck Scales	\$145,000
Widen Columbus Parkway to a consistent 4-lane width for its entire length, and construct Class I or Class II bike facilities where they do not currently exist.	\$4,000
Reconfigure I-80 Eastbound Off Ramp to West Texas Street and Fairfield Transportation Center. The improvements would provide bus direct access into FTC, eliminate the current free right onto EB West Texas, connect to the Linear Park along the I-80 embankment and provide controlled pedestrian access across West Texas Street	\$11,000
Replace the existing SR 12/Beck and SR 12/Pennsylvania at grade intersections with a new grade separated interchanges.	\$65,000
Improve Fairgrounds Drive and Redwood Parkway, including the Redwood Parkway - I-80 Interchange, from SR 37 to Redwood Parkway.	\$121,000
Widen Peabody Road to 2 lanes in each direction, plus a Class 2 bike/ped facility. Project location is from Vacaville City Limits to Fairfield City Limits	\$4,500
Intersection and roadway improvements to Midway and Porter roads in unincorporated Solano County in order to improve roadway performance and safety	\$600

Project	Needed funds (in \$1,000)
Widen Vaca Valley Parkway in Vacaville from I-80 to I-505 and improve the Vaca Valley Parkway interchange with I-505.	\$13,575
Improve major roadways on and connecting to Mare Island in Vallejo, including the Mare Island interchange with SR 37 and the Mare Island causeway bridge.	\$15,000
SR 12 Capacity Improvements in Solano County from the SR 12 I-80 to I-5 Corridor Study	\$103,000
SR 113 Safety and Capacity Improvements from the SR 113 MIS	\$58,000

Additional projects that could largely be funded through tolls/fees associated with the project are:

Table 20: Identified Projects on RORS that may be Self-Funded

Project	Needed funds (in \$1,000)
SR-37 Sea Level Rise and Congestion Improvements	\$2,000,000
New Rio Vista Bridge	\$1,500,000
I-80 Express Lane conversion, extension and construction	\$280,000
I-680 Express Lane construction	\$150,000

All totaled, these projects, excluding the Rio Vista Bridge replacement, come to \$5,283,480 million. Eliminating the \$3,930,000 of potentially self-funded projects, the need still remaining is \$1,353,480. This is 31 times greater than the identified available revenue.

The situation for maintenance funding is equally bad. The Solano County Pothole Report of 2014 reported a 10-year maintenance shortfall of \$544 million to reach a PCI of 75. Translating that into a comparable time frame, the County and seven cities have only half of the funds they

need just to maintain the currently low PCI average of 60. In order to improve the PCI to a “good condition” rating of 75, available funds would have to double again.

Transportation is underfunded across the board. There is not enough money to build or to maintain needed Active Transportation links, Transit and Rideshare facilities, rolling stock and programs, and most dramatically, not enough for the fabric that binds the system together – the Arterial, Highways and Freeways system.

*Transportation is underfunded
across the board.*

That significant disconnect between needs and resources leads to the next chapter of the Arterial, Highways and Freeways Element: policies.

Chapter 7 – Arterials, Highways and Freeways Element Policies, Performance Measures and Milestones



If everything is indeed tied together, then how we make and implement choices is especially important. One choice can impact how we achieve – or fail to achieve – multiple goals. We commit ourselves to actions by adopting Policies. Policies are specific action statements that implement Goals. Policies contain clear action words such as shall, will, assign or invest. When STA staff make recommendations to committees or the Board, those recommendations will be guided by the policies in this Element.

Policies are specific action statements that implement Goals, and contain action words such as shall, will, assign or invest.

But making choices – implementing policies – is not enough by itself. There needs to be a way of measuring how one decision impacts all of the goals with which it is associated. Performance Measures and Milestones are the tools used to measure and track impacts. Because the most basic elements of measuring roadway performance are well understood – standards of congestion as measured by Level of Service (LOS) and standards of maintenance as measured by Pavement Condition Index (PCI) – it appears to be easy to establish and report on how decisions impact goal achievement.

Unfortunately, the measuring of impacts isn't so simple, and that is due to one new, and two recently emphasized factors.

Milestones and performance measures are the tools used to measure impacts.

- The measurement of greenhouse gas (GHG) emissions is a new factor to the Solano CTP, and is now the most important factor in state and regional transportation planning. GHG emissions from vehicles have the additional complication of not being directly measured, but instead are based upon traffic modeling. In addition, research shows that the traditional steps of roadway improvements that relieve congestion actually add to GHG emissions through the phenomenon of Induced Demand. This is a new issue that has not been addressed in previous STA documents.
- The state and region are now putting greater emphasis on implementing the existing Complete Streets standards, and money is shifting from traditional car-bus-truck only roads into roads that accommodate Active Transportation. Participation is not as well developed a process as is measuring auto traffic.
- The third area of expanded emphasis, which is also incorporated into Complete Streets, is accommodation of large vehicles – transit buses and goods movement trucks. As with Active Transportation, measurement of freight vehicles is less sophisticated than is auto traffic. Bus use is usually measured by factors like on-time performance and farebox recovery, not direct roadway use.

The result is that traditional measures of roadway performance – LOS and PCI – are not enough. State environmental law requires an analysis of Vehicle Miles Traveled (VMT) as

a proxy for GHG emissions, and STA needs policies that reflect the state and regional goals of reducing GHG emissions.

On the following pages, the AHF Element lays out policies for helping guide STA decisions, performance measures and milestones.

- Policies are specific action statements that implement Goals. Policies contain clear action words such as shall, will, assign or invest.
- Performance measures can be thought of as a unit of measure; for example, in the question, “What is the average PCI for Arterial Roads that are Routes of Regional Significance?” The PCI is the Performance Standard.
- A Milestone is a benchmark showing how much progress has been made; for example, if a policy states “Improve the average PCI for Arterial Roads that are Routes of Regional Significance by 1 point in 5 years,” increasing the funds for maintenance of Arterial Roads that are Routes of Regional Significance would be a Milestone.

Each Policy is set out in **bold** text, and is followed by an explanatory paragraph. Performance Measures and Milestones are indicated by *italics* and, in most cases, end with a question. Finally, the Goals advanced by this particular policy are listed. Those Policies that advance Goals of other Elements are identified in **bold while underlined**.



AHF Policy 1 – Focus local discretionary funds on Arterial Routes of Regional Significance that serve Regionally Significant Job Centers.

Discussion - The greatest impact that STA can have on reducing VMT and GHG emissions, on supporting active transportation and on supporting local and intercity transit, is to support the strengthening of the Solano County economy. The major employment and transit centers in the County are all located along Arterial Routes of Regional Significance – in fact, one of the definitions of a Route of Regional Significance is service to major transit or employment centers.

One concern about projects that add new lanes is the theory of induced demand, where new road capacity not only addresses existing congestion but also motivates people to take trips they otherwise would not have taken. In a growing county such as Solano, which also has significant pass-through traffic on I-80 and SR 12, it is hard to predict how much new traffic would be generated. Research shows that gap fill projects and HOV/Express Lanes do not result in induced demand. Two of these three STA priorities - extension of the I-80 Express Lanes, the I-80/I-680/SR 12 interchange – fit these criteria.

Arterial Routes of Regional Significance are also streets well suited to a full accommodation of Complete Streets. They have adequate right-of-way to accommodate bicycle and pedestrian facilities, transit turn-outs, and room for heavier trucks.

As noted previously in the Resources chapter, there are few local discretionary fund sources, such as the RTIF, so it is important to program them to projects that have the greatest beneficial impact.

Policy Performance Measures and Milestones – The first performance measure for this Policy is money - the allocation of flexible local transportation funds to Arterial Routes of Regional Significance. Is STA focusing local discretionary funds on Routes of Regional Significance that serve Regionally Significant Job Centers and Solano Economic Growth? If so, is the Policy being implemented? A second performance measure is an improvement in the local economy, although there are many ways to measure this, and many factors beyond transportation are involved. There is not a milestone for this policy because it is not benchmarked against a specific funding amount or relative proportion of funds being spent on Arterial Routes of Regional Significance.

This Policy helps implement AHF Goals 1, 4, 10 and 11.

This Policy also helps advance Transit and Rideshare Element policies. All Transit Facilities of Regional Significance are located on Routes of Regional Significance, and most local and regional transit routes are on Routes of Regional Significance, so

investments in those roadways help support those services.

This Policy also advances Active Transportation policies, which greatly benefit from Complete Streets arterials that provide access to major activity centers.

AHF Policy 2 – Prioritize federal, state and regional funds for the conversion and extension of the I-80 Express Lanes, the I-80/I-680/SR 12 interchange and the I-80 Westbound Truck Scales.

Discussion – These three projects, which are all interrelated, are prioritized for two primary reasons: they have the greatest potential to improve local and regional mobility, and their regional importance makes them the best candidates for large-scale funding sources. The Express Lanes projects also help eliminate the greatest congestion point in the county – the merge on I-80 EB from 5 to 4 lanes at North Texas Street – as well as helping support transit and rideshare users in the central portion of the county. Supporting transit is another method of reducing GHG emissions.

Reducing vehicle hours of delay (VHD) is not the preferred method of GHG emission reductions, but less time spent in traffic with engines at idle is another way to reduce GHG emissions, and all three projects will contribute to fewer VHD in Solano County. Reduced VHD also has the benefit of lowering the level of frustration felt by many Solano residents during their daily drive.

These three projects have been identified as priority projects in a number of different studies, including those prepared by both STA and

MTC, and are ready for implementation as soon as funding is received. They are listed as priorities within these studies, and they have gone through most or all of the design and environmental clearance steps to make them construction ready.

By supporting the free flow of traffic on the major roadway system in Solano County – the I-80 system – they also improve the competitive advantage that Solano traffic conditions provide when companies are deciding where to locate or expand facilities. This further supports the AHF Policy 1, which focuses on local economic development.

Policy Performance Measures and Milestones – The performance measure for this Policy is the pursuit and allocation of applicable funds to these three projects, as opposed to other projects for which the same funds could be used. Is STA actively pursuing funding for these three projects? If the answer is yes, then the policy is being implemented. Milestones are the funding and delivery of projects or project segments.

This Policy helps implement AHF Goals 2, 3, 5, 12 and 13.

This Policy also helps advance Transit and Rideshare Element policies. Express bus and rideshare vehicles use the Express Lanes, and will have faster and more reliable trips when these projects are completed.

AHF Policy 3 – Develop and periodically update a corridor plan for all Routes of Regional Significance, and use the corridor plan to prioritize projects within the

corridor. The exact format of the corridor plan may vary depending upon funding sources and the size of the roadway(s). Corridor plans should include corridor-specific performance measures such as safety or congestion improvements, and should use the Solano CTP as a guide.

Discussion – While the STA will still need to prioritize between different corridors, within them the best tool for selecting projects to receive design, environmental and construction funding is the corridor plan itself. Corridor plans can take the form of a Major Infrastructure Study (MIS) such as was done for SR 113, or a Comprehensive Evaluation and Corridor Management Plan as was done for SR 12 in 2012. For arterials, corridor plans with a focus on Complete Streets were done for the Jepson Parkway and Suisun Parkway (a.k.a. North Connector) projects.

A Corridor need not be a single road. The I-80 Corridor consists of I-80, I-680, I-780 and the Suisun Parkway/North Connector. The I-80 Corridor Study also addresses supporting facilities such as Park and Ride lots.

Corridor plans are also an ideal way to address technology applications that are appropriate for a roadway. Examples include ramp metering, arterial traffic light coordination (and, where transit stops are served, bus prioritization), Bus Rapid Transit and real-time monitoring to identify and remove broken down vehicles.

Local arterials that are Routes of Regional Significance, such as Woolner Way (which provides access to a TFORS), do not need a Cor

ridor Plan, as they are adequately covered by local General Plan and other city documents.

Policy Performance Measures and Milestones – The performance measures for this Policy are the creation of corridor plans for Routes of Regional Significance, and the use of these plans in prioritizing project funding to improve congestion along these routes. A second performance measure is the allocation of funds to prepare and/or update corridor studies on a periodic basis. Does STA create and update corridor plans for Routes of Regional Significance? If the answer is yes, then the policy is being implemented. The milestone is an annual review of Routes of Regional Significance corridors and an identification of whether or not they are covered by a corridor plan, and how recent that plan is.

This Policy also helps advance both Transit and Rideshare Element and Active Transportation Element policies. Corridor plans provide detailed information for how new or updated facilities support transit use and both bicycle and pedestrian accommodations.

AHF Policy 4 – Require roadway plans to have a consistent number of lanes for their length. Only approve lane reductions at logical points such as major interchanges that divert traffic.

During STA's public outreach efforts in 2015 and 2016, the most commonly referenced frustration for highway and freeway users was the back-ups that occur where the number of lanes is reduced. This occurs on SR 37 (at Mare Island), SR 12 (Jameson Canyon onto EB I-80) and at several places on I-80 (North

Texas Street and Meridian Road EB, Kidwell Road WB). Lane merges are the location of the greatest amount of VHD in Solano County. The volume of traffic on these roads is part of the challenge, but the merger of two lanes of traffic into one, or five lanes into four, is the main culprit.

A merge of traffic lanes has an acceptable impact when traffic volumes are below capacity. In the cases of SR 37 and SR 12, there



are no locations where traffic volumes can be reduced, and the solution needs to be more capacity. In the case of I-80 EB, traffic volumes drop off sharply between North Texas Street and I-505, and a reduction in lanes is not expected to result in a simple shift of a backup queue from Fairfield to Vacaville.

The lane reductions at Pedrick Road (I-80 WB) and Meridian Road (I-80 EB) need separate study, in conjunction with Caltrans District 3. This includes consideration of long-term plans for an HOV/Express network connection from Solano County into Yolo County.

Policy Performance Measures and Milestones – The performance measures for this Policy are project designs

that result in consistent lane widths unless detailed traffic modeling shows that a lane reduction, safety and the resultant merge of traffic is not expected to lead to significant traffic queueing. Does the SAT adopt plans, and ultimately improve roadways, in such a manner that lane reductions are eliminated? If plans are adopted that do not create, or that eliminate, lane reductions, then this policy is being implemented. The milestone is the construction of improvements that eliminate lane reductions.

AHF Policy 5 – Incorporate safety considerations into all STA documents. Provide a common basis for evaluating safety considerations by adopting a countywide safety program, including the following features:

1. **A common format for collecting and reporting data for the seven cities and the County.**
2. **A countywide system for prioritizing safety improvement projects.**
3. **A requirement that all corridor studies and other project documents have an explicit safety analysis consistent with the countywide safety plan.**
4. **An application for federal, state or regional for one or more of the top safety projects during every applicable safety grant cycle.**

Discussion – Improving safety is always one of the most important aspects of any roadway project, and the foundation for improving safety is data. Without good data, it is all but impossible to effectively address safety issues. Once location, cause and severity data are in hand, safety planning can move on to mitigation and prioritization. This policy is intended to make this method of addressing safety issues a formalized part of every project or program

document that STA prepares.

Policy Performance Measures and Milestones – The performance measures for this Policy are, first of all, the ongoing incorporation of the identified safety data collection and analysis into STA documents; and, second, the resultant improvement in the safe performance of the transportation system. Does STA collect and publish safety data and adopt plans that address identified safety issues? If the data is being collected and used, then the policy is being implemented. The first milestone is the adoption of a countywide safety program by the end of Calendar Year 2018. Subsequent milestones are the adoption of other STA documents with the proper safety components included.

AHF Policy 6 – Review land use development plans from the seven cities and the County to identify right-of-way needs for STA projects within those developments. Where future right-of-way is present, work with local jurisdictions to seek dedication of and/or low-value development within those areas.

Discussion – early identification and preservation of future right-of-way can be an important cost saving tool, and can avoid future land use disruptions if used in the right circumstances. Unfortunately, actual preservation or outright purchase of right-of-way at the earliest possible point in time is often financially impossible. Right-of-way acquisition is funded late in the process, and requiring land to be set aside unused is a ‘taking’ that requires compensation.

Policy Performance Measures and Milestones – The performance measure is the identification of future right-of-way needs for STA projects prior to local land use approvals. Are plans being submitted to STA

and, if appropriate, is STA providing comments? If so, the policy is being implemented. The milestone for this Policy is the submittal to and review by STA of local land use development projects.

AHF Policy 7 – Support Routes of Regional Significance maintenance by:

- 1. Including a detailed PCI evaluation on all Routes of Regional Significance in the Solano Pothole Report.**
- 2. Requiring recipients of discretionary roadway maintenance funds administered by STA to spend them on Routes of Regional Significance rated as Fair or worse before spending them on other projects.**
- 3. Seeking additional roadway maintenance funds.**

Discussion – Adequate data is the prerequisite to a properly maintained system, and adequate funding is the tool to its implementation. This policy is intended to make progress on fulfilling both of those needs. The Policy creates a regular process for gathering and reporting the data needed to guide maintenance investments, and provides specific guidance on spending in the direst of maintenance situations.

The Policy includes a recommendation to seek additional funding, and the data and investments required by the policy will help determine how much funding is needed. With the 2017 adoption and 2018 implementation of SB 1, the maintenance backlog is expected to be substantially reduced. STA will wait until 2020 to re-examine maintenance funding needs.

Policy Performance Measures and Milestones – The performance measures for this Policy are the improvement in the PCI of Routes of Regional Significance and the amount of money spent on Routes of Regional Significance maintenance. Is the Routes of Regional Significance PCI being positively reported upon annually, and is the PCI increasing? If so, this policy is being implemented. The Milestones are the submittal of pavement data by local agencies to STA (or another entity from which STA can obtain the data), the publication of the Solano Pothole Report, and change in the Routes of Regional Significance PCI.

AHF Policy 8 – Require that projects funded by STA use Solano HCP avoidance and mitigation standards unless the project environmental analysis shows a compelling reason that a different standard provides greater environmental and project delivery benefit.

Discussion – Project analysis, public acceptance and deliverability are all improved when existing standards are used. This can range from standardized lane widths to signage standards and, in this case, environmental policies. Although the Solano HCP has not been formally adopted, it does represent the most generally accepted standards for environmental impact avoidance and mitigation

Policy Performance Measures and Milestones – The performance measures for this Policy are the use of Solano HCP avoidance and mitigation standards in draft and final environmental documents. The Milestones are the adoption of final environmental documents including such standards.

Chapter 8 – Priorities

If this Element is to be in any way useful, then all of the goals, plans, resources and policies included in the previous chapters must culminate in physical projects. The existing and future roadways are the fabric that bind the communities together and, as noted at the beginning of the Element, what effects one roadway ultimately effects them all. It's now time to identify the new threads to be woven into the fabric of Solano's roadway network.



Before we take this final step, it's worth our time to go back and look once again at the overall Plan and Element objectives. The first two principles of the Solano CTP are:

Strengthen the system and reduce stress by developing, operating and maintaining an integrated local and regional transportation system anchored on the I80 corridor (inter-state highways 80, 680 and 780).

An additional important fact about the Solano CTP, and in the overall work of the STA, is the idea that we are our member agencies, and what is important to them is important to us. For that reason, throughout the development of the Solano CTP, including the AHF Element, STA has made a point of asking Solano residents and the staffs of the seven cities and the county to identify the projects and programs that they think will improve the roadway system. We've asked them to provide the broadest possible list of AHF projects and programs. Since the purpose of the Element is ultimately to guide STA in its allocation of resources, it is now time for the Element to take that broad list of projects and programs, and set priorities for funding. Because the Element primarily focuses on the physical environment, the priority list will tilt towards projects, which includes construction, operation and maintenance.

Projects and programs in this and the other Elements are categorized into one of three tiers: Tier 1 – projects or programs already in place, or are ready for near-term implementation. Tier

1 also includes recently identified community priorities that need a rapid infusion of resources to allow quick implementation. Projects with dedicated OBAG or STIP funding are classified as Tier 1 projects.

Tier 2 – projects and programs that are important and have been advanced out of the conceptual stage, but are not yet ready for near-term implementation. This may include a project that has an initial investment in design work but is not yet fully designed and that lacks a complete funding strategy.

Tier 3 – ideas and concepts that have had little to no work done to advance their implementation. STA can make appropriate funding decisions once a project is classified into one of these tiers.

1. Tier 1 projects are those where STA has the greatest opportunity to provide financial support. STA can directly allocate some fund sources, and can help influence the allocation of regional, state and federal funds as detailed in the Resources chapter.
2. Tier 2 is where STA begins to consider a project for funding. This can be anything from direct funding allocation to assistance in pursuing regional, state and federal grants. The new funding can be, depending on its source and use limits, used for project design, environmental analysis and mitigation, right-of-way acquisition and construction.
3. Tier 3 projects usually start with local funding that is intended to move them from a concept into an initial design. The use of local funds to initiate a project is particularly important as it indicates a real commitment by the sponsoring community to move the project forward. Local projects usually move into STA's sphere of attention when they are moved by local effort from Tier 3 to Tier 2.

Funding of programs, although different in some respects due to the lack of physical design documents and project construction, follows the same course. Conceptual program ideas are classified as Tier 3, those being developed are classified as Tier 2, and those ready for implementation funds (including those programs already in operation) are classified as Tier 1.

On the following pages, the projects and programs identified by STA and our member and partner agencies are placed into the three tiers explained above. The work to develop this tiered project list was guided by all of the policies, but especially by the funding gaps identified in the Resources chapter and by the recent project prioritization done for the 2017 Plan Bay Area, RM 3 legislation and STIP prioritization.

A final reminder – the AHF system impacts every aspect of the Transit and Rideshare system, and much of the Active Transportation system is located along Routes of Regional Significance. All of these facilities are a part of the interwoven transportation fabric of Solano County and the broader region.

Table 21: Tier 1 Arterials, Highways and Freeways Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
I-80 Express Lane Conversion and Extension - STA and Caltrans	Convert the existing High Occupancy Vehicle (HOV) lane between Red Top Road and North Texas Street to an Express (HOV or tolled SOV) Lane. Extend the Express Lane from North Texas Street to I-505.	\$180 million, with funds from local, state and regional sources
I-80/I-680/SR 12 Interchange, including the west end of the North Connector - STA and Caltrans	Construction Packages 2-7, including Express Lane direct connections and the west end of the North Connector.	\$630 million, with funds from federal, state and regional sources
I-80 WB Cordelia Truck Scale Relocation - STA and Caltrans	Construct new truck scales approximately ½ mile east of current location on I-80 WB, with braided ramps between SR 12 east.	\$202 million, with funds from federal, state and regional sources
SR 37 Corridor Improvements - STA and Caltrans	Select, design and deliver near term flood control, ecological and transportation improvements along the SR 37 corridor. This includes improvements to the SR 37/Mare Island interchange. Analyze and, where appropriate implement, similar long-term improvements to the larger corridor area, including transit, rail and ferry options.	Costs range from \$700 million to \$4.5 billion, depending upon the selected project.
Jepson Parkway	Complete construction of Jepson Parkway improvements in the City of Fairfield and unincorporated Solano County.	Total cost of all segments is \$84.7 million
Fairgrounds Drive	Improve Fairgrounds Drive and Redwood Parkway, including the Redwood Parkway - I-80 Interchange, from SR 37 to Redwood Parkway.	\$121 million
SR 12/Church Road Intersection	Realign and improve the intersection, including provision of turn lanes on SR 12	\$4 million. Project funds include SHOPP, HSIP, RTIF and local development impact fees.

Name, Location and Sponsor	Description	Cost and Funding
MLIP Implementation - STA and local agencies	Support major intercity bus centers, park-and-ride lots and connected arterial light coordination/prioritization for transit. Eligible projects must be included in an adopted road corridor or transit corridor study.	\$115 million in 2016 dollars.
I-505/Vaca Valley Pkwy Interchange	Widen the existing overcrossing to 3 lanes in each direction with protected turn pockets. Modify existing spread diamond to provide partial 3 roundabouts. New bridge to accommodate pedestrian and Class 2 bicycle facilities	\$12.4 million. Project funding is a mix of local development impact fee and OBAG Cycle 2 money.

Table 22: Tier 2 Arterials, Highways and Freeways Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
Parkway Blvd Overcrossing - City of Dixon	Construct a new overcrossing of the UPRR tracks, connecting Parkway Boulevard and Pitt School Road, includes 2 travel lanes in each direction plus Class I bike/ped facility	\$10 million. Primarily Dixon development impact fees, but eligible for STA RTIF.
Corridor Plan Development and Updates - STA and Caltrans	Fund the development of appropriate Corridor Plan for SR 29 and update the I-80/I-680/SR 12 MIS.	Potential mix of PPM and state or regional grant funds.
I-80/West Texas St Ramp Improvement - City of Fairfield	Reconfigure I-80 Eastbound Off Ramp to West Texas Street and Fairfield Transportation Center. Improve transit, pedestrian, and bicycle access to Transit center with direct connection to Linear Park Trail.	\$2.9 million.

Table 23: Tier 3 Arterials, Highways and Freeways Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
Improve interchanges in the City of Benicia along I-680 and I-780	Install traffic signals and construct interchange improvements at I-680/Lake Herman Road, I-680/Bayshore/Industrial Interchange, I-780/Southampton/West 7th and I-780/East 2nd Street Interchange	No project cost estimates or funding plans have been prepared.
Columbus Parkway Reliever Route – cities of Benicia and Vallejo	Widen Columbus Parkway from 2 to 4 lanes from I-780 to I-80, and implement Complete Streets improvements along its length.	\$2.9 million. No funding plans have been prepared.
Improve interchanges in the City of Dixon along I-80 – City of Dixon	Install traffic signals and construct interchange improvements at I-80 and Pedrick Road, SR 113, Pitt School Road and West A Street.	Project costs are estimated at \$25 million per interchange. No funding plans have been prepared.
SR 113 relocation to Kidwell Road interchange – City of Dixon and STA	Relocate SR 113 out of the Dixon City Limits on the Midway-Kidwell Road alignment. This project is an option identified in the SR 113 MIS.	Project cost estimated in SR 113 MIS are out of date. No funding plan has been developed.
Vaughn Road Railroad Bypass Project – City of Dixon	Construct a four-lane auto and bike bypass route of Vaughn Road to connect to Pedrick Road without crossing the UPRR tracks.	No project cost estimates or funding plans have been prepared.
SR 12 Interchanges with Beck and Pennsylvania Avenues	Replace the existing at grade intersections with a new grade separated interchanges	Project cost estimate of \$65 million is out of date. No funding plan has been developed.
Replace or rehabilitate existing deficient County bridges	Deficient bridges need to be replaced or rehabilitated on a timely basis to keep them safe and adequate to handle traffic demands.	No project cost estimates or funding plans have been prepared.
Widen Peabody Road from 2 to 4 lanes – Solano County	Widen Peabody Road to 2 lanes in each direction, plus a Class 2 bike/ped facility, between the cities of Fairfield and Vacaville.	\$4.5 million. No funding plans have been prepared.
Improve the County Routes of Regional Significance – Solano County	Construct improvements to various County roads, including Lake Herman Road, Lopes Road, Lyon Road, McCormack Road, Midway Road, Pedrick Road, Lewis Road, Fry Road, Meridian Road and McCrory Road	No project cost estimates or funding plans have been prepared.

Name, Location and Sponsor	Description	Cost and Funding
I-80 - Pedrick Road - Tremont Road - Kidwell Road area - Solano County	Construct various transportation improvements to accommodate projected increasing traffic in the north Dixon limited industrial area.	No project cost estimates or funding plans have been prepared.
Midway Road - Porter Road - Pitt School Road connector improvements - Solano County	Intersection and roadway improvements to connect City of Dixon with Midway. Supported by City of Dixon.	\$0.6 million. No funding plans have been prepared.
Grade Crossing at UPRR Tracks on Main Street - City of Suisun City and City of Fairfield	Restore an at-grade crossing of the railroad tracks to connect downtown Suisun City with downtown Fairfield.	No project cost estimates or funding plans have been prepared.
Sunset Avenue Widening at UPRR Tracks - City of Suisun City	Widen and improve the roadway, including the pedestrian/bicycle crossing on Sunset Avenue at the UPRR tracks that separate Suisun City from Fairfield.	No project cost estimates or funding plans have been prepared.
SR 12 Corridor Improvements - City of Suisun City, City of Rio Vista, Solano County and STA	Construct improvements within the SR 12 Corridor from Pennsylvania Avenue to Walters Road, and make operational improvements from Walters Road to Sacramento County.	Project cost estimates are out of date. No funding plan has been developed.
Railroad Avenue Extension (West Segment) - City of Suisun City	Extend Railroad Avenue from Marina Boulevard to the Main Street/SR 12 westbound On-Ramp and make a signalized intersection at Main St/SR 12 On-Ramp.	No project cost estimates or funding plans have been prepared.
SR 12 Flyover to West Street	Construct an off-ramp/flyover from SR 12 at Pennsylvania Avenue to Old Town Suisun over the UPRR railroad tracks	No project cost estimates or funding plans have been prepared.
Midway Rd. (Putah South Canal to I-80)	Widen Midway Rd. in both directions to provide a 4-lane, un-divided arterial	No project cost estimates or funding plans have been prepared.
Vaca Valley Parkway	Widen Midway Rd. in both directions to provide a 4-lane, un-divided arterial	\$22.7 million. No funding plans have been prepared.

Chapter 9 – Moving Forward; or, Making a Better Garment



How, then, do we make a better garment? As with the other Elements, the AHF needs to move from planning to implementation in order to be useful. Policies and priorities are the primary tools for this, but there needs to be some identification of the next few steps in order to create momentum towards a broadly-based, long-term, systematic maintenance and improvement of the Solano roadway network.

Oddly enough, the first thing we should do is to keep doing what we already are doing. STA and its member and partner agencies have been planning, designing and delivering new roadway projects and programs for years; and, with the arrival of SB 1 funding and the prospect of new bridge toll money, the work might shift from slowly losing ground to actually making a dent in the backlog of maintenance and construction projects.

To restate, the overarching theme of the Solano CTP is to Strengthen the System and Reduce Stress by developing, operating and maintaining an integrated local and regional transportation system anchored on the I-80 corridor (Interstate highways 80, 680 and 780). Key projects from the Plan are environmentally cleared and have design documents that are complete or nearly so.

STA's first dual implementation focus should remain on obtaining funds to complete the design and delivery of the Tier 1 projects on I-80 with both allocated and competitive funds. A co-equal step is to fix what we have by allocating gas tax and SB 1 funds to local agencies for local streets and road maintenance.

These two steps address the greatest needs identified by area residents and local governmental officials. They already have the momentum acquired by years of agency work and public demand. Perhaps as importantly, the delivery of these projects will provide highly visible proof that STA and its member and partner agencies are faithful stewards of public resources. This emphasis on public trust is both the first and the final thread that binds all the rest of the Element – and the other Elements – together. Without the warp and weft of public trust, the resources necessary to construct and maintain the local roadway system will be all but impossible to gain.

The next two new activities for STA to undertake are, again, split between freeways/highways and local roads. The freeways/highways task is to implement AHF Policy 3 by updating the I-80 corridor plan, in order to reflect improvements that have been delivered and to ensure that the ancillary projects such as park-and-ride lots are still of the right size and location. The local roadway task is to implement AHF Policy 1 by selecting the Routes of Regional Significance whose improvements would best support local economic development and making sure their improvements are planned and funded. The planning task includes making sure the roadways fully implement the Complete Streets requirements of providing context-based active transportation, transit and goods movement features.

Four steps – two that are already underway, two that are new. Improve public trust, improve the local economy, improve choice, and improve the quality of daily trips, no matter how those trips are made. The Performance Measure and milestone results or outcomes are the guiding tools used to measure and track impacts on decisions related to this Element. Maintain what we have, and make wise additions. This is how we move forward.







2020



Solano Transportation Authority

Solano County Comprehensive Transportation Plan

The Future of Transportation | Transit and Rideshare Element

Solano Transportation Authority
One Harbor Center, Suite 130
Suisun City, CA 94585

STA.CA.GOV
(707) 424-6075
info@sta.ca.gov



TABLE OF CONTENTS

Chapter 1: Transit & Rideshare Element Introduction	2
Chapter 2: Purpose	7
Figure 1 – Solano County, Cities and Major Roadways	7
Figure 2 – Northern California Mega Region	8
Chapter 3: Transit & Rideshare Components, Goals, and the Goal Gap Analysis	9
Section 1 – Transit and Rideshare System Components	9
Section 2 – Element Goals	11
Section 3 – State of the Transit and Rideshare System	14
The Transit and Rideshare System Defined	15
Intercity Bus	16
Figure 3 - SolanoExpress Map	19
Table 2-1: SolanoExpress Routes Performance	23
Figure 4 – Transit Facilities of Regional Significance	27
Table 2: Transportation Facilities of Regional Significance	28
Ridesharing	33
Table 2-3 – Park and Ride Lots	38
Passenger Rail	40
Ferry Services	44
Intercity ADA and Mobility Management Services	47
State of the System Summary	50
Chapter 4: Transit & Rideshare Element Goal Gap Analysis	52
Chapter 5: Transit & Rideshare Element Resources	68
Federal	68
State	72
Regional	73
Local	74
Conclusions	75
Chapter 6: Policies, Performance Measures and Milestones	76
Section One – Big Picture Policies	77
Section Two – Detailed Policies	78
Chapter 7: Projects, Programs and Priorities	90
Table 4 – Tier 1 Transit & Rideshare Projects & Programs	93
Table 5 – Tier 2 Transit & Rideshare Projects & Programs	96
Table 6 – Tier 3 Transit & Rideshare Projects & Programs	96
Chapter 8: Moving Forward, Together	97

Chapter 1: Transit & Rideshare Element Introduction

People in Solano County *can* ride together. They enjoy a variety of transit services designed to move residents, employees and visitors between cities and beyond Solano County's borders. Public and private bus services, passenger rail and ferry, and carpooling and vanpooling are all well-established transit services in Solano. They are complementary services that provide mobility to Solano's diverse population of commuters, students young and old, visitors, older adults, low-income to high-income residents, able-bodied as well as people with disabilities, and more. Focusing on moving people, not just vehicles, as efficiently as possible will maximize mobility and the quality of life in Solano County.



Focusing on moving people, not just vehicles, will maximize mobility

There are a number of important questions that arise. First, can *everyone* ride transit? At first, the answer appears to be 'no,' but that first impression is incorrect. City buses do not go down every street, and directly to every destination, all of the time – but transit is more than just city buses. Taking transit costs money – but so does driving alone. Providing a city bus system that meets every single travel need would be inefficient and cost prohibitive, but transit is more than just the bus. If you can get there by car, the transit system can also get you there.

Second, *will* people in Solano County choose to ride transit as opposed to driving alone? This is a more difficult question to address, as



it involves personal choice. Some travelers do not own a car, and for them transit is a necessity, not an option. Some travelers prefer active transportation options such as biking and walking, others want to conduct business or just be by themselves while making a trip. Some people drive out of a perception that a car trip is more convenient, or out of habit. For these individuals, the question is one of perception rather than efficiency.

A third question is *where will we ride?* The Solano Transportation Authority focuses on inter-city and inter-regional trips, and the SolanoExpress system has in the past been primarily oriented towards moving Solano residents to BART and Sacramento. That focus is starting to shift so that conveniently stay-



ing within Solano is given the same emphasis as conveniently leaving Solano.

Where, when and how much are all issues of system efficiency. *Efficiency* therefore is a core value of the Transit and Rideshare Element of the Solano Comprehensive Transportation Plan (CTP). Moving multiple people in a vehicle (HOV-High Occupancy Vehicle) is inherently more efficient than moving a single person in a vehicle (SOV- Single Occupancy Vehicle): more people are being moved using fewer vehicles, decreasing the demand on the roadway, parking systems, for fuel and other resources. Transit services must be convenient and dependable to attract and maintain rider-



ship. Investing in efficient transit strategies to maximize the movement of people on publicly-funded roadway projects is good stewardship of public funds.

For a transit system to be a viable travel choice, it must get travelers to where they want to go, when they want to go there, and at a reasonable price – and it must do that in a manner that is perceived as a better alternative than is driving alone.

An *efficient* system also addresses the perception that transit is a secondary choice for travelers, making improved perception a second core value. People do not like to be seen participating in something that is viewed as wasteful – no one wants to be seen as the only person on the bus, and riders avoid vehicles or waiting areas seen or perceived as dirty or unsafe. On the other hand, there is a growing belief that taking transit is a choice that reduces environmental and community stress.

How to create a transition from people who can, to people who will, to people who do, choose transit as a regular form of transportation – that is the question.

Creating and maintaining a transit system that is efficient, and that is seen as being efficient, is how to create a transition from people who can, to people who will, to people who do, choose transit as a regular form of transportation.

While many people use the various transit strategies for some or most of their travel, the personal automobile remains the most prevalent means of travel in Solano like many other suburban counties. Personal vehicles (SOVs and HOVs) make use of the roadway network as described in the Arterials, Highways, and Freeways Element of the CTP. Buses, carpools and vanpools use the roadway system while rail and ferry passengers primarily access these services via the roadway system. Active Transportation modes such as walking and bicycling are also means of accessing the transit systems. The Active Transportation Element

of the CTP also focuses on land-use policies and local trips including trips to transit centers. The Transit and Rideshare Element of the CTP is integrated with these other elements of the CTP.

The Transit and Rideshare Element covers five modes of travel that will be referred to as Transit Strategies – four are modes and one is a focus on special users. The four traditional transit modes are intercity buses, passenger rail, passenger ferry, and ridesharing (carpooling and vanpooling). The fifth strategy encompasses specialized transportation services and programs for older adults, people with disabilities, and low-income residents often referred to as Mobility Management.

The primary focus of this Element is on public transit, as most transit service is delivered by the public sector. However, there has been increasing private sector involvement such as employer-sponsored commuter buses, transit information applications, carsharing programs, transportation network companies and more that will be discussed. Private and non-prof-



it transit services will be acknowledged as they provide important services for Solano

residents, especially older adults and people with disabilities. Discussion of private and non-profit transit and rideshare services will be relatively limited as public policy direction in the CTP will have less impact on private transit services.

The Transit and Rideshare Element of the Solano CTP defines the five major Transit Strategies; describes both the existing facilities (fixed locations and rolling stock) and the desired future facilities and services; establishes policies to help move from what exists to what is desired; and finally, identifies priority projects. Many aspects of the Transit and Rideshare Element are addressed in adopted or pending countywide plans and studies, and the Transit and Rideshare Element simply brings them together in a single location. These plans include:

- I-80/I-680/I-780/ Transit Corridor Study
- SR-12 Transit Corridor Study
- SR- 37 Transit Study
- Solano Coordinated Short Range Transit Plan
- SolanoExpress Intercity Ridership Study
- Solano Rail Crossing Inventory and Improvement Plan
- Solano Rail Facilities Plan
- Solano Mobility Management Plan
- Solano Water Transit Feasibility Study

Achieving a balanced operating budget is one of the most significant challenges facing the public intercity bus, rail and ferry systems servicing Solano County. Like most other public transit systems, delivering quality service while

staying financially sustainable is an on-going challenge. STA has identified sustainable communities as those that endure and improve over time, and balance such factors as economic health, environmental impact and social equity. Sustainable public transit systems have similar characteristics, and share a symbiotic relationship with sustainable communities.

ADA (Americans with Disabilities Act) Paratransit service, which is federally mandated door-to-door service that must be provided by the public transit fixed-route operators, faces similar challenges in terms of sustainability. The long range plan for ADA paratransit services is worthy of special attention outside this Transit and Rideshare Element.

In sync with the two major themes of the overall Solano CTP of *Strengthen the Hub and Reduce Stress*, the Transit and Rideshare Element intends to support these themes by way of three steps.

1. Over the short term, focus on efficiency in order to establish a fiscally stable public intercity transit system, while maintaining a strong ridesharing system.
2. Over the medium term, include more of a focus on perception in order to expand the portion of the commute that uses transit in some form;
3. At all times, promote transit choices such as ridesharing and employer-organized transit services that minimize public expenditures.

This approach takes advantage of several factors:

- Solano residents have historically had the highest rate of ridesharing in the Bay Area, and the supporting infrastructure of Park and Ride lots and ridematching services is in place and accepted.
- Solano County has the highest percentage in the Bay Area of its residents living in incorporated cities, with the exception of the joint City/County of San Francisco. This means that many transit users are already close to each other and to transit centers.
- Solano County's cities and transit operators are in the process of building and bringing on line more than \$100 million of new transit and rideshare facilities, which will significantly improve access to transit for Solano residents.
- The regional Express Lane network is planned for extension into Solano County, an improvement that will improve travel times for intercity bus, carpool and van-pool users.

In the following pages, the Transit and Rideshare Element provides an examination of the current state of transit in Solano County, and identifies a series of policies that can guide the development of the type of transit system that best services the county's residents, employees and visitors. The policies are designed to help implement the purpose statements of the Solano CTP and the Transit and Rideshare Element, which are:

- The Solano Comprehensive Transportation Plan will help fulfill the STA's mission by

identifying a long-term and sustainable transportation system to provide mobility, reduce congestion, and ensure travel safety and economic vitality to Solano County for all.

- Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems.

The Transit and Rideshare Element concentrates on setting the landscape within which the transit and rideshare system operates and focuses on making and implementing decisions that actually move us from where we are to where we hope to be.

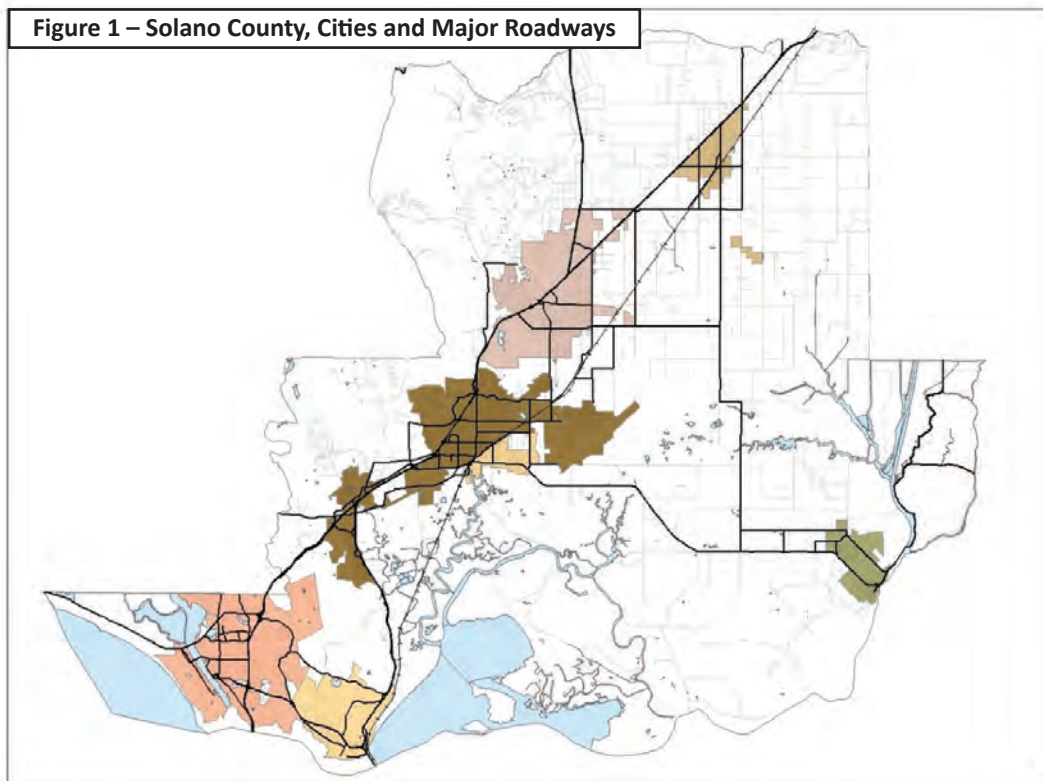


Chapter 2: Purpose

The Solano CTP – Transit and Rideshare Element is the STA's foundational document for planning and supporting the intercity Transit and Ridesharing system projects and programs serving the seven cities (Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville and Vallejo) and the County of Solano. It is designed to serve the following purposes:

- Define what is meant by Transit and Rideshare.
- Compare the Transit and Rideshare system in place today with the system desired by 2040, and find the most important gaps between the current reality and the future vision.
- Identify and prioritize projects and programs to maintain the current system while filling in the most critical gaps.
- Identify the resources that can help both maintain and expand the Transit and Rideshare system, establish policies to help allocate these resources, and identify milestones and performance measures to guide us on our way.
- Coordinate Transit and Rideshare activities with other aspects of the Solano CTP.

The final outcome will be an integrated intercity Transit and Rideshare system. Integrated has two different meanings which are:



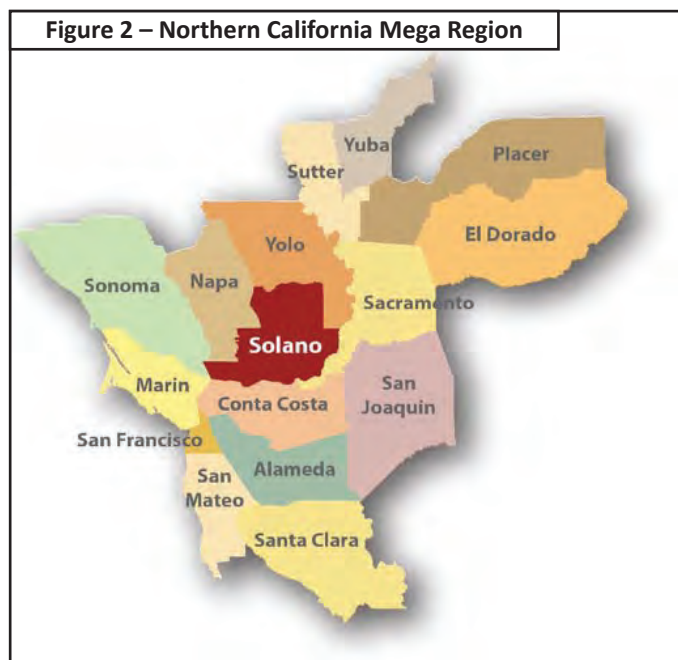
Internally integrated. Bus, train and ferry facilities have similar design and functional features such as safe access, signage, bicycle storage, and alternative fuel vehicle facilities. While not necessarily identical, these facilities are similar and recognizable to users no matter who the operator is or what the jurisdiction is.

Externally integrated. The Transit and Rideshare Element coordinates decisions and investments with those found in the Active Transportation and Arterials, Highways and Freeways elements. External integration also includes linking the Solano system to the transit and rideshare systems found in adjoining counties and the greater Northern California region. Additionally, external integration also requires identifying and prioritizing programs and projects that are important to STA's members and partner agencies. Another important aspect of the Transit and Rideshare Element is that its development and

use is an *iterative process*. The Element calls for the development of transit corridor plans, services for older adults, and people with disabilities plans and other focused documents. These documents can and should take their overall direction from the goals, policies and information contained in the Transit and Rideshare Element. However, the development of these focused documents provides detailed data that feeds back into the Transit and Rideshare Element as it exists today and as it will be updated in the future.

The Transit and Rideshare Element is summed up in its purpose statement:

Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems.



Finally, it is important to note that the Element focuses on intercity transit – connections between the communities of Solano County, and between Solano County and the broader northern California region. Local transit is the responsibility of the local jurisdiction, and is outside of the scope and responsibility of STA and this Plan, although STA provides a venue for coordination of services and the coordinated short range transit plans. These plans provide a vehicle for coordination between local and regional transit services.

Chapter 3: Transit and Rideshare Components, Goals, and the Goal Gap Analysis

In order to maintain and improve the Transit and Rideshare system, three things are needed. The first is to know what the system is – to identify its components. Next is to know the condition of the system today. Finally, with the components and their statuses identified, it is possible to compare where it is and where it should be in the future. Chapter three accomplishes this by defining the system and providing a state of the system report, establishing goals, and analyzing the gap between the current system and those future goals.

Section 1 – Transit and Rideshare System Components

The Transit and Rideshare system consists of those physical improvements that support intercity bus, passenger rail, ferry, carpool and vanpool services. The transit and rideshare system also includes those programs that support these modes of travel. Each of these areas is summarized below. The state of the system report provides much greater detail on these components.



Intercity Bus System

The physical components of the intercity bus system include the buses themselves, transit centers where riders and buses meet, and the maintenance, fueling and administration facilities that support these activities.



Passenger Rail System

In Solano County, the physical components of the passenger rail system consists of the Union Pacific railroad tracks and the train stations at Suisun City/Fairfield and Fairfield-Vacaville-Hannigan station. Fueling and storage functions are all located outside of Solano County.

Ferry System

In Solano County, this consists of the passenger docking facility along the Vallejo Waterfront and the fueling, maintenance and docking facility on Mare Island. Other maintenance, storage and administrative facilities are located outside of Solano County.



There is also private contracted ferry service between Benicia, Martinez and South San Francisco from the 9th Street boat launch in Benicia

Vanpool and Carpool System

The physical components of this system overlap with the intercity bus, passenger rail and ferry system facilities in many places. Carpool and vanpool users often use the same parking lots as do the other system components. Additionally, there are also dedicated carpool lots that are not served by the bus system. The administrative and customer support system for countywide ridesharing is found through the Solano Mobility Call Center at the Suisun City Train Depot and in the STA offices. Maintenance and fueling is done by individual vehicle owners.

Mobility Management

Mobility Management is a service that has

been provided in more limited and less coordinated various forms for many years. It consists of both public and private providers of services for older adults and people with disabilities, and services such as the Solano Intercity Taxi Card Program that pays for services provided by a third party. Along with carpool and vanpool, it is a portion of the element more focused on programs than physical infrastructure.



An equally important portion of the transit and rideshare system is the local and regional roadway system used by patrons of the system and by many of the transit vehicles themselves. As has been noted in the Active Transportation Element, these roadways are a part of the Arterials, Highways and Freeways Element of the



Solano CTP. However, the location, capacity and maintenance of these roadways is critical to the success of the transit and rideshare system. A final element is the governing structure that applies to several of the elements' modes of travel. Intercity bus services are guided by advice from the SolanoExpress Intercity Transit Consortium, with final action taken by the STA Board. One of the two intercity transit providers – Solano County Transit (SolTrans) – is a Joint Powers Authority (JPA) run by its own Board of Directors. The other intercity transit provider, Fairfield and Suisun Transit (FAST) is governed by the City of Fairfield. Both the Capitol Corridor train system and WETA (aka San Francisco Bay Ferry) are governed by JPA Boards.

Section 2 – Element Goals



The Transit and Rideshare Element is intended to guide the planning and development of a Solano transit system that will serve Solano County as it is projected to grow and change in the next twenty-five years. The Transit and Rideshare Element's Purpose Statement is to:

This aligns with the Purpose Statement of the Solano CTP which is:

“Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems.”

These Purpose Statements outline broad goals. More specific goals are proposed to provide

“The Comprehensive Transportation Plan will help fulfill the Solano Transportation Authority’s mission by identifying a long-term and sustainable transportation system to provide mobility, reduce congestion, and ensure travel safety and economic vitality to Solano County for all”.

guidance to decision-making and actions which collectively are designed to achieve the purpose of the Transit and Rideshare Element. The goals vary in that some are general descriptions of the desired overall nature and state of the system, others are aspirational,



while still others are specific and tangible. In order to implement the Purpose Statement of

the Solano CTP and the Transit and Rideshare Element of the Solano CTP, the following goals have been adopted by the STA for the Transit Element. They are presented in broad categories.

Provide Rider Convenience and Choice

1. Create and operate a transit and rideshare system that provides access to county and regionally significant population centers, employment and civic amenities.
 2. Focus countywide and regional transit resources to create a transit system which connects these land uses, and adapts to changes in demographics.
 - a. Include facilities and programs that directly support Priority Development Areas (PDAs).
 3. Create a reliable mass transit system that allows passengers of local transit systems to easily and conveniently connect to intercity and regional transit systems.
 4. Develop and implement programs to coordinate the provision of interregional, intercity and local transit services.
 - a. Study options for coordination of local and intercity transit.
 - b. When requested, support transit operators who are interested in system and functional consolidation.
 5. Ensure mobility by providing services for ALL, including older adults, people with disabilities, youth and the low-income population.
 - a. Implement the countywide Mobility Management Plan and the Community Based Transportation Plans.
 - b. To ensure long-term viability and mobility, evaluate existing delivery of paratransit services in coordination with Americans with Disabilities Act (ADA) and other countywide as well as alternative delivery options.
 - c. Utilize the Consolidated Transportation Services Agency (CTSA), and Paratransit Coordinating Council (PCC) to guide the identification, development and evaluation of effective transportation services for low income earners, older adults, and people with disabilities and other mobility programs.
6. Implement projects and programs to address the “first mile/last mile” gap faced by transit all users.
 7. Seek to increase transit and rideshare usage at a rate faster than the Solano County population growth rate.
 8. Ensure system effectiveness by preparing periodic and timely reviews of transit service performance. providers – Solano County Transit (SolTrans) – is a Joint Powers Authority (JPA) run by its own Board of Directors. The other intercity transit provider, Fairfield and Suisun Transit (FAST) is governed by the City of Fairfield. Both the Capitol Corridor train system and WETA (aka San Francisco Bay Ferry) are governed by JPA Boards.

Develop and Maintain Infrastructure

9. Maintain and develop conveniently located transit and rideshare facilities and policies that support public transit services while leaving opportunities for private sector transit and support services to operate.
10. Continue to build upon Solano residents’

high rate of commuter carpool and vanpool participation by identifying convenient park and ride lot locations, constructing or expanding park and ride lots, and implementing an Express Lane system on major freeways.

- a. Continue to provide innovative ride-share services through Solano Mobility and employer programs.
- b. Increase the inventory of park and ride spaces.
- c. Identify and construct park and ride lots in areas that are currently underserved.
- d. Monitor developments and best practices in both the private and public sectors that encourage shared rides and evaluate how they may impact carpooling and vanpooling services for commuters and others in Solano County.



11. Focus transit and rideshare infrastructure investments into Transit Facilities of Regional Significance. “Transit Facilities” are permanent, fixed infrastructure such as bus, ferry and train stations, maintenance yards, guideways, and the roadways used by transit vehicles, “Regional Significance” means

connecting Solano County and its communities with the greater northern California region, or connecting communities within Solano County. Transit Facilities of Regional Significance are:

- a. All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.
 - b. All passenger ferry facilities, including terminals, maintenance docks and fueling stations, local water channels, current or planned, identified in an adopted STA Plan.
 - c. Bus stations providing all of the following services:
 - i. Routes to destinations outside Solano County or between two or more cities in Solano County
 - ii. Peak hour headways of one hour or less
 - d. Maintenance and parking facilities for buses providing services identified in a, b or c above.
 - e. Interchanges that provide access to and from the highway system for stations identified in a, b or c above.
12. Improve safety by reducing accidents and injuries (motorists, pedestrians, bicyclists and others) in the vicinity of significant transit facilities, develop a strategic plan to address the issue.
 - a. Quantify, and periodically update, accident statistics for roads, trails and intersections within ¼ mile of Transit Facilities of Regional Significance.
 - b. Establish a priority list for improvements to reduce accidents and injuries in the Safe Routes to Transit Plan.

13. Implement effective paratransit services.

Help Improve Air Quality

14. Reduce air pollutant emissions related to transit and rideshare by developing and implementing the Solano County Alternative Fuel and Infrastructure Plan.

- a. Help transit operators identify and obtain funds to offset the incremental cost of purchasing and operating alternative fuel and other clean transit vehicles.

15. Assist transit operators who wish to upgrade fixed facilities to be more energy efficient.

Fund Vehicles, Facilities and Services

16. Create and implement programs to help fund adequate maintenance, repair and replacement of transit vehicles and supporting infrastructure.

17. Create and implement programs to help fund adequate maintenance and strategic expansion of Transit Facilities of Regional Significance.

18. To facilitate informed service and investment decisions, provide decision-makers with timely, accurate and sufficient information.

- a. Ensure the Transit Corridor Studies are conducted and kept up-to-date for all major transit corridors including I-80/I-680/I-780, SR 12, SR 29 and SR 37.
- b. Conduct Countywide Ridership Surveys every two to three years with specific target surveys of services to improve efficiency and productivity.
- c. Assist transit operators to obtain and provide more accurate data and reporting.

19. Make investment decisions in partnership

with regional mass transit providers, including local partners such as local transit providers, the Capitol Corridor Joint Powers Authority (CCJPA) and Water Emergency Transportation Authority (WETA) and regional partners such as BART, MTC and Caltrans.

20. Participate in regional and mega regional multimodal corridor studies and implementation on SR-37, I-80, and I-680.

Section 3 – State of the Transit and Rideshare System

To chart a successful course for Solano County's Intercity Transit and Rideshare System, two things are needed: to know where the system is at this time, and to know where STA, partner agencies, and Solano's transit operators want to be by 2040. Before building a future transit system that is both capable of transporting transit users and desirable to use, it is best to understand the foundation that exists, its strengths and weaknesses, resources needed at its current level of service, and existing opportunities and challenges. This report summarizes the current condition and operation of Solano's Intercity Transit and Rideshare System.

To chart a course, you need to know where you are and where you want to be.

The Transit and Rideshare System Defined

Overview

The Transit and Rideshare System (also simply referred to as ‘The Transit System’) for this report incorporates the modes of intercity bus, passenger rail and passenger ferry service, ridesharing (carpools and vanpools), as well as intercity paratransit services and mobility management. The Transit System consists of the vehicles and supporting infrastructure for those modes of travel. For ridesharing and mobility management, it also includes the staff that supports the programs enabling carpool and vanpool creation and operation, and the delivery of mobility management programs.

Per Solano EDC, Solano County has an established and diverse Transit and Rideshare System serving a 2019 countywide population of 446,610. Over 187,371 Solano residents work outside their home. The Transit System serves all trip purposes and a significant portion of commute trips. In 2018, 19.54% of working Solano residents travelled to work by ridesharing, bus, train, or ferry – a number that has grown since the 18% in 2013.

Transit services connect Solano to the adjacent Bay Area and Sacramento regions via limited-stop buses on highways (I-80, I-680, I-780, Highways 12 and 29). Passenger rail service stops at a station in the center of the county near the County Government Center (the Suisun City/Fairfield station) and at a new station in East Fairfield (Fairfield/Vacaville/Hannigan Station). Passenger ferry service connects

Vallejo and San Francisco daily. Thousands of carpools and vanpools travel daily to and from points in Solano and beyond.

Ridership has been increasing on Solano transit services overall. The four intercity Solano-Express bus routes delivered 1,079,952 passengers in FY 2018-19. The Vallejo San Francisco Bay Ferry (SF Bay Ferry) carried 3,048,733 riders in FY 18-19, which represents an increase of 7.18% from FY 17-18. 168,000 passengers boarded the Capitol Corridor at the Suisun City train station in FY 2015-16 – an increase of 2.3% over the previous year. Carrying over 2,500 riders on 216 vanpools on a daily basis, Solano commuter vanpools carry the equivalent of over 1.2 million passenger trips annually. The thousands of daily Solano commuter carpools carry the estimated equivalent annual ‘ridership’ of over seven million trips (local and intercity).

In addition to intercity bus, ridesharing, rail and ferry; intercity paratransit and other services for older adults and people with disabilities have been developed to maintain mobility and independence for this growing segment of the population. All of these services’ success is in large part due to supporting local infrastructure such as park and ride lots, High Occupancy Vehicles (HOV) lanes, and passenger station bus stop facilities. Transportation services are also delivered by the private sector. All private transit services use public roadways and some use other public facilities as well. Public policy has some limited impact on private transportation services and these services are discussed in brief.

The discussion of existing services is organized in the following manner.

- Intercity Bus Service
- Transit Facilities of Regional Significance
- Ridesharing/Park and Ride Lots
- Passenger Rail
- Ferry
- Intercity Paratransit Service/Mobility Management

Within each section there is a description of existing services along with the services' performance, capital resources, financial status, and governance/partnerships/plans.

Intercity Bus

Intercity public transit service in Solano County is provided by four of the Solano County transit operators, as well as by Napa's VINE Transit and YoloBus. SolanoExpress consists of four intercity bus routes operated by Fairfield and Suisun Transit (FAST) and Solano County Transit (SolTrans) that serve the areas with the highest travel demand, offer a higher level of service than the other intercity transit services and carry the most riders. Rio Vista Delta Breeze and Dixon offer additional limited intercity bus service. Dixon Redit-Ride offers an intercity ADA paratransit service to neighboring cities. Privately operated intercity bus services are also offered.

SolanoExpress

FAST and SolTrans operate SolanoExpress intercity bus service, which connect cities within Solano County to one another, as well as to regional destinations, including Davis, Sacra-

mento, the Vallejo Ferry Terminal, and three East Bay BART stations. Each of the four SolanoExpress routes provide a headway (time between buses) of thirty minutes or less during the peak commute times.



FAST operates two intercity routes (The Blue Line and the Green Express) that run primarily along the I-80 corridor with destinations within Solano County and in Contra Costa, Yolo and Sacramento counties. FAST's coverage extends from two BART stations in Contra Costa County to downtown Sacramento. The Green Express operates Monday-Friday. The Blue Line operates on Saturday as well. The Blue Line operates between Sacramento and Pleasant Hill (with stops in Davis, Dixon, Vacaville, Fairfield, and Benicia). The Green Express operates between Suisun City, Fairfield, and the El Cerrito del Norte BART station.

The two SolTrans SolanoExpress routes (Yellow and Red Line) primarily serve the southern portion of the County, with connection to the Vallejo Ferry Terminal, three Contra Costa BART stations, (El Cerrito del Norte, Pleasant Hill, and Walnut Creek), and points along

the I-780 corridor in Benicia and Vallejo. The SolTrans Red Line operates the transit connection between Vallejo and Fairfield. All services operate Monday-Saturday with limited service on Sunday.

SolanoExpress Route Performance

SolanoExpress Routes carried 1,079,952 passengers in 2018-19. With few exceptions, California transit systems are required to meet a farebox ratio of at least 20%. All SolanoExpress routes have been highly productive and exceeded this requirement. SolanoExpress SolTrans Red Line (Fairfield /Vallejo to El Cerrito del Norte BART) achieved a farebox ratio of 58% carrying over 616,000 riders in FY 2019. SolanoExpress FAST Green Express (Fairfield/Suisun City to El Cerrito del Norte BART) achieved a farebox ratio of 59% carrying over 200,000 passengers the same year. Overall, all SolanoExpress routes achieved a farebox ratio of 45%.

SolanoExpress Capital

Fleet: SolanoExpress has 38 buses that are operated by FAST and SolTrans. FAST operates 19 higher capacity Over the Road (OTR) buses. The SolTrans intercity bus fleet consists of 19 higher capacity OTR CNG coaches. All SolanoExpress buses are equipped with accessible features (e.g., lifts, dedicated seating) in compliance with the requirements of the Americans with Disabilities Act (ADA). Farebox equipment to accommodate Clipper was installed and operational in the fall of 2014 on all SolanoExpress routes. An Automated Vehicle Locator (AVL) system that provides passengers a 'find you bus or next bus' feature

is available on SolanoExpress routes. In addition, all SolanoExpress buses have the capacity to accommodate one or more bicycles and all have luggage storage compartments.

Rehabilitation

SolTrans expanded and improved their bus operations and maintenance facility. A Compressed Natural Gas (CNG) fueling facility was an element of that project. Work was completed in 2015.

Park and Ride Improvements

SolTrans Curtola Parkway Park is a heavily used Park and Ride (PNR) that was recently expanded and reconfigured to create a full-featured transit center. Construction began in 2014 and was completed in 2015. The new facility provides 590 parking spaces, 6 bus bays, 20 EV parking stations and improved passenger amenities such as 24-hour security. Regional bridge toll revenues funded these projects. The new Benicia bus hub adjacent to the I-680 was constructed and opened in 2019.

SolanoExpress Routes Funding

While the SolanoExpress routes are operated by two transit agencies, they deliver transit service throughout the county by connecting six of seven Solano cities, except Rio Vista. SolanoExpress routes are funded by four or five of the transit operators, the County of Solano, STA, and bridge toll funds obtained by STA through the Bay Area Toll Authority. An Intercity Transit Funding (ITF) Agreement is annually negotiated through the Intercity Transit Funding Working Group using an adopted

methodology. The agreement focuses on three principles – stability, efficiency and flexibility. The first ITF agreement was negotiated for FY 2006-07 and it has been used since to determine the cost-sharing of SolanoExpress routes. SolTrans, Dixon Read-Ride, FAST, Vacaville City Coach, STA and the County of Solano all contribute to the SolanoExpress network and as a result, significantly participate in service policy decisions. The agreement also includes service design standards and direction to specify performance benchmarks that are used to design and evaluate the intercity services. This is discussed in greater detail in the I-80/I-680/I-780/SR 12 Transit Corridor Study section below.

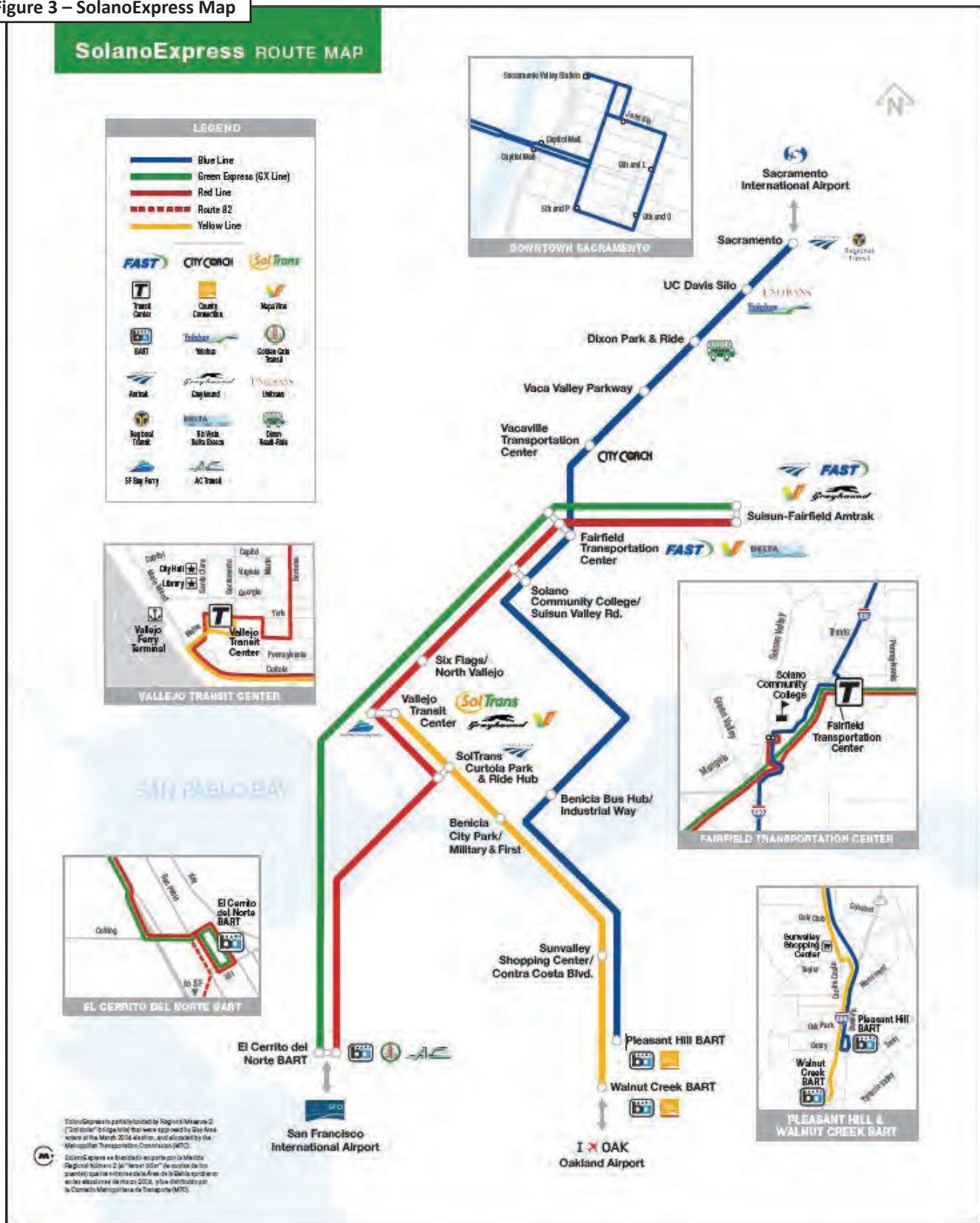
To be included in the Agreement, a route must meet all five of the following:

1. Operates between two cities (except between Fairfield and Suisun City where local service is provided by FAST)
2. Carries at least 2,000 riders per month
3. Operates at least 5 days per week
4. Has been operating for at least a year and is not scheduled for deletion within the fiscal year, and
5. Maintains service that meets at least one of the performance benchmarks identified in the I-80/I-680/I-780/SR 12 Transit Corridor Study (i.e., service productivity, cost efficiency, and cost effectiveness).

Intercity transit funding is shared among jurisdictions using a formula that is based on two factors; ridership by residence and population. This shared funding is for the operating cost of SolanoExpress routes after farebox and other non-local revenue are taken

into account. The resulting net cost is shared among the participating jurisdictions based on 20% of their population share and 80% of ridership by residence. The cost of all four SolanoExpress routes in 2018-19 was \$9.6 million. Transportation Development Act (TDA), Regional Measure 2 (RM2) and passenger fares are the primary revenue sources funding the SolanoExpress operations. The STA Board serves as the policy board for SolanoExpress services, funding, service changes, fare adjustments, and operator contracts for all Solano Express agreements between STA, SolTrans, and FAST.

Figure 3 – SolanoExpress Map



Other Intercity Public Transit Services

Dixon Read-Ride

Dixon Read-Ride is a general public dial-a-ride service operating primarily within City limits Monday-Saturday. All vehicles are equipped with lifts. Dixon Read-Ride owns nine cutaway vans. For ADA-certified paratransit riders, Dixon Read-Ride offers intercity paratransit service to the neighboring cities of Vacaville and Davis in Yolo County.

Rio Vista Delta Breeze (RVDB)

Rio Vista Delta Breeze operates two intercity routes. Routes 50, and 52 provide service from Rio Vista to Fairfield, Suisun City, Isleton, Lodi, Antioch, and Pittsburg/Bay Point BART. All intercity routes have headways of greater than one hour and as a result do not meet the criteria for participating in the SolanoExpress Intercity Transit Funding agreement. Route 50 provides weekday service from Rio Vista and Isleton to Fairfield and Suisun City. Route 52 connects Rio Vista to Antioch and the Pittsburg/Bay Point BART station with one trip in each direction each weekday. RVDB owns four cutaway vans and one standard van. In July 2016, STA began management the operation of Delta Breeze through a contract with the City of Rio Vista.

SolTrans

SolTrans operates one additional intercity route that is not part of the core SolanoExpress service. Route 82 provides five weekday roundtrips.

Napa VINE Transit

VINE Transit operates two weekday routes connecting Napa County to Solano County. VINE Route 29 serves Vallejo connecting it to nearly every city in Napa County. VINE



Route 29 operates along Hwy 29 from Calistoga to El Cerrito del Norte BART station via St. Helena, Yountville, Napa, American Canyon, and the Vallejo Ferry Station. In July 2013 VINE Route 21 began connecting Napa with Fairfield and Suisun City through a funding agreement with STA. Route 21 operates via Hwy. 12 with service to the Suisun City Amtrak Station, Fairfield Transportation Center (FTC), and various other points in the city of Napa (Napa Airport, Napa Valley College, Napa Transit Center).

YoloBus

Yolobus operates one route into Solano County, Rt. 220 makes three roundtrips daily connecting Vacaville to Winters and Davis via I-505 and Russell Blvd. Rt. 220 operates Monday through Saturday.

Governance, Partnerships, and Plans

Consortium

The staff and organizational structure for collaborative intercity transit service planning is the SolanoExpress Intercity Transit Consortium (Consortium) which is described in the Joint Powers Agreement (JPA) of the STA. STA hosts and staffs the SolanoExpress Intercity Transit Consortium, which meets on a monthly basis. The SolanoExpress Intercity Transit Consortium consists of representatives from each of the five Solano County transit agencies STA, Solano Mobility, and the County of Solano that ultimately provides recommendations to the STA Board.

Coordinated Short Range Transit Plan

In addition to the above mentioned efforts to coordinate intercity and SolanoExpress bus service, the STA and the Solano County transit operators completed the first Coordinated Short Range Transit Plan (SRTP), which was adopted by the STA Board in September 2013.

The Coordinated Short Range Transit Plan identifies the current conditions for each of the three areas studied (Service Planning, Fare Coordination, and Capital Planning Coordination), makes findings related to best practices, and recommends that the Consortium consider the following recommendations for service planning, fare coordination and capital planning coordination. A Coordinated Short Range Transit Plan is conducted every two to four years, with the last being completed in 2016. STA and the five transit operators are currently updating the coordinated SRTP. The

STA issuing a similar approach from the 2016 effort for the upcoming 2020 cycle, with the changes developed by STA staff and consortium and subsequently adopted by the STA Board:

1. Eliminate the element related to the Transit Corridor Study.
2. Replace with an element that looks at operation and performance of the SolanoExpress system as a single unit, while retaining the individual agency approaches for evaluation and planning regards to finances and performance of the individual SolanoExpress routes as allocated to each agency.
3. The section on the SolanoExpress system shall include an element that examines connectivity between the regional network and the local transit networks. This will examine shortcomings and opportunities for improved connectivity.
4. Examine transit access to medical facilities and to medical appointments. Determine actual demand for services and propose cost effective options for addressing the demands. This component is being added as this was a top priority of the (CTSA) and all seven cities for Older Adults and persons with disabilities.
5. Examine transit access to Priority Development Areas (PDAs) and future Priority Production Areas (PPAs) for jobs.

Service Planning:

- Service Planning Coordination: Inter-agency service coordination is conducted through the Consortium and the Intercity Transit Funding Working Group with rec-

- ommendations to the STA Board.
- **Schedule Change Calendar:** Establish common schedule change dates of July 1 and January 1 of each year.

Discuss procedures to establish a common schedule change timeline for purposes of inter-operator schedule coordination.

Operators may make changes to routes and schedules that do not affect established inter-operator connections at any time.

Fare Coordination:

- Designate Clipper as the coordinated intercity fare media accepted by all Solano County transit operators.
- Designate “upgrade” and “express” categories for intercity routes and set Clipper fares based on value of intercity service delivered.
- Provide discounts for frequent travel using pre-paid monthly Clipper passes.
- Give local fare credit for local transfers to/from intercity routes using Clipper and define a common transfer validity period.
- Define common eligibility for age based Clipper discounts.

Capital Planning Coordination:

- Join SolTrans in assessing feasibility of transitioning diesel buses to CNG.
- Continue to use CalACT to minimize the cost of van and shelter procurements and to standardize paratransit fleets.
- Review fare collection technologies and needs in light of the implementation of Clipper and identify opportunities for joint procurement.

- Establish an annual review of all procurement needs for the next 18-24 months.

Transit Corridor Study

In conjunction with the Coordinated SRTP, STA and the Solano County transit operators initiated an I-80/I-680/I-780/SR 12 Transit Corridor Study. The goals of the Transit Corridor Study were to establish performance benchmarks so that the intercity bus service attains its core principles of service stability, efficiency and feasibility, and to examine past and forecasted demographic and land use data to propose alternative service recommendations to improve the performance of intercity bus routes.

Currently, the intercity transit operators employ metrics and standards to evaluate service performance in the context of each agency’s internal goals and objectives. The Intercity Transit Funding Agreement developed by the operators and the STA requires the specification of performance measures and benchmarks for the four intercity bus routes included in the Agreement. These performance benchmarks were approved by the Consortium and adopted by the STA Board in September 2013. These performance benchmarks were subsequently updated in October 2016 and will be assessed and modified in 2020.

Measures		FAST	FAST	FAST	SolTrans	SolTrans	SolTrans	SolTrans	SolTrans
Service Design	Benchmark	Blue	GX	Total	Yellow	80	85	92	Total
Speed - MPH	35	30.48	37.53	32.63	20.09	21.83	21.83	21.83	21.30
Service Productivity	Benchmark	Blue	GX	Total	Yellow	80	85	92	Total
Passengers per Vehicle Revenue Hour	25.0	6.0	19.2	10.0	8.1	28.4	8.9	8.8	17.6
Passengers per Trip	15.0	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Passengers per Vehicle Mile Revenue Mile	0.40	0.20	0.51	0.31	0.40	1.30	0.41	0.40	0.82
Peak Corridor Demand (Hourly Demand/Capacity)	85.00%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Capacity Utilization (Passenger Miles/Seat Miles)	35.00%	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Cost Efficiency	Benchmark	Blue	GX	Total	Yellow	80	85	92	Total
Cost per Vehicle Revenue Hour	\$141.00	\$141.18	\$144.24	\$142.12	\$146.60	\$151.92	\$125.50	\$94.28	\$143.60
Cost per Vehicle Revenue Mile	\$3.87	\$4.63	\$3.84	\$4.35	\$7.30	\$6.96	\$5.75	\$4.32	\$6.74
Cost per Revenue Seat Mile	\$0.079	\$0.089	\$0.074	\$0.084	\$0.140	\$0.134	\$0.111	\$0.083	\$0.130
Cost Effectiveness	Benchmark	Blue	GX	Total	Yellow	80	85	82	Total
Subsidy per Passenger Trip	\$3.71	\$20.36	\$3.10	\$10.24	\$14.84	\$1.50	\$10.88	\$6.38	\$4.47
Revenue per Revenue Seat Mile	\$0.040	\$0.012	\$0.043	\$0.023	\$0.025	\$0.096	\$0.026	\$0.034	\$0.059
Revenue per Revenue Seat Mile	50%	14%	59%	28%	18%	72%	23%	41%	45%

Table 2-1 SolanoExpress Routes Performance (FY 2018-19)

The FY 2018-19 effectiveness and efficiency performances, as well as the performance benchmarks, are depicted on Table 2. The red color represents performance below the benchmark, while the green represents performance exceeding the benchmark. Table 2 indicates that Routes 80 and 90 are high performing and productive services. Both routes continue to experience annual ridership increases. However, the table also indicates inconsistent service effectiveness and productivity in general among the other five intercity routes. The Transit Corridor Study evaluated these findings and identified service alternative recommendations to enhance service for intercity and inter-county travel with better connections to local service. Table 2.b shows the updated performance measures; not all of the performance measures have adequate statistics gathered at this time, so some data is not presented.

In December 2014, the STA Board approved the “public review and input process for Phase 2 to forward the Phase 1 results to each of the affected Cities and the County including the three service options assessed and Option B as the service option recommended for Phase 2.” Option B consists of three all-day, frequent routes and one peak period only route, designated by color:

- Blue Line-Operating from Sacramento and Davis via I-80 and I-680 to Pleasant Hill BART Station.
- Red Line- Operating from Suisun City via Hwy 12, I-80, Hwy 37 and then Mare Island Way and Curtola Parkway to I-80 and El Cerrito del Norte BART Station.
- YellowLine – Operating from the Vallejo Ferry Terminal via Curtola Parkway, I-780, Military (Benicia) and then via I-680 to the Walnut Creek BART Station.

Key features of the proposed Option B service alternative for the SolanoExpress system is that it will create the enhanced ability to travel between Solano County cities quickly primarily on the freeway and that there will be good connections with the Vallejo Ferry and BART. Service will be frequent throughout the day and into the evening. Some of the key stops need to be created and some existing locations should be upgraded. A new station was proposed at Kaiser Dr. and Suisun Parkway near Solano Community College and business parks. Improvements along the I-680 corridor bus stops in Benicia and Fairfield (Cordelia) were proposed. All of these stops were constructed in 2018 and 2019.

Intercity Bus Ridership Studies:

An on-board passenger survey is conducted every two to three years on the SolanoExpress bus routes. The most recent Intercity Ridership Survey was conducted in 2018. These surveys are stipulated in the Intercity Transit Funding agreement. The survey collects key data needed for the Intercity Transit Funding (ITF) agreement cost-sharing formula. These surveys create an opportunity to collect additional data and monitor the SolanoExpress routes beyond regular ridership counts. STA manages these ridership studies in coordination with the transit operators.

Clipper: Clipper is a reloadable electronic fair media card, managed by MTC and used to pay for transit fares on multiple Bay Area transit systems throughout Solano County and the Bay Area. It is a plastic card embedded with an electronic sensor that keeps track of the value loaded onto the card. It can hold passes, discounts, multi-ride ‘tickets’, and transfers from multiple participating transit operators, as well as cash value that passengers may load onto it. The three major Solano transit operators accept Clipper.

Private and Specialized Intercity Bus Services

Along with the public transit services described above, private bus services operate in Solano County. Private transit services range from general public interstate services to specialized, intercity services. Some use public facilities such as Park and Ride lots to pick-up

passengers or to connect with public transit.

- **Employer commuter buses:** A few large companies in the Bay Area provide their own buses for their employees to ride for free directly from various pick-up locations to their employment sites. At least one employer uses two Solano park and ride lots to pick up their employees.
- **Greyhound:** This international (US, Canada and Mexico) bus service stops at the Suisun-Fairfield Amtrak Depot several times a day; there is no Greyhound staff at the station. It also stops daily in north Vallejo. Buses have lifts and can accommodate wheeled mobility devices. Buses also have restrooms, power outlets and WiFi, storage for luggage, and guaranteed seating. Tickets may be purchased online.
- **Megabus:** A nationwide bus service with limited stops travels on I-80 through Solano County without stopping. The nearest stops are in Sacramento and Oakland. The buses are ADA compliant, have restrooms and WiFi, storage for luggage, and reclining seats. Tickets may be purchased online and seats guaranteed.
- **Airporters:** These door-to-door services for individual or groups often operating 24 hours a day, 7 days a week to local airports such as San Francisco, Sacramento, Oakland and San Jose airports. Many also serve Travis AFB airport.
- **VA Medical Shuttles:** The Veteran's Administration (VA) operates a regular free

shuttle to transport VA patients between area medical clinics. The shuttle runs on a schedule and reservations must be made. In Solano, it serves Travis AFB and Mare Island clinics and stops at the Vallejo Transit Center and will stop at the Davis St. Park and Ride in Vacaville on request. The shuttles also travel to locations beyond the county such as Martinez and Sacramento clinics.

- **Entertainment and Professional Sports Shuttles:** Large entertainment locations that are in somewhat difficult places to reach often have limited-stop bus service to attract patrons. Several of them pass through and/or have stops in Solano to pick up passengers at park and ride lots. These include several Indian gaming casinos, wine tours, and Tahoe-bound buses. There is at least one professional football fan bus with service on game days picking up passengers at a Solano park and ride lot.
- **Non-Emergency Medical Transportation (NEMTs):** Several companies offer door-to-door specialized transportation particularly for those who may need assistance such as a wheelchair or lift. These services are available countywide making local, intercity, and intercounty trips.
- **Flixbus:** Flixbus is an internationally operated long distance bus service that launched in 2011. Flixbus operates a stop within Solano County at Vallejo Transit Center. This location provides connections to other stations in the Bay Area as well as

destinations in Southern California. These buses have on board Wi-Fi, are ADA compliant, have restrooms on board, storage for luggage, and allow customers the opportunity to reserve seats ahead of time via online ticketing.

Transit Facilities of Regional Significance

Transit services require a variety of facilities to support their operations. Facilities are needed at locations for passengers to centrally access the system, at locations to transfer among transit services, as well as to house, fuel, and service the vehicles and operational staff. Some facilities perform more than one of these functions. There are dozens of transit facilities throughout Solano county varying in size, function and capacity in Solano County.

In 2008, the STA Board approved a definition of Transit Facilities of Regional Significance (TFORS) which is proposed for updating. While there are facilities beyond those identified as regionally significant, the discussion in this section will focus on TFORS.

TFORS include public facilities that are used by public transit passengers, as well as carpool and vanpool passengers. TFORS are:

1. “Transit Facilities” are permanent, fixed infrastructure such as bus, ferry and train stations, maintenance yards, guideways, and the roadways used by transit vehicles. “Regional Significance” means connecting Solano County and its communities with the greater northern California region, or

connecting communities within Solano County. Transit Facilities of Regional Significance are:

- a. All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.
- b. All passenger ferry facilities, including terminals, maintenance docks and fueling stations, local water channels, current or planned, identified in an adopted STA Plan.
- c. Bus stations providing all of the following services:
 - i. Routes to destinations outside Solano County or between two or more cities in Solano County
 - ii. Peak hour headways of one hour or less
- d. Maintenance and parking facilities for buses providing services identified in a, b or c above.
- e. Interchanges that provide access to and from the highway system for stations identified in a, b or c above

Along with updating the STA Board’s approved definition of TFORS in 2008, the approved list of Solano facilities is shown in Figure 3 and provided as Table 2-2:

Figure 4 – Transit Facilities of Regional Significance

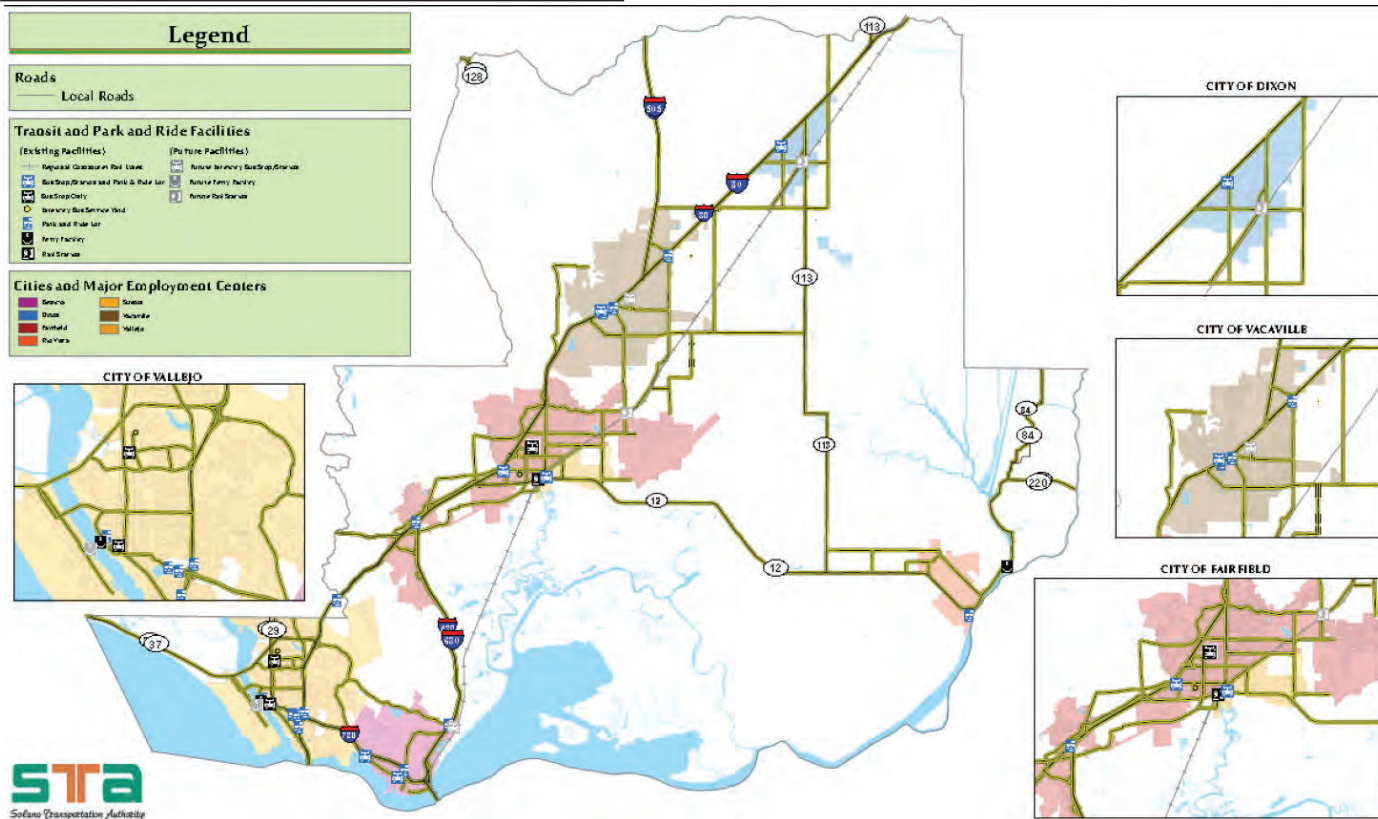


Table 2: Transportation Facilities of Regional Significance

	Facility Name	Location	Description	Transit Services
Passenger Stations	Dixon Transportation Center	275 N Jefferson St at West B St (Dixon)	Owned by the City of Dixon. A 114 space Park and Ride lot with a transportation center and platform to accommodate future Capitol Corridor service. Currently, there is no passenger train service commitment	Dixon Redit-Ride. No intercity bus service. Park and Ride for carpools and vanpools, and location for ADA In-Person Assessment
	Fairfield Transportation Center	2000 Cadenasso Dr.(Fairfield)	Owned by the City of Fairfield. A multimodal transit center with 10 dedicated bus bays, a covered passenger waiting area, 2 electric vehicle charging stations and administrative office building. Buses and pedestrians are separated from auto traffic. 640 surface and structure parking spaces. Real time bus arrival notification system. An unstaffed by Amtrak train station and platform that serves the Capitol Corridor, but does not sell Amtrak tickets.	FAST, SolTrans/ SolanoExpress, Rio Vista Delta Breeze, VINE, private bus, casual carpool and Park and Ride, Vanpool parking/pickup system. An unstaffed by Amtrak train station and platform that serves the Capitol Corridor, but does not sell Amtrak tickets.
	Fairfield-Vacaville-Hannigan Train Station	Peabody Rd. and Vanden Rd. (Fairfield)	One of the two train stations within Solano County that is served by Amtrak. The station will be served by 4 separate lots that provide 410 parking spaces. Additionally, STA submitted a grant for 119 space Park and Ride that will facilitate carpools and vanpools. This lot will also have 20 electric vehicle charging spots.	Capitol Corridor, FAST/ SolanoExpress, Rio Vista Delta Breeze, Greyhound, VINE and Park and Ride
	Suisun City Train Depot	177 Main St at Lotz Wy.(Suisun City)	Owned by the City of Suisun City. An unstaffed by Amtrak train station and platform that serves the Capitol Corridor, but does not sell Amtrak tickets. Solano Mobility Call Center provides transit information and services. Bus bays, enclosed passenger waiting area, bike lockers, and short-term parking are on-site. Across the street, there is a 306-space Park and Ride lot with 3 electric charging stations and an on-street bus shelter.	Capitol Corridor, FAST/ SolanoExpress, Rio Vista Delta Breeze, Greyhound, VINE and Park and Ride

Table 2: Transportation Facilities of Regional Significance (continued)

	Facility Name	Location	Description	Transit Services
Passenger Stations	Vacaville Transportation Center	Allison Dr. at Ulatis Dr. (Vacaville)	Owned by the City of Vacaville. A multimodal bus transfer station with 10 covered bus bays, real-time bus arrival signage, 200 parking spaces, and 20 dedicated vanpool parking spaces. The site is powered by a solar photovoltaic system that provides 100% offset of electrical charges. Phase II is adding surface parking spaces.	Vacaville City Coach, FAST/SolanoExpress, YoloBus and Park and Ride
	Vallejo Ferry Terminal	289 Mare Island Wy. at Georgia St. (Vallejo)	Owned by the City of Vallejo. It functions as a bus and ferry terminal with a ticket station, café, passenger waiting area, and houses the Visitor's Bureau. Bus traffic is not separated from auto traffic. Bus shelters and benches located on both sides of Mare Island Way. A 900-space parking lot and City-owned parking structure with 4 electric charging stations is located across the street from the Ferry Terminal. Paid parking. Pedestrian paseo connection to Vallejo Transit Center.	San Francisco Bay Ferry, SolTrans/SolanoExpress, VINE, Park and Ride and private bus

Table 2: Transportation Facilities of Regional Significance (continued)

	Facility Name	Location	Description	Transit Services
Passenger Transfer Sites (Bus)	Benicia Industrial Park Bus Hub	Park Rd. and Industrial Rd. (Benicia)	Owned by the City of Benicia. Newly-constructed facility to accommodate 46 cars and 2 bus bays plus passenger shelters and space for a mobile food service vendor.	FAST/SolanoExpress and Park and Ride
	Curtola Park and Ride	Curtola Pkwy. (Vallejo)	Owned by SolTrans. Existing intercity bus transfer site with 592 parking spaces, 6 bus bays transit platform, electric charging stations, restrooms, vending kiosk and security office	SolTrans/SolanoExpress, casual carpool, Park and Ride and private bus
	Davis Street Park and Ride Lot	782 Davis St. at I-80 (Vacaville)	Owned by the City of Vacaville. Intercity bus transfer site with 3 bus bays, a 250 space Park and Ride lot and 4 electric vehicle charging stations	Yolobus on Saturdays only, VA Medical Shuttle/ on request and Park and Ride
	Dixon Park and Ride Lot	Market Ln. and Pitt School Rd. (Dixon)	Owned by the City of Dixon. Intercity bus transfer site, bus shelter, and 90-space Park and Ride lot.	Dixon Rendi-Ride, FAST/SolanoExpress; private bus and Park and Ride
	Sereno Transfer Station (Vallejo)	Sereno St. between Sonoma Blvd. and Broadway St. Vallejo	Owned by SolTrans. An off-street, bus-only facility without auto parking. 6 bus bays and covered passenger waiting area	SolTrans and Vine and SolanoExpress
	Vallejo Transit Center	311 Sacramento St.(Vallejo)	Owned by SolTrans. A multimodal bus transfer facility with 12 bus bays, 91 parking spaces, 20 bicycle lockers, covered passenger waiting area, and an administration building. Pedestrian paseo connection to Vallejo Ferry Terminal.	SolTrans/SolanoExpress, Napa Vine, Flixbus, and VA Medical Shuttle
	Solano 360 Transit Center	Solano County Fairgrounds	Future express bus and Park and Ride lot serving transit on I-80 and SR 37 and Six Flags.	SolanoExpress
	Solano College	Suisun Valley Rd. and Business Center Dr.	Express bus stop providing access to the Fairfield campus of Solano College and business park.	SolanoExpress, FAST
	Solano College-Vacaville Center	Vaca Valley Pkwy.	Express bus stop providing access to the Vacaville Satellite Campus of Solano College	SolanoExpress, Vacaville City Coach

Table 2: Transportation Facilities of Regional Significance (continued)

	Facility Name	Location	Description	Transit Services
Park and Ride Lots	Existing Park and Ride Lots	Existing Park and Ride Lots (not co-located with other facilities)	Benicia - East Second Street-15 spaces Benicia - Downtown Park - 40 spaces Fairfield - Red Top Road - 214 spaces Fairfield - Oliver Road - 178 spaces Rio Vista - Front and Main - 10 spaces Vacaville - Leisure Town - 45 spaces Vacaville - Cliffside - 125 spaces Vacaville - Bella Vista - 201 spaces Vallejo - Hiddenbrooke - 25 spaces* Vallejo - Benicia Road - 13 spaces Vallejo - Magazine Street - 19 spaces Vallejo - Lemon Street - 64 spaces TOTAL Dedicated Park and Ride - 949 spaces	
	Proposed Park and Ride Lots	Approved and/or partly or fully funded Park and Ride Lots	Fairfield - Gold Hill Rd	
	* Not officially designated by Caltrans or a City as a Park and Ride lot, but continuously functions as such.			

Table 2: Transportation Facilities of Regional Significance (continued)

	Facility Name	Location	Description	Transit Services
Support Facilities (Bus, Ferry, Rail)	SolTrans Bus Maintenance Yard	1850 Broadway (Vallejo)	Owned by SolTrans. Maintenance and storage yard for SolTrans local and intercity buses.	
	Fairfield and Suisun Transit Bus Maintenance Yard	420 Gregory St(Fairfield)	Owned by the City of Fairfield. Maintenance and storage yard for FAST local and intercity buses and other City vehicles.	
	San Francisco Bay Ferry Maintenance and Fueling Station	Mare Island Bldg 165(Vallejo)	Owned by WETA. Ferry maintenance facility and fuel station.	
	Mare Island Strait	Waterway between Mare Island and Downtown Vallejo	Dredged by WETA to maintain adequate depth for SF Bay Ferry.	
	Union Pacific Railroad Tracks	Solano County; Dixon, Fairfield, Suisun City, Benicia	Railroad tracks, switches, right-of-way used for passenger train service, from Yolo County border to Carquinez Strait.	

Ridesharing

Ridesharing (carpooling and vanpooling) has long been a popular commute option for Solano residents and it has been the most popular way to commute other than driving alone. According to the American Community Survey (ACS) data from 2013-2017, 13.6% of Solano County commuters were carpool or vanpool users. With an estimated total of 26,000 poolers, Solano County continues to have the highest rate of carpool/vanpool use among the nine Bay Area counties.

In addition, Solano residents have traditionally had the longest average commute as compared to the rest of the Bay Area while not having a bus or rail system as frequent and prevalent as other locations. Studies have shown that Solano residents value cost-effective transportation. Carpooling and vanpooling are typically the most affordable of all commute modes. Many carpools and vanpools benefit further by saving time using HOV lanes in Solano and neighboring counties along the I-80 and I-680 commute corridors as well as on bridge tolls. They are also highly flexible to match a wide range of destinations and work schedules and in this way complement bus, ferry, and rail transit which need to serve high volume corridors to be productive.

Carpools

Carpools are arranged for a group of two or more people using a private car for commuting. They can all be traveling to work, or to a variety of destinations. There may be regular drivers, or driving may rotate among all partic-

ipants. Carpools are typically a pre-arranged group established through a variety of means that include ridematching services through mobile apps (i.e. Carpool Waze, Scoop) services provided by Solano Mobility via the Ride Amigos platform), at “casual carpool” pick-up locations, or informally through family, friends, and co-workers. Besides saving money, carpools often enjoy the benefits of metered ramp by-pass lanes, HOV lanes, bridge toll reductions and priority parking locations.

Vanpools

In January 2017, according to the 511 Ride-match database, 203 of the Bay Area’s 502 registered vanpools (40%) travel to, from, or through Solano County daily. This equates to approximately 2,233 van riders; 4,466 trips per day; 1,161,160 trips annually. These vanpools have 7 to 15 passengers, including the driver who usually rides for free and the vehicle may be owned or leased. Solano County residents continue to use vanpools due to the long distances to their employment as our county has the highest rate of vanpooling in the Bay Area. Most of these vanpools originate in Solano and travel to San Francisco, South San Francisco and the Oakland area. Additional vanpools travel to Sacramento, from Sacramento to the Bay Area with pick-up points in Solano, and a variety of other locations. Due to lack of regional program funds, the program has seen a decrease of vanpools participating in Solano and all of the Bay Area. The lack of funding limited staff support, marketing of vanpool services and the necessary incentives to keep drivers and passengers engaged.

There are three general types of vanpools: owner-operated, leased, and employer-sponsored.

1. **Owner-operated (O/O) vanpools:** An individual commuter owns (or purchases) a van and uses it for vanpooling. The owner, or someone else, may drive the vehicle. The owner is responsible for maintaining, insuring, fueling, collecting monthly fare payments and handling other aspects of operating a vanpool. Some of these duties may be delegated to regular members of the vanpool. The vanpool may recruit passengers directly or with assistance from their employer or public ride matching organization.
2. **Leased vanpools:** An individual or organization leases a van from a private company specializing in leasing commuter vanpools. The leasing company owns, insures, maintains, collects the monthly fares, completes background checks on the drivers, etc. One or more commuters in the vanpool are selected to drive the van based on their interest, driver and medical records. The drivers and riders share the cost of the lease, fuel, tolls and other expenses. Riders are recruited through a variety of methods.
3. **Employer-sponsored:** An employer owns a vanpool(s) for their employees' use to commute. The employer insures, maintains, subsidizes and possibly fuels the vanpool vehicle. The driver and riders may pay a fare or it may be fully subsidized.

Solano Mobility Programs

Since 1990, Solano Mobility has worked to support the transportation needs and services of all Solano County residents, employers, older adults, and people with disabilities. The Solano Mobility Employer and Commuter Programs of the Solano Transportation Authority serves to connect commuters to existing benefits to induce sustainable mode shift. Solano Mobility administers all commuter benefits programs directly to residents and employees in the county. Staff connects with businesses, homeowner associations, and community clubs as platforms to advertise these commuter benefits.

In Fiscal Year 2018-19, Solano Mobility reorganized its implementation strategy to expand collaboration, efficiency, accessibility, and ease into commuting, especially via non-drive alone modes. This began by creating full-package promotions to encourage transit use and to get Solano residents to take advantage of options other than solo driving. Staff is strengthening existing commuter programs to enhance simplicity and tailor offerings to audiences with transit propensity and traffic congestion issues. The ultimate goal is to continue to expand transit and active transportation options.

In recent years, local transit ridership generally has been falling while regional transit ridership is on the rise. Carpool and vanpool rates have also been decreasing as more people opt to use app based on-demand rideshare. Solano County has consistently led the Bay Area and Northern California mega region in

carpool and vanpool use. Yet, when alternative modes are looked at in the aggregate, Solano County ranks 9th in the Bay Area for use of non-drive alone modes. Solano Mobility's approach is moving to accommodate changes in commuter trends and continue to find the Solano community the right ride. A long term goal for STA's Solano Mobility Program is to expand the regional public transportation use average on ferry, rail and express bus.

Looking into the near future there are a several promotional opportunities Solano Mobility will be taking advantage of. Staff will be expanding on currently offered pilot, revamping the commute challenge, adding more specific challenges, and increasing ease of use on the Solano Mobility website.

Solano Commute Challenge

In order to reinvigorate the purpose of the program, a switch from a raffle to progressive a reward program is necessary. With this new system, rewards are guaranteed but limited. Instead of having to craft separate programs with promotions and incentives for all different kinds of travel modes, participants can try any mode they want and have the travel choice reinforced with tangible, incremental rewards—all through one program.

Commuters that use ridesharing (carpools or vanpools), transit (rail, bus, and ferry), active transportation (biking or walking), or telecommuting can log their trips in Commuter system info. Telecommuting earns 10 points, ridesharing and transit earns 20 points, and active transportation earns 30 points. This

rewards program is open to the entire Solano County community.



Amtrak + Lyft Pilot

The first full-package promotion Solano Mobility developed was a subsidized Amtrak and free Lyft rideshare. For \$20 a person, up to 50 participants would be given a 10 ride Amtrak pass, plus 10 free First/Last Mile Lyft rides to connect the train station and worksite. The goal was to use this pilot as a case study and analyze motives for increasing participation. Participants were requested to complete surveys with the potential of renewing this pilot. By incentivizing people to try transit in the short term, there is a greater likelihood they pick up using alternative modes on their own in the long term. There have been 45 participants in our introductory Amtrak + Lyft Pilot and 13 have continued to use Amtrak after the promotion ended showing the potential for long term program success.

For the next phase of this promotion, participants who completed their three iterations of the Amtrak + Lyft Pilot will be eligible for the Amtrak + Lyft 50/50 pilot. This promotion

gives participants 50% off a monthly Amtrak pass and signs them up for the First/Last Mile program.

RideAmigos Online Platform

One of the goals of the Solano Mobility Commuter Program is to make the Program more efficient, accessible and easier to use for the Solano community. Commuter Info and Solano Mobility sites are being merged to enhance accessibility and ease of use. Commuters can sign up for programs on Solano Mobility website. Solano Mobility redirects you to RideAmigos for the carpool matching, trip planning, and incentive earning functions. Staff will launch a larger marketing effort to reengage previous users and grow the offerings of the platform in 2020.

Ridesharing Week

Both Ridesharing Week and the Solano Mobility website merger coincide temporally and in focus. By promoting Solano Mobility's new site in the lead up to and as administrator of Ridesharing Week, participants will not only learn about and try out pooling, but be established in the Commuter Info system as well.

Staff will conduct outreach events and promote the ridesharing capabilities of the Solano Mobility site. A demo video will be created about the ease of carpooling and how potential poolers can set up carpools on their own. Staff will attend events and perform ridematching on-site as well. All participants in on-site matching will be inputted into the system and able to contact matches through the system as well.

During Ridesharing Week, participants are encouraged to hop in the car with their pre-matched carpools to and from work. Participants will log their carpool trips in the Commuter Info system under the Ridesharing Week Challenge. Participants will receive a \$5 Starbucks gift card for each day that they carpool that week.

Vanpool Program

Solano Mobility has also partnered with RideAmigos, an online transportation demand management (TDM) platform to help organize rideshare programs (which includes vanpools) for commuters in an easy-to-use system. The system is designed to match riders with similar commutes and has tools to pool vanpool riders together.

Solano Mobility remains committed to supporting vanpools and still currently administers two vanpool incentives, the Vanpool Start-up Subsidy and the Back-up Driver Incentive.

Regional Program through Enterprise

Another option for commuters is the new Regional Bay Area Vanpool Program directly through Enterprise and MTC. This program offers a \$350/month incentive towards new and existing vanpools in the Bay Area and Enterprise provides and administers all the support to get set up. As of March 2019, 113 total vanpools were registered as part of the program and 24 of them started in Solano County (the most among Bay Area counties). The goal of this program is to reach 450 vanpools in 2020.

Casual carpools: Some carpools are “casual”, meaning that they form at the start or end of the commute day when a driver with capacity drops by a designated location looking for passengers travelling to downtown San Francisco. With three people in a vehicle during peak hours, this allows the driver to access the HOV lane along I-80 and cross bridges faster and at a reduced-cost; the passengers enjoy the same benefits. Casual carpooling has been popular in the Bay Area for decades. There are two casual carpool pick-up locations that have established themselves in Solano County. One is at the Fairfield Transportation Center and the other is at the Curtola Park and Ride in Vallejo. Various websites have provided information on Casual Carpool locations, etiquette and a forum to share information among users such as concerns, lost and found, etc.

A June 2011 survey of casual carpooling in the I-80 corridor of Solano and Contra Costa counties and across the Bay Bridge identified 1,670 casual carpools formed and counted at the 13 sites covered in the survey. These casual carpools provided rides to just over 5,000 persons per day. Eighty percent of those surveyed took casual carpools 4 to 5 times per week, indicating that this is a method used primarily by regular commuters. In February 2018, STA and MTC fielded a Casual Carpool Study among Solano County residents where 242 out of 840 respondents use casual carpool and a majority (71%) travel to downtown San Francisco.

Park and Ride Lots: There are 20 designated Park and Ride lots in Solano County that serve individuals who utilize carpool and vanpool services, as well as local and intercity bus passengers. Most of these lots are owned and operated by the jurisdiction in which they are located, but several are owned and operated by Caltrans. The 20 Park and Ride lots in Solano County provide over 3,800 spaces for transit users, vanpools and carpools. All parking is free except the parking structure and surface lot at the Vallejo Ferry Terminal/Vallejo Transit Center, the Curtola Parkway and Lemon and Lemon Street and Curtola lots. Some of these lots are located within a transit facility described above. The Park and Ride lot locations, their capacity, connections to transit and amenities are shown in Table 4.

Table 2-3: Park and Ride Lots

City	Location	Capacity	Electric Charging Stations	Bike Parking	Lighting	Transit Services
Benicia	East Second St & East S St	15	No	No	Yes	Solano Express Yellow Line
	Park Rd & Industrial Way (on street pkg)	46	No	No	Yes	Solano Express Blue Line
	Downtown	40	No		Yes	
Dixon	Market Ln & Pitt School Rd	90	No	Yes	Yes	Dixon Redit-Ride Solano Express Blue Line, Private bus
	N. Jefferson & West B St	114	No	Yes	Yes	Dixon Redit-Ride Potential future Capitol Corridor rail service
Fairfield	Red Top Road & I-80	214	No	Yes	Yes	Private commuter bus
	Fairfield Transportation Center (Cadenasso Dr)	640	2	Yes	Yes	FAST, Rio Vista Delta Breeze, VINE, Solano Express Blue, Green, and Red Lines
	Oliver Road & I-80 (at Hartford)	178	No	No	Yes	
Rio Vista	1 Main St	10	1	No	No	Rio Vista Delta Breeze
Suisun City	Suisun City Train Depot (Main St & Lotz Way)	306	3	Yes	Yes	Capitol Corridor, FAST, Rio Vista Delta Breeze, Greyhound, VINE, Solano Express Green and Red Lines
Vacaville	Cliffside Dr and Mason St	125	No	No	Yes	
	Davis Street & I-80	250	4	Yes	Yes	Vacaville City Coach, , Yolobus- Saturdays, VA Medical Shuttle (on request)

Table 2-3: Park and Ride Lots (continued)

City	Location	Capacity	Electric Charging Stations	Bike Parking	Lighting	Transit Services
Vacaville (continued)	Bella Vista & I-80	201	8	Yes	Yes	
	Vacaville Transportation Center (Ulatis Dr & Allison Dr)	245	No	Yes	Yes	Vacaville City Coach, FAST, YoloBus-weekdays, Solano Express Blue Line
	Leisure Town Rd & I-80	45	2	No	Yes	
Vallejo	Benicia Road & I-80	13	No	No	No	
	Curtola Pkwy & Lemon	592	No	Yes	Yes	SolTrans, Solano Express Yellow Line
	Lemon St & Curtola	64	No	Yes	Yes	SolTrans
	Magazine St & I-80	19	No	No	Yes	SolTrans
	Vallejo Transit Center & Vallejo Ferry Terminal Pkg Structure (Sacramento St.) and surface parking (Mare Island Way & Georgia St)	900	4	Yes	No	San Francisco Bay Ferry, SolTrans, VINE, VA Medical Shuttle, Private bus, Solano Express Red and Yellow Lines

Passenger Rail

Solano County is served by the Capitol Corridor route via two stops. One stop is in Suisun City and is referred to as the Suisun City/ Fairfield Train Depot and the other stop is in East Fairfield and is referred to the Fairfield/Vacaville/Hannigan train station. The Capitol Corridor route serves the Bay Area and Sacramento regions seven days a week. There are a total of 30 weekday trips (15 westbound and 15 eastbound daily) and 22 weekend trips all of which make stops at the Suisun City Depot and the Fairfield/Vacaville/Hannigan train station. All trips connect downtown Sacramento, Jack London Square in Oakland, San Jose via CalTrain, and San Francisco by bus or ferry. Service to Auburn to the east of Sacramento and San Jose south of Oakland is provided on a less frequent schedule. Davis and Martinez are the closest stations to Suisun City and Fairfield and there are a total of 18 stations along the full Capitol Corridor route.

The Capitol Corridor service is operated by the Capitol Corridor Joint Powers Authority (CCJPA) and contracts service to Amtrak. The Capitol Corridor service provides direct connections to a variety of regional, statewide and national transportation systems. The Martinez station is served by the Amtrak San Joaquin route, the Richmond station is served by BART, and the Sacramento and Emeryville stations are served by multiple Amtrak routes including the Coast Starlight route and the California Zephyr cross-country service to Chicago. Amtrak's Coast Starlight and California Zephyr routes travel through, but do not stop, in Solano County daily.

Capitol Corridor passenger cars meet the accessibility requirements of the Americans with Disabilities (ADA) Act. Wheelchair lifts are available on every train, two designated spaces per train car for passengers in wheelchairs, and ADA accessible bathrooms are available to passengers on the lower deck of each car. Each car also has room for between 3 and 13 bicycles to be stored inside on the lower deck of the car.

An Amtrak bus feeder service has stops in Vallejo daily. This daily bus feeder service travels between the Martinez Amtrak station and Humboldt County via Vallejo, Napa, Sonoma County, and Highway 101.

Solano Rail Stations

The Capitol Corridor train station in downtown Suisun City is located adjacent to Highway 12, connected to downtown Fairfield by a pedestrian overcrossing, and at one end of the Central County Bikeway. The station is served by FAST local and SolanoExpress bus service, Rio Vista Delta Breeze, and Napa VINE bus service. Greyhound also serves the station and is one of only two Greyhound stops in Solano County. Although unstaffed by Amtrak rail personnel, there is a ticket kiosk to purchase tickets before boarding. Passengers may also purchase tickets online or on-board the train. The Suisun City train station is staffed by STA's Solano Mobility Call Center which provides transportation and transit information as well as Clipper Card sales. Bicycle lockers with electronic locks allowing multiple users are managed by a regional private company and available for purchase at the Call Center or online. Across Main Street there is a Park and Ride lot with over 300 parking spaces.

A second rail station in Solano County opened in northeast Fairfield and was named the Fairfield/Vacaville Hannigan Train Station in 2019. It is located at the intersection of Peabody Rd and Cement Hill/Vanden Rd which is the convergence of two major arterials connecting Fairfield and Vacaville. The station is within a mile of Travis Air Force Base and



nearby a variety of development including existing and future industrial, housing, schools, and mixed-use development. Construction of necessary adjacent roadway and utility improvements has largely been completed, including the new Peabody Road overcrossing opening which opened for traffic in July of 2016. Additional passenger amenities and access are needed and planned for a second phase.

Performance

On-Time Performance (OTP) for the FY 2018-2019 was 88%. Customer satisfaction remains high, with 91% of customers being “Highly Satisfied, a 6.6% increase from the previous fiscal year.

Capitol Corridor carried 1.7 million passengers in FY 2018-19, a 5.97% increase from the previous year. Revenue increased slightly by 3.8% in FY 2018-19 compared to FY 2017-18. In FY 2018-19, Capitol Corridor achieved a farebox ratio of 65%. In 2019, the Suisun City Train Depot saw 128,185 trips while the Fairfield-Vacaville-Hannigan train station saw 101,696 trips. This a 7.5% decrease for Suisun and 48.3% increase for Fairfield-Vacaville overall. The total county ridership improved, however, when combining the overall ridership of both stations. While the Suisun Depot experienced a 7.55% ridership decrease, the Fairfield-Vacaville-Hannigan train station increased by 48.3%. Ultimately, this slight decrease of ridership at the Suisun Station was expected with the opening of a second station within Solano County. The STA continues to work with the CCJPA and the cities of Suisun City, Vacaville, and Fairfield to market both stations to the public.

Capital

The Capitol Corridor and San Joaquin Corridor share a combined fleet of 20 locomotives and 84 bi-level passenger coaches and Café cars. A train set includes 1 locomotive and 4 to 5 passenger cars, one of which also serves as a food service car. Each train set has the capacity to carry 320 to 350 passengers.

Existing passenger information displays providing train number and destination information will be upgraded beginning in FY 2014-15 with more modern video and audio messaging and announcements. This upgraded system will also support inductive hear-

ing devices and compliant video and audio messaging. All train cars have power-plugs and complimentary WiFi for basic email and web-browsing while streaming is prohibited.

The Capitol Corridor runs on tracks owned by the Union Pacific Railroad (UPRR) that run for 41.5 miles from the Solano/Yolo county border near Davis to the Benicia-Martinez Bridge across the Carquinez Strait. The bridge across the Carquinez Strait is located between the two Benicia-Martinez bridges but is a lower lift bridge. The bridge rises for shipping traffic as needed causing occasional delays to trains.

The railroad tracks between the Carquinez Strait and Suisun City are fairly straight and primarily at-grade through wetlands with few at-grade crossings. Being in the wetlands, sections of the tracks flood during heavy storms that occur every few years. From Suisun City to Davis, the tracks are also fairly straight and after leaving Fairfield allow the train to operate at high speeds until the next stop 26 miles away in Davis. There are multiple at-grade crossings in Fairfield, Dixon, Elmira and across numerous other unincorporated County roads. The railroad is primarily double track, but in some areas has additional tracks to provide access into industrial parks. The Capitol Corridor and Amtrak's other passenger services share the track with freight trains.

Funding

The Capitol Corridor is funded by passenger fares and a variety of State and Federal funding sources. In FY 2018-19 the operating expense

was \$65 million. With a farebox recovery rate of 65%, passenger fares generated \$32 million with the balance (\$33 million) being funded by the State.

CCJPA has over \$95 million in capital projects programmed or underway. These range from track maintenance and improvements, WiFi enhancements, to station bicycle storage improvements. These projects are funded by RTIP, STIP, Prop 1A HST, and Prop 1B.

Governance/Partnerships/Plans

The CCJPA Board governs the operation of the Capitol Corridor service. The Board is a partnership among the six local transportation agencies in the eight county service area which shares the administration and management of the Capitol Corridor. BART provides day-to-day management support to the CCJPA. Two STA Board members sit on the CCJPA Board. Capitol Corridor services are developed with input from the riders, private and public sector stakeholders, along with the partners who help deliver the Capitol Corridor service - Amtrak, the Union Pacific Railroad, Caltrans and the various agencies and communities that make up the Capitol Corridor.

In 2011, the City of Fairfield completed a Fairfield Station Specific Plan and amended it in 2012. The Specific Plan identifies a mix of land-uses in the vicinity of the train station that are mostly undeveloped at this time. Land uses could accommodate 6,800 new dwelling units as well as commercial and industrial uses. Numerous pedestrian and bicycle paths are planned with connections to the train station.

The City of Dixon has made several significant investments for a future rail station which is identified in the STA's Solano Rail Facilities Plan, including the construction of a station platform, a transportation center, and a grade separated undercrossing for bicycle and pedestrian activity. However, beyond the Fairfield/Vacaville station, Capitol Corridor has not made any further commitments to servicing additional station stops in Solano County. The November 2014 CCJPA Vision Plan outlines the short-, medium- and long-term goals for Capitol Corridor. In the short-term (0 – 10 years) and medium-term (10 – 20 years), CCJPA intends to implement service frequency expansion or extension at both ends of the route. Other short-term improvements will improve the service for Solano County passengers, including improvements to the WiFi network communications infrastructure and bicycle facilities on board trains and at stations. Medium-term amenities include continued improvements to WiFi, ticketing, bicycle facilities, and customer service communications.

CCJPA's long-term vision emphasizes Capitol Corridor's integration with the State and regional transportation system, including coordinated connections with other transit operations, increasing service frequency and investigating express and limited service options. CCJPA also envisions improved safety and higher overall operating speeds with the anticipated installation of Positive Train Control (PTC).

Finally, the Capitol Corridor will address the effects of sea level rise on Capitol Corridor and UPRR infrastructure. A higher percentage of CCJPA's capitalized maintenance budget is currently used in marshy areas, such as the Suisun Marsh, than in other segments of the corridor. As sea levels rise, this will cause groundwater tables to rise, higher tides and storms that have a higher reach, all of which will impact vulnerable areas along the Capitol Corridor route. CCJPA will work with member agencies and partners to develop long-term strategy and policies to mitigate and adapt to anticipated impacts. In Solano County, CCJPA recommends elevating the track through the Suisun marsh to maintain function against rising sea levels.

Solano Rail Facilities Plan

In 2014, the STA completed the Solano Rail Facilities Plan to evaluate the demand for freight facilities, additional passenger rail stations along the Capitol Corridor, and new passenger rail opportunities between Napa and Solano counties. In addition, the Plan will considered investment opportunities to improve safety throughout and to combat the effects of sea-level rise. The plan identified that approximately 15-25 freight trains per day travel through Solano County. The Union Pacific Railroad tracks in Solano are along the most direct route from the Port of Oakland and destinations eastward. The Plan has a ten-year horizon (to 2025) and has been approved by the STA Board. Currently, STA has retained a consultant to assist in the preparation of the SMART rail feasibility plan.

Ferry Services

WETA - San Francisco Bay Ferry

Solano County has enjoyed passenger ferry service between Vallejo and San Francisco since 1986. The ferry's ridership increased dramatically following the 1989 Loma Prieta earthquake. In the 1990s, the City of Vallejo began purchasing high-speed ferryboats and ridership continued to grow. Since 2012 this ferry service became one of several Bay routes identified as the San Francisco Bay Ferry. The San Francisco Bay Ferry provides service to nine terminal locations in the Bay, and the Vallejo Ferry Terminal is the only terminal in Solano County.



On weekdays, the ferry runs 14 round trips to and from San Francisco (10 in the winter). On the weekends, five trips are provided. The 30-mile one-way trip takes 60 minutes. The ferry service is supplemented by an express non-stop bus service (SolTrans Route 82) that directly connects the Vallejo Ferry Terminal and the San Francisco Ferry Building. Water Emergency Transportation Authority (WETA)

contracts with SolTrans directly for Route 82 service. The travel time is comparable in large part because of the 21 miles of peak period HOV-3 lanes and HOV-3 exclusive, reduced-toll lane on the Bay Bridge. SolTrans Route 82 makes 5 daily roundtrips on weekdays and one roundtrip on weekends.

From Vallejo, there is daily service to the San Francisco Ferry Building and Pier41. Seasonally, there is service to AT&T Park and to Angel Island.

The Vallejo Ferry Terminal offers passengers a ticket purchasing location, an indoor and outdoor waiting area, and bicycle lockers. A covered gangway and float makes boarding convenient. Short- and long-term parking is available nearby in parking lots and a 750 space parking structure. Public and private buses serve the Vallejo Ferry Terminal.

Performance

Despite its popularity, the Vallejo service was severely impacted by the recession combined with fare increases resulting in a ridership decrease of 22% from FY 2006-07 to FY 2010-11. While all ferry routes' ridership decreased, Vallejo's recovery lagged behind the others. However, the Vallejo service has rebounded as it exceeded 825,000 passenger trips in FY 2013-14, a 15.9% increase from the previous year and a level comparable to pre-recession ridership. This continued with an increase in total passengers of 6% in FY 2014-15 as compared to the previous year. In 2017, the Vallejo route recorded an average of 2,988 weekday riders and 1,120 weekend riders. The Vallejo

route also has the longest tenured passengers – 22% of riders have been riding the ferry for more than 10 years while another 14% have been riding the ferry for 6-10 years. In total, about 3 million passengers use the SF Bay Ferry every year – with 1.2 million being Vallejo ridership alone.

Capital

The Vallejo-San Francisco ferry route typically operates using four high-speed ferry vessels. These ferryboats are exclusively assigned (and identified) for this route. The ferryboats were built between 1991 and 2004 and have an average lifecycle of 25 years. The ferryboats' passenger capacity ranges from 267 to 349. They are all wheelchair accessible and have space for bicycles.

As of January 2015 the Clipper card became the primary method of fare payment for adults. Daypasses and monthly passes were discontinued. One-way cash fares for adults remain available although the Clipper fare is highly discounted in comparison. Reduced rates for youth, older adults, and people with disabilities remained without the need to use Clipper.

The Vallejo Ferry Terminal is located at 289 Mare Island Way in downtown Vallejo and is staffed by WETA and SolTrans personnel. The Terminal is owned by the City of Vallejo while the dockside facilities are owned by WETA. The ferry terminal shares a City-owned parking structure with the Vallejo Transit Center operated by SolTrans. There is also hourly and daily surface parking along

the waterfront. Parking fees have been implemented at the daily surface parking and the parking structure. The parking structure was constructed, and is maintained, by the City of Vallejo. Various parking payments options are available including pay machines in the parking lots and structure or through an online parking application.

As noted earlier, under contract with WETA, SolTrans operates complementary Rt. 82 bus service between the Vallejo Ferry Terminal and the San Francisco Ferry Building. WETA, SolTrans and STA have recently proposed augmenting ferry service to replace the Route 200 bus service beginning in 2017. The Vallejo Ferry building is also served by local and inter-city SolTrans routes, Napa's VINE, and private bus services such as Napa wine tour shuttles.

WETA has completed construction on a new North Bay ferry maintenance, fueling and docking facility on Mare Island, and the facility began operation in October of 2016. In addition to fueling, maintenance and administrative functions, the new facility can board passengers with 6 daily trips these are part of the overall 14 daily boardings.

The Vallejo ferry basin requires dredging approximately every three years to remove silt build up that would otherwise prevent ferries from operating in the area. WETA manages the dredging needed in Vallejo and other areas in the Bay Area where their ferries operate.

Funding

WETA's total FY 2017 operating budget for the Vallejo ferry service was \$34 million dollars. This reflects the longer distance the Vallejo ferry travels. The other three ferry services to San Francisco originate in Alameda/Oakland, Harbor Bay, Oracle Park, Richmond, and South San Francisco.

Governance/Partnership/Plans

The San Francisco Bay Ferry is the brand name for the services managed by the Water Emergency Transportation Authority (WETA). State enabling legislation (SB 976) passed in 2007 expanded the then Water Transit Authority (WTA) to become WETA which included the operation of the ferry service between Vallejo and San Francisco. The transition from the City of Vallejo to WETA was completed in 2012.

WETA has a Board of five members, three who are appointed by the Governor, one appointed by the Speaker of the Assembly and the other by a State Senate Committee. Since WETA's operation of the Vallejo Ferry service, the Governor's appointments have included a resident from Vallejo. WETA contracts operations and its current operator is the Blue and Gold Fleet.

WETA has developed plans and coordinates with multiple regional and local governments on terminal and maintenance facility improvement projects and potential expansion projects. The North Bay Operations Maintenance Facility Project in Vallejo is the only one in Solano County.

WETA is responsible for coordinating and

providing ferry transportation response to emergencies or disasters affecting the Bay Area transportation system. WETA's Emergency Water Transportation System Management Plan complements and enhances existing plans for transportation response.

The 2016 WETA Short Range Transit Plan proposed a variety of projects included in their capital improvement program including terminal expansion and major facilities rehabilitation and replacement. Additionally, WETA's explored a plan to increase ferry service beyond those noted in the report, including 5 different routes for which some level of formal planning has been initiated.

Sacramento River Ferries

Caltrans operates and maintains two car ferries in Solano County. These are both located in the Sacramento Delta north of Rio Vista. Both operate 24 hours a day, seven days a week and are free of charge. Each of these ferries extend a State highway. These ferries primarily serve recreational and agricultural vehicles; there is no significant housing or industry on Ryer or Grand Island.

The Real McCoy II Ferry is located 2 miles north of Rio Vista extending SR 84/ River Road across Cache Slough to Ryer Island. This ferry has scheduled crossings every 20 minutes: on the hour, 20 minutes after the hour and 40 minutes after the hour. The Real McCoy II is 88-feet long by 38-feet wide and can carry up to eight vehicles. The Real McCoy II replaced the smaller Real McCoy 1 in 2011 after 65 years of service.

The J-Mack Ferry extends SR 220 across Steamboat Slough connecting East Ryer Island and Grand Island in Sacramento County. It is a 400 foot, three-minute ride. Boat operators are on duty 24 hours a day to provide service to motorists and individual passengers. The J-Mack is a cable drawn ferry and can accommodate up to 6 vehicles.

The new ferries have suffered frequent service/mechanical issues, and are often out of service.

Private Ferry Services

While the City of Benicia approved private contract ferry service to the 9th Street boat ramp, that service has not yet begun operation. The initial proposal is for the private charter of two Catamaran vessels, each equipped to transport 49 people from Martinez and Benicia to South San Francisco and back with two pickups and two drop-offs each week day. No modifications to the city boat ramp were proposed. During the completion of STA's Water Transit Services Feasibility Study, staff was able to communicate with private service providers Tideline and PropSF. Staff from PropSF claimed that they are able to operate at 1/10th of the cost of WETA. However, no detailed data was provided to substantiate this claim.

Intercity ADA and Mobility Management Services

The Americans with Disabilities Act (ADA) of 1990 required that all public transportation systems that deliver fixed route service to the general public to also make accommodations to ensure that people with disabilities can use and access the same or comparable service.

Over the past 24 years, transit vehicles have been purchased and facilities been retrofitted and/or designed to comply with ADA. Even with these changes, some individuals are still unable to use fixed route services due to a disability. ADA paratransit service is shared ride, advanced reservation, origin-to-destination service for ADA-certified people with disabilities who are unable to use fixed route public transit service. The service is to be operated the same days and during the same span of service. FAST and SolTrans provide the vast majority of intercity fixed route service in Solano County and as a result they operate the majority of intercity paratransit service. There are other intercity paratransit services for ADA-eligible individuals that will also be discussed.



FAST operates intercity fixed-route bus service to Vacaville, Dixon, Benicia, Davis, Sacramento, and two BART stations in Contra Costa County. These routes (Blue & Green Lines) are limited stop, commuter services which ADA regulations do not require comparable ADA paratransit service. As a courtesy, FAST currently provides intercity ADA paratransit service to limited locations within the city of Vacaville.

Napa VINE operates regular fixed route service between Fairfield, Suisun City, Vallejo with Napa County. Therefore, VINE operates comparable ADA paratransit service and picks up ADA paratransit riders from a transfer point in northern Vallejo.

ADA paratransit service is provided within a $\frac{3}{4}$ mile radius of all local fixed route services provided by the countywide transit operators. ADA services are additionally operated by Dixon Rendi-Ride and the Rio Vista Delta Breeze.

Dixon Rendi-Ride ADA service: Although Dixon Rendi-Ride primarily is a local general public dial-a-ride wheelchair accessible service, it also operates an intercity service to connect ADA-certified Dixon residents to its neighboring cities of Vacaville and Davis in Yolo County. Like the overall Dixon Rendi-Ride service, it operates on an on-demand basis. Once in Vacaville and Davis, it takes riders to the passengers' destination or to paratransit transfer locations.

Rio Vista Delta Breeze: The Delta Breeze operates a general public intercity deviated-fixed route bus service between Rio Vista and the Fairfield/Suisun City area as well as to other cities outside Solano County. All vehicles are wheelchair accessible. For ADA certified passengers, the Delta Breeze provides reduced fares, a free ride for a personal care attendant (PCA) and deviation priority. STA began managing the Delta Breeze transit service in July 2016 through an agreement with Rio Vista.

Intercity Taxi Card Program: The county-wide ADA Intercity subsidized Taxi Scrip Program began in 2010 and was only for ambulatory ADA certified passengers as of early 2015. In 2018, the program transitioned to the Intercity Taxi Card Program utilizing a PEX Visa Debit Card and additionally became available to non-ambulatory ADA certified passengers. This service exceeds ADA requirements and provides a reduced (subsidized 20% or 40% depending on income) fare, same day, curb-to-curb 24/7 taxi service between cities as well as Travis Air Force Base (TAFB) and the rural areas of Solano County. This taxi service offers a one-trip option in comparison to one or more transfers between ADA paratransit services throughout the county. Funds can be purchased either in person or over the phone which is a much more convenient option for individuals using this program. To date, 561 phone calls have been placed to add money to participant's taxi cards.

Mobility Management: Mobility Management offers a set of services and programs intended to improve mobility for Older Adults, People with Disabilities and the low-income population. With the wealth of information collected from the Transportation Study for Older Adults and People with Disabilities and the five CBTPs, in 2012 the STA embarked on the development of the county's first countywide Mobility Management Plan. The Solano Mobility Management Plan identified existing services and programs, explored potential partnerships, and analyzed how to address mobility needs in Solano County in a cost effective manner. In April 2014, the STA

Board approved the Solano County Mobility Management Plan.

The Solano Mobility Management Plan addresses four key elements to assist older adults, people with disabilities, and low income earners, and transit dependent individuals with their transportation needs.

1. *Countywide In-Person ADA Eligibility Program:* STA, in partnership with the Solano County transit operators, launched a Countywide In-Person Americans with Disabilities Act (ADA) Eligibility Program in July 2013. The paper-based application was replaced with a more personalized in-person process that eliminates the need to obtain medical verification. A vendor specializing in ADA assessments was contracted to administer the Program on behalf of the Solano County transit operators and is consistent with the ADA federal requirements for certification. The primary goals of the Countywide In-Person ADA Eligibility Program are to make more accurate ADA eligibility determinations, ensure availability of services for passengers who truly need the service, and to promote alternative transportation modes for people who might be able to use fixed route and other transportation options.
2. *Countywide Travel Training:* STA, in partnership with the Solano County transit operators, began developing a Countywide Travel Training program. The program provides residents with resources so that they can become familiar and comfortable with traveling on their local transit system and/or making intercity transit trips. Varieties of travel training include: group training, one-on-one individualized training, peer-to-peer training and self-instruction. This program builds upon existing travel training programs, such as Vacaville's local Travel Training Program and services provided by local non-profit agencies specializing in Transit Training for people with cognitive disabilities and physical disabilities.
3. *One Stop Transportation Call Center and Website:* Solano Mobility staffs a call center and provides a wide range transportation information, including local and regional transit, carpooling and ridematching, vanpools, alternative commute incentives, taxi scrip programs, bicycle and pedestrian information and trip planning. Call Center staff have been trained to understand a wider range of transportation options. They are able to offer broad information or specifics, such as transit trip planning and schedules. Clients speak to live staff who tailor the information given to the specific needs of the client, including older adults, people with disabilities and low wage earners. These services include not only public transit services, but also non-profit and private transportation services. The Call Center also is an agent for the Regional Transit Discount Card program and provides Clipper, Senior Clipper and youth Clipper cards. The Solano Mobility Website launched in early 2015 (www.solanomobility.org) and was updated in 2018 to better serve all audiences within the County. The website now provides Older Adults, people with disabilities, youth, and low-income residents with information about all the non-traditional

transportation services and programs available in Solano County, such as volunteer driver programs and the Intercity Taxi Scrip program. In addition, the website includes links to the transit, mobility management programs, and travel training brochures and guides that are distributed to the public and informational videos about all the transit and non-traditional transportation options available.

4. *Senior Driver Safety Program Information:* The purpose of the Older Driver Safety Program Information is to house all the available information on older driver safety programs, tests and workshops in one place for the County's older drivers. The Call Center and Website will also maintain and update a database and referral center for relevant information for older drivers and their families.
5. A fifth program, the *Solano Older Adults Medical Trip Concierge Pilot Program*, was developed to address the highest priority mobility issue for Older Adults and Persons with Disabilities throughout the county traveling to medical appointments. This issue was identified during the extensive outreach by STA during city and countywide summits conducted during Fiscal Year (FY) 2017-18 in an effort to update the Solano County Mobility Plan for Older Adults and People with Disabilities. This program allows registered users, aged 60 and older, to receive subsidized Lyft or Uber rides to and from medical appointments within Solano County. The subsidies mirror the Intercity Taxi Card Program amounts and the trip limit per month is ten.

Finally, the Mobility Management Plan recommended that the STA evaluate mobility management service delivery structure options for Solano County. Consolidated Transportation Service Agencies (CTSAs) are the most common model in California. The goal of CTSAs is to promote the coordination of social service transportation for the benefit of older adults, people with disabilities and low-income e. The STA conducted a separate analysis on mobility management structural models and benefit of CTSA designation. The analysis concluded that CTSAs are the most appropriate model for delivering mobility management programs. The STA Board approved the STA's designation as the CTSA for Solano County in June 2014, which was subsequently approved by the Metropolitan Transportation Commission (MTC) in September 2014.

State of the System Summary

Solano County has an established and diverse intercity transit system. Solano public transit operators' intercity buses not only connect Solano cities, but also Solano's neighboring Sacramento region and San Francisco Bay Area counties. Many of these bus services radiate from Fairfield which is mid-point (45 miles) between downtown Sacramento and San Francisco. SolTrans, on the edge of the urban Bay Area, carries the highest volume of intercity bus passengers primarily to/from the BART system in the East Bay and FAST provides connections to locations in Sacramento. Additional intercity bus services are delivered by smaller Solano transit operators and transit operators from neighboring counties.

Carpooling and vanpooling play a key role in Solano's transit system as these are the most popular commute modes after driving alone. Solano's proximity to the job-rich urban Bay Area and Sacramento combined with relatively low housing costs have made long-distance commutes commonplace and ridesharing popular with Solano residents. Carpooling and vanpool are individually operated which offers a great deal of flexibility for service locations, days and times cost-effectively. They complement publicly operated, higher capacity transit services such as intercity bus, rail and ferry. Ridesharing often serves niche locations and shift times that are difficult to serve by bus productively. Carpools and vanpools use few public resources as the occupants share the operating and capital costs. Many long-distance ridesharers use public facilities such as Park and Ride Lots as meeting locations and parking for passengers during the commute and work period. Some ridesharers save time by using High Occupancy Vehicle (HOV)/High Occupancy Toll (HOT) lanes on freeways and save money by reduced bridge tolls. The Solano Mobility Commuter Program supports commuters with an online trip planning program, vanpool support services, outreach and incentives.

Passenger rail service delivered by the Capitol Corridor gives Solano residents a reliable inter-county and interregional service seven days a week throughout the year. With two stops at the Suisun City Train Depot and the Fairfield-Vacaville-Hannigan train station the Capitol Corridor service is centrally located to county residents. This service has been growing since its inception in the 1990s. With 30 weekday trips and 22 weekend trips and 17 stations between

Placer County and Santa Clara County primarily along the I-80/I-880 corridors, it is popular with commuters and travelers of all types. Suisun City maintains a park-and-ride used by many Capitol Corridor riders.

The San Francisco Bay Ferry operates services between the Vallejo Waterfront and the San Francisco ferry terminal 7 days a week. It is the longest of several San Francisco Bay Ferry routes. This ferry service is a direct connection to San Francisco avoiding multiple toll bridges crossing for drivers and transfers for bus/rail riders. It is the only ferry service in the northeast Bay vicinity with the next closest ferry services in Larkspur, Richmond, and Oakland/Alameda. The San Francisco Bay Ferry completed the landside construction of a maintenance facility on Mare Island in 2015. Vallejo Ferry riders use surface parking lots and a parking structure shared with SolTrans. Vallejo Ferry ridership is recovering after suffering for several years during the recent recession.

Intercity paratransit and other transportation services and programs for older adults, people with disabilities and low wage earners have become of increasing importance. With the aging population increasing significantly as the Baby Boomers began reaching retirement in 2010, more attention has been focused on how this changes the type of demand for transportation. Solano has been modifying services, developing new programs to address these changing needs, and looking at creating new effective programs for older adults, people with disabilities, and low wage earners.

Chapter 4: Transit and Rideshare Element Goal Gap Analysis



The Transit and Rideshare Element is intended to guide the planning and development of a mass transit system that will serve Solano County as it is projected to grow and change in the next twenty-five years. The Transit and Rideshare Element's Purpose Statement is to:

"Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems."

This aligns with the purpose statement of the CTP which is:

"The Comprehensive Transportation Plan will help fulfill the STA's mission by identifying a long-term and sustainable transportation system to provide mobility, reduce congestion, and ensure travel safety and economic vitality to Solano County."

In order to implement the Purpose Statement of the Solano CTP and the Transit and Rideshare Element of the Solano CTP, the following goals have been adopted by the STA.

Measuring Goals. The following criteria are used to measure the progress on meeting the goals of the Arterials, Highways and Freeways Element:

- **Completed** - this is a goal with a specific end-point that has been reached, such as the construction of a facility or the identification of Transit Facilities of Regional Significance. This also includes studies that have been adopted (even if recommendations have not yet been implemented) and the initiation of an on-going program.
- **Significant Progress** - this is a project with substantial completion; typically, more than 10% Plans, Specifications and Estimates (PS&E) but not yet into construction or completion. It also includes studies where data collection and analysis has started, but final recommendations have not been adopted.
- **Preliminary Proposal** - finally, this category covers projects that have less than 10% PS&E, plans that have not started data collection, and programs that have no administrative and/or financial commitments and no start date.

Provide Rider Convenience and Choice

1. Create and operate a transit and rideshare system that provides access to county and regionally significant population centers, employment and civic amenities. Focus countywide and regional transit resources to create a transit system to connect these land uses and adapts to changes in demographics.

Significant Progress: The countywide intercity transit and rideshare system is primarily focused on the urban areas in Solano County with the largest and most concentrated developments, while still providing connections to smaller or less concentrated communities. This is primarily done through the transportation facilities of regional significance, which are the major bus, rail and ferry terminals that can serve the largest number of people. These facilities are supplemented by park and ride lots that serve both major population or employment centers, and routes most used by Solano commuters.

While the intercity transit network primarily focuses on those commuting to destinations outside of Solano County, it also provides connections within the county, primarily along the I-80 corridor. Phase II of the implementation of the Transit Corridor Study seeks to provide better connect locations within Solano County such as Solano Community College campuses and Solano Mall.

These facilities are also supported by programs that connect transit users to appropriate modes and routes, and help carpool and vanpool users connect to providers. STA and the re-

gional transit providers work with each other to provide the best integration of schedules and destinations for the primary users of the system.

Implementation of an intercity transit and rideshare system is an ongoing effort, and will need to be continually monitored and updated. This is in part due to the fact that communities and demographics change over time. New housing or businesses are constructed others are. New technology makes using different transit and rideshare modes easier, more difficult, or more or less expensive. People's preferences for mobility change over time as their abilities and preferences change along with changes in congestion, fuel prices, and other mode options.

- a. Include facilities and programs that directly support Priority Development Areas (PDAs).
Completed. STA has designated transit facilities of regional significance, which include all major bus facilities providing intercity bus services, the San Francisco Bay Ferry Vallejo terminal, and two train stations. All of these facilities are located in PDAs. No new express bus, train or ferry facilities are proposed for locations that are outside of PDAs. New park and ride lots are proposed for areas outside PDAs.
2. Create a reliable mass transit system that allows passengers of local transit systems to easily and conveniently connect to intercity and regional transit systems.



Significant Progress: Integration of the local and intercity transit systems occurs through several different methods. The FAST system, which provides both local and intercity transit bus, is operated by the City of Fairfield. FAST coordinates local and intercity route integration within its own system. FAST services also connect to the Capitol Corridor Suisun City Train Depot and the Fairfield-Vacaville-Hannigan train station, multiple BART stations, SolTrans, Napa VINE service, the Sacramento bus and light rail RT systems, Rio Vista Delta Breeze, Dixon Read Ride, YoloBus in Davis, and Vacaville's local bus systems. FAST also connects to multiple transit services in Contra Costa County at the BART stations. SolTrans, which provides intercity and local transit to the cities of Benicia and Vallejo, also provides its own internal route timing integration. SolTrans also serves the SF Bay Ferry Terminal, multiple BART stations, and connects to the FAST, Napa VINE and Contra Costa County transit systems. The SolanoExpress Intercity Transit Consortium provides a forum where intercity transit providers, and STA can discuss and help coordinate schedules, route location and other coordination issues.

As noted above, the provision of local and intercity transit is an ongoing process that will constantly be adjusted to account for changes in routes and route use, mode preference, and integration with rail and ferry transit services. As a result, this goal will never be fully completed, but progress continues to be made.

3. Develop and implement programs to coordinate the provision of interregional, intercity and local transit services.

Significant Progress: An Intercity Transit Funding (ITF) agreement was initiated in 2006. Although the ITF was initially created to stabilize funding and service for SolanoExpress intercity routes, it has also provided a regular forum to coordinate route service details, connections, and fare changes. Regular Ridership Surveys on SolanoExpress routes are necessary to update the ITF. These Ridership Surveys have often included data collection on local routes that can assist in making decisions.

In 2006 a SolanoExpress marketing campaign was coordinated to introduce the public to newly restructured services and identity as SolanoExpress routes. The SolanoExpress restructuring and new identity emphasized the streamlined services between Solano cities and to connections beyond county lines. The marketing campaign also had a component for the (then) Vallejo Ferry. A SolanoExpress website was created to centralize information for intercity services and promotions which has been maintained. FAST and SolTrans also maintain information on the SolanoExpress routes they operate. Subsequently, the SolanoExpress route system has an identity that has been promoted through maps and other promotional materials.

In 2013, fare payment was simplified with the implementation of the Clipper electronic fare card in Solano County. The three major transit operators: FAST, SolTrans, and Vacaville City Coach began to accept Clipper as well as the SF Bay Ferry. Among other benefits, the Clipper card may be used on all these and most other Bay Area regional transit systems and riders no longer need to handle paper transfers and multiple fare instruments. Use of Clipper has increased on some local transit operators. Dixon Read-Ride, Rio Vista Delta Breeze, and the Capitol Corridor do not accept Clipper.

Transit Trip Planning has improved and become more easily available over the past ten years. Regionally MTC had developed 511.org which compiled transit operator data throughout the Bay Area and created a convenient centralized online location for users to plan their transit trip. This program is being continuously updated by MTC. The private sector has developed transit trip planning functions into popular features such as Google Map's Google Transit Planning feature as just one example. This raises the awareness of transit and makes it easier for consumers to learn about transit options.

a. Study options for coordination of local and intercity transit.

Significant Progress: A countywide Transit Consolidation Study was completed by STA in 2009. Two transit operators (Benicia Breeze and Vallejo Transit) consolidated and created a new organization - Solano County Transit (SolTrans) in 2011. SolTrans was formed as a joint powers authority independent from the two cities that had been operating Benicia and Vallejo Transit and a partnership between Benicia, Vallejo and STA. SolTrans coordinates its local and intercity services with regional services such as the SF Bay Ferry and BART. Further coordination and consolidation of services remains an option.

MTC directed multi-agency Short Range Transit Plans (SRTP) be prepared at sub-regional levels including Solano County. A Solano Coordinated SRTP was completed by STA for the first time in 2013 and again in 2016 with each city adopting their own plan. This Coordinated SRTP was intended to coordinate interagency service and capital planning. This process was also to identify service improvements, performance objectives and potential service functional and institutional consolidation opportunities.

A countywide I-80/I-680/I-780 Transit Corridor Study update was initiated and Phase I of this study was fully implemented in June of 2019. Phase II of this study will be implemented in August of 2020. This study is creating a vision of Solano's intercity transit in the future including its coordination with local and regional transit systems.

- b. When requested, support transit operators who are interested in system consolidation.
Preliminary Proposal: The STA remains available to support transit operators interested in system and or functional consolidation.

- 4. Ensure mobility by providing services for older adults, people with disabilities, and the low-income earners.
 - a. Implement the countywide Mobility Management Plan and the Community Based Transit Plans.

Significant Progress: The 2013 countywide Mobility Management Plan was an implementation plan for four programs. The four programs have been implemented.

1. **One Stop Transportation Call Center.** The Mobility Call Center began operating in 2014 and handles calls, postal, and internet inquiries. In-person queries are handled primarily by its off-site location in the Suisun City Amtrak Station. The Call Center uses, and makes available to the public, a new Solano Mobility website which features a wide range of public, private and non-profit transportation services for older adults, people with disabilities and low-income earners.
2. **Countywide Travel Training Program.** This has been implemented through partnerships with multiple agencies. FAST, SolTrans, and Vacaville City Coach manage their local Transit Ambassador programs, and STA provides those programs for SolanoExpress, Dixon Redit-Ride and Rio Vista Delta Breeze. In 2015, the STA began contracting with two non-profits (Independent Living Resource Center and Connections for Life) to handle Travel Ambassador services for the balance of the county, long-distance trips and for individuals with cognitive and/or physical disabilities. Additionally, Travel Training videos, Rider Guides, and other materials were produced.
3. **Countywide ADA Eligibility Program.** A countywide in-person ADA assessment eligibility program was implemented by STA in 2013 via contract. Assessments have been conducted in all jurisdictions on a rotating schedule.
4. **Older Driver Safety Information Program.** An inventory of Older Driver Safety Training Programs was created and presented on the Solano Mobility website. Mobility options for older adults have been presented by STA at Senior Driver Training sessions lead by the California Highway Patrol (CHP) several times a year throughout the county.

Community Based Transportation Plans (CBTPs) have been partially implemented. Several of the Mobility Management programs and activities were also priorities of the CBTPs. There are still some priority projects of the CBTPs that remain to be implemented as funding allows.



- b. To ensure long-term viability and mobility, evaluate existing delivery of Americans with Disabilities Act (ADA) and other paratransit services countywide as well as alternative delivery options.

Significant Progress: ADA Paratransit services have been reviewed, evaluated, and modified in several ways in the past ten years. Service was restructured, new ADA taxi programs were created, and a new ADA assessment process was implemented. The demand for these services has been increasing and is projected to continue to increase. The evaluation and modification of services will need to continue to ensure long-term viability and mobility.

- c. Utilize the Consolidated Transportation Services Agency (CTSA), Solano Seniors and People with Disabilities Transportation Advisory Committee and Paratransit Coordinating Council (PCC) as one of several venues to guide the identification, development and evaluation of effective transportation services for older adults and people with disabilities and other mobility programs.

Significant Progress: this is another goal that will be difficult to fully complete. Use of these Committees to guide the identification, development, evaluation and implementa-

tion of transportation services for older adults, people with disabilities, and low-income earners will be an ongoing process. To the extent that these committees have been established and meet on a regular basis with STA staff support, however, that aspect of the goal has been completed.

5. Implement projects and programs to address the “first mile/last mile” gap faced by transit users.

Significant Progress: Given Solano County’s sprawling suburban landscape, getting residents to transportation centers to/from their homes or work was and still is an issue. STA leverages its partnership with Lyft to supplement transit service in the county. In areas of the county where service has never existed, has been terminated, or is not frequent enough—ridesharing fills a vital mobility gap.

For citizens who are transit dependent, service changes can be very impactful. Solano County Transit (SolTrans) recently consolidated some of its services. To maintain independent mobility to these area, several public codes were created. The Dial-A-Ride Program in Benicia was eliminated in Fall of 2019. Solano Mobility implemented a Dial- A-Ride replacement for ADA certified people, Veterans, and older adults. Low Income earners pay \$3 per ride around



the city of Benicia, and all others pay \$4. Route 20 from Benicia, primarily to Gateway Plaza was eliminated. The Gateway Plaza code provides 80% off up to \$20 on rides from the City of Benicia to Gateway Plaza. Service to CalMaritime and Carquinez Heights Mobile Home Park was also eliminated. The Carquinez Heights code provides 80% off up to \$20 on rides to and from the Vallejo Transit Center and Vallejo Ferry Terminal. There has consistently been too little ridership to support public transit on Mare Island. As the island begins to be built out, there is appetite for car-free movement. The Mare Island Island Transit code provides 80% off up to \$20 on rides to and from the Vallejo Transit Center and Vallejo Ferry Terminal, as well as around Mare Island.

Solano Mobility runs two additional programs, the First/Last Mile Program (FMLM) and the Amtrak + Lyft Promotion. The First/Last Mile program offers 80% off rides to and from the two county train stations and designated Solano Express bus stops up to \$25. The Amtrak + Lyft Promotion, an offshoot of the FMLM, gives riders a 10 ride pass and free connecting Lyft rides. These programs are designed to help commuters try out alternative modes and facilitate a smooth transition from car dependent to car free. Below are some statistics on program users and ridership:

City	Registrants	Average Trips Per Month
FMLM	156	145
Amtrak + Lyft Pilot	49	49
Dial-a-Ride Replacement	71	18
Gateway Plaza	N/A	0
Carquinez Heights	N/A	0
Mare Island	N/A	9

6. Seek to increase transit and rideshare usage at a rate faster than the Solano County population growth rate.

This new goal seeks to expand ridership at a faster rate than the population growth, which has the benefits of both a net reduction in congestion and a net reduction in per capita GHG emissions. Specific steps to achieve this goal are identified elsewhere in this plan, and in individual focused studies such as the Intercity Transit Corridor Study. Keys to increased transit use include service speed, frequency, dependability and safety, routes that pick people up or drop them off where they live, work, or shop, and services that are affordable and easy to use. Keys to increasing ridesharing are that it's convenient, dependable, flexible, safe and affordable. Capacity of conveniently located park-and-ride lots and other facilities for carpoolers and vanpoolers to meet will be needed. Uncongested HOV/HOT lanes with convenient access will attract longer distance ridesharers by reducing travel time and increasing dependability. Consideration should be given to if and how recently developing vehicle-sharing and Transportation Networking Companies (TNC)-based ridesharing services are to be accommodated.

The Solano Mobility program staff has been gathering known data along each corridor and will work with each of the county corridor groups to see what data can be used and what's needed to best understand travel patterns and mode usage. For SR37, NVTa recently completed a feasibility study using big data that has provided solid information about who's driving along the corridor especially during peak hours. For Solano County's interest, STA is mostly examining who's traveling to/from Solano County along these corridors (origin) with the destination being somewhere along the corridor in another county's jurisdiction. This means capturing commuters going through the corridor with specific origins/destination pairings. For example, Solano county commuters who take the ferry in Vallejo to San Francisco.

7. Ensure system effectiveness by preparing periodic and timely reviews of transit service performance.

Significant Progress: This goal is complete, but always in process as it is an on-going goal. Transit service performance is measured on a regular basis through a variety of means. Quarterly reporting of ridership, vehicle hours, revenue and farebox recovery has been required for the SolanoExpress routes as part of the ITF and is reviewed throughout the year. Annual TDA claims include performance data for local and intercity fixed route and paratransit services. SRTPs performed every few years include performance data for the past and future. The regular ITF Ridership Surveys on SolanoExpress (and sometimes local) routes collect a wide range of ridership and performance data. Operators collect and submit data to NTD

(National Transit Database). A locally administered countywide survey of commuters and how they commute (including the mode they use) was discontinued. Similar, but more limited, data is collected through the American Community Survey which is part of the US Census.

Develop and Maintain Infrastructure

8. Maintain and develop conveniently located transit and rideshare facilities and policies that support public transit services while leaving opportunities for private sector transit and support services to operate.

Significant Progress: Numerous companies in the South Bay's Silicon Valley provide complimentary private bus services to their campuses for their employees. These are colloquially known as "Google buses" as Google was one of the leaders in this field. These vehicles have the advantage of providing direct connections between employees' residential areas and work location thus eliminating the first mile/last mile problem. These highly personalized bus services are delivered at no cost to the employee and do not use public funds. They do usually use public facilities as gathering locations in residential areas such as park and rides or transit facilities. As of 2020, staff has identified one employer, Genentech, who operates an employee bus between Vacaville, Vallejo, and the South San Francisco Genentech campus which is difficult to reach by transit, necessitating multiple transfers. The privately operated buses are more convenient and less costly for the consumer. The ability for private services to supplement the public services is a valuable contribution to efforts to improve mobility, reduce congestion, and reduce GHG emissions.

9. Continue to build upon Solano residents' high rate of commuter carpool and vanpool participation by identifying convenient park and ride lot locations, constructing or expanding park and ride lots, and implementing an Express Lane system on major freeways.

Significant Progress: As identified in the State of the System, Solano County residents have the highest rate of car/vanpooling in the Bay Area. STA and the member agencies have built a number of carpool facilities around the county, and have identified locations for additional facilities. These carpool facilities are typically identified in Freeway Corridor Studies. In addition, transit facilities also act as park-and-ride and vanpool meeting locations.

STA has also prioritized extension and completion of the express lane network in locally adopted plans and in our requests for funding in regional plans such as Plan Bay Area.

- a. Continue to provide innovative rideshare services through Solano Napa Commuter Information.

Significant Progress: The Solano Mobility program has been providing rideshare services throughout this period. Services and outreach have evolved with technology improvements and integration with multi-modal marketing and outreach.

- b. Increase the inventory of park and ride (PNR) spaces.

Significant Progress: The inventory of park and ride spaces has increased with the construction of Oliver Rd and Red Top Rd PNRs in Fairfield, the Vacaville and Vallejo Transit Centers, and improvements to the Curtola PNR. One PNR was lost (Green Valley). All PNRs are well used and often at capacity especially those located at transit facilities. Additional PNRs are planned for the future.

- c. Construct park and ride lots in areas that are currently underserved.

Significant Progress: Two PNRs were constructed in Fairfield where the FTC had been, and continues, to lack capacity for all users (public and private bus, carpool, vanpool).

- d. Monitor developments and best practices in both the private and public sectors that encourage shared rides and evaluate how they may impact carpooling and vanpooling services for commuters and others in Solano County.

Significant Progress: There has been rapid growth and change in recent years in the field of shared mobility. This includes the growth of not only transportation network companies such as Lyft, Uber and others, but also carsharing, and bike sharing programs, and private transit services. Much of this is a result of the proliferation of smart phone technology and other applications and greater interest by the private sector in the transportation field. One result has been a change in direction regionally by MTC in how rideshare programs will be delivering services and funded in the future. The STA has been navigating private sector advancements and adjusting to new regional funding policies.

- 10. Focus transit and rideshare infrastructure investments into Transit Facilities of Regional Significance. “Transit Facilities” are permanent, fixed infrastructure such as bus, ferry and train stations, maintenance yards, guideways, and the roadways used by transit vehicles, “Regional Significant” means connecting Solano County and its communities with the greater northern California region, or connecting communities within Solano County. Transit Facilities of Regional Significance are:

- a. All passenger rail lines, and all passenger train stations, current or planned, identified in an adopted STA Plan.

Significant Progress: Suisun City Amtrak Station is fully functioning with public and private transit service, ample parking, taxi service, bike lockers, and along pedestrian and bicycle routes. The Fairfield/Vacaville Hannigan train station opened in 2018. In Dixon, pedestrian separation improvements have been made in the area of a potential future train station in downtown Dixon. On-time performance of the Capitol Corridor has been

consistently strong, though some concerns remain as freight train traffic is projected to increase, track access in the Suisun wetlands must be preserved in changing conditions, and potential train delays due to bridge risings across the Carquinez Straits.

- b. All ferry facilities, including terminals, channels, maintenance docks and fueling stations, current or planned, identified in an adopted STA Plan.



Significant Progress: Until 2012, Solano's ferry facilities in Vallejo were managed by City of Vallejo/Vallejo Transit. In accordance with State legislation, WETA (or the SF Bay Ferry) assumed management of the Vallejo to San Francisco ferry service and ownership of the ferry capital. WETA manages the Vallejo Ferry Terminal, dredges the channel, maintains the dock and has moved and is expanding the ferry maintenance and fueling facility located on Mare Island.

- c. Bus stations providing all of the following services:
 - i. Routes to destinations outside Solano County or between two or more cities in Solano County
 - ii. Peak hour headways of 1 hour or less

Significant Progress: Available funding allowed for has construction, expansion, and improvements to several bus stations in the past ten years. The Vacaville Transit Center and the Vallejo Transit Center and nearby waterfront shared parking structure were

built. The Benicia bus hub was built and the Curtola Park and Ride lot was improved. Some facilities need further improvement and new facilities are projected to be constructed and will need further investment.

- d. Maintenance and parking facilities for buses providing services identified in a, b or c above.

Significant Progress: SolTrans intends to use FY 2019-20 LCTOP funds towards upgrading the electrical infrastructure at SolTrans' Operations and Maintenance Facility located at 1850 Broadway Street, Vallejo to allow simultaneous charging of approximately ten all-electric Zero-Emission Buses (ZEBs). SolTrans has already begun substantial planning on this project in order to expedite delivery.

FAST intends to use FY 2019-20 LCTOP funds to complete Phase I of the electrical infrastructure upgrade at the City of Fairfield's Corporation Yard. The City will rollover FY 2017-18 and FY 2018-19 funds and combine it with future allocations through FY 2020-21 to fund the remainder of the project.

11. Improve safety by reducing accidents and injuries (motorists, pedestrians, bicyclists and others) in the vicinity of significant transit facilities, and develop a strategic plan to address the issue.

Significant Progress: In 2012, STA adopted its Safe Routes to Transit Plan. This Plan identified the most common hazards and locations for transit riders in and around five Transit Facilities of Regional Significance. Issues identified with these centers are common to all transit centers, and the recommended improvements provide a template for any other locations. When existing Transit Facilities of Regional Significance are improved, safety measures from the Safe Routes to Transit Plan can then be incorporated. Likewise, when new transit centers are built, appropriate safety features can be incorporated.

- a. Quantify, and periodically update, accident statistics for roads, trails and intersections within ¼ miles of Transit Facilities of Regional Significance.

Preliminary Proposal – STA has not yet established a data gathering plan for this

- b. Establish a priority list for improvements to reduce accidents and injuries in the Safe Routes to Transit Plan.

Completed.

12. Implement effective paratransit services.

Significant Progress: Paratransit services have evolved and changed over the past several years. Paratransit services have been restructured to be more efficient, increase capacity and improve mobility. Improvements in some areas are still necessary. Services continue to be evaluated and service changes implemented to meet increasing demands.

Transit operators will need continued support in identifying and obtaining funds for alternative fuel local and support vehicles.

14. Assist transit operators who wish to upgrade fixed facilities to be more energy efficient.

Preliminary Proposal – Facilities renovated in 2015 included new energy- efficient features. Additional facilities could be upgraded to be more energy efficient.

Help Improve Air Quality

13. Reduce air pollutant emissions related to transit and rideshare by developing and implementing the Solano County Alternative Fuel and Infrastructure Plan.

Significant Progress: the STA Alternative Fuels and Infrastructure Plan was adopted in 2013. STA has subsequently assisted SolTrans and the City of Dixon in preparing specific studies regarding the location of compressed natural gas fueling facilities for fleet vehicles. Implementation of the ideas from the alternative fuels and infrastructure plan will be an ongoing process.

- a. Help transit operators identify and obtain funds to offset the incremental cost of purchasing and operating alternative fuel and other clean transit vehicles.

Preliminary Proposal – The Solano-Express vehicle replacement funding plan includes funding for alternative fuel (Compressed Natural Gas) vehicles.

Fund Vehicles, Facilities and Services

15. Create and implement programs to help fund adequate maintenance, repair and replacement of transit vehicles and supporting infrastructure.

Significant Progress: this has been in large part accomplished. A funding plan has been developed and approved by the STA Board for the upcoming replacement of aging SolanoExpress vehicles. Local bus replacements have been funded through various funding plans and sources such as 5307, TDA, and Prop 1B Revenue-based funds. This will be an on-going goal as vehicles and facilities will need to be replaced, repaired and maintained on a continuous basis.

16. Create and implement programs to help fund adequate maintenance and strategic expansion of Transit Facilities of Regional Significance.

Preliminary Proposal – Funding plans have been developed and implemented to complete a renovation of the SolTrans maintenance facility and the expansion of the Fairfield and Vacaville Transit Centers. Expansion and construction of additional facilities will be needed in the future.

17. To facilitate informed service and investment decisions, provide decision-makers with timely, accurate and sufficient information.

- a. Ensure the transit corridor studies are conducted and kept up-to-date for all major transit corridors including I-80/I-680/I-780, SR12, SR29 and SR 37.

Significant Progress: Phase 1 of the I-80/I-680/SR-12 study was fully implemented in June of 2019. Phase II of this study will be implemented in August of 2020.

- b. Conduct countywide ridership surveys every two-three years.

Significant Progress: Countywide ridership surveys have been conducted every two-three years with the most recent survey completed in 2018. STA staff is currently working on the next ridership survey to stay on track with its year to year goals. These are required under the ITF agreement and has also provided a wealth of other information on the SolanoExpress routes and on local routes when they have been included in the survey.

18. Make investment decisions in partnership with regional mass transit providers, including local partners such as local transit providers, the Capitol Corridor Joint Powers Authority (CCJPA) and Water Emergency Transit Authority (WETA) and regional partners such as BART, MTC and Caltrans.

Completed – STA monitors the agendas of WETA, MTC, and participates in the Capitol Corridor JPA staff working group. STA Board members also sit on the CCJPA and SolTrans Boards of Directors. Caltrans and MTC staff regularly attend STA TAC and other committee meetings. SolanoExpress operators (FAST and SolTrans staff), along with the other Solano transit operators staff, are part of the SolanoExpress Intercity Transit Consortium. This is an on-going goal.

Chapter 5: Transit and Rideshare Element Resources



Resources will be needed to maintain, modify and possibly expand transit and rideshare services to meet the future mobility demands of Solano residents, employees and visitors. The amount of resources will depend on numerous dynamic factors such as the level of basic demand, public policy goals at multiple levels, cost of service delivery and the mix of services and capital to support the services. Resources in this context refer to funding. Funding is needed to deliver vehicles, fuel, maintenance, drivers, support staff, and facilities operation, maintenance and construction. Funding is needed also for program staff, taxi fare subsidy and other program expenses. This section will focus of the existing and projected resources available for transit and rideshare services.

Funding for transit and rideshare services is derived from a variety of sources. This discussion will review the types of funding from the various levels (federal, state, regional, local, and user) primarily for intercity bus, rideshare, Intercity ADA Paratransit and mobility management programs. Although there are rail and ferry stops in Solano, these services are operated and funded by agencies outside of Solano.

Federal

Federal funding for transportation projects is determined by legislation approved by Congress and is periodically renewed. Federal transportation funding was guided by what was known as

Safe, Accountable, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA LU) from 2005 until September 2012. SAFETEA-LU was originally intended to guide transportation funding for four years but was repeatedly extended. SAFETEA-LU continued some longstanding funding programs and created some new ones.

In 2012, a new two-year transportation bill was approved, known as Moving Ahead for Progress (MAP) in the 21st Century, or MAP-21. It authorized just over \$10.5 billion for each of the two years for public transit. Since MAP-21's original expiration date of September 30, 2014, Congress has enacted short-term extensions allowing the Federal Transit Administration (FTA) to continue its programs through the end of October 2015. In December 2015, a new five-year transportation funding bill was approved and became known as the FAST (Fixing America's Surface Transportation) Act.

The FAST act authorizes \$300 billion over five years through FFY 2019-20. Funding begins slightly above the MAP-21 level and increases 1-2% annually. There were some modifications as compared to MAP-21 but upon initial review there did not appear to be major increases or decreases for transit.

There are multiple types of federal transit funding which are designated for different purposes. With new federal transportation legislation, some funding programs stay the same while others are eliminated and added. Program funding parameters may be very

specific or broad. Some are distributed by formula and others are competitive. Given the funding parameters, all transit operators do not receive all types of funding. Federal funds are generally used by Solano transit operators for local and intercity operating and capital projects and improvements, ADA paratransit service and capital, and mobility management programs.

The Urbanized Area (UZA) Formula Program (5307) was in both SAFETEA-LU and MAP-21 and has been a funding category since the 1980s; it remains in the FAST Act. These funds are for areas with a population of over 50,000 and may be used fairly broadly particularly for areas with a population of under 200,000. There are three UZA in Solano that qualify for 5307 funds: Vallejo/Benicia, Fairfield/Suisun City and Vacaville. Transit capital, operating (in some situations) and planning have been eligible expenses for SolanoExpress operators FAST and SolTrans. SolTrans has also received funds from the San Francisco-Oakland UZA for ADA Paratransit; this was discontinued beginning in FY 2014-15. Other than this last item, it is assumed that this operating assistance will continue to be provided and that the level of funding support for urbanized areas will modestly increase under the FAST Act.

The American Recovery and Reinvestment (ARRA) of 2009 augmented the FTA's 5307 program awarding \$17 million for several projects in Solano. The SolTrans maintenance facility renovation, the Vallejo Transit Center and Ferry downtown parking structure, FAST

bus replacement and improvements, and Vacaville City Coach intermodal facility and bus replacement were all projects that received some of their funding from ARRA. All ARRA funds have been allocated.

The 5310 program (Transportation for Elderly Persons and Persons with Disabilities) was in both SAFETEA-LU and MAP-21. In MAP-21, what had been a separate funding program (5317 – New Freedom discussed below) was incorporated into the 5310 program. 5310 is a competitive funding program managed by the State. 5310 projects are intended to be for capital projects that will improve mobility for older adults and people with disabilities in traditional ways as required by ADA as well as nontraditional investments to improve mobility beyond ADA requirements. The STA's submits PCC capital projects applications on behalf of Solano County. Successful projects have primarily been vehicle replacements for non-profit organizations transporting people with disabilities, public paratransit vehicles providing service beyond ADA and related support equipment such as radios. The 5310 program continues in the FAST Act. One change worth noting is that States and local government entities operating public transit services are clarified as eligible direct recipients of Section 5310 assistance.

The Rural Transportation Assistance Funds (5311) program was similar to 5307 for non-urbanized areas. These formula funds have been directly distributed to Dixon Read-Ride and Rio Vista Delta Breeze and used as operating assistance and capital projects pri-

marily bus replacement. SolTrans and FAST have also received 5311 funding for operating SolanoExpress routes in rural areas. Solano Transportation Authority allocates this funding to Solano transit operators and submits to MTC for programming with Caltrans. 5311 funding continues under the FAST Act and the level of funding slightly increasing.

The Jobs Access Reverse Commute (JARC) (5316) Program funded projects that would address transportation challenges faced by welfare recipients and low-income people seeking to obtain employment as well as provide reverse primary commute route services. JARC was a distinct funding category in SAFETEA-LU but was subsumed into the 5307 and 5311 programs with MAP-21. MAP-21 changed JARC from a competitive to a formula funding process at the State level, but the projects were selected competitively at that point and had to be in a Coordinated Plan. JARC has funded Solano Lifeline projects and the Mobility Management program.

The New Freedom Program (5317) was a new and distinct program in SAFETEA-LU, but was incorporated into the 5310 program in MAP-21. The 5317 funds were for services to improve mobility for individuals with disabilities above and beyond Americans with Disabilities (ADA) requirements. The projects had to have been identified in an approved plan. New Freedom funds were used to fund Solano's Mobility Management Program.

The State of Good Repair (5337) (a new program in MAP-21 that continued in the FAST

Act program) has funded both FAST and SolTrans which will help with their share of the funding needed to replace the SolanoExpress bus fleet among other items. The STA Board approved an Intercity Bus Replacement Capital Funding Plan. Members of the Intercity Transit Funding (ITF) Agreement (discussed later) will contribute funds to replace the SolanoExpress fleet with funding also to come from the STA and possibly MTC.

The Surface Transportation Program (STP) has been the most flexible highway funding program and historically one of the largest single programs. States and metropolitan areas may use these funds for not only highway, bridge, pedestrian and bicycle infrastructure, but also transit capital projects, transportation demand management (TDM), and carpool projects. The amount of STP funds were increased in MAP-21 from SAFETEA-LU, however more programs were incorporated under the STP category, most significantly bridges which previously had a set-aside. Congestion Mitigation/Air Quality (CMAQ) is another federal funding program limited to projects or programs that have a direct impact on reducing congestion or air pollutant emissions. MTC is the federal recipient of STP and CMAQ funds and manages the distribution of these funds in the Bay Area. This includes additional “Eastern County CMAQ” funds derived from the portion of the Solano County in the Sacramento air basin and the funds are to be used for projects in eastern Solano County. Train stations and the Solano Napa Commuter Information rideshare program have received CMAQ funds. In recent years, STP/CMAQ

funds have been distributed through MTC’s One Bay Area Grant (OBAG) process. Under the FAST Act, STP has been incorporated under a broader category – the new Surface Transportation Block Grant Program (ST-BGP) - and increases 1% annually. CMAQ funding remains at the same level to start with and increasing 1-2% annually; new projects have become eligible for CMAQ funding including port-related freight operations.

The TIGER (Transportation Investment Generating Economic Recovery) grant program invests in road, rail, transit and port projects that achieve national objectives. Since 2009, Congress has dedicated nearly \$44.6 billion for seven rounds of TIGER to fund projects that have a significant impact on the nation, region or metropolitan area. Seventy-one (71) transit projects have been funded representing 28% of total TIGER funding. TIGER projects tend to be multi-jurisdictional that are difficult to support through traditional DOT programs. The Capitol Corridor has received TIGER grant funding for capital improvements.

Since the 2005 CTP, there has been a change in the policy for earmarks. Until 2010, applications could be made directly to a federal or state agency, and the grant was in turn provided directly to the implementing agency. Members of Congress and Senators could “earmark” funds for specific projects in their districts. For the past five years federal funds have been programmed by federal agency staff rather than earmarked, and the Solano CTP is based upon the assumption that earmarking will not return.

The direction of federal transit funding has just recently been determined by the passage of the FAST Act in December 2015. Analysis of the bill has begun and details are emerging. With the passage of the FAST Act, long-term federal transportation funding will be known for the first time in ten years.

State

Transportation Development Act (TDA)-Local Tax Fund (LTF) Apportionments: (TDA funds) are derived from a countywide one-quarter-of-one-percent sales tax to support transit, transportation for people with disabilities and bicycle and pedestrian purposes. This is a major source of funding for intercity, local and para-transit operations in Solano. TDA also supports the ADA Subsidized Intercity Taxi Program. TDA revenues were increasing until the 2008 economic downturn when they declined sharply and then gradually began increasing. Future TDA funding will be dependent upon local sales tax generation which is moving in a positive direction.

State Transit Assistance funds (STAF) are derived from taxes on fuel sales. STAF revenue tends to vary annually due to the variations in fuel sales. Some STAF is distributed by formula directly from the State to transit operators (revenue-based STAF). Population-based STAF is distributed through Metropolitan Transportation Commission (MTC) programs in the Northern Bay Area counties. There are various categories, but there is a fair amount of flexibility overall. Solano's population-based STAF is allocated to the STA and has been used for

Solano Express vehicle local match, intercity operating assistance, transit facilities, intercity transit planning, transit coordination, ADA paratransit, mobility management, and more. Future STAF revenue will depend on fuel sales and MTC programming policies.

The Prop 1B/PTMISEA (Public Transportation Modernization Improvement Service Enhancement Account) was created by the approval for a broader Transportation Bond in 2006. Over a ten year period ending with the final allocation in FY 2014-15, \$3.6 billion was made available statewide to transit operators for transit capital. PTMISEA funds were to be used for transit rehabilitation, safety or modernization improvements, capital service enhancements or expansions, new capital projects, bus rapid transit improvements, or rolling stock (buses and rail cars) procurement, rehabilitation or replacement. Funds in this account were appropriated annually by the Legislature to the State Controller's Office (SCO) for allocation in accordance with Public Utilities Code formula distributions: 50% allocated to Local Operators based on fare-box revenue and 50% to Regional Entities based on population. Dixon Redit-Ride, SolTrans and FAST received funding from this program.

The State Transportation Improvement Program (STIP) funds projects that increase capacity on state roads. STIP funding is a mix of State, Federal, and Local taxes and fees. STIP is primarily used for roadway construction but may also be used for Park and Ride Lots and multi-modal facilities that support the highway system. STIP funds have been used for rail and ferry facilities in Solano.

California's new Cap and Trade program has created a Greenhouse Gas Reduction Fund using proceeds from the state's cap-and-trade auctions. The Transit and Intercity Rail Capital Program (TIRCP) will help support transportation investments in clean, affordable and low-stress commute and travel options by improving the quality and reliability of public transportation choices. In its first year, \$25 million was budgeted for 14 projects that were selected in 2015. In future years, the program will receive 10% of the Greenhouse Gas Reduction Fund revenues. Legislative efforts to increase the percentage of the funds directed to the TIRCP have been unsuccessful so far. Distribution of the funds is through a statewide competitive process and candidate projects must demonstrate GHG reduction among other criteria.

Regional

Regional Measure 1

A portion of bridge toll revenue from the seven State-operated Bay Area bridges is allocated for transit capital and operating costs to reduce vehicular traffic congestion on these bridges. One program known as RM1 (or AB664) funds are intended to be used to match FTA funded transit capital projects. SolTrans is a recipient of these funds managed by MTC. This program is expected to continue, though MTC may modify the allocation criteria.

Regional Measure 2

A second bridge toll funding program is Regional Measure 2 (RM2). RM2 funds are distributed to Solano County based on a RM2 expenditure plan and can be used for proj-

ects that reduce bridge traffic. This includes intercity bus operations as long as the routes funded meet specific performance standards,



i.e. established farebox recovery requirements. Solano receives approximately \$1.9 million annually from the RM2 "Regional Express Bus North Pool" which covers services that cross the Carquinez and Benicia Bridges. FAST and SolTrans are recipients of RM2 for delivering SolanoExpress services across these two bridges. RM2 is a stable source of funding that will not decrease. However, with an escalation rate of 1.5% annually it will not increase by much and for several years the escalation rate had been suspended. In Solano, RM2 funds have also been used to construct five multi-modal transit facilities, a new rail station, and Capitol Corridor rail improvements.

Regional Measure 3

Another regional bridge toll funding program is Regional Measure 3 (RM3). This regional measure was voted and approved by Bay Area votes in July 2018. RM 3 will raise the bridge toll in three stages: \$1 on January 1, 2019; \$1 on January 1, 2022; \$1 on January 1, 2025. For Solano County, this Plan provides dedicated funding to important capital projects such as, \$150 million for the I-80/I-680/State

Route (SR) 12 Interchange, \$105 million for the I-80 Westbound Cordelia Truck Scales. \$75 million for I-80 managed lanes, and \$100 million for State Route 37 Improvements

Both the Bay Area Air Quality Management district (BAAQMD) and the Yolo Solano Air Quality Management District (YSAQMD) have funds that can be spend on projects that reduce air pollutants emissions such as the Solano Napa Commuter Information program. These funds are generated from vehicle registration fees in the county. The BAAQMD program is called Transportation Funds for Clean Air (TFCA), and has two components: regionally-competitive funds administered by BAAQMD staff and focused on projects with a regional impact, and CMA Program Manager funds, with projects selected and administered by STA. The YSAQMD Clean Air Fund program is guided by a Solano advisory committee, but recipients are selected by the YSAQMD Board. As a whole, this funding stream is expected to grow slowly. Solano Mobility has consistently received funding from these programs and it is assumed this will continue in the future.

Local

The seven SolanoExpress intercity transit services are funded through the Intercity Funding (ITF) Agreement since 2006. FAST and SolTrans operate the four routes which serve all Solano cities except Rio Vista. Intercity transit costs are shared among jurisdictions using a formula that is based on two factors: ridership by residence and population. This

shared funding is for the cost of SolanoExpress routes after farebox and other non-local revenue (RM2, grants, etc.) are taken into account. The resulting net cost is shared among the participating jurisdictions based on 20% of their population share and 80% of ridership by residence. This funding agreement is expected to continue.

Passenger fares are a major and on-going funding source for SolanoExpress intercity routes. Farebox recovery rates on the intercity routes have been consistently strong. For FY 2018-2019, the farebox recovery rates for these routes averaged 45%. Passenger fares also fund, albeit at a lower level, intercity ADA paratransit and taxi programs.

Transit facility parking fees have been introduced in the SolTrans service area. Daily and monthly parking fees were charged at the downtown Vallejo Transit Center parking garage when it opened in the past few years. Nearby surface parking shared with the Ferry Terminal also has parking fees.

Revenue is generated from various advertising opportunities created on vehicles and at facilities. Interior and exterior bus advertisement space is sold. Bus facilities in both FAST and SolTrans systems have paid advertising space.

On December 3, 2013, the County Board of Supervisors established the Regional Transportation Impact Fee (RTIF) as part of the Solano County Public Facility Fee (PFF). The fee was established based upon a development impact fee nexus study, and RTIF revenues can only

be used on projects that mitigate the impact of new development. The County of Solano began collecting the RTIF on February 3, 2013. The RTIF is collected in 5 geographically distinct districts. Eighty percent of the revenue generated are returned to the 5 districts for approved RTIF projects, the remaining 10% are split between transit facilities (5%) and unincorporated county roads (5%). The two transit facilities recently funded by the RTIF are:

1. Benicia Industrial Bus Hub - \$276,000
2. Fairgrounds Drive/Solano 360 Transit Hub - \$40,000

At current rates of development in Solano County, the RTIF is expected to generate just over \$100,000 for transit facilities per year through 2021.

Conclusions

As discussed above, some, but not all, of these funds may be used for intercity transit operating and capital, rideshare and mobility management programs. As a result, it is not possible to accurately project available funding for intercity transit operating and capital, rideshare, intercity ADA paratransit, and mobility management programs.

However, some reasonable conclusions may be made about future funding as compared with current funding. Some funding sources that were available in the past ten years are no longer available (i.e. federal Earmarks, ARRA, JARC, New Freedom) which were primarily used for transit capital and Mobility Manage-

ment. Some existing sources are expected to decline significantly such as the MTC/Regional Rideshare Program funding. Most existing funding sources are not projected to increase or decrease significantly in the foreseeable future. California's new Cap and Trade program may be a new source of funds and there have been efforts underway already to increase the share for transit. New funding to transit could be derived from flexible funding sources such as STP that have traditionally not been utilized; however, STP has long been used for roadway projects which continue to have significant maintenance needs.

The current view of resources suggests that sustaining the current level of service of intercity transit, carpool/vanpool services, and mobility management will continue to be challenging. It will be important to stay abreast of often changing funding opportunities, matching their parameters to county needs and values, and aggressively pursuing them. Creative funding options such as public/private funding partnerships or delegating elements of service to the private sector may need to be considered. Continual evaluation of services and programs to identify opportunities to shift service strategies from less productive to more productive service will be important. Yet caution must also be exercised to maintain the delivery of transit, rideshare and mobility management programs to those who need it most – and that need is expected to grow.

Chapter 6: Policies, Performance Measures and Milestones



The essence of any good plan is its ability to guide choices. Policies are specific action statements that implements Goals. Policies contain clear action words such as shall, will, assign or invest. When STA staff make recommendations to committees or the Board, those recommendations will be guided by the policies in this Element.

Making choices – implementing policies – is not enough by itself. Once you start on a journey, you need to know if you’re actually going in the right direction. Just because the odometer is ticking over doesn’t mean you’re actually getting closer to your goal. Milestones and performance measures are to help you know if the journey you’re on is the same as the journey you are trying to make.

On the following pages, the Transit and Rideshare Element lays out those three portions of the journey. How do we make decisions? How do we know if we are going in the right direction? And is the journey that we are on similar to that of other users of the Solano CTP? Are we helping each other out?

Each Policy is set out in **bold** text, and is followed by an explanatory paragraph. Performance Measures and Milestones are indicated by *italics* and, in most cases, end with a question. Finally, the previously discussed goals advanced by this particular policy are listed.

Section One – Big Picture Policies

Transit and Rideshare (T&R) Policy 1 – Continue to focus investments in maintaining and, where appropriate expanding, the existing SolanoExpress and rideshare/vanpool system as its primary means of providing mass transit. When fund sources with multiple uses are available, the SolanoExpress and rideshare/vanpool system will be given priority in receiving those funds.

Discussion – Most SolanoExpress riders board or disembark from a bus at one of the major transit centers: namely, Curtola Park and Ride, and Vallejo Waterfront Center, Fairfield Transportation Center or the Vacaville Transportation Center. All four of these facilities are located in or immediately adjacent to Priority Development Areas (PDAs). This co-location directly supports the continued and expanded use of these transit centers for long distance commutes within or out of Solano County, making it easy for riders to access the transit centers with minimal use of an automobile. This is particularly important because of the reluctance of people to switch modes of travel.

Park and ride lots are located both within and away from PDAs. This takes advantage of the greater schedule and social flexibility provided by carpools.

Policy Performance Measures and Milestones – none. The Transit and Rideshare Goals 4 through 19 will have specific performance measures and milestones that implement Policies 1, 2 and 3.

This Policy helps implement Goals 1 and 1.a, 6, 9, 9.b, 9.c, 13.a, 14, 15, 16 10, and 18.

T&R Policy 2 – Make appropriate investments in facilities that support regional transit providers; specifically, Capitol Corridor intercity rail and WETA ferry service.

Discussion – The other primary alternatives for commuters to driving alone within and out of Solano County are the ferry and rail service. These two systems combined carried more



than 2.7 million passengers during the last reported year. The greatest advantage that these systems have is that they do not rely upon the regional roadway network, which is subject to frequent impacts from traffic congestion.

An additional benefit of these regional transit providers is the significant reduction in per capita emissions of air pollutants, especially greenhouse gases (GHGs), which occurs when these vehicles operate at or near capacity. If passengers can walk, bicycle or take transit to the stops for these services, the congestion and air emission benefits are multiplied even further.

There are currently three Solano stops for regional transit: the Suisun City-Fairfield Train Depot, the Fairfield – Vacaville- Hannigan Train station, and the Vallejo ferry terminal. All three of the stations are located in existing PDAs.



Policy Performance Measures and Milestones – none. The T&R Goals 4 through 19 will have specific performance measures and milestones that implement Policies 1, 2 and 3.

This Policy helps implement Goals 1 and 1.a, 2, 5, 6, 10, 13, 16 and 18.

T&R Policy 3 – Expand the availability of services to older adults and persons with disabilities through the Solano Mobility Management program as a co-equal priority with conventional transit services.

Discussion – Older adults and people with disabilities have some of the most significant transportation challenges in Solano County. At the same time, they also have some of the most limited resources to meet those challenges. Solano Mobility Management is a series of programs designed to help these individuals participate in the economic and social life of Solano County. The best outcome of mobili-

ty management programs is to provide older adults and people with disabilities the freedom and independence of movement within and outside of Solano County. Programs such as Transit Ambassadors, and Trip Information can do exactly this.

Other mobility management programs may be ongoing for their recipients. Taxi scrip programs are one example of this sort of ongoing support. While mobility management may not provide as many trips as express bus or carpooling, and therefore has less of an impact on traffic conges-



tion and air pollution, it does fill a critical gap in the Solano county transit system.

Policy Performance Measures and Milestones – none. The T&R Goals 4 through 19 will have specific performance measures and milestones that implement Policies 1, 2 and 3.

This Policy helps implement Goals 4, 4.a, 4.b, 5, 7, 8, 9.d, 12 and 17.

Section Two – Detailed Policies

T&R Policy 4 – Use the SolanoExpress Intercity Transit Consortium as the primary means for coordinating SolanoExpress

and local transit services at a staff level. Use the CTSA, Solano Seniors and People with Disabilities Committee and the Paratransit Coordinating Council as the primary means of discussion and coordination at a policy-maker level. Participate in CCJPA, WETA and other working groups to identify and address coordination of local transit services with regional providers at a staff level.

Discussion – There are four main steps identified in this policy.

1. STA will continue to host the SolanoExpress Intercity Transit Consortium. This monthly forum provides the best opportunity to identify and deal with financing equipment and other major operational issues regarding intercity transit buses. It also serves as a forum for dealing with any issues related to the interface between intercity and local transit.

Policy Performance Measures and Milestones – There is no performance measure for this step. The milestones for this step are the regular meetings of the identified Committees and the provision of advisory actions to the STA Board. Are the Committees meeting on a regular basis? If so, the milestones are being met and the policy implemented.

2. The second item is to maintain staff liaison with all of the regional transit providers with whom STA or other local agencies interact. An example of this is STA staff continues to participation in the Capitol Corridor staff working group meetings. This allows STA staff to be aware early on of issues being dealt with by Capitol Cor-

ridor staff, and to inform Capitol Corridor of issues that exist in Solano County. A similar level of direct and frequent staff to staff contact exists between STA and SolTrans, and regular attendance at monthly WETA meetings by STA staff is now occurring. Because the service locations for Capitol Corridor trains and WETA ferry boats are also hubs for local transit, the local transit providers - SolTrans and FAST – are able to see and immediately respond to any change in service times made by the regional transit providers.

Policy Performance Measures and Milestones – Both the performance measure and milestone for this step is the attendance by and participation of STA staff at the regular meetings of these agencies.

Is STA staff regularly attending these meetings? If so, the milestones are being met and the policy implemented.

3. Continue to implement the intercity transit funding agreement, whereby the transit providers in Solano County pool and then share out resources needed to provide intercity transit. This is combined with STA's funding of marketing for the SolanoExpress routes.

Policy Performance Measures and Milestones – The performance measure for this step is the implementation of the multi-agency funding agreement to fund the SolanoExpress system. The milestone is the annual distribution of TDA funds for SolanoExpress services according to the agreement.

Is the Intercity Funding Agreement being updated to ensure timely funding of SolanoExpress services? If so, the milestone is being met and the policy implemented.

4. The fourth and final item is to assist local jurisdictions in preparing and updating SRTPs. Federal statutes require that the MTC, in partnership with the state and with local agencies, develop and periodically update a long-range Regional Transportation Plan (RTP), and a Transportation Improvement Program (TIP) which implements the RTP by programming federal funds to transportation projects contained in the RTP. In order to effectively execute these planning and fund programming responsibilities, MTC, in cooperation with Region IX of the Federal Transit Administration (FTA), requires each transit operator receiving federal funding through the TIP (federal grantees within the MTC region) to prepare, adopt, and submit an SRTP to MTC. The SRTP develops a coordinated investment plan for the five major fixed- route and paratransit providers in Solano County – specifically SolTrans, FAST, Vacaville City Coach, Dixon Ready-Ride, and Rio Vista Delta Breeze. The SRTP develops a set of consistent operator objectives, goals, measures, and standards, as well as service and capital investment plans for each operator.

Policy Performance Measures and Milestones – The performance measure and milestone for this item is the adoption and implementation of a new or updated SRTP.

Are SRTPs adopted and updated on a schedule consistent with MTC and federal requirements? If so, the milestones are being met and the policy implemented.

This Policy helps implement Goals 2, 3, 4, 4.a, 4.b, 4.c, 7, 8 and 12.

T&R Policy 5 – Assign staff to actively monitor MTC activities to implement electronic fare collection, and will seek early implementation of electronic fare collection for all intercity transit providers.

Discussion – Electronic fare collection increases the convenience of transit use to riders, eases the collection of some ridership data, and can result in better fare collection. A common form of fare collection across the region makes it easier for transit users to shift modes or system providers. By actively monitor and partnering with regional providers such as MTC, Solano County can be prepared to be an early adopter of such systems.

Policy Performance Measures and Milestones - STA staff monitors MTC electronic fare collection methods as well as partners with MTC and transit operators as needed. Milestones would be met by staying coordinated among these parties and an annual status report to Consortium about regional electronic fare collection developments.

Is STA staff monitoring the development and implementation of electronic fare collection methods? Are electronic fare collection methods being implemented in Solano transit fleet vehicles? If so, the milestones are being met and the policy implemented.

This Policy helps implement Goal 3.

T&R Policy 6 – STA will be prepared to offer assistance to any local transit providers who wish to pursue consolidation and/or improve coordination and efficiency. On an annual or more frequent basis, STA will query Solano County and other partner transit agencies regarding the options and benefits regarding transit operator consolidation and/or improved coordination and efficiency.

Discussion - STA helped provide legal, consultant, management and financial assistance to the Vallejo Transit and Benicia Breeze transit services when they merged in 2010. This merger has led to improved service delivery, greater efficiency and financial stability for both communities' transit service, and for SolanoExpress buses operated by SolTrans. The past two years, STA has provided transit finance and service planning assistance to Rio Vista's Delta Breeze. The transition of ADA eligibility to a countywide program is an example of regional consolidation. The STA does not have a policy to require or encourage further consolidation of local or express transit providers in Solano County, but is ready and available to support any local jurisdictions that request such help.

Policy Performance Measures and Milestones – On an annual basis, reach out to Solano transit operators to share past transit consolidation progress and determine if there is interest in further consolidation or improvements in coordination and efficiency. The outreach should be to City Manager or Department

head level personnel. If interest is expressed, STA is to provide assistance. Milestone will be met by sharing the results of this outreach to the STA Board and the Transit Committee at least every three years.



Does STA provide these outreach meetings? If so, the milestone is being met and the policy implemented.

This Policy helps implement Goals 3.a and 3.b.

T&R Policy 7 – STA's Countywide Bicycle and Pedestrian Plans, and PDA Plans financially supported by STA, will identify access improvements around Transit Centers of Regional Significance and local transit centers in order to help fill the “first mile/last mile” gap. STA will support the purchase of SolanoExpress buses with adequate bicycle storage features. STA will support expansion of bike sharing projects throughout the Bay Area, including in Solano County

Discussion - One of the obstacles to the use of bus, rail and ferry transit is the gap at the start of the trip between home and the transit

center, and the corresponding gap at the end of the trip between the transit center and the final destination. If the 'gap' is too substantial of an obstacle, transit users will drive to the transit center (increasing congestion and air pollution, and requiring parking at the station), or will drive solo to their destination.

For Solano commute trips, the rail and ferry stops at the destination are fixed and unchangeable. Bus destinations may have some flexibility, but most (such as BART stations) are also fixed. STA policies and investments cannot change this 'last mile' gap. The 'first mile,' however, is much more within Solano jurisdictions' control.

One way to help fill the first mile gap is to reduce its size, i.e. to help people who want to use transit have an opportunity to live near a transit stop. The PDA program and several State Cap and Trade grant programs help support local land use decisions that encourage the placement of residences near major transit stops.

The other way to fill the gap is to make movement for bicyclists and pedestrians within it more convenient. STA's Safe Routes to Transit (SR2T) plan addresses access issues in close proximity to transit stops (and finds that the most dangerous spot is where pedestrians cross a public street). Because the Countywide Bicycle and Countywide Pedestrian plans are developed with input from the bicycling and walking communities, they are the best place to address ease and safety of use for these modes near transit centers.

In addition, STA works with regional transit providers and local jurisdictions to provide additional secure bike storage facilities at their local terminals. This also helps improve the convenience of using bicycles to access the transit system.

Finally, the access and safety improvements that implement this Policy also help implement the Complete Streets policy in the Arterials, Highways and Freeways element. That makes the



Policy supportive of multiple Solano CTP elements.

Policy Performance Measurements and Milestones – Preparation of initial and updated STA Countywide Bicycle and Pedestrian Plans, and PDA Plans are the measurements for this policy. The milestones for this policy are completed Plans.

Are the applicable Plans kept current and used to implement projects, including first mile/ last mile gap fill projects? If so, the policy is being implemented.

This Policy helps implement Goals 1, 1.a, 2, 5 and 10.

T&R Policy 8 – Require transit providers receiving funds administered by STA to

submit performance reports. At a minimum, these reports will include farebox recovery, total ridership, on-time performance and surveyed passenger satisfaction.

Discussion – The minimum data needed by SolanoExpress decision makers on the effectiveness of the system consists of farebox recovery, total ridership, on-time performance and passenger satisfaction. There are additional data that are traditionally gathered, and those efforts should also continue.

An annual report of this data will not only provide a snapshot in time as to system performance, but also allow changes over time to be seen and used to measure system performance and the effectiveness of the investment decisions made by the STA Board and the operators of SolanoExpress bus systems.

An example of the effectiveness of this approach is seen in the Capitol Corridor's decade-long systematic improvement. Ridership surveys of Capitol Corridor and other train passengers showed that passengers most valued a system that was convenient to their origin and destination, and had frequent and reliable service. While station locations were relatively fixed (few opportunities exist for new or relocated stations) and passenger train frequency is largely dictated by freight rail schedules, the Capitol Corridor could make investments that improved on-time performance and reduced operating cost. As a result of this focus on measuring and reporting on performance, and making investments that impact performance, the Capitol Corridor is, as of 2019, the second

most popular route in the entire Amtrak system, with a 90% customer satisfaction rating. *Policy Performance Measures and Milestones - Transit operators receiving funds administered by STA to submit on-time performance, farebox recovery data monthly for Consortium and to the STA Board annually. They may combine this with other reporting requirements. Customer satisfaction is to be measured less frequently, but no less than every three years and submitted to the STA. This may be as part of another study such as the multi-agency passenger survey with the submittal of these reports the milestones have been met.*

Are performance measures being reported to the STA Board on an annual basis? If so, this policy is being implemented.

The access and safety improvements that implement this Policy also help implement the Complete Streets policy in the Arterials, Highways and Freeways element. That makes this Policy supportive of multiple Solano CTP elements.

This Policy helps implement Goals 6, 7, 17, 17.a and 17.b.

T&R Policy 9 – STA shall not adopt policies that exclude private providers from offering or providing transit services as long as they do not interfere with the provision of public transit, and shall seek to ensure that policies requiring private providers to pay for use of public facilities are reasonable related to the burden borne by those public facilities.

Discussion – Private transit providers can come in a variety of forms, as outlined in the

Transit and Rideshare State of the System report. These providers can deliver important supplements to the public mass transit system; supplements that are usually focused on as narrow portion of the transit-using public. By accommodating these private providers and seeking only to cover costs reasonably associated with their use of public facilities, the publicly-available mass transit system can more effectively focus on the general transit-using population.

Policy Performance Measurements and Milestones – Inventory private transportation services at public transit facilities and update it no less than every three years. Evaluate if and how private operations complement or inhibit public transit operations and any physical impacts on the facility. Determine if any operational or policy changes should be considered to maintain public transit level of service at the performance standards established by the 2015 SolanoExpress Transit Corridor Plan. Completing initial and subsequent inventory reports will meet milestones and implement this policy.

This Policy helps implement Goals 6 and 8.

T&R Policy 10 – Provide funding for and conduct transit studies for all major inter-city transit corridors. Each study will be updated no less frequently than every 6 years.

Discussion – Bus and ridesharing trips in Solano County usually move along a major highway corridor. I- 80 is the lynchpin of Solano freeway and highway transit routes. Other major routes include I-680 into Contra Costa, Alameda and Santa Clara counties, SR 12 through Solano County, SR 29 into Napa and

SR 37 into Marin and Sonoma counties, although most transit trips on these corridors at some point connect with I-80. The best way to identify specific capital and operational issues is to conduct a detailed look at the operation of a specific corridor.



Corridor studies typically explore two major areas: capital facilities, and operations and maintenance of vehicles and facilities. Corridor plans often use financial and operational models to examine the best location and timing of investments. These corridor plans provide the sort of detailed, prioritized recommendations that allow SolanoExpress operators, cities and STA to then make timely funding decisions.

Policy Performance Measurements and Milestones- Conduct an intercity transit corridor study at least once every six years. Completion of the study(ies) will be the milestone.

Are all applicable studies less than 6 years old? If so, the policy is being implemented.

This Policy helps implement Goals 7, 9, 9.b, 9.c, 10, 16, 17, 17.a and 17.b.

T&R Policy 11 – STA will develop a standard methodology of collecting and reporting on auto, bicycle and pedestrian collisions within ¼ mile of TFORS, and will report those statistics on an annual basis.

Discussion – When STA updated the Solano Travel Safety Plan in 2015, one of the challenges discovered was the variety of methods used to collect and report safety and collision data. This makes it difficult to identify, on a countywide basis, those areas most deserving of additional investment to improve safety. This policy calls on STA to act as a central clearinghouse for collision data, and to use that data to help prioritize funding decisions.

Policy Performance Measurements and Milestones - The data gathered to implement this Policy will also help identify issues related to the Active Transportation and Arterials, Highways and Freeways Elements. That makes this Policy supportive of multiple Solano CTP elements. The milestone will be the development of a standard methodology and annual reporting of the collision statistics.

This Policy helps implement Goals 11, 11.a and 11.b.

The data gathered to implement this Policy will also help identify issues related to the Active Transportation and Arterials, Highways and Freeways Elements. That makes this Policy supportive of multiple Solano CTP elements.

T&R Policy 12: To meet the mobility needs of the ambulatory and non-ambulatory ADA certified individuals and to ensure long-term viability of existing and new programs, evaluate ADA services (paratransit and intercity taxi programs) on at least an annual basis.

Discussion – Over the past several years, the provision of ADA intercity services has changed and new services have been implemented. The popularity of some services has strained their long-term viability. Other services still need to be developed to better serve the non-ambulatory ADA certified individuals. Implemented services should be monitored, evaluated and modified as needed. Outreach to ambulatory and non-ambulatory ADA certified individuals to understand and address their most urgent transportation needs will be important as part of the evaluation of existing services and the development on new services.

Policy Performance Measurements and Milestones - Regularly evaluate ADA paratransit service and ADA intercity taxi programs. This evaluation should include ridership, productivity, operational and financial performance at minimum. Outreach to ambulatory and non-ambulatory ADA certified individuals and related stakeholders, to determine mobility gaps and to participate in prioritization of strategies to address gaps in these services at least every 3 years. A short and long-term action plan is to be developed. Milestones will be met by the regular review of ADA services and the less frequent outreach and completion of action plans.

This Policy helps implement Goals 4, 4.a, 4.b, 12 and 17.

T&R Policy 13: Evaluate and modify currently implemented ADA in-person assessment model to improve convenience for new and recertifying applicants and to improve efficiencies on at least an annual basis.

Discussion – STA coordinates the ADA certification process countywide. A contractor schedules and assessments, coordinates with transit operators for those in need of ADA paratransit service, conducts the assessments and tracks activity. Assessments are scheduled in all seven Solano cities on a rotating basis at least monthly. In some cities multiple assessment days are held to meet demand. Recertifications have been conducted in the same manner as original certifications.

There has been interest expressed in holding assessments in locations with a concentration of ADA certification applicants such as skilled nursing facilities. If carefully selected, these on-site assessment sessions would be more convenient for applicants by reducing the need to travel and more efficient for the contractor and transit operator as there would be a reduction in “no shows” and arrangement of ADA paratransit rides would be reduced.

Recertification every three years is a requirement. The specifics of the recertification process should be reviewed to identify opportunities to streamline it for both applicants’ convenience and the service delivery efficiency. Some applicants’ original certification may be based on disabilities that prevent their use of fixed-route transit indefinitely. A simplified recertification process would be warranted in these situations.

Policy Performance Measurements and Milestones
- At least annually evaluate the ADA assessment process to determine if modifications should be made to improve the process for applicants and/or transit operators. Milestones will be met with the completion of the annual evaluations.

This Policy helps implement Goals 4, 12 and 17.

T&R Policy 14: Conduct a study, or studies, to identify the transportation needs of Solano seniors, people with disabilities, and the low-income population. Update the study or studies no less frequently than every 6 years.

Discussion - With a rapidly growing older adult population, the countywide Transportation Study for older adults and People with Disabilities will be updated by June of 2020. This project draws information from outreach conducted by STA staff during 2017. These plans are focused on outreaching to local communities to identify the transportation needs of the low-income population followed by identifying and prioritizing solutions. Many, but not all, priority projects from these studies have been implemented. More current outreach and study of these groups should be done to address the changes in these groups, the community, and the differing strategies available now and in the future.

Policy Performance Measurements and Milestones
- Update of Transportation Study for older adults, people with disabilities and the low-income population at least every 6 years. Milestones will be the completion of the study at least once every 6 years.

This Policy helps implement Goals 4, 6, 7 and 17.

T&R Policy 15: Partner, and outreach to, a diversity of community stakeholders such as public, private and non-profit organizations serving seniors, people with disabilities, and the low-income population.

Discussion – The mobility needs of older adults, people with disabilities and low-income earners are specialized and diverse. Meeting the mobility needs of these groups is important to address their quality of life that is inherently challenged. Understanding those needs will depend upon partnering with organizations that already work with these groups and understand their challenges with mobility. The recently formed CTSA and other committees include these partnerships. These and additional partnerships will also facilitate outreach to these consumers. Outreach and other direct contact with these populations will be a valuable tool in planning, promoting, and assessing services.

Policy Performance Measurements and Milestones – Identify current stakeholders and the degree of their diversity. Establish target to expand stakeholder diversity and outreach to achieve this. Establish a process to maintain diverse stakeholder group from the community as it changes over time. Milestones are creation of existing stakeholder diversity inventory, establishment of goal, outreach, expansion of diverse stakeholders, and process to maintain this.

This Policy helps implement Goals 4, 4.b and 6.

T&R Policy 16: Use technological advances to improve communication with consumers of mobility management services.

Discussion – The solanomobility.org website created a centralized information resource with a wide range of mobility and program information for older adults, people with disabilities and low-income earners. With search functions and layering of information, a substantial amount of information is relayed to the user in a simpler format than if printed. While printed materials are still made available, the website's Find Your Ride, Travel Training, and Older Driver Safety Information functions are examples of a technology advancement that has facilitated the dissemination of information to consumers. The website needs to be kept updated with current information, features and functionality to meet the changing needs of its users and capabilities of electronic communication. The website is a resource to other organizations and links between websites reconfirmed. Other forms of technological communications should be reviewed, evaluated and considered as additional ways to reach consumers for both disseminating information as well as for collecting information and input.

Policy Performance Measurements and Milestones - The solanomobility.org is to be current. There should be regular review of technological advances that could improve communication with consumers of mobility management services. Milestones would be periodic review of technology advances and an evaluation of what has been, or could be, incorporated as well. As of the accuracy of solanomobility.org.

This Policy helps implement Goals 4 and 6.

T&R Policy 17: Regularly monitor a wide variety of information sources regarding

innovations in private and public ‘shared mobility’ resources, including mobile applications, vehicle sharing transportation network companies and on-call vehicles. Incorporate new and developing mobility options and technology into STA plans.

Discussion – Transit and rideshare services between hubs is designed to efficiently move large numbers of riders long distances. Riders arriving from, or traveling to, the many locations in the areas surrounding a transit hub often find this portion of the trip inconvenient or impossible. These locations may be employment, residential, community services, medical facilities, shopping and more. This is the “first mile/last mile” gap. Local transit, walking, bicycling, driving alone and other options are available to varying degrees at Solano transit hubs. A countywide study could identify and prioritize transit/rideshare hub “first mile/last mile” gaps, identify existing and potential strategies, explore newer and advancing alternatives such as bikeshare programs, carsharing, shuttles, taxis, transportation network companies (TNCs), self-driving vehicles and other options, work with the community to evaluate strategies for potential implementation.

Policy Performance Measurements and Milestones – STA should develop an understanding, monitor and share the newly developing shared mobility and other new technology-based transportation alternatives.

With the involvement of the community, prepare a study to identify and prioritize transit/rideshare hubs’ “first mile/last mile gaps”, identify existing and potential strategies to address the gaps including newer and advancing technologies and programs. Milestones will be met with the consideration of

incorporating these new technology-based transportation alternatives for “first mile/last mile” gap closure or other purposes.

This Policy helps implement Goals 5, 6, 8 and 9.d.

T&R Policy 18 – STA will provide notice to SolanoExpress vehicle operators when it is aware of the availability of funds that can be used for clean transit vehicles and infrastructure, and will use support for clean transit vehicles and infrastructure as a ranking criteria when allocating such funds.

Discussion – While full of transit vehicles are very efficient in regards to air pollutant emissions per passenger mile when compared to single occupant cars, they do still produce important amounts of air pollution, including greenhouse gas emissions. The California Air Resources Board (CARB) has requirements for transition of public transit vehicle fleets to zero emission vehicles. STA has adopted an alternative fuels plan which supports conversion of all types of public vehicle fleets to low or zero emission vehicles. This includes both vehicle replacement and modification of support infrastructure such as fueling and maintenance facilities.

STA can help member and partner agencies accelerate this transition to clean vehicles and fuels by ensuring that they are aware of funding opportunities. STA can also write letters of support for those agencies seeking funding and furthering the goal of STA plans and policies.

When STA programs funds, such as BAAQMD TFCA program manager funds, it can use support for low and zero emission vehicles as a criteria to help identify which projects will be funded. While there may be other considerations, prioritizing clean fuel vehicles and facilities makes it more likely that they will be fully funded and delivered.

Policy Performance Measurements and Milestones – The collection and notification to transit operators of funds that may be used for clean transit vehicles and infrastructure will be a measurement as well as incorporating in STA ranking criteria for fund allocation the support for clean vehicles/infrastructure. Milestones will be met with the regular notification of clean vehicle/infrastructure funding opportunities and incorporation of clean vehicle/infrastructure in ranking criteria for fund allocations.

This Policy helps implement Goals 13, 13.a, 14, 15 and 16.

T&R Policy 19 – STA will continue to fund a ridesharing program such as Solano Mobility

Ridesharing support is critical to maintaining and advancing carpool and vanpool formation and use. STA has used Solano Mobility to provide these and other ride matching and trip planning activities.

With MTC's 2015 decision to stop providing direct funding for county ridesharing programs, this function becomes more difficult to support. Due to its value and the large number of carpool and vanpool users in Solano County, however, STA will continue to provide this service in some form. At the

same time, STA will monitor developments in private ride matching services, especially mobile applications that make both formal and casual carpool formation fast and convenient for users.



Policy Performance Measurements and Milestones – Funding a rideshare program such as Solano Mobility at an operational level would be the milestone for meeting this goal.

This Policy helps implement Goal 9.a.

Chapter 7: Projects, Programs and Priorities



Before we take this final step, it's worth our time to go back and look once again at the overall Plan and Element objectives. The first two principles of the Solano CTP are:

- **Strengthen the system and reduce stress by developing, operating and maintaining an integrated local and regional transportation system Anchored on the I80 corridor (inter-state highways 80, 680 and 780).**

The purpose of the Transit and Rideshare Element is:

- **Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems.**
- An additional important fact about the Solano CTP, and in the overall work of the STA, is the idea that *we are our member agencies, and what is important to them is important to us*. For that reason, throughout the development of the Solano CTP, including the Transit and Rideshare Element, STA has made a point of asking Solano residents and the staffs of the seven cities,

the county and SolTrans to identify the projects and programs that they think will improve the transit and rideshare system. We've asked them to provide the broadest possible list of Transit and Rideshare projects and programs. Since the purpose of the element is ultimately to guide STA in its allocation of resources, it is now time for the element to take that broad list of projects and programs, and set priorities for funding.



Projects and programs in this and the other elements are categorized into one of three tiers.

Tier 1 – those projects or programs already in place, or are ready for near-term implementation. Tier 1 also includes suddenly-identified community priorities that need a rapid infusion of resources to allow quick implementation.

Tier 2 – projects and programs that are important and have been advanced out of the conceptual stage, but are not yet ready for near-term implementation. This may include a project that has an initial investment in design work but is not yet fully designed and that lacks a complete funding strategy.

Tier 3 – ideas and concepts that have had little to no work done to advance their implementation.

Once a *project* is classified into one of these tiers, it can be considered for appropriate funding.

- Tier 1 is the category where STA has the greatest opportunity to provide financial support. STA can directly allocate some fund sources, and can help influence the allocation of regional, state and federal funds as detailed in the Resources chapter.
- Tier 2 is where STA begins to consider a project for funding. This can be anything from direct funding allocation to assistance in pursuing regional, state and federal grants. The new funding can be, depending on its source and use limits, used for project design, environmental analysis and mitigation, right-of-way acquisition and construction.
- Tier 3 project usually start with local funding that is intended to move them from a concept into an initial design. The use of local funds to initiate a project is particularly important as it indicates a real commitment by the sponsoring community to move the project forward. Local projects usually move into STA's sphere of attention when they are moved by local effort from Tier 3 to Tier 2.

Funding of *programs*, although different in some respects due to the lack of physical design documents and project construction, fol-

lows the same course. Conceptual program ideas are classified as Tier 3, those being developed are classified as Tier 2, and those ready for implementation funds (including those programs already in operation) are classified as Tier 1.

On the following pages, the projects and programs identified by STA and our member and partner agencies are placed into the three tiers explained above. The work to develop this tiered project list was guided by all of the policies, but the first three were especially important and worth repeating. They are:

- T&R Policy 1 – STA will continue to focus its investments in maintaining and, where appropriate expanding, the existing SolanoExpress and rideshare/vanpool system as its primary means of providing mass transit. When fund sources with multiple uses are available, the SolanoExpress and rideshare/vanpool system will be given priority in receiving those funds.
- T&R Policy 2 – STA will make appropriate investments in facilities that support regional transit providers; specifically, Capitol Corridor intercity rail and WETA ferry service.
- T&R policy 3 – STA will expand the availability of services to older adults and persons with disabilities through the Solano Mobility Management program as a co-equal priority with conventional transit services.

A final reminder – every aspect of the Transit and Rideshare system is dependent upon the Arterials, Highways and Freeways system and the Active Transportation system and their facilities. Train and ferry riders need roads and sidewalks to get to and from their stations, and every bus, car, van and shared ride occurs on a road. It is this truth which leads to the top rated transit and rideshare priorities being roadway improvements due to their ability to increase the number of transit trips and improve trip time reliability.

Table 4: Tier 1 Transit and Rideshare Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
I-80 Express Lane Conversion and Extension – STA and Caltrans, and MTC	Convert the existing High Occupancy Vehicle (HOV) lane between Red Top Road and North Texas Street to an Express (HOV or tolled SOV) Lane. Extend the Express Lane from North Texas Street to I-505.	\$44 million, with funds from federal, state and regional sources
SolanoExpress bus replacement – FAST, SolTrans and STA	Replace SolanoExpress buses with new vehicles (CNG and renewable diesel). Prepare for transition to zero-emission vehicle standards established by CARB.	\$26.7 million in 2017 dollars, with a mix of federal and state fund sources
I-80/I-680/SR 12 Interchange, including the west end of the North Connector – STA and Caltrans	Construction Packages 2-7, including Express Lane direct connections and the west end of the North Connector.	\$380 million, with funds from federal, state and regional sources
Solano Mobility Commuter/Employer Program	Provide information and assistance for Transportation Demand Management (TDM) support the use of commute alternatives like carpools, vanpools, transit, biking and walking. Work with Solano County employers providing consultations, events and promotions to reach employees. Encourage commuters to form carpools and vanpools. Administer programs (ie. Guaranteed Ride Home and Commute Challenge) and incentives to persuade commuters to try all commute alternatives. Offer information by phone, email or mail regarding trip planning, travel options, ride matching.	Annual operating costs of \$600,000 includes use of the Ride Amigos tool, staff, and incentives.
Vallejo Station ferry terminal parking structure (Phase B) – City of Vallejo	Construct a 600-space parking garage on Mare Island Way, to serve the Vallejo Ferry Terminal and adjoining high-density mixed use downtown redevelopment to consolidate present surface parking.	
First/Last Mile Shuttle Pilot Program – STA, FAST, SolTrans	Initiate a program that uses Transportation Networking Companies (TNCS), small shuttle vans, or cut away buses or similar light vehicles to provide a connection during the peak hour(s) between TFORS and dense employment nodes.	

Table 4: Tier 1 and Rideshare Projects and Programs (continued)

Name, Location and Sponsor	Description	Cost and Funding
Solano Mobility Program	<p>The Solano Mobility Program consists of the following programs that support the mobility of all Solano County residents especially in supporting older adults, people with disabilities and low-income residents:</p> <ul style="list-style-type: none"> • Call Center • Travel Training • Countywide ADA in person Eligibility Program • Senior Safe Driving Program with CHP • Vehicle Share Program • GoGo GrandParent Program Senior Clipper Card 	Annual Operating cost is approximately \$1,000,000 which includes staff, consultants, and program support.
Solano Mobility Call Center - STA	Continue to provide live personalized assistance for a variety of transit and mobility services, including information on available transportation options in and around Solano and neighboring counties and trip planning, specialty services for older adults and persons with disabilities.	Annual operating costs are expected to be \$50,000 in 2016 dollars.
Solano Travel Training Program - STA	Continue to deliver personalized instruction that are taught with the customer's need abilities and specific travel in mind. Methods include One-On-One Training, the Travel Ambassador Program, Rider's Guides and Travel Training Videos available on the Solano Mobility Website.	
Senior golden pass program - STA	Fund a program that allows older adults 80 plus to ride public buses in Solano County for Free with a "Golden Pass."	
Solano Local and Intercity Taxi Card Program - STA	Continue to provide discounts taxi scrip for Solano County residents who are certified as ADA paratransit eligible and non-ambulatory.	

Table 4: Tier 1 and Rideshare Projects and Programs (continued)

Name, Location and Sponsor	Description	Cost and Funding
Non-Profit Vehicle Share Program – STA	The Vehicle Share Program is expressly for non-profits, public or any other 501 (c) (3) organization that provides services for older adults and people with disabilities in Solano County. An “agency” (owning the vehicles) provides the vehicle, trains the driver, and maintains the vehicle. The Non-Profits provide the drivers and gas. The borrowing non-profits also need insurance for general liability and insurance for hired & non-owned auto liability. The Non-Profits request vehicles as they need them. The Vehicle Share Program allows vehicles to be shared amongst numerous non-profits and saves cost.	

Table 5: Tier 2 Transit and Rideshare Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
Fairfield Transit Center Phase 2 – City of Fairfield	Reconfigure access into and out of the FTC, and construct additional parking spaces.	Cost estimates range from \$20 million to \$50 million.
Solano 360 Project Transit Center – Solano County	Construct new facility with parking spaces and bus bays on the Solano County Fairgrounds property in Vallejo. The number of parking stalls and bus bays has not been determined.	
Fairfield/Vacaville Hannigan Intermodal Center Phase 2 – City of Fairfield	Construct train station building and support facilities at the new Fairfield / Vacaville multi-modal station.	
MLIP Implementation – STA, MTC, and local agencies	Support major intercity bus centers, park-and-ride lots and connected arterial light coordination/prioritization for transit. Eligible projects must be included in an adopted road corridor or transit corridor study.	\$115 million in 2016 dollars.

Table 6: Tier 3 Transit and Rideshare Projects and Programs

Name, Location and Sponsor	Description	Cost and Funding
Solano Bike Share - STA	Initiate a program that allows bikes to be shared between specific locations for commute and business trips. This may be either a governmental program or a public private partnership.	
Expand Volunteer Driver Program – STA	The program is for 60 years or older that are able to get in and out of a vehicle. Develop solutions so there are potentially no denials and the need is being met in all cities	

Chapter 8: Moving Forward, Together



The preceding chapters show there are resources that STA controls, those it influences, and those it may access but does not control. These chapters also show that there are priority areas for investment that have the greatest impact on achieving the Element purpose, which is to

Two of the top Tier 1 projects – the extension of the Express Lane network and completion of the I-80/I-680/SR-16 Interchange – will be funded with money that STA can influence, but does not control. These projects are a primary focus of the Arterials, Highways and Freeways element.

Identify and develop mass transit and rideshare facilities, services and policies that maximize the ability of Solano residents, workers and visitors to reach destinations within Solano County, and to access regional transportation systems.

The best way to then move forward with the implementation of the Transit and Rideshare element is to focus three broad approaches. The first is to *maintain* the existing Mobility Management programs run by STA.

The second area of effort, one that is more focused, is the *replacement* of the SolanoExpress bus fleet with low emission vehicles, and prepare for the midterm replacement of the fleet with zero

emission vehicles. While all this emphasis on fleet replacement will not necessarily make the services that are provided more convenient and acceptable, it will lead to reduced operation and maintenance costs and lower emissions of air pollutants, including greenhouse gasses. This approach supports improved efficiency.

The third step is the completion and implementation of the SolanoExpress transit study. This study focuses on making sure that the bus system serves the needs of the customers to improve perception and service.

At the same time, STA in its member agencies can emphasize the steps that implement plans to increase park and ride lots and expand on two major transportation centers in Fairfield and Vallejo. These are projects that will be built with a mix of STA controlled funds, STA influenced funds and money from local jurisdictions.

So, the beginning of Element's implementation is to hold what we have with the resources that we have, make the system more efficient, and improve access to it. A parallel effort is to improve the regional freeway system by removing chokepoints and creating a continuous Express Lane system through the heart of the county.

A major review should occur in 2023, the time period between RTPs and allowing use of new census information.

By 2023, we hope that if the priorities set forth in the Transit and Rideshare Element are

well and faithfully executed, and a solid foundation for transit and rideshare is set forth in Solano County.

A journey of a thousand miles begins with a single step. But the best journeys are those where the steps are shared.





SOLANO COUNTY COMPREHENSIVE TRANSPORTATION PLAN

The Future of Transportation | Active Transportation Element



April 9, 2014



Acknowledgements

SOLANO TRANSPORTATION AUTHORITY

Board of Directors

Osby Davis, Chair, City of Vacaville

Elizabeth Patterson, Vice Chair, City of Benicia

Jack Batchelor, Jr., City of Dixon

Steve Hardy, City of Vacaville

Harry Price, City of Fairfield

Norman Richardson, City of Rio Vista

Pete Sanchez, Suisun City

Jim Spering, Solano County Board of Supervisors

Active Transportation Committee

Jim Spering, County of Solano

Alan Schwartzman, City of Benicia

Jack Batchelor, Jr., City of Dixon

Rick Vaccaro, City Fairfield

Constance Boulware, City of Rio Vista

Dilenna Harris, City of Vacaville

Hermie Sunga, City of Vallejo

Mike Hudson, City of Suisun City

Shannon Navarra-Lujan, PAC

Michael Segala, BAC

Matt Tuggle, TAC

Andre Ouse, Planning Directors

Technical Advisory Committee

Mike Roberts, City of Benicia

Joe Leach, City of Dixon

George Hicks, City of Fairfield

Dave Milelli, City of Rio Vista

Dan Kasperson, City of Suisun City

Steve Hartwig, City of Vacaville

David Kleinschmidt, City of Vallejo

Matt Tuggle, County of Solano

Solano Transportation Authority

Daryl Halls, Executive Director

Janet Adams, Deputy Executive Director/
Director of Projects

Robert Macaulay, Director of Planning

Sara Woo, Associate Planner

Sofia Recalde, Associate Planner

Robert Guerrero, Project Manager

Jessica McCabe, Project Assistant



TABLE OF CONTENTS

Executive Summary	1
Chapter 1 - Introduction.....	2
Chapter 2 - Purpose	4
Chapter 3 - Active Transportation System: Element Goals and Goal Gap Analysis	6
Section 1 - Active Transportation System Defined	6
Section 2 - Active Transportation System Goals	12
Active Transportation - Bicycle and Pedestrian	12
Alternative Fuels.....	13
Sustainable Communities Development.....	13
Section 3 - Goal Gap Analysis.....	14
Chapter 4 - Resources Available to Create Motion	15
Chapter 5 - Making Choices on How to Move Forward.....	20
Chapter 6 - Priorities	27
Chapter 7 - Assessing the Active Transportation System	29
Progress	29
Performance.....	29
Chapter 8 - Conclusion	30



There are many ways of going forward, but only one way of standing still.” - Franklin D. Roosevelt

Executive Summary

The Active Transportation Element of the Solano CTP covers Active Transportation (bicycling and walking), Safe Routes to School (SR2S) and Safe Routes to Transit (SR2T), Alternative Fuels and Infrastructure Plan, and land use policies. Each of these areas has a countywide plan that provides a detailed look at that aspect of the system and identifies priority projects. These countywide plans are developed using input from committees made up of local citizens and professional staff members from the seven cities and the county.

The main focus of the Countywide Bicycle Transportation Plan is to develop a network of bicycle facilities that connects the seven cities to each other, and connects Solano County to the bicycle networks in Yolo and Contra Costa counties. With most of that network completed or funded, the priority is shifting to support facilities such as signage and bicycle storage facilities at transit centers. Also increasing in priority are projects that connect the countywide network to local activity nodes.

The Countywide Pedestrian Transportation Plan and the SR2S and SR2T plans are more local in nature, and focus on projects at key activity nodes - downtowns, transit centers, and schools. The three plans have some overlap in projects. In addition, as the countywide bicycle system is completed, connecting facilities will be useful to bicyclists and pedestrians of all sorts.

The Alternative Fuels chapter does not recommend a single fuel type, but instead focuses on converting public fleets, especially transit vehicle fleets, to clean fuels. This conversion includes development of fueling infrastructure that can also be used by members of the public. In this manner, alternative fuel vehicle choices



are presented to the general public, where market choices can then direct individual vehicle purchases. In the mean time, public transit fleets can be run a lower cost while producing less pollution.

Land use policies are transitioning from the Transportation for Livable Communities program of the past decade towards support for the new Priority Development Areas (PDA) and Priority Conservation Area (PCA) programs. Both programs seek to support higher density, mixed use development that is served by transit, while maintaining key agricultural and open space areas. Many projects that support PDAs are found in the countywide active transportation plans.



Active Transportation Element

Chapter 1 - Introduction

Choice – that is the core of the Active Transportation Element of the Solano Comprehensive Transportation Plan (CTP). Personal automobiles are the most prevalent means of transportation in suburban counties such as Solano, and public transit is seen as the standard second option. The Active Transportation Element is focused on giving Solano residents, workers and visitors as many choices as possible for how they move from one place to another. It does so by trying to expand options on where people move to and from, as well as how they move. Its purpose is not to force people out of automobiles powered solely by an internal combustion engine, but to give them viable options if that is a choice they wish to make.

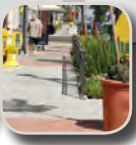
Active Transportation embraces bicycle and pedestrian transportation, Safe Routes to Schools and Safe Routes to Transit, alternative fuels, and land use decisions related to transportation. The Active Transportation Element of the Solano CTP defines these systems, describes both the existing facilities and the desired future network, establishes policies to help move from what exists to what is desired, and then identifies priority projects. Finally, the Element identifies how system performance can be assessed and how progress towards the ultimate system can be measured. Many of the aspects of the Active Transportation Element are addressed in adopted or pending county-wide mode-specific plans (such as the Countywide Bicycle Plan) and community-level General Plans and specific plans, and the Active Transportation Element simply brings them together in a single location. It also puts them in the context of the overall Solano CTP.

Many aspects of Active Transportation enable users of Solano County's transportation network to lead a more physically active lifestyle – a grouping recently referred to as Active Transportation. In addition, Active Transpor-

“Develop a balanced transportation system that reduces congestion and improves access and travel choice through the enhancement of roads.”

tation activities tend to improve both local and regional sustainability by allowing trips to occur that produce significantly lower emissions of air pollutants. STA has identified “sustainable” communities as those that have a rough proportionality between resources produced and consumed, that endure and improve over time, and balance such factors as economic health, environmental impact and social equity.





In sync with the two major themes of the overall Solano CTP of *Strengthen the Hub* and *Reducing Stress*, the Active Transportation Element intends to support these themes by way of three steps:

1. Over the short term, developing and maintaining an integrated local and regional bicycle and pedestrian transportation system anchored on downtowns, transit facilities of regional significance and schools;
2. Over the short and medium term, creating opportunities for alternative fuel vehicles to become a larger share of public and private vehicles on the road; and,
3. As a long term objective, expand the bicycle and pedestrian network to include major commercial, employment and civic centers, and to link to key open space and agricultural locations.

This approach takes advantage of several factors:

- Bicycling and walking occurs as a primary mode of transportation in each of the communities in Solano County. Every driver and transit user is a pedestrian at some point in their journey. Investment in bicycle and pedestrian accessibility directly and indirectly supports almost every resident of Solano County.
- Transit centers are a regional asset, and can attract regional resources.
- Use existing resources and build on decisions that have already been made. Most projects will be expansions of existing facilities in existing urban areas.
- A focus on bicycling and walkability in downtowns and Transit Facilities of Regional Significance supports Solano County's long-term commitment to development in existing urban areas and to preserve farmlands and open space.

- Strengthening the bicycle and pedestrian access to downtowns and Transit Facilities of Regional Significance improves the economic strength of Solano County. This can keep workers closer to home, thereby relieving stress on the rest of the regional transportation system and focusing use on local bikeways, walkways and transit services. Having Solano residents working close to home benefits other aspects of Solano County's economic tapestry as well.

- SR2S and SR2T projects often overlap with bicycle and/or pedestrian projects. Completing one project can therefore help implement the goals of multiple plans.

In the following pages, the Active Transportation Element details a wide range of proposals. The projects and programs that are identified as priorities for funding are designed to move forward from the existing conditions in Solano County towards a desired future state identified in the various countywide plans (bicycle, pedestrian, safe routes to schools, safe routes to transit, alternative fuels, sustainable communities, PDAs and PCAs). They are prioritized within the Element, as well as in relation to projects and programs identified in the CTP's other Elements: Arterials, Highways and Freeways and Transit.

When it comes to the Active Transportation transportation system, there are many options to choose from, and having choices is always desirable. One of the options is to use the system as it exists right now, without any additions - in effect, standing still. Other options include investing at various levels to improve and expand the Active Transportation system. The Active Transportation Element of the Solano CTP is designed to outline those options, and help Solano County make the best decision on which direction to move.



Chapter 2 - Purpose

The Solano CTP: Active Transportation Element is the STA's foundational document for planning and supporting the Active Transportation system improvements and investments in seven cities (Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville, and Vallejo) and the County of Solano. It is designed to serve the following purposes:

- Define what is meant by Active Transportation.
- Compare the Active Transportation system in place today with the system desired by 2040, and find the most important gaps between the current reality and the future vision.
- Identify and prioritize projects and programs that will maintain the current system while filling in the most critical gaps.
- Coordinating Active Transportation activities with the other aspects of the Solano CTP.
- Identify an integrated countywide Active Transportation transportation system throughout Solano County, and to then encourage its development. In this case, integrated meets two separate definitions.
 - First, it is internally integrated. Bicycle and pedestrian paths use similar designs and signage no matter what jurisdiction they are in, transit-supporting land use policies share

common elements, and alternative fuel facilities are recognizably similar wherever they are located.

- Second, it is externally integrated, by coordinating Active Transportation decisions with those in the Arterials, Highways and Freeways Element and the Transit Element. External Integration also includes linking to the regional transportation system in adjacent counties. External Integration also requires identifying and prioritizing programs and projects that are important to STA's member and partner agencies.
- The Active Transportation Element will serve as a guide to planning and engineering professionals in Solano County's jurisdictions. The Element can also serve as a platform that interested members of the public can utilize to engage their city's planning and public works staff and local City Councils for the betterment of the community in which they live.

The Active Transportation Element is summed up in its purpose statement:

Active Transportation Element Purpose Statement:

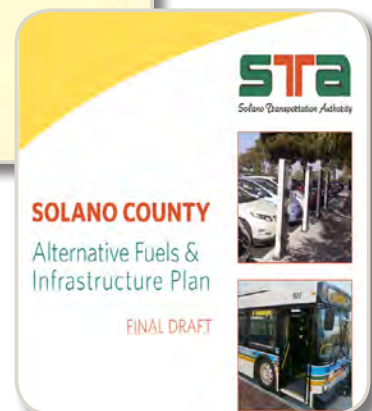
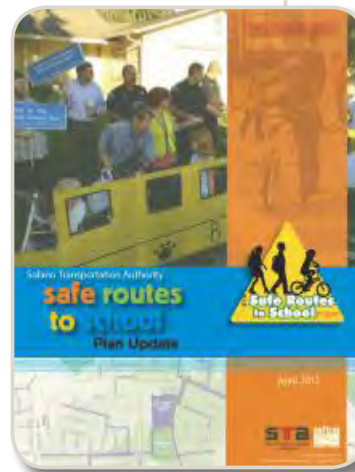
"One County, Many Choices ~ Provide a balanced transportation system that is an alternative to the single occupant car, and support local land use options that take advantage of this system.





Finally, the Active Transportation Element and particularly its subsidiary plans (such as the Countywide Bicycle Transportation Plan, the Countywide Pedestrian Transportation Plan, Transportation for Sustainable Communities Plan, Alternative Fuels and Infrastructure Plan, Safe Routes to Transit Plan, and the Safe Routes to Schools Plan), can be adopted by the seven cities and the County of Solano that make up the STA. This allows the local communities to incorporate plans that are consistent with the regional plan with minimal use of staff and financial resources. This also helps to make these projects eligible for regional, state and federal funding.

As a component of the Solano CTP, the Active Transportation Element encompasses subsidiary planning documents (such as the Countywide Bicycle Plan, the Countywide Pedestrian Plan and the Safe Routes to Schools Plan), with a long-range overall planning horizon to the year 2040. Each member jurisdiction of the STA is encouraged to incorporate the Plan's recommendations into their local planning policies and road standards. The STA, with the Plan as the basis, will help local agencies seek funding sources to implement the projects at the local level. It is expected that through individual and combined efforts that many of the proposed projects contained within this Plan will be implemented over time.





Chapter 3 - Active Transportation System: Element Goals and Goal Gap Analysis

Two things are essential to moving forward in a constructive and efficient manner – knowing where you are and knowing where you want to be. This third chapter of the Active Transportation Element fulfills the first purpose of the Element by, in Section 1, defining and identifying the current Active Transportation system. Next, the section lists the goals of the Element as adopted by the STA. Finally, the Goal Gap Analysis section looks at the gap between where the system is now and where the goals want to take it.

Section 1 - Active Transportation System defined

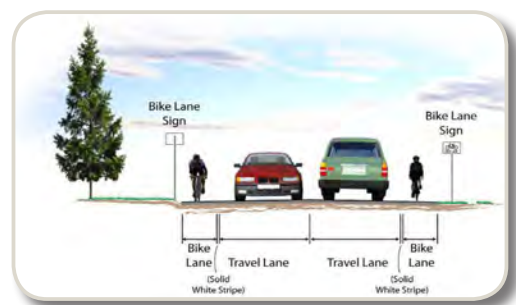
Since the Active Transportation Element deals with bicycle and pedestrian travel (including Safe Routes to Schools and Safe Routes to Transit), alternative fuels and land use, the “system” is those facilities that provide or support those modes. The details are laid out below. In many instances, there is significant overlap in facility use. For example, the same facility may be both a bike path and a walking path, and may provide access to a school or transit center. This is especially true of the “active transportation” modes of bicycling and walking.

Active Transportation - Bicycling: Bicycle facilities are grouped into three categories:

- Class I – paths and trails that are exclusively for the use of bicyclists (and often also accommodate pedestrians), and do not provide access to motorized vehicles.
- Class II - bike lanes, which are portions of roadways dedicated to bicycle use.
- Class III – bike routes, which are roadways with special signage indicating that the roadway is shared by both bicycles and cars. Most local residential streets and collectors act as Class III facilities,

whether or not they are designated and marked as such.

The primary guiding document for bicycle system planning in Solano County is the Bicycle Transportation Plan. The Bicycle Plan Vision Statement is “Complete and maintain a countywide bikeway network that will service the transportation needs of bicyclists in Solano County.” The main purpose of the Solano Countywide Bicycle Plan is to encourage the development of a unified bicycle system throughout Solano County. The system consists of the physical bikeway routes, wayfinding signage, and associated amenities such as bicycle lockers, showers, etc. The Plan focuses on a bikeway network that will provide origin and destination connections in Solano County as well as to surrounding counties. This Plan strives to identify regional bikeway facilities that are consistent with the local facilities planned in each of the STA’s member agency’s jurisdiction, and regional facilities in neighboring counties. Additionally, it contains policies that are designed to support and encourage bicycle transportation; design standards for use in implementation efforts; and promotional strategies.





The Plan notes that a consistent bicycle network with either bike lanes or wider curb lanes and signing has been partially constructed in Solano County, but has not been completed.

Access for bicyclists to recreation, school, shopping, work, and other destinations is hampered in some instances by the long distances between major destinations. In others, the barriers posed by highway corridors and geography are barriers to bicycle use. By providing an integrated bicycle network and addressing barriers, the Plan hopes to increase the share of bicycle trips from 1% to 2%.

The Countywide Bicycle Transportation Plan recommends the completion of a comprehensive bikeway network and support facilities, along with new educational and promotional programs to improve conditions for bicyclists in Solano County. The primary countywide system calls for the implementation of approximately 145 miles of bikeways connecting all of the member agencies at an estimated cost of approximately \$80 million over the 25-year life of the plan.

The priority projects identified for implementation in the short-term (next five years) include:

- Jepson Parkway Bikeway Phase I – planned cross-county route from SR 12 in Suisun City north to Leisure Town Road in Vacaville
- Dixon West B Street Bicycle-Pedestrian Undercrossing – a critical safety improvement and multi-modal connection to a future train station
- Vacaville-Dixon Bicycle Route (Hawkins Road)
- Vacaville Ulatis Creek Bicycle Facilities
- Bicycle and Pedestrian Wayfinding Signage - Countywide Plan





Active Transportation Element

Active Transportation - Walking: Pedestrian facilities include sidewalks, class I paths, and amenities such as benches, interpretive signage, and landscaping. The inventory does not include the hundreds of miles of sidewalks on local streets of all types, even though these are used on a daily basis by Solano residents, workers and visitors.

The primary guiding document for planning the Solano County pedestrian system is the Countywide Pedestrian Transportation Plan. The Pedestrian Plan Vision Statement is “To facilitate and provide safe and efficient pedestrian travelling as an everyday means of transportation in Solano County.” The Countywide Pedestrian Plan is intended to directly benefit local agencies by providing more attention to needs and opportunities to support walking as a means of transportation and as an integral part of community character;

The main purpose of the Solano Countywide Pedestrian Plan is to encourage the development of a unified regional pedestrian system throughout Solano County. The system consists of physical walking routes in and around activity centers such as transit centers and downtowns; wayfinding signage; and associated amenities such as benches/ rest areas.

The Plan identifies safety as the number one concern of pedestrians, whether they are avid or casual recreational hikers, walkers or commuters who get to work by walking for all or part of their trip. A consistent pedestrian network with sidewalks and paths exists in many areas of Solano County, providing safe and convenient walking

options. However, complete connections from these paths to activity and transit centers as well as wayfinding signage is lacking in other portions of the county. In some instances design decisions may have been made to increase vehicular traffic and/or parking capacity and speeds at the expense of pedestrians.

The Plan recommends the completion of a comprehensive pedestrian network and support facilities, along with new educational and promotional programs to improve conditions for pedestrians in Solano County. The pedestrian system calls for the implementation of projects at an estimated cost of approximately \$78 million over the next 25 years. The priority projects identified for implementation in the short-term (next five years) include:

- Dixon West B Street Bicycle-Pedestrian Undercrossing – a critical safety improvement and multi-modal connection to a future train station
- Vallejo Downtown Streetscape Improvements
- Bicycle and Pedestrian Wayfinding Signage - Countywide Plan



Active Transportation – Safe Routes to Schools (SR2S) and Safe Routes to Transit (SR2T): Safe Routes to School (SR2S) refers to a variety of multi-disciplinary programs aimed at promoting walking and bicycling to school, and improving traffic safety around school areas through education, incentives, increased law enforcement, and engineering measures. Safe Routes to School programs typically involve partnerships among municipalities, school districts, community and parent volunteers, and law enforcement agencies.



The STA began the development of its Safe Routes to School program in 2008 in response to a childhood obesity epidemic reported in Solano County in 2007. The program is designed to encourage students to walk and bicycle to school most days of the week to reduce traffic congestion around schools, increase physical activity and create a sense of community. In order to increase the number of walking and bicycling trips to and from schools in Solano County, the STA SR2S Program works with each community in the County to develop and identify engineering projects near schools to make walking and bicycling easier and safer for students. The SR2S Program offers free program events (walk & roll events, bicycle rodeos and safety assemblies) to encourage students to walk and bicycle, and educate students and parents to abide by traffic safety laws near schools. The STA began this countywide planning process by creating a countywide SR2S Advisory Committee, composed of two public works directors, two bicycle and pedestrian advocates, two school superintendents, two police representatives, an air district representative, and a health department representative.

To create local SR2S plans, the STA created multi-disciplinary community task forces composed of a combination of a City Engineer, Bicycle/Pedestrian Advisory Committee members, City Council appointee, School Board appointee, and a police department representative. Seven Local SR2S Task Forces were formed in the cities of Benicia, Dixon, Fairfield, Rio Vista, Suisun City, Vacaville, and Vallejo.

In 2011, the STA SR2S program re-engaged the SR2S Community Task Forces to identify new priorities for their communities for the Plan update. Each SR2S Community Task Force conducted meetings to discuss SR2S related issues in their communities, conducted walking audits to observe and record safety concerns, issues and ideas. Additionally, each SR2S Community task force reviewed their respective school improvement plans and prioritized infrastructure projects for their community. The 2013 SR2S Plan update refocuses the goals of the program while providing new and expanded materials for prioritizing future program investments, and also

provides local planning chapters for each community and their school district.



The STA in coordination with local agencies have funded over \$10M worth of Safe Routes to School projects throughout Solano County. These are part of the overall community bicycle and pedestrian system.

Solano County Safe Routes to Transit Plan (ST2T) is similar in concept to SR2S, but is specifically targeted at major transit centers. The purpose of the SR2T Plan is to generate increased transit ridership by identifying specific strategies that improve transit center access and pedestrian and bicyclist safety. The ST2T Plan was adopted in December 2011, and focuses on 5 Transit Centers of Regional Significance throughout Solano County. The lessons learned from studying these centers, and the types of improvements recommended, are applicable throughout the county, to both existing centers and to new ones that may be built in the future.



Active Transportation Element

During development of the SR2T Plan, STA staff met with local city staff, elected officials and transit site users at each of the 5 selected centers in order to assess how the transit center is used and what conditions require attention. These meetings found that access across public streets to reach the centers provided the greatest risk to bicyclists and pedestrians, and that the transit centers did not create an increased risk of motor vehicle accidents.

No projects have been funded solely as Safe Routes to Transit projects. However, several projects (such as the Fairfield Transit Center access improvements and Vacaville's OneBayArea Grant sidewalk improvements at the Vacaville Transportation Center) are identified in the Safe Routes to Transit Plan.



Alternative Fuels. Alternative fuels are, generally speaking, anything that is not a standard gasoline or diesel engine. Common alternative fuel systems are hybrids (gas or diesel combined with a battery or electrical generator), electric batteries, and compressed natural gas, although many others also exist. The Alternative Fuels system consists of centralized fueling stations for CNG, charging stations at public facilities for electrical

vehicles and plug-in hybrids, and maintenance facilities for alternative fuel vehicles.

Land Uses. This is the most difficult category to list, since individual developments (such as retail centers, housing developments or mixed use multi-story buildings) that support Active Transportation are primarily built as stand-alone projects that meet market demands; they contain, rather than consist of, facilities that support Active Transportation of transportation. The best measure of assessing progress for Active Transportation land uses are the projects built with Transportation for Livable Communities (TLC) funds, and the 12 Priority Development Areas (PDAs) designated in Solano County. PDAs are locally selected, but must be approved by the Association of Bay Area Governments (ABAG). PDAs are areas that provide a higher than normal density of land use (typically focused on housing and supporting commercial, but may also be employment-centered) and are supported by frequent transit service. The TLC projects and PDAs in Solano County are listed below.

In March 2012, the STA adopted its Transportation for Sustainable Communities (TSC) Plan. By creating communities that offer transportation options and encour-





aging development patterns that foster multi-modal transportation, the STA and partner agencies reduce dependence on single-occupant vehicle travel. The TSC Plan seeks to provide a balanced transportation system to enhance the quality of life, support economic development, and improve accessibility for all members of the community by efficiently linking transportation and land uses utilizing multiple transportation modes. The purpose of the TSC Plan is to help the STA and its member agencies pursue and allocate funding to implement strategic projects and programs, which result in sustainable communities.

A Working Group was established to provide guidance for TSC Plan development. The Working Group included public works, transit and planning staff from each of the cities and the County of Solano. The Working Group was responsible for reviewing a series of memorandums prepared for the TSC Plan prior to presentation to the STA's Active Transportation Policy Committee and both the STA Bicycle and Pedestrian Advisory Committees. Participants of the Working Group were an integral part in fact-finding and data gathering for projects and planning activities within their jurisdiction.

The TSC Plan contains a list of prioritized improvements for each PDA. This assisted STA in making OBAG funding decisions in March of 2013, and can do so again as future funds become available. It can also assist each of the 7 cities in making local PDA investment decisions.

Priority Conservation Areas (PCAs) are locally identified areas for conservation which provide important agricultural, natural resource, historical, scenic, cultural, recreational, and/or ecological values and ecosystem functions. Designation of PCAs is made by ABAG. There

are 6 designated PCAs in Solano County, with the Suisun Valley PCA being the most recent PCA to receive ABAG approval. PCAs serve an agricultural and open space role similar to PDAs for urban development.

STA is developing a PCA Assessment and Implementation Plan to identify and prioritize transportation improvements that support access to and appropriate use of PCAs. An expected area of focus of this plan will be access by local residents (and visitors) to local direct-to-consumer sales stands, such as exist in the Suisun Valley. Additional emphasis on access to open space areas is also expected to be a part of the PCA Assessment and Implementation Plan. Upon its adoption by the STA Board, the PCA Assessment and Implementation Plan will become a part of the Active Transportation Element.





Active Transportation Element

Section 2 – Active Transportation System Goals

GOALS: Goals are general descriptions of the desired overall nature and state of the system. Some goals are specific and tangible, while others are more aspirational. In order to implement the Purpose of the Solano CTP and the Active Transportation Element of the Solano CTP, the following goals have been adopted by the STA for the Active Transportation Element:

Active Transportation – Bicycle and Pedestrian

1. Plan and construct a county-wide bicycle system with the following features:
 - a. A system of links consisting of Class I, II and III facilities, appropriate to their location, that allows bicyclists to move across the county, connect to important activity centers within Solano County, and to access the regional bicycle network and activities in other counties.
 - b. For projects requesting STA administered funding, ensure support facilities such as shade, water and bike lockers at key system nodes and activity centers.
 - c. Consistent signage to identify system segments and provide wayfinding information.
 - i. Signage to identify system segments
 - ii. Signage to provide wayfinding information
2. Plan and construct a county-wide pedestrian program.
 - a. Provide facilities and connections that support city downtowns and Priority Development Areas (PDAs).
 - b. Where possible, connect to local and regional trail systems, such as the San Francisco Bay Trail and the Ridge Trail, and regional parks and recreational areas. Seek out opportunities to use the same facility for both local and regional trails.
3. Maintain a public process to periodically review and prioritize bicycle and pedestrian projects identified in the CTP and the Solano Bicycle and Pedestrian plans. Prioritize projects for funding based upon criteria included in the Bicycle and Pedestrian plans.
4. Develop a Best Practices guide, standard specifications, model ordinance or similar documentation that member jurisdictions can adopt in order to promote inclusion of adequate bicycle and pedestrian facilities during the land use development process. Work with local jurisdictions to ensure that, for projects involving regional funds, bicycle and pedestrian facilities are included in approved plans, constructed, and maintained.
5. Implement the California Department of Transportation and the Metropolitan Transportation Commission's Complete Streets policies for projects involving STA administered funds.
6. Develop and maintain partnership with local and regional bicycle and pedestrian planning agencies such as the California Department of Transportation (Caltrans), the Metropolitan Transportation Commission (MTC), and the Sacramento Area Council of Governments (SACOG), and non-governmental groups. Develop and maintain partnerships with non-governmental organizations that plan and/or fund bicycle and pedestrian facilities.
7. Encourage end-user focused bicycle and pedestrian facilities planning at transit facilities and by employment centers and academic institutions.
8. Improve travel safety for cyclists and pedestrians



through development and implementation of programs such as Safe Routes to School (SR2S) and Safe Routes to Transit (SR2T).

9. Maintain separate Bicycle and Pedestrian Advisory Committees to provide different perspectives for the two modes of travel to the STA Board.

10. Maintain a Safe Routes to School advisory committee to review community projects and programs for Safe Routes to School funding.

11. Develop and implement a methodology to rate the safety, pavement condition of travel surfaces and obstacles or obstructions to bicycle and pedestrian travelways. Develop a program to correct deficiencies.

12. Develop and provide bicycle and pedestrian trip planning information, including a county-wide bicycle and pedestrian facility map; provide near real-time information on travel times of public transit.

13. Continue to provide a financial incentive for the purchase of bicycles to be used for commuting through the Solano Napa Commuter Information program.

14. Develop and implement a plan to improve transportation resources supporting Priority Conservation Areas.

Alternative Fuels

15. Support sustainable new and emerging alternative fuel technology by providing fleet demonstration programs, increasing alternative fuel infrastructure, maintaining a broad information base and securing applicable funding.

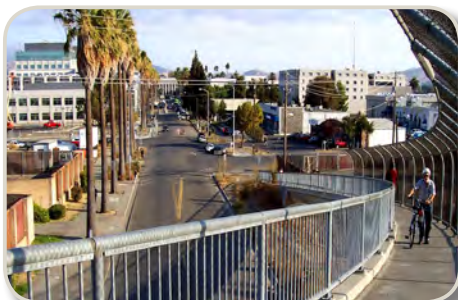
a. Work with the SolanoExpress Transit Consortium (countywide forum of transit and fleet providers) to identify and implement alternative fuels technologies for transit fleets serving Solano County.

b. Work with member agencies to identify and implement alternative fuel technologies for agency-owned vehicles, including both heavy vehicles and light-duty on-road vehicles.

16. Seek to provide financial incentives for private acquisition and operation of alternative fuel vehicles for on-road use. Support development of infrastructure to support privately-operated alternative fuel vehicles.

Sustainable Communities Development

17. Support cities in approving and constructing higher density development with mixed land uses that are oriented to use of all transportation options. Support transportation facilities in Priority Development Areas (PDAs), and work with local and regional agencies to obtain funds to support development of





Active Transportation Element

projects in PDAs.

18. Coordinate funding from various regional, state and federal sources, including OneBayArea Grants, clean air funds, state bonds, and other sources in order to support appropriate development in PDAs and other Transit-Oriented Development (TOD) locations.

19. Assist local jurisdictions in identifying and obtaining funds to support planning documents for PDAs and TOD. This includes community planning and design work, public outreach, environmental surveys and analysis, and preliminary project and infrastructure planning.

20. Maintain and update the Napa-Solano Travel Demand Model which includes land use forecasts that it can be used to support analysis of the implementation of Sustainable Communities Development projects.

Section 3 – Goal Gap Analysis

Appendices A1 and A2 are the Active Transportation Element State of the System Report and Active Transportation Element Goals Gap Analysis, respectively. These are detailed descriptions of the current status of the various components of the Active Transportation system—alternative fuels, bicycle, pedestrian, transportation energy solutions, and transportation for sustainable communities planning.

The Goal Gap Analysis measures how well the 20 Active Transportation Element Goals are being met as of March 2010. A summary of their most important findings follows.

- STA and its member agencies have completed the task of identifying a countywide bicycle network, and are in the process of constructing that network.

The bicycle system consists of a linked series of Class I and Class II facilities from Davis and the Yolo/Solano county line, along rural roads to and through Dixon to Vacaville; from there, along the Jepson Parkway to the Fairfield Linear Park, the North Connector, across the hills by way of McGary Road and the Solano Bikeway bike path, and finally along city streets in Vallejo to the Carqinez Bridge.

- STA and its member agencies have completed the task of identifying a countywide pedestrian network, and are making progress in completing that network. In some areas, the Pedestrian network is the same as portions of the Bicycle network and corresponds with Safe Routes to School and Safe Routes to Transit projects.
- Local connections into these regional bicycle and pedestrian system are incomplete, and are recommended as the next priority for construction.
- Wayfinding signage scaled for bicyclists and pedestrians is desired within each agency throughout the county.
- Automobile-bicyclist and automobile-pedestrian related traffic collisions have continued to decline over the past decade; this suggests that awareness and engineering system wide has improved the safety for all users. The most dangerous activity for bicyclists and pedestrian remains crossing a street.
- STA and its member agencies are working together to increase access to alternative fuel vehicles and infrastructure in public fleets, including transit fleets.
- The Transportation for Livable Communities program has helped member jurisdictions develop plans and construct projects that improve the usability of important destinations for pedestrian and bicycle travelers, as well as improving the



Solano Transportation Authority



overall usability of these areas. ABAG's new Priority Development Area program, successor to MTC's TLC program, is expected to continue this trend. Solano's seven cities have identified 12 PDAs to help focus investments in the future.

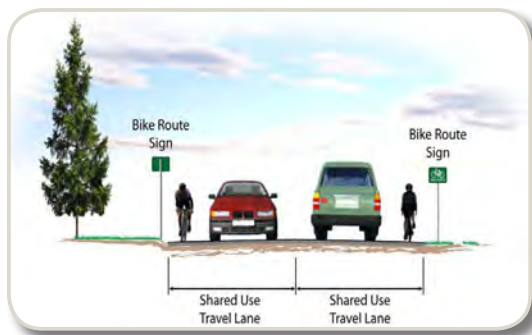
The primary gap identified in the Goal Gap Analysis is one of network completion. STA and its member agencies, through the adoption (or pending adoption) of the various Active Transportation component plans, have identified the network of bicycle and pedestrian facilities, alternative fuel facilities and focused land use centers that support Active Transportation. A second important gap is the relative lack of support facilities on routes and at destinations, including wayfinding signs, bicycle lockers and rest facilities. The need to expand support facilities also applies to the Alternative Fuels field, since alternative fuel vehicles are impractical without supporting infrastructure.





Chapter 4 - Resources Available to Move Solano Forward

Objects that are either at rest or in motion tend to stay that way, unless some sort of energy is applied to change that condition. If the Active Transportation system has not reached its ideal state – and the previous chapter shows where it has not – then some sort of energy is needed to move it from where it is to where



it should be. Some of those resources are community involvement and staff time, from both STA and its partner jurisdictions at the local and regional level. The primary resource, however, is the application of funds to get projects built. This chapter identifies those resources that are available, starting with financial resources. It is important to also refer to Chapter ____Number____ of the Solano CTP for a larger discussion of resources and balancing of priorities between the various Elements.

It should be noted up front that the funding available for Active Transportation projects and programs has changed significantly in recent years. Previously, MTC allocated specific funding to projects that are part of its regional bicycle system. In 2012, as part of the update of the RTP, MTC created the OneBayArea Grant (OBAG) program. OBAG grouped funding for a number of different project types, including bicycle and pedestrian projects, TLC and local streets and roads maintenance, all into a single block grant. The STA has been tasked to decide how much of this funding will go towards Active Transportation projects, and which projects and programs

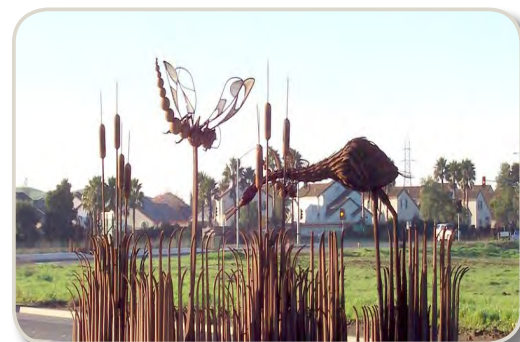
should be managed by the member agencies.

With that being said, the following is a list of fund types that can be used for Active Transportation projects and programs, as of the beginning of 2013.

Federal

Federal funds for transportation projects come from the transportation legislation approved by Congress, and is periodically renewed. For most of the time period of the 2005 CTP, the federal transportation bill was called SAFETEA-LU, which stands for Safe Accountable Flexible Efficient Transportation Equity Act – A Legacy for Users. In 2012, a new two-year transportation bill was approved, known as Moving Ahead for Progress in the 21st Century, or MAP 21.

Federal funds that can be used for bicycle and pedestrian projects are typically in one of two fund categories: Surface Transportation Program (STP), which can be used for capital projects, concept planning and operations and maintenance; and, Congestion Mitigation and Air Quality (CMAQ), which is limited to capital projects or programs that have a direct impact on reducing congestion or air emissions. A final category of federal funds is Transportation Alternatives (similar to the previous Transportation Enhancement category).





Federal funds that can be used for Active Transportation projects and programs are distributed in one of two ways. The first is by way of a formula to states, and then to Metropolitan Planning Organizations (MPOs), such as MTC for the Bay Area, then to county transportation agencies such as STA, and then ultimately to local agencies such as Solano's seven cities and the County of Solano. Therefore, although these are federal funds in origin, they are considered regional funds because they are distributed at the regional level, and often have additional regional restrictions put on their use.

The second method is through federal grant programs where applications are made directly to a federal or state agency, and the grant is in turn provided directly to the implementing agency. In previous years, members of Congress and Senators could "earmark" funds for specific projects in their districts. Since 2010, however, federal funds have not been earmarked, and the Solano CTP is based upon the assumption that earmarking will not return.

State

Prior to 2013, state transportation fund sources included the Bicycle Transportation Account (BTA) and the Safe Routes to School Program (SR2S). In September 2013, the Governor signed legislation creating the Active Transportation Program (ATP). The goals of this program include improving public health and safety and reducing traffic congestion by increasing biking and walking trips, reducing accidents, creating fewer greenhouse gas emissions

and enhancing Safe Routes to Schools programs. In addition, the ATP seeks to expand access for bicycle and pedestrian users in disadvantaged communities by ensuring that at least 25% of ATP funds are spent on projects or programs that benefit such communities.

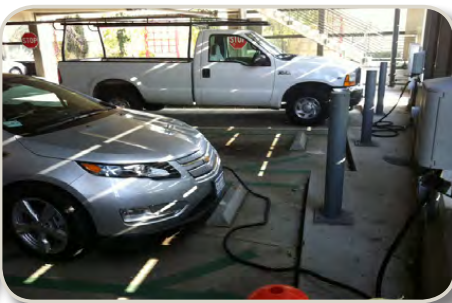
The ATP consolidates the following funding sources:

- Transportation Alternatives
- Recreational Trails
- Safe Routes to Schools
- Bicycle Transportation Account (BTA)
- Environmental Enhancement and Mitigation Act

The new funding scheme under ATP involves three funding categories, of which Solano jurisdictions can compete in two. The three funding categories are:

50% Statewide (approx \$180M)

- Broad spectrum of projects, including recreational trail projects, Safe Routes to School, and a Technical Assistance Resource Center
- A minimum of \$24M annually is available for Safe Routes to School projects
- A minimum of \$7.2M annually is available for non-infrastructure projects





Active Transportation Element

40% MPOs with large Urbanized Area (approx \$144M) (competitive; run by MPO; distribution based on county population)

- MTC will receive approx \$30M

10% Small urban/rural (approx \$36M)

- Population less than 200,000 in areas outside a large MPO. The cities and County of Solano will not compete in this category, as Solano County falls under MTC.

Statewide projects will be selected by the California Transportation Commission (CTC), after review by CTC staff augmented by advisors from local and regional agencies such as STA, MTC and other MPOs.

In order to most effectively compete for ATP funds, STA will work with its member agencies and advisory committees to identify projects that best meet the statewide and regional criteria. Such projects are likely to be those with regional significance or involving multiple jurisdictions, such as the proposed Napa Vine Trail in Napa County and Vallejo, or farm-to-market Class I trails in the Suisun Valley. This may require amendment to the Countywide Bicycle Plan and/or Countywide Pedestrian Plan, and identification of major facilities in documents such as the up-coming Priority Conservation Area Plan.

A critical source for bicycle and pedestrian funding from the State of California is the Transportation Development Act (TDA) Article 3. TDA funds are derived from a one-quarter-of-one-percent sales tax to support transit, transportation for disabled individuals and bicycle and pedestrian purposes.

Because TDA Article 3 funds are based upon sales tax receipts, they vary from year to year. For fiscal year 2013-14, STA's TDA Article 3 allocation was \$301,106.

An important use of TDA funds is the periodic update of

the countywide bicycle plan. TDA Article 3 funds can be used every 5 years to fund bicycle planning activities. A second important consideration is that TDA funds are considered local funds, and can therefore be used as the local match to federal funds.

The State Transportation Improvement Program (STIP) and State Highway Operation and Preservation Program (SHOPP) funds are used for construction for new roadways and maintenance of existing roadways, respectively. STIP is not used to fund construction of new stand-alone Active Transportation facilities; however, it can and is used to fund the roadway portion of a project, with other sources, such as TDA Article 3 funds, used for bicycle and/or pedestrian facilities.

Regional

As noted above, regional funds for bicycle, pedestrian and/or land use (PDA) projects have now been grouped by MTC into the OBAG process. For the Fiscal Year (FY) 2012-2013 through 2015-2016 (FY 12-13 through FY 15-16), STA dedicated \$3.8 million for bicycle and pedestrian projects.

In addition to these funds, there are regionally competitive grants for PDAs administered by MTC. In the past, Solano projects have been funded through the regional TLC planning and project grant program. With the recent creation of PDAs, MTC has placed a greater emphasis on funding the type of projects that are found in PDAs in the inner Bay Area, and projects in the North Bay suburban counties such as Solano, Marin, Napa and Sonoma are rarely funded.

Regional funds also include bridge tolls that come back to Solano County on a formula basis, and can be used for projects that reduce bridge traffic. This includes transit centers. These are known as Regional Measure 2 or RM 2 funds. While RM funds cannot directly support Active Transportation projects, they can pay for transit proj-



ects that include Active Transportation Elements, such as bicycle lockers or alternative fuel connections.

Finally, Plan Bay Area has funds for SR2S programs that are distributed based on a school age enrollment formula. For FY 12-13 through FY 15-16, STA's regional SR2S share is \$822,000.

Both the Bay Area Air Quality Management District (BAAQMD) and the Yolo Solano Air Quality Management

District (YSAQMD) have funds that can be spent on alternative fuels projects and Active Transportation programs. The BAAQMD program is called Transportation Funds for Clean Air (TFCA), and has two components: regionally-competitive funds administered by BAAQMD staff and focused on projects with a regional impact, and CMA Program Manager funds, with projects selected and administered by STA. The YSAQMD Clean Air Fund program is guided by a Solano advisory committee, but recipients are selected by the YSAQMD Board.

Table 1 – Total Funds Received and Anticipated

	2009-10	2010-11	2011-12	2012-13
Federal Earmarks	\$3,923,846	\$451,000	\$997,200	\$2,816,000
Regional STP	\$85,000	\$2,615,000	\$5,978,000	\$1,094,000
Regional STP - SRTS	\$0	\$35,000	\$0	
Regional CMAQ*	\$580,000	\$4,015,000	\$2,064,906	\$1,394,000
Regional CMAQ - SRTS	\$0	\$607,000	\$300,000	
Federal SRTS				\$500,000
STP for Regional Planning and PPM	\$2,166,000	\$0	\$2,673,000	\$333,000
STIP for Regional Planning and PPM	\$589,000	\$589,000	\$229,000	\$229,000
State STIP (ET, TA, IIP)	\$24,540,000	\$11,142,000	\$0	\$18,274,000
TDA Article 3	\$ 297,657	\$ 266,498	\$ 257,591	\$277,662
TFCA Program Manager Funds	\$ 310,260	\$279,622	\$280,000	\$279,828
YSAQMD Funding	\$260,000	\$262,500	\$244,000	\$290,000

*** Does not include transit funding (i.e., Lifeline funded, etc.) - only CMAQ for capital projects**

As discussed above, some, but not all, of these funds can be used for Active Transportation projects or programs. As a result, it is not possible to accurately project available Active Transportation funds in future years.



Chapter 5 - Making Choices on How to Move Forward

The third chapter identifies the main gaps in the Active Transportation system as facility gaps – the network is not complete, and the supporting facilities are not in place. The fourth chapter identified the funding sources and amounts available for constructing Active Transportation projects and administering Active Transportation programs. There are more projects and programs desired than there are resources to provide them. Chapter five is where specific policies are identified to fill in the gaps between the current and future system. It contains the policies that will help guide STA when it makes funding decisions related to Active Transportation investments.

As was noted previously, there are three levels of nomenclature used:

- Goals – Overall statements of the desired future condition of the system.
- Policies – statements that help guide choices so that goals can be achieved. Policies must advance one of more of the Element goals.
- Milestones – short-term, measureable achievements that indicate if policies are helping to achieve goals.

Before listing the Active Transportation Element policies and milestones, it is worth re-stating three principles that guide the Solano CTP. The first two principles are

the major themes of the 2012 Solano CTP: **Strengthen the System and Reduce Stress by developing, operating and maintaining an integrated local and regional transportation system anchored on the I-80 corridor (Interstate highways 80, 680 and 780). The third principle is Supporting Member Agency Decisions, but doing so Within a Regional Framework.** The following policies are designed to help implement all of the CTP and Active Transportation Element goals, but these three principals have been paramount in the development of the policies.

As mentioned earlier in this Element, one of the primary long term goals of the Active Transportation Element is nearing completion – construction of a cross-county network of Class I and Class 2 bicycle facilities. With the pending funding and completion of the Vaca-Dixon Bike Route and the Jepson Parkway, it will be possible for bicyclists to ride from the Yolo County border, across Solano County, and to cross into Contra Costa County, all on a dedicated bicycle system.





Active Transportation (AT) Policy 1: Identify, develop and maintain an integrated county-wide Active Transportation transportation system that includes the features listed below. This Policy advances all Active Transportation Goals. This network will include:

- An intercommunity network of bicycle and pedestrian paths that connect all of the jurisdictions in Solano County with each other and with the surrounding Bay Area and Central Valley regions.
- Connections from the intercommunity network to activity nodes in each community.
- Facilities along the network and at activity nodes that support and encourage system use.
- Support facilities for Alternative Fuel vehicles, including refueling/recharging stations at transit centers and other activity nodes.
- Encouragement of and incentives for land uses that support and connect to the Active Transportation network.

Discussion – The overall Active Transportation system should work to knit the communities of Solano County together with each other and with the region. As the intercommunity network nears completion, the focus of the active transportation system will shift to connections to activity nodes, development of support facilities, and system maintenance. The Alternative Fuels system is still in its early development stage, so converting public fleets (with an emphasis on transit fleets) and creation of the initial supporting infrastructure network available to the public will still be the focus in this segment of the Active Transportation system.

Policy Milestones - none. The Active Transportation Goals that follow have milestones that will show progress in implementation of Active Transportation Policy 1.

AT Policy 2: Identify and prioritize Active Transportation and Land Use projects based primarily upon decisions made by STA member agencies. Advance projects that are not priorities for STA member agencies only when no local plans exist, when they are contained in an adopted regional plan, or when they provide a clear countywide or regional benefit. This Policy advances Active Transportation Goals 3, 4, 5, 8, 9, 15 and 17.

Discussion - While STA is a Joint Powers Authority (JPA) with its own by-law and governing board, and is authorized in state legislation, it is also an organization that governed by elected officials, and advised by professional staff and citizens from the 8 member jurisdictions. STA is most effective when it plans for and delivers projects and programs with local agency participation. This policy reinforces STA's dedication to first advancing projects that have a local commitment.

It also recognizes that, on occasion, there will be projects that are important on a countywide or regional basis, but that are not a top priority for any one member agency. In these cases, STA may choose to prioritize such projects based upon the regional benefit.





Active Transportation Element

Policy Milestones:

When STA Active Transportation plans and funding plans are adopted, do they prioritize projects that meet the criteria of Active Transportation Policy 2? If yes, this Milestone is being met.

AT Policy 3: Develop and periodically update countywide plans for each of the focus areas of the Active Transportation Element. Provide an annual report to the STA Board on the implementation of the Active Transportation Element and its focus area plans. Use the citizen-based and staff-based advisory committees as the primary means to develop these plans and provide advice on their implementation, while ensuring that countywide and regional projects and policies are also taken into account. This Policy advances Active Transportation Goals 1, 5 and 6.

At a minimum, each plan will include the following:

- A description of the current system covered by the Plan.
- A list of federal and state and regional laws and policies that relate to the system.
- Goals for the future system.
- An analysis of resources and constraints to reaching those goals.
- An analysis of how the specific system interacts with

other aspects of the local and regional transportation system.

- A prioritized list of projects and/or programs.

Discussion – These mode-specific plans provide the specific detail needed for collaborative community-based planning. They are developed and maintained through consultation with local committee members local jurisdiction staff and local elected officials. At the same time, because the plans are then developed in a county-wide context with STA staff and ultimately adopted by the STA Board, they include a larger countywide and regional perspective. This combination of local initiation and county-wide adoption creates an effective system for developing a long-range plan and prioritizing the steps needed to achieve it.

These plans should be periodically updated to ensure they remain relevant. A yearly report to the STA Board on the status of the Plan, and a comprehensive review and update every 5 years, is recommended.

Policy Milestones:

When STA Active Transportation plans are drafted and adopted, do they contain the minimum provisions in Active Transportation Policy 3? If yes, this Milestone is being met.

Is any STA Active Transportation plan more than 5 years old? If no, this Milestone is being met.





AT Policy 4: Provide STA funding for planning, construction and operating funding for priority projects and programs identified in STAs CTP and specific plans. Seek out and provide planning funds so that non-priority projects may become ready for implementation once initial priorities have been met. This Policy advances Active Transportation Goals 5 and 16 and CTP Goal 8.

Discussion – The mode-specific countywide plans are vetted at both a local and county wide level, and include priorities based upon a careful analysis and balancing of needs. By limiting funds to those projects that are plan priorities, it avoids having to go through the analytical process a second time, and will advance projects that have already achieved consensus support.

Policy Milestones:

Is this Policy referred to in STA TAC and Board staff reports? Are projects that are receiving STA Active Transportation-related funds contained in STA Active Transportation countywide plans? If yes, this Milestone is being met.

Are STA Active Transportation-related planning funds being allocated to projects that are contained in STA Active Transportation countywide plans? If yes, this Milestone is being met.

AT Policy 5: Improve safety for users of the Active Transportation system. This Policy advances Active Transportation Goal 10.

Discussion – If people feel the system is not safe, they will not use it. Safety should therefore be at the forefront of discussions regarding the design of new elements of the Active Transportation system as well as for decisions regarding system maintenance and modification.

Policy Milestones:

Do all STA Active Transportation plans address safety? If

yes, this Milestone is being met.

AT Policy 6: Develop and install countywide signage and mapping system. This Policy advances Active Transportation Goal 13. The system should include the following features:

- Is consistent with standards established by MTC.
- To the extent possible, is compatible with standards used by neighboring jurisdictions such as SACOG.
- Provides on-line mapping and trip planning for Active Transportation users.
- Maximizes the use of existing on-line services, whether public or private, and only uses STA resources to fill in gaps.

Discussion – Wayfinding assists system users in finding where they want to go; this increases user comfort and familiarity with the system, and therefore system use. Effective signage also allows system users to explore and find new destinations. Expanding to on-line mapping and guides allows system users to access information by using home or mobile devices. Finally, by using existing services, STA and its member agencies avoid duplication of costs and maximize the ability of private providers to serve customers.

Policy Milestones:

Does the STA have hardcopy and on-line maps for Active Transportation modes? If yes, this Milestone is being met.

Has the STA adopted a Wayfinding Signage Plan consistent with MTC standards and coordinated with local agencies? If no, this Milestone is not being met.

Has the STA or its member agencies installed Wayfinding Signs? If no, this Milestone is not being met.



Active Transportation Element

AT Policy 7: Support the countywide implementation of Complete Streets concepts by assisting each member agency in implementing its own Complete Streets program. This Policy advances Active Transportation Goals 6, 7 and 9.

Discussion – Complete Streets is the concept that roadways should support all potential users, and not just standard passenger vehicles. Other users include goods movement vehicles, transit, bicyclists and pedestrians, and those with mobility impairment. Complete Streets are also “context sensitive,” which means that streets (such as those in rural areas) with no transit demand are not required to be designed to accommodate transit vehicles.

The seven cities and the County have all adopted some form of a Complete Streets program, ranging from General Plan and zoning policies to supporting resolutions. STA can help each community implement their Complete Streets program in part by helping adjacent communities coordinate their Complete Street improvements on intra-jurisdictional roadways.

Policy Milestones:

Is the STA assisting each jurisdiction in implementing its Complete Streets program? If yes, this Milestone is being met.

Are projects subjected to public and advisory commit-

tee review for Complete Streets issues prior to approval, as required by MTC’s Complete Streets policy? If yes, this Milestone is being met.

AT Policy 8: Develop and implement an Active Transportation maintenance program. This Policy advances Active Transportation Goal 12. The program should including the following:

- Identify a methodology to assess the condition of Active Transportation infrastructure that is not part of a public street, such as Class I bike paths.
- Conduct a baseline and subsequent periodic assessments of the condition of this infrastructure.
- Identify Active Transportation maintenance needs, and include those needs in appropriate maintenance plans and budgets.

Discussion – Active Transportation capital projects, like all other projects, deteriorate over time, due to both usage and weather. Unless there is periodic maintenance and repair of these facilities, they will eventually lose their usefulness. There are standard methods of measuring the status of roadways that can be applied to many Active Transportation facilities, such as bike paths and Safe Routes to Schools crosswalks and sidewalks. Other facilities, such as alternative vehicle support infrastructure, do not have clear maintenance measures. This policy calls for maintenance measures to be set for all aspects of Active Transportation, for some resources to be dedicated to measuring those standards, and





for maintenance budgets to consider inclusion of Active Transportation facilities.

Policy Milestones:

Has the STA adopted an Active Transportation maintenance program with the features listed above? If yes, this Milestone is being met.

AT Policy 9: Continue to implement incentive programs for Active Transportation users in order to increase the proportion of trips taken using Active Transportation. This Policy advances Active Transportation Goals 2 and 14. Include the following incentive programs:

- Continue to implement the SSCI Commuter Bicycle Incentive Program.
- Continue to provide incentives for the annual Solano Commute Challenge and Bike to Work Day events.

Discussion – Incentive programs are low-cost methods that support individuals interested in beginning to use Active Transportation. This currently includes assisting with the purchase of a commuter bicycle, the regional Bike to Work Day, and the local Commute Challenge campaign.

Policy Milestones:

Does STA provide incentives for purchase of commuter bicycles? If yes, this Milestone is being met.

Does STA provide incentives for Solano Commute Challenge and Bike to Work Day participants? If yes, this Milestone is being met.

AT Policy 10: Funds from sources related to land use and transportation linkages should be prioritized for projects located in Priority Development Areas and Priority Conservation Areas. This Policy advances Active

Transportation Goals 5, 15, 16 and 17.

- Within PDAs, funds should be prioritized first to support transit centers, second to connect transit centers to other uses, and third for projects that involve creation of new housing or new jobs.
- Within PCAs, funding should be prioritized on providing and maintaining access to key nodes such as direct-to-customer agricultural sales, trailheads into open space areas, or regional produce processing facilities.

Discussion – PDAs and PCAs are just that – priority areas. They are areas of concentrated activity or resources that can best be utilized when concentrated access is provided. In the event of some PCAs, this will not be the case, as they are areas of passive use (watersheds) or private agricultural production. In others cases, such as the direct-to-consumer agricultural sales areas in the Suisun Valley, PCAs provide more effective support of agriculture when there is easy access for bicycle and pedestrian users (as well as automobiles). This policy is intended to prioritize the concentration of transportation resources in those areas of concentrated use.

Policy Milestones:

Is support of PDAs and/or PCAs a factor in prioritizing projects for receipt of STA funds? If yes, this Milestone is being met.

AT Policy 11: Develop and implement a countywide Alternative Fuels feasibility and implementation plan. This Policy advances Active Transportation Goal 1.

Discussion – While much of the Active Transportation Element focus is on active transportation choices and supporting land use decisions, alternative fuels are another aspect of the Element. Development of an Alternative Fuels



Active Transportation Element

feasibility and implementation plan is underway, and should be completed by the end of 2013. This plan will set out overall Alternative Fuels priorities and identify specific projects and programs for funding. As with the bicycle, pedestrian and safe routes to schools plans, many of the priorities will be identified at a local level, and will build upon local efforts and priorities.

Policy Milestones:

Has the STA adopted an Alternative Fuels plan? If yes, this Milestone is being met.

Are funding decisions related to alternative fuels being based upon guidance found in the Alternative Fuels plan? If yes, this Milestone is being met.

AT Policy 12: Examine and expand on Public Private Partnerships (P3s) for Active Transportation facilities. This Policy advances Active Transportation Goals 1, 2, 16 and 17.

Discussion – P3s are another tool for bringing the private sector into the field of transportation. Some areas, such as provision of fuel for alternative fuel vehicles or the management of parking facilities, are fields where the private sector is active, while others, such as operation of transit stations, are more typically the realm of public agencies. P3s can provide public projects access to private sector financial and management expertise, as well as providing private sector players access to new customers. Rather than specifying projects and programs for P3s, this policy encourages their use where

appropriate, and leaves decisions on what is appropriate to each individual case.

Policy Milestones:

When Active Transportation projects are being considered, are P3 alternatives analyzed? If yes, this Milestone is being met.

AT Policy 13: Identify and seek funding for Class I bicycle and pedestrian trails that are not part of a Complete Streets project.

Discussion – While many Class I facilities are associated with a street project, others are not. Examples include the paths along Alamo and Ulatis Creeks in Vacaville, Suisun City's McCoy Creek Trail, and portions of the Bay Trail in Benicia and Vallejo. Funding for these projects can come from different sources than for those along a street. STA and its member agencies should seek out funds for these project types just as aggressively as it does for Complete Streets type of projects.

Policy Milestones:

Are Class I facilities not associated with road or Complete Streets projects identified in the Countywide Bicycle Plan and Countywide Pedestrian Plan? If yes, this Milestone is being met.

Are STA and its member agencies identifying, pursuing and obtaining funds for the planning and construction of Class I facilities not associated with road or Complete





Chapter 6 - Priorities

Priorities need to be set when resources are outstripped by demand, and that is certainly the case with the Active Transportation Element. For example, the Countywide Bicycle Plan has identified \$80 in projects, but only \$20 has been available over the past 10 years to complete bicycle projects. A similar disparity between needs and resources is found in the fields of pedestrian, safe routes to school and alternative fuels projects.

One option that is available, and that has been followed in the past by Solano County prior to 2000, is to advance as many projects as possible. This allows almost all projects to make slight progress; then, when one or two reach the point of construction, they can receive the funds needed for completion. The result of this policy has been to have many projects that have made slow progress towards construction, but few that have actually been built, and therefore provide little benefit to the public. A common popular saying is “when everything is a priority, nothing is a priority,” and it clearly applies when it comes to funding transportation projects.

STA is comfortable with the idea that its advisory committees and plans can effectively identify the projects that are most suitable for prioritized funding. The main choice for prioritization of Active Transportation funds is then to Focus Targeted Active Transportation Funds on Tier 1 Projects from Active Transportation Plans. For example, when STA has the ability to program funds that are targeted to Alternative Fuels, they would go towards priority projects in the (pending) Alternative Fuels plan. The same would apply for Safe Routes to Schools and other Active Transportation fund sources.

The more difficult challenge is to prioritize funds that can be used for more than one Alternative Mode, or for projects or programs that cut across multiple elements. As

noted in the other Elements, the CTP will not set a priority of one type of transportation above another, but will instead look at the best opportunity and most pressing need identified at the time the funds are available.

Within the Active Transportation Element, the prioritization for flexible funds is:

1. Safe Routes to Schools projects and programs
2. Bicycle and Pedestrian projects that support PDAs or PCAs
3. Alternative Fuels infrastructure projects that include public access

The reasoning for this prioritization is that Safe Routes to Schools is a new but well defined program, and has the best opportunity to present low cost but high impact projects to choose from. Safe Routes to Schools also has a large number of direct beneficiaries. Also, Safe Routes to Schools helps train and motivate future users of the bicycle and pedestrian system, and addresses health concerns that are important, even though they are beyond the scope of this CTP.

The focus of Bicycle and Pedestrian projects supporting PDAs and PCAs supports the Transit Element and, at the same time, support the downtown revitalization efforts present in all 7 Solano cities.





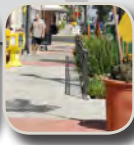
Active Transportation Element

The Alternative Fuels infrastructure projects that include public access provide direct user benefits, reduce demands on public budgets, and help establish a foundation from which market choices can be made by individual consumers/travelers.

Finally, these three priorities have the added benefit of aligning with the policy direction of Plan Bay Area. This helps advance the Solano CTP goal of supporting local decisions within a regional context, and makes these priorities more likely to receive regional funds in the future.

This prioritization does not mean that projects or programs that do not fit neatly into one of these three priorities cannot receive funding. It does, however, mean that these sorts of projects will be highly ranked for competitive funds, and that agencies trying to decide what sort of projects should receive initial local planning funds will know what sort of projects are likely to be more competitive for federal, state and regional funds.





Chapter 7 - Assessing the Active Transportation System

The prior chapters of the Active Transportation Element of the Solano CTP establish goals, and set out a roadmap for achieving those goals. This chapter talks about how the STA, the seven cities and Solano County, the partner agencies and members of the public will actually be able to assess progress towards milestone and goals, as well as how the overall Active Transportation system is performing.

Progress

The establishment of Goals and Milestones for Active Transportation provides all of the tools needed to measure progress in implementation of the Active Transportation Element. The Milestones are especially effective because they are presented in a question format with a clear yes-no answer. On an annual basis, therefore, a report to the STA Board can address each milestone, and consider whether it is being met.

A related task is the occasional update of the Solano CTP. Policy Active Transportation 3 calls for the countywide plans to be updated every 5 years. In a similar vein, the overall CTP should be evaluated on a 5-year schedule. This will allow for new goals and milestones to be set, and completed ones to be removed. Several of the countywide plans, such as the Countywide Bicycle Plan, contain a specific network of facilities proposed for construction, and an inventory of how much of this network has been

completed. This inventory is carried over into the Solano CTP. Through this mechanism, the progress on completing the defined systems can also be assessed on a regular basis.

Performance

Performance of the Active Transportation system is more difficult to measure than for other Elements of the Solano CTP. Transit can be measured by ridership and farebox recovery, and roadway performance can be measured by traffic throughput, congestion, and pavement condition index.

SR2S does have effective measures of effectiveness - for example, the change in travel mode by children attending any participating school. Those performance standards are contained in the SR2S plan, and are not re-printed here.

The remaining Active Transportation do not have the same commonly accepted, easily measured indices of performance. A method to assess multi-modal travel, including auto, transit and bicycle/pedestrian travel, has been established, but has not yet been implemented in Solano County. MTC and other regional entities, including other Bay Area CMAs, are beginning to use this technique to assess the performance of the Active Transportation system.





Active Transportation Element

Chapter 8 - Conclusion

Selecting from alternatives can be challenging, but it is an essential step in moving forward. The Active Transportation Element of the Solano CTP sets out a roadmap - albeit one full of choices to make - for the STA, the seven cities and Solano County to use in implementing an effective Active Transportation system for Solano's residents, workers and visitors. In conjunction with the other Elements of the Solano CTP, the Active Transportation Element helps move Solano forward, whether by foot, on a bike or in an alternative fuel vehicle. It serves as evidence that Solano chooses not to stand still.

