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# TRANSPORTATION AND CIRCULATION

## INTRODUCTION

Solano County roadways provide connections between agricultural lands and major State transportation facilities.



The Transportation and Circulation chapter of the General Plan sets forth the policy framework to shape circulation within Solano County. Roadways carrying vehicular traffic represent the primary components of circulation, but other methods of travel are also addressed—bicycle systems, pedestrian connectivity, bus transit, air service, rail service, and waterway activity. Solano County is expected to continue to experience traffic growth as a result of development within local jurisdictions and the unincorporated county and continued growth in the surrounding counties. The Transportation and Circulation chapter will guide new investment choices within the county and assist in determining the role of new development in addressing future circulation issues.

The predominant circulation issues in Solano County pertain to the conditions and use of county roadways. In particular, the Transportation and Circulation chapter of the General Plan examines the physical roadway characteristics to describe issues surrounding roadway design, upgrading, and maintenance by the Department of Resource Management. In addition, recognition of the roadway standards that exist in the county demonstrates how the County will respond to parties making a dedication of new roadways in the future.

Because unincorporated Solano County encompasses a broad and diverse area, most circulation issues must be examined by looking at the county as a whole. This examination includes the influence of circulation in incorporated cities, as well as through movements that occur between these cities and to and from other counties.

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The General Plan vision statement expresses a desire to achieve a sustainable transportation future. Portions of the vision related to circulation include the following:

*We will reduce our reliance on automobiles to meet our daily travel needs. By considering human and environmental needs equally, we can create a place where people may choose to live, work, and play within close proximity; a place where nature, farmlands, and water are valued; and a place where people have choices for housing, employment, transportation, and recreation.*

The major themes of this chapter and its goals and policies derive from the vision statement:

- reducing reliance on the automobile for all travel purposes,
- providing accessible travel resources for all county residents,
- providing a range of sustainable travel choices that serve county residents and businesses, and
- improving circulation serving the county's agricultural community.

This chapter identifies goals, policies, and implementing programs that serve as an outline to guide the County toward fulfilling this vision.

### Purpose

The goals, policies, and implementation programs in this Transportation and Circulation chapter are designed to guide Solano County toward a better quality of life. To provide a framework for this effort, the Governor's Office of Planning and Research has established guidelines for the content of general plans in California. The chapter that contains circulation topics is required to address specific issues.

As defined in the guidelines:

*The circulation element is not simply a transportation plan. It is an infrastructure plan addressing the circulation of people, goods, energy, water, sewage, storm drainage, and communications. By status, the circulation element must correlate directly with the land use element. The circulation element has direct relationships with the housing, open-space, noise and safety elements.*

*The provisions of circulation affect the community's physical, social and economic environment as follows:*

*Physical—The circulation system is one of the chief generators of physical settlement patterns and its location, design, and constituent modes have major impacts on air quality, plant and*

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*animal habitats, environmental noise, energy use, community appearance, and other environmental components.*

*Social—The circulation system is a primary determinant of the pattern of human settlement. It has a major impact on the areas and activities it serves, on community cohesion, and on the quality of human life. The circulation system should be accessible to all segments of the population, including the disadvantaged, the young, the poor, the elderly, and the disabled.*

*Economic—Economic activities normally require circulation for materials, products, ideas and employees, thus the viability of the community's economy is directly affected by the circulation element. The efficiency of a community's circulation system can either contribute to or adversely affect its economy.*

Mandatory circulation element issues as defined in the statutes are:

- major thoroughfares,
- transportation routes,
- terminals, and
- other local public utilities and facilities.

In addressing these mandatory issues, cities and counties may consider the following topics:

- streets and highways;
- public transit routes, stops, and terminals;
- transit-oriented development;
- private bus routes and terminals;
- bicycle and pedestrian routes and facilities;
- truck routes;
- railroads and railroad depots;
- paratransit plans and proposals;
- navigable waterways, harbors, and terminals;
- airports;
- parking facilities;
- transportation system management;
- air pollution from motor vehicles; and
- emergency routes.

The guidelines are written in a universal way that should be applied to all areas of California from urban to rural. For most of Solano County outside of the incorporated cities, the content of the General Plan's Transportation and Circulation chapter focuses on the most appropriate actions that address the concerns of rural areas, and encourages responsible development strategies in developing areas near adjacent cities.

## Scope and Content

This chapter begins by introducing the County's circulation goals. Separate sections then describe various transportation systems and their potential effects within the county. The topics include:

- general transportation,
- roadways,
- bus transit,
- air service,
- rail services,
- port facilities and ferries, and
- nonmotorized facilities.

Each section contains a summary of conditions followed by a brief overview of applicable federal, state, regional, or county plans, programs, and agencies. Policies and implementation programs specific to each topic then relate back to the overarching goals, which the County will use to ensure general health and safety for its residents.

## Relationship to Other General Plan Chapters

The topics discussed in the Transportation and Circulation chapter are related to the contents of many other chapters in the General Plan. These relationships extend beyond the mandated association with land use policies to all other areas because the circulation facilities are used to connect activity centers, economic activity, and government facilities of all kinds (such as fire stations, police facilities, schools, and parks).

This chapter is related to the Land Use chapter because it incorporates the land use analysis into an analysis of the capacity of a circulation system. If the circulation system's capacity is compromised, the County must identify ways to accommodate the problem when determining what land use designations should be changed.

## GOALS

The goals of the Transportation and Circulation chapter address the County's desire to address circulation concerns.

The following goals provide a general framework for County circulation. Policies and implementation programs designed to meet these goals are provided within the separate topic areas below.

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**TC.G-1: Maintain and improve the County's transportation systems to enhance safety, resident access to basic needs, mobility, and convenience.**

**TC.G-2: Promote coordinated approaches to creating, maintaining and improving transportation corridors and facilities by**

working with other jurisdictions and transportation agencies in funding and implementing projects.

- TC.G-3: Encourage land use patterns that maximize access and mobility options for commuting and other types of trips, and minimize traffic congestion, vehicle miles traveled (VMT), and greenhouse gas emissions.
- TC.G-4: Encourage the use of alternative forms of transportation such as transit, walking and bicycling to alleviate congestion and promote recreation
- TC.G-5: Encourage and maintain the safe, convenient transfer of goods and services from agricultural lands and industrial locations to regional and interregional transportation facilities.

## GENERAL TRANSPORTATION

### Planning Context

Transportation facilities are required to connect all other land use activities within and through Solano County. They are also required to link into the larger regional setting. For this reason, careful planning must occur in a regional context.

The need for appropriately sized transportation facilities is based on the overall demand generated by the land uses. Traffic demands must be considered when roadways are developed; such considerations must include not only the number of lanes of a roadway, but also its preferred cross section so that it is safe enough for all users. For congested roadways, adding lanes or other transportation options may be preferable; these strategies must be studied on a corridor-by-corridor basis.

The state, regional, and local transportation investment programs must be coordinated to efficiently determine needs for transportation facilities. To coordinate these various investment programs, this Transportation and Circulation chapter must be consistent with plans from the Solano Transportation Authority (as the designated congestion management agency) and the Metropolitan Transportation Commission (as the designated metropolitan planning organization).

The costs of constructing, operating, and maintaining transportation facilities are considerable. Thus, the analysis indicating which investments are preferred must be unbiased and consistent. The analysis that supports the discussion in this Transportation and Circulation chapter included the use of a travel demand model maintained by the Solano Transportation Authority. This model simulates the aggregate affect of changes to land uses and transportation corridors throughout Solano County, as well as the adjacent counties in Northern California, to indicate the issues and concerns expected to face Solano County in the future.

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## Related Plans, Programs, and Policies

### Regional Transportation Plan

The *Regional Transportation Plan* is a long-range planning document prepared by the Metropolitan Transportation Commission, serving as the federally designated metropolitan planning organization for transportation projects in the Bay Area. The contents of this document are governed by rules established by the U.S. Congress and implemented by the U.S. Department of Transportation. Among these rules are the maintenance of methods to forecast future travel demand, and plans that identify what can be built when financial constraints exist.

### Solano Comprehensive Transportation Plan

Prepared by the Solano Transportation Authority, the *Solano Comprehensive Transportation Plan* is organized by modes of transportation. It contains separate elements to cover each mode: the Arterials, Highways, and Freeways Element; the Transit Element; and the Alternative Modes Element (for pedestrians and bicycles, as well as strategies for livable communities).

### Solano-Napa Travel Demand Model

The Solano Transportation Authority maintains and updates a regional travel demand model. The model simulates travel demand within Solano County and its jurisdictions (based on regional projections of the viability of building scenarios for all the local general plans), in addition to demands for travel to and from adjacent counties. This model provides demand data for analysis of projected future growth countywide, as well as proposed transportation projects within the county.

## Policies

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- TC.P-1: Maintain and improve current transportation systems to remedy safety and congestion issues, and establish specific actions to address these issues when they occur.
  - TC.P-2: In collaboration with other agencies and cities, continue to plan land uses that concentrate major employment and activity centers and services near transportation systems.
  - TC.P-3: Establish land use patterns that facilitate shorter travel distances and non-auto modes of travel, and limit the extent of additional transportation improvements and maintenance that may be needed with a more dispersed land use pattern.
  - TC.P-4: Evaluate proposals for new development for their compatibility with and potential effects on transportation systems.

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- TC.P-5: Fairly attribute to each development the cost of on- and off-site improvements needed for state and county roads and other transportation systems to accommodate that development, including the potential use of development impact fees to generate revenue.
- TC.P-6: Participate in transportation programs that promote technical solutions resulting in more efficient use of energy, reduced greenhouse gas emissions and noise levels, and improved air quality.
- TC.P-7: Collaborate with other agencies and cities, continue to seek funding from federal, state, regional, or county agencies for major transportation projects and programs through transportation impact fees, private facilities and/or user tolls.
- TC.P-8: Actively participate with the California Department of Transportation, Solano Transportation Authority, cities, and other agencies to plan for any proposed future realignments of current interregional routes.
- TC.P-9: Plan, fund, build, and improve roadways that support agriculture by providing increased connectivity across Interstate 80, including the intersection at Pedrick Road, for farmers and their equipment, and by grading and paving unimproved rural roads.
- TC.P-10: Anticipate increases in vehicular traffic on rural roads that serve agricultural-tourist centers, value-added agricultural uses in the interior valleys, and other unique land uses; complete related roadway improvements that support the viability of such uses.

### Implementation Programs

#### Funding, Physical Improvements, and Capital Projects

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TC.I-1: Require the purchase of energy-efficient or alternative-fuel County vehicles when fleet upgrades occur.

Related Policies: TC.P-6, RS.P-49, RS.P-50, RS.P-51, RS.P-52, RS.P-54, RS.P-56

Agency/Department: All departments

Funding Source: General Fund

Time Frame: Ongoing

**Development Review**

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TC.I-2: Promote development review and mitigation (including the use of transportation impact fees) that focuses on upgrading county roads to County design standards if the new development significantly contributes to the need to upgrade these roads, whether the new development occurs inside or outside of a city.

Related Policies: TC.P-5, TC.P-7

Agency/Department: Public Works; Department of Resource Management

Funding Source: Development fees

Time Frame: Ongoing

**Ongoing Planning Efforts, Public Outreach, and Education**

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TC.I-3: Support regular monitoring of the transportation system by the California Department of Transportation and the Solano Transportation Authority, with emphasis on studying congested areas to identify the cause, duration, and severity of the congestion, and potential traffic management solutions.

Related Policies: TC.P-1, TC.P-8, TC.P-10

Agency/Department: Public Works; Caltrans; Solano Transportation Authority

Funding Source: General Fund; federal and state funds

Time Frame: Ongoing

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TC.I-4: Work with the Solano Transportation Agency to offer financing programs for the purchase or lease of vehicles used in employee ridesharing programs.

Related Policy: TC.P-6

Agency/Department: Public Works; Caltrans; Solano Transportation Authority

Funding Source: General Fund; federal and state funds

Time Frame: Ongoing

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TC.I-5: In cooperation with the Solano Transportation Agency, provide public education about options for reducing motor vehicle-related greenhouse gas emissions. Include information on trip reduction, trip linking, public transit, biking and walking, vehicle performance and efficiency, low- and zero-emissions vehicles, and ridesharing.

Related Policy: TC.P-6

Agency/Department: Public Works; Solano Transportation Authority

Funding Source: General Fund

Time Frame: Ongoing

TC.I-6: Work with Solano Transportation Authority to create an online ridesharing program that matches potential carpoolers immediately.

Related Policy: TC.P-6

Agency/Department: Public Works; Solano Transportation Authority

Funding Source: General Fund

Time Frame: Ongoing

## ROADWAYS

### Planning Context

Interstate 80 near  
Fairfield



Roadways are the primary mode by which most persons and goods are transported in Solano County. Therefore, roadways need to be constructed appropriately to accommodate expected traffic volumes and adjacent land uses, while considering issues of safety, proper design, and accommodation.

### Roadway Classifications

Roadway characteristics are described according to classifications used by Solano County, as listed below. In addition, the County applies specific road improvement standards to the design of new facilities. These standards describe in detail the various geometric requirements for both public and private roadways. Figure TC-1 presents the General Plan circulation diagram, depicting the locations of

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current and planned future roadways and alternative travel routes within the county.

**Local Roads.** These roads are used primarily for access to residences, businesses, or other abutting properties. Ideally, these are paved roads with enough width to allow vehicles to operate in both directions. Local roads are identified on Figure TC-1.

**Collector Roads.** These roads link local and collector roads with arterials, freeways, and other collector roads. They usually have moderate but not congested volume.

**Minor Arterial Roads.** These roads provide a higher level of connectivity with the overall roadway system. They serve the same function as collectors but are intended to carry higher speeds of traffic. These typically will have signalized intersections with other minor arterials and more important roadways.

**Major Arterial Roads.** These roads, often with multiple lanes, provide the highest level of connectivity with local land uses. These facilities are usually controlled by signal operations with multiple phases. Several roadways are designated as major arterials as shown on Figure TC-1.

**Freeways.** Also known as superhighways in the County's *Road Improvement Standards and Land Development Requirements*, these facilities provide interregional connectivity and are designed for limited-access operation without any signalized controls. All roadway access is limited to ramps.

Solano County has four designated freeways that are operated and maintained by the California Department of Transportation (Caltrans):

- *I-80*—from the Contra Costa County line to Yolo County line—The major trunk route for Solano County, this freeway varies between three and four lanes in each direction.
- *I-505* from I-80 to the Yolo County line—This freeway, which has two lanes in each direction, connects Solano County with the northern Sacramento Valley and I-5.
- *I-680* from I-80 to the Contra Costa County line—This freeway connects Solano County with central Contra Costa County and points south. Between I-780 and I-80, the roadway has two lanes in each direction; the southernmost segment, the Benicia-Martinez Bridge, has three to four lanes in each direction.
- *I-780* from I-80 to I-680—This freeway segment between Vallejo and Benicia has two lanes in each direction.

In addition, portions of SR 37 and SR 12 in Solano County are currently designed to freeway or expressway standards, but these sections are not within the unincorporated area.

Solano County relies on the American Association of State Highway and Transportation Officials' *Policy on Geometric Design of Highways and Streets*.

**Routes of Regional Significance.** A Route of Regional Significance is a key roadway that meets most of the following criteria: it has significant traffic volume, it provides an important connection between cities and/or freeways and highways, it provides regional as well as local benefit, it serves as a frontage road or as a reliever route providing an alternative to the use of freeways and highways as a connection between cities, it provides access to significant job concentrations and transit centers in Solano County, it provides an improved emergency response route.

In addition to all State freeways and highways, there are a number of Solano County roads in unincorporated Solano County that have been identified as routes of regional significance. These represent Solano County's most significant roadways, and they will typically be the highest priority for improvement to accommodate the future growth of the County.

### Design of Rural Roads

Design of rural roads must consider other challenges in addition to those of urban streets. Even though one lane of traffic in each direction may be sufficient, the specific lane widths and shoulder widths may need to be adjusted. Specific considerations are described below.

**Use for farm equipment.** Often, farm equipment must use rural roads to access different properties. Providing roads safe for use by farm equipment is one consideration that should be made when designing and improving these roadways. This consideration is especially important when connections over or under freeways are designed, because freeways and their rights-of-way often bisect properties owned by the same entity.

**Transport of agricultural goods.** By definition, agricultural activity results in the creation of goods that must be transported to markets, food processing locations, and other destinations. Generally these goods must be transported by truck using local rural roadways. Design considerations to anticipate this use are appropriate.

**Relationship to drainage.** Rural roadways must be designed to be sensitive to the flow of water through agricultural lands and environmentally sensitive areas. Drainage is of particular concern with any evacuation routes. Although all roadway designs should be attentive to drainage requirements, the issues in rural areas can be profound because of the often-changing nature of adjacent land activity.

**Relationship to available right-of-way.** Many rural roadways are constructed on corridors with limited right-of-way for lane or shoulder widening. Land development proposals should recognize that adjacent

rural roadways may need additional right-of-way, even if no additional traffic capacity is provided.

### Traffic Congestion

Roadway segment volumes indicate overall usage. When a facility's traffic volumes are compared to the facility's capacity, a relative level of congestion can be determined. "Level of service" is a term commonly used to quantify the experience of using roadways when the amount of additional traffic is considered. Level of service is also used as a planning tool to determine the deficiencies of highways in serving traffic volumes. According to the County's *Road Improvement Standards and Land Development Requirements* and the Caltrans *Highway Design Manual*, methods for determining roadways' levels of service are guided by the *Highway Capacity Manual* published by the Transportation Research Board.

The *Highway Capacity Manual* establishes six levels of service for highway facilities. These levels of service are designated "A" through "F," from best to worst, and cover the entire range of potential traffic operations. Each level of service includes a range of operating conditions based on travel speeds and the ratio of volume to capacity.

Solano County covers a wide area, and the land use changes anticipated in most of the unincorporated areas are small in comparison to those forecasted for nearby jurisdictions and counties. This means that the growth in traffic from cities within Solano County and in adjacent counties becomes the primary factor for anticipated increases in traffic volumes. Thus, increased traffic congestion is anticipated on freeways and major arterials that run through Solano County, regardless of the land use activities in the unincorporated portions of the county.

### Interchanges

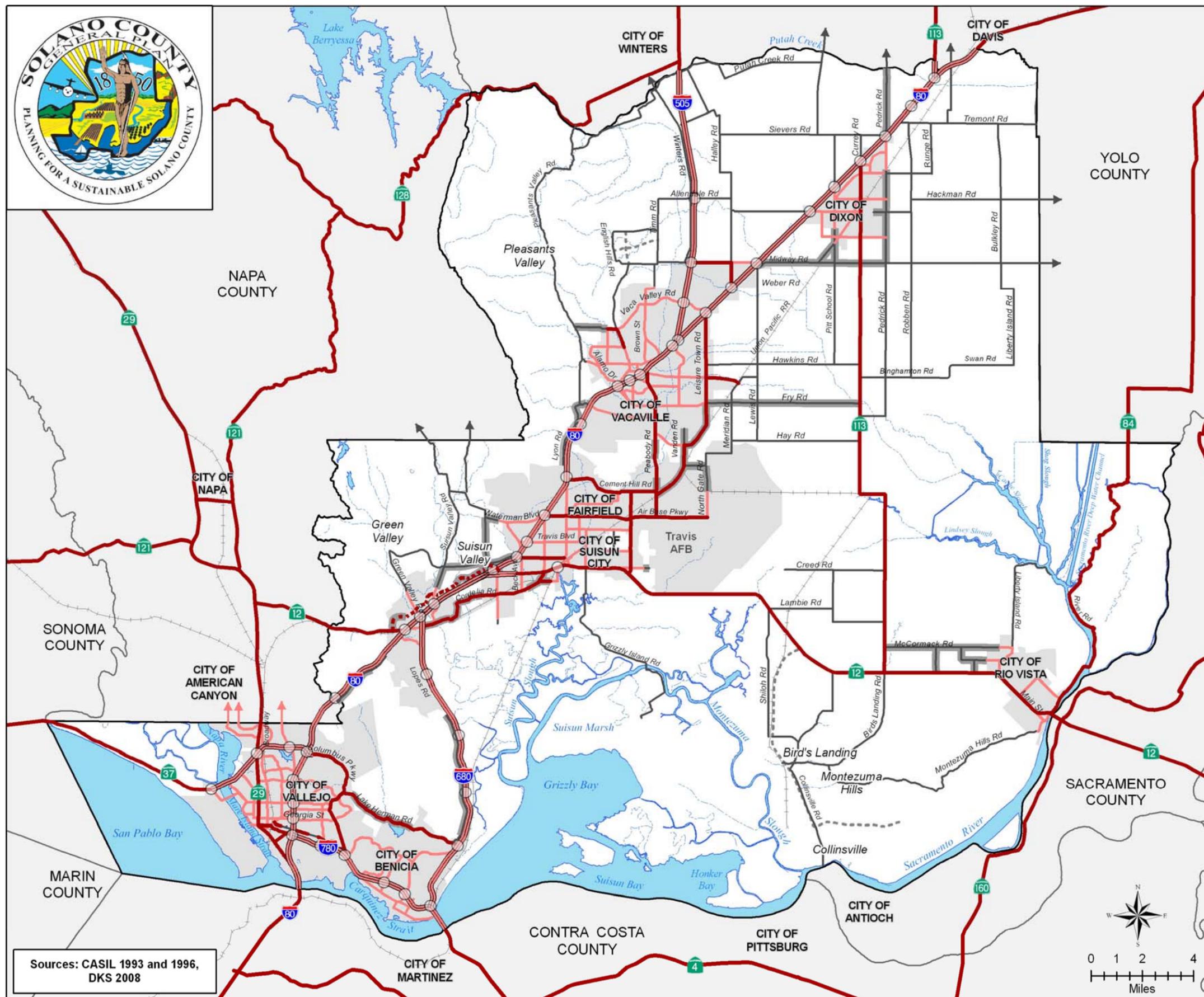
Most freeway interchanges in Solano County were designed and constructed in the 1950's and 1960's. In most cases, these interchanges do not meet current standards. In the future, it is likely that many of the interchanges will need substantial improvements to safely accommodate increasing traffic as the County continues to grow. These improvements may include widening, realigning and reconfiguring the interchange and the associated ramps. It may also involve realigning and improving the County roads in the vicinity. The scope and timing of these improvements will depend upon the rate of development in the County, including within the cities. Because of this, although improvements to these interchanges are anticipated, no specific improvements are shown in the General Plan or the Circulation Element.



# Solano County General Plan

## Figure TC-1

### Roadway Diagram



#### Legend

- County Routes of Regional Significance
- Intersections
- Existing Roadways
  - Freeway
  - Major Arterial
  - Minor Arterial
  - Collector
- Planned Roadways
  - Planned Major Arterial
  - Planned Collector
- Basemap Layers
  - Railroads
  - Streams and Creeks
  - Major Water Features
  - Municipal Service Areas
  - Adjacent Counties

Sources: CASIL 1993 and 1996, DKS 2008



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## Limited Financial Resources for Improving Roadways

Many rural roadways within Solano County were built mainly to serve adjacent agricultural activity. Over time, population growth within nearby cities has resulted in increased traffic on these roads.

Improving roadways to address increased demand is an expensive undertaking. The undertaking is a greater problem in areas where there are no development plans for adjacent parcels and the traffic increases are a result of land use approvals granted by other jurisdictions. Improving roadways to the standards identified by Solano County will take years to achieve; financial strategies will continue to be needed, and priorities must be set for improving particular roads.

Thus, traffic in unincorporated Solano County will increase, but not primarily as a result of County actions. The County will work with local jurisdictions and regional funding agencies to ensure that traffic impacts to the County road system are fully addressed.

## Policies

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- TC.P-11: Maintain and improve the current roadways and highway system to meet recommended design standards set forth by the County, including streets that also carry transit and nonmotorized traffic.
- TC.P-12: Maintain and improve the design of the current roadway system to serve areas where growth is desired and anticipated as identified in the General Plan Land Use Diagram, while minimizing conversion of agricultural and open space areas.
- TC.P-13: Designate and reserve adequate transportation right-of-way to meet projected traffic volumes, anticipating reasonable future demand.

## Implementation Programs

### Regulations

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TC.I-7: Adopt road construction standards that account for flood hazards for public roads used as evacuation routes.

Related Policy: TC.P-11

Agency/Department: Department of Resource Management; Solano County Office of Emergency Services

Funding Source: Federal and state funds; General Fund

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Time Frame: Ongoing

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TC.I-8: Adopt road construction standards that account for the needs of pedestrians, bicyclists, and transit.

Related Policies: TC.P-15, TC.P-19, TC.P-24, TC.P-25, TC.P-26

Agency/Department: Public Works; Solano Transportation Authority

Funding Source: General Fund

Time Frame: Ongoing

### Funding, Physical Improvements, and Capital Projects

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TC.I-9: Maintain an inventory of roadway conditions and widths so that an upgrade and replacement program can be developed and implemented for these facilities.

Related Policies: TC.P-8, TC.P-11

Agency/Department: Department of Resource Management

Funding Source: General Fund

Time Frame: Ongoing

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TC.I-10: Prioritize, secure funding for, design, and build new roadways and complete roadway improvements using the established Capital Improvement Program process to implement the circulation system shown in the General Plan Circulation diagram (Figure TC-1). Ensure that future roadways meet design specifications and performance criteria for each roadway classification.

Related Policies: TC.P-8, TC.P-10, TC.P-12, TC.P-13

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

Time Frame: Determined and prioritized by Capital Improvement Program

### Development Review

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TC.I-11: Review roadway widening needs on major county roadways when reviewing proposed new

developments to ensure that adequate right-of-way will be available.

Related Policy: TC.P-13

Agency/Department: Department of Resource Management

Funding Source: Development fees

Time Frame: Ongoing

### Ongoing Planning Efforts, Public Outreach, and Education

TC.I-12: Create a comprehensive plan of roadway improvements that support agricultural needs. The plan should include increased connectivity across Interstate 80 for farmers and their equipment, improvement of roads that serve agricultural-tourist centers in Suisun and other interior valleys, and grading and paving of unimproved rural roads that serve agricultural areas throughout the county. The plan should specifically address the Pedrick Road/Interstate 80 interchange area and additional roadway improvements needed to support the Limited Industrial area northeast of Dixon.

Related Policies: TC.P-9, TC.P-10

Agency/Department: Department of Resource Management; Agricultural Commissioner

Funding Source: General Fund; grant funds

Time Frame: Ongoing

## BUS TRANSIT

### Planning Context

#### Bus Transit Operations

Bus transit connects the County with surrounding areas



Fixed-route and bus transit service in Solano County is currently managed by several of the Solano County cities. Joint funding options and potential consolidation of some or all of these services are being considered.

Solano County should continue to rely on fixed-route transit and paratransit

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operations provided by other jurisdictions or joint powers agencies. The population densities and patterns of unincorporated Solano County are not high enough to warrant consideration of a separate service operated and subsidized solely by the County.

### Park-and-Ride Lots

Planning for express-bus service could also affect unincorporated Solano County by creating the need for park-and-ride facilities. Although current major lots are located within incorporated areas, future lots could be located near major roadway junctions in unincorporated Solano County.

### Related Plans, Programs, and Policies

The Transit Element of the *Solano Comprehensive Transportation Plan* contains a summary of existing transit services and issues, and proposes a system of transit throughout Solano County using buses, ferries, and rail.

### Policies

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- TC.P-14: Encourage the development of transit facilities and operations along major corridors to connect the county with surrounding activity centers and regional destinations.
  - TC.P-15: Promote the careful location and design of bus stops, transit centers, and complementary roadway projects that maximize the speed and productivity of fixed-route buses.
  - TC.P-16: Require major employment centers to facilitate the provision of adequate public transportation.
  - TC.P-17: Ensure that major retail centers and commercial and industrial centers with high levels of employment are served with adequate public transportation opportunities.

### Implementation Programs

#### Funding, Physical Improvements, and Capital Projects

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- TC.I-13: Support development of transit facilities in strategic locations such as at interchanges and in areas of concentrated activity.
  - Related Policies: TC.P-14, TC.P-19
  - Agency/Department: Local transit operators; Department of Resource Management
  - Funding Source: Federal and state funds
  - Time Frame: Ongoing

TC.I-14: Respond to transit operators' efforts when they propose changes to bus stop locations to improve rider safety or convenience, or to improve bus travel speeds or to improve paratransit services.

Related Policies: TC.P-15, TC.P-19

Agency/Department: Local transit operators; Department of Resource Management

Funding Source: General Fund

Time Frame: Ongoing

## RAIL SERVICES

### Planning Context

Rail service in Solano County is provided by several rail lines. One line is a primary Union Pacific line that carries substantial amounts of freight between Bay Area ports and the rest of the country. Other smaller and spur lines also exist.

In addition, an existing passenger-service rail line, operated by Amtrak, runs through Solano County. The trains on this line offer both regional connectivity (Capitol Corridor) and national connectivity (California Zephyr and Coast Starlight). Capitol Corridor operations have increased significantly since 1997, and studies and proposals to add railway stations in Solano County and add service on the line are under way.

This potentially affects the unincorporated portion of Solano County in several ways, as described below.

A Union Pacific train carries freight through Solano County.



**Expansion of Rail Capacity.** Because the rail corridor is already in high use for both freight and passenger service, there may be additional interest in adding tracks and possibly expanding the rail right-of-way.

**Grade Separations.** The proposal for additional rail service through the county will increase interest in constructing grade separations. The need for grade separations will depend on roadway volumes, train lengths and duration of blockage, and overall design and safety issues such as sight distance and speeds. New at-grade crossings of public roads are generally discouraged.

**Compatibility with Surrounding Land Uses.** Freight rail is often a mode that carries hazardous materials. The trains also sometimes move quickly and can be very difficult to stop. Land use proposals adjacent to rail tracks

should consider the needs of rail operations for safety, speed, and reliability.

### Related Plans, Programs, and Policies

The Transit Element of the *Solano Comprehensive Transportation Plan* contains a summary of existing transit services and issues and proposes a system of transit throughout Solano County using buses, ferries, and rail.

### Policy

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- TC.P-18: Encourage the expansion of passenger rail service through additional trains, new stations, and faster speeds to connect the county with other communities in the Bay Area and the Sacramento area.
  - TC.P-19: Work with Solano Transportation Authority to develop strategies to remove barriers and increase commuter ridership on Amtrak passenger rail, including, but not limited to, collector bus services, bicycle and pedestrian routes to stations, bicycle parking facilities at stations, and promotional campaigns.

### Implementation Programs

#### Funding, Physical Improvements, and Capital Projects

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- TC.I-15: Participate in programs to construct overpasses or underpasses at potentially dangerous and high-volume street locations that cross active railroad tracks.
  - Related Policy: TC.P-18
  - Agency/Department: Department of Resource Management
  - Funding Source: Federal and state funds
  - Time Frame: Ongoing

#### Coordination with Other Agencies and Organizations

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- TC.I-16: Support responsible improvements to track capacity so that both passenger and freight rail, including transportation of hazardous materials, can be operated without delays through Solano County.
  - Related Policies: TC.P-18, TC.P-19
  - Agency/Department: Department of Resource Management

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Funding Source: Federal and state funds

Time Frame: Ongoing

TC.I-17: Support continued development of new train stations at Vacaville/Fairfield, Dixon, and Benicia to improve local access to regional rail service. Continue to support cities' efforts to locate higher density transit-oriented developments near the existing Capitol Corridor passenger rail line. Support improved rail access for Travis Air Force Base and Mare Island.

Related Policies: TC.P-18, TC.P-19

Agency/Department: Board of Supervisors; Department of Resource Management; Public Works

Funding Source: General Fund; federal and state funds

Time Frame: Ongoing

## AIR TRANSPORTATION

### Planning Context

Aircraft operations must be considered in the effort to promote safety at land uses near aviation facilities.

### General-Aviation Airports

Solano County residents have access to general-aviation airports in Vacaville (Nut Tree) and Rio Vista. The Nut Tree Airport is operated by the County, while the Rio Vista Airport is operated by the City of Rio Vista. Activity at both airports promotes access to Solano County from other parts of the country. Planning for runways, hangars, parking, and landside services should be led by the airport operators, but considerations of nearby land uses should be made through dialogue with airport operators.

### Travis Air Force Base

Travis Air Force Base is located in Solano County. This base is an important housing and employment provider for the county, and military aircraft activity occurs regularly at the base. Planning for airport facilities will continue to be performed by the U.S. Air Force, but the County should facilitate the safe operation of aircraft into and out of the base. There are currently no plans to open the operation as a shared-use facility.

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If the roles of Travis Air Force Base change to encourage a shared-use agreement, the County should work with the Air Force and cities to determine the feasibility and appropriateness of future uses.

Policies

- TC.P-20: Support the continued safe operation of current general-aviation airports and heliports and encourage complementary land uses near such facilities.
- TC.P-21: Monitor the potential for a joint-use agreement with Travis Air Force Base to provide for future development of improved local options for commercial aviation. If the status of the base changes, the construction of nonmilitary airport and support uses may be permitted.

Implementation Programs

Regulations

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TC.I-18: Apply appropriate site planning practices and development standards in areas near general-aviation airports and heliports so that aircraft are not disturbed by nearby buildings, overhead wires, cell phone towers, or other possible obstructions.

Related Policy: TC.P-20

Agency/Department: Department of Resource Management

Funding Source: Development fees

Time Frame: Ongoing

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TC.I-19: Discourage residential land uses near general-aviation airports and heliports so that residents will not be disturbed by aircraft noise.

Related Policy: TC.P-20

Agency/Department: Department of Resource Management

Funding Source: Development fees

Time Frame: Ongoing

## PORT FACILITIES AND FERRIES

### Planning Context

There are currently no deepwater port operations within unincorporated Solano County, although deep water access is available near Collinsville. A retired port facility exists on Mare Island, in City of Vallejo and has the potential for future reuse. The creation or reuse of a port to carry deepwater vessels would require further detailed studies of the economic, traffic, and environmental effects on surrounding water and land uses.



Ferries connecting Vallejo to San Francisco provide non-motorized commuting options for Solano County residents.

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Ships regularly operate in the Sacramento River and Carquinez Strait between deepwater ports in other counties. Operation of these ships could potentially result in damage to levees or even environmental hazards from ship accidents.

Passenger service is available at the Vallejo Ferry Terminal, connecting Solano County to San Francisco from the Vallejo Ferry Terminal.

### Policy

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- TC.P-22: Continue to examine the potential for development of deepwater port facilities to support industrial and commercial uses, where compatible with surrounding land uses and the adjacent land-based transportation system.
  - TC.P-23: Evaluate and monitor the effects of water transportation and port activity on the levee system.

### Implementation Program

#### Coordination with Other Agencies and Organizations

TC.I-20: Encourage the use of water transportation when industrial and commercial uses are proposed near deepwater channels.

Related Policy: TC.P-22

Agency/Department: Department of Resource Management

Funding Source: Development fees

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Time Frame: Ongoing

## NONMOTORIZED FACILITIES

### Planning Context

#### Pedestrian Facilities

Because implementation and maintenance of pedestrian-oriented projects will continue to be important, Solano County will continue to work with other jurisdictions to provide safe travel corridors for pedestrians. Much of the planning and funding for bicycle and pedestrian facilities will involve coordination between the County, regional agencies, school districts, and park and natural resource agencies.

Pedestrian facilities take many forms, including those described below.

**Sidewalks and Trails.** These facilities are designed to provide an exclusive corridor for pedestrians to use. Generally, sidewalks are located adjacent to roadways, while trails are designed to provide recreational experiences separated from motorized travel.

**Pedestrian Crossings.** These facilities are locations where markings and/or signs are used to provide pedestrians with an opportunity to safely cross roadways. Pedestrian crossings are important parts of recreational trail systems that cross roadways, and for locations where pedestrian activity is regularly occurring (such as near schools).

#### Bicycle Facilities

Bicycle facilities are generally classified as Class I, II, or III according to the Caltrans *Highway Design Manual*, as referenced in the County's *Road Improvement Standards and Land Development Requirements*. The definitions of each class are as follows:

- **Class I facilities (bike path)**—a completely separated facility and right-of-way (shared with pedestrians) that excludes general motor vehicle traffic.
- **Class II facilities (bike lane)**—a striped lane for one-way bike travel on a roadway.
- **Class III facilities (bike route)**—a facility that has shared use with pedestrian or motor vehicle traffic. It is typically a street with low traffic volumes and speeds, with measures or preferential bike treatment.

Bicycle paths, bicycle lanes, sidewalks, and pedestrian trails will need to be considered where the countywide plans suggest that projects are warranted. Specific corridor issues such as pavement widths and

conditions, rights-of-way, and other design considerations may need to be identified in County implementation policies and design standards.

## Related Plans, Programs, and Policies

### Solano Countywide Pedestrian Plan

The *Solano Countywide Pedestrian Plan*, maintained and updated by the Solano Transportation Authority, contains generalized guidance on providing sidewalks, pedestrian paths and trails, and crossings.

### Solano Countywide Bicycle Plan

The *Solano Countywide Bicycle Plan*, also maintained and updated by the Solano Transportation Authority, summarizes a countywide bicycle system and establishes anticipated costs, funding requirements, and priorities for implementing and maintaining a system.

## Policies

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- TC.P-24: In collaboration with other agencies and cities, continue to plan, design, and create additional bikeways and bikeway connections to provide intercity and intercounty access and incorporate system needs when approving adjacent developments.
  - TC.P-25: Encourage access to open space and recreation through the development of safe, convenient, and connected walking paths, trails, bikeways, and neighborhood-based parks and recreation options.
  - TC.P-26: Accommodate pedestrians and bicyclists in the design and construction of roadway improvements on County facilities.

## Implementation Programs

### Funding, Physical Improvements, and Capital Projects

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- TC.I-21: Design, construct, and maintain bicycle routes as described in the Countywide Pedestrian and Bicycle Plan and ensure that adequate signs and pavement markings are provided.

Related Policy: TC.P-24

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

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Time Frame: Determined and prioritized by Capital Improvement Program

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TC.I-22: Pursue roadway-improvement project funding to complete bicycle path linkages between Solano County communities.

Related Policy: TC.P-24

Agency/Department: Department of Resource Management

Funding Source: Grant funds; General Fund

Time Frame: Determined and prioritized by Capital Improvement Program

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TC.I-23: Support applications to fund new bicycle and pedestrian facilities that close gaps in the system.

Related Policy: TC.P-24

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

Time Frame: Determined and prioritized by Capital Improvement Program

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TC.I-24: Ensure that funding priorities for investment in transportation system improvements are consistent with the land use and economic development goals and policies of the General Plan, especially as these relate to transit-supportive development and are consistent with the Regional Transportation Plan.

Related Policies: TC.P-24, TC.P-25, TC.P-26

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

Time Frame: Determined and prioritized by Capital Improvement Program

**Development Review**

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TC.I-25: Require projects to facilitate bicycle and walking access when feasible. Adopt development

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standards and design guidelines that support such access.

Related Policy: TC.P-25

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

Time Frame: Determined and prioritized by Capital Improvement Program

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TC.I-26: Ensure that nonmotorized transportation systems are interconnected and include amenities such as secure bicycle parking.

Related Policies: TC.P-24, TC.P-25, TC.P-26

Agency/Department: Department of Resource Management

Funding Source: Project Applicant

Time Frame: Determined and prioritized by Capital Improvement Program

### Ongoing Planning Efforts, Public Outreach, and Education

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TC.I-27: Continue to participate in the Safe Routes to School program.

Related Policy: TC.P-25

Agency/Department: Department of Resource Management

Funding Source: Determined and prioritized by Capital Improvement Program

Time Frame: Determined and prioritized by Capital Improvement Program

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