CIRCULATION



As is the case with most California communities, circulation—the movement of people and goods—is an important issue in Napa County. The county's key industry, agriculture, relies on the circulation system to move workers, visitors, services, and product from vineyard to winery and from winery to market. Residents in Napa County need to travel to school, work, and shopping, and visitors to Napa County need safe and convenient ways to access the county's many destinations.

However, as a community with no direct access to an interstate freeway and lacking the population densities that would support significant transit investments, Napa County faces challenges unlike any other county in the Bay Area. Most significantly, Napa County must find ways to maintain and improve access, address congestion, and serve remote areas of the County while preserving the area's rural character.

This Circulation Element of the General Plan presents a summary of transportation issues and presents goals, objectives, policies, and action items intended to help Napa County meet these and other challenges.



IN THIS ELEMENT

- Transportation in Napa County (Page CIR-2)
- Napa County's Roadway System (Page CIR-4)
- Traffic Congestion & Other Issues Facing the County (Page CIR-5)
- Circulation Goals, Policies, Objectives, and Actions (Page CIR-9)
- Figures:
 - Figure CIR-1: Circulation Map (Page CIR-11)

This Element describes the general location and extent of existing and proposed roads and other transportation facilities and services. It is intended to help County decision-makers prioritize future transportation investments to ensure that transportation and land use decisions are correlated as provided for in this Element and in the Agricultural Preservation and Land Use Element.

TRANSPORTATION IN NAPA COUNTY

Most of Napa County's population in 2005 commuted to work by *automobile*, either riding alone or carpooling. Table CIR-A provides a comparative analysis of the commuting choices of Napa County residents versus those for the state of California and the rest of

the country.

Though not a major contributor to the existing transportation system, *public transit services* are available in all of the incorporated jurisdictions and in some of the unincorporated areas of the County. Fixed-route local, intercity, demand-response service, and paratransit are provided as follows:

- VINE, which provides intra- and inter-city fixed route services. VINE operates in the city of Napa, between Calistoga and Vallejo (in Solano County), and between St. Helena and Santa Rosa (in Sonoma County).
- American Canyon Transit provides fixed-route service in American Canyon.
- Yountville Shuttle, provides fixed-route service throughout Yountville, including to the Veterans Hospital.
- **St. Helena Shuttle**, a fixed-route service in St. Helena and to St. Helena Hospital.
- Calistoga Handy Van, a general public dial-a-ride service in Calistoga.
- **VINE GO** paratransit service providing curb-to-curb service for residents countywide who live within ³/₄ of a mile of a bus route.

Transportation Modes

Transportation is a way to move people and goods from one place to another. A transportation mode refers to the way in which people and goods are moved, including:

- Private vehicles
- Public or private transit systems
- Bicycling on roadways or offstreet paths or trails
- Taxis, shuttles, paratransit, and other similar types of transport
- Walking
- Rail
- A i1
- By water on rivers and other waterways

All of these travel modes occur to some extent in Napa County.



- **Downtown Napa Trolley** providing free shuttle service in downtown Napa.
- Private taxi, tour bus, shuttle, and limousine services.

In August 2001, all transit services in the County were consolidated into one agency, now known as the Napa County Transportation & Planning Agency (www.nctpa.net).

TABLE CIR-A:
HOW NAPA COUNTY RESIDENTS TRAVEL TO WORK, 2005
(AND COMPARISON TO REGIONAL, STATE, AND NATIONAL DATA)

Commuter Mode Choice	Napa County	Sonoma County	Bay Area	California	U.S.
Single-Occupant Vehicle ¹	72.7%	74.7%	67%	71.8%	75.7%
Carpool	14.8%	12.6%	14%	14.5%	12.2%
Public Transit	1.4%	2.4%	13%	5.1%	4.7%
Bicycling/Walking	4.1%	3.9%	5%	3.7%	3.3%
Other Means	1.9%	0.7%	<1%	1.0%	0.8%
Work At Home	5.1%	5.4%	1%	3.8%	3.3%
Percentage Who Work Outside County	22%	17.7%	NA	17%	27%
Mean Travel Time to Work (in minutes)	24.3	26.8	29.4	27.7	25.5

Sources: BDR 2005; RIDES Associates "Commuter Profile 2005, Regional Report"

As shown above, Napa County's commuters are generally similar to commuters statewide and nationwide in the way they choose to travel to work. The Bay Area as a whole has a higher percentage of commuters using public transit due to the extensive rail and bus systems in the San Francisco area. Napa County commuters are slightly above national and state averages in their use of bicycles or walking, although this is likely limited to the relatively flat and compact Napa Valley. In other areas of the county, larger distances and more challenging terrain generally limit cycling to a mostly recreational activity.

According to the 2000 Census, approximately 75 percent of all jobs in Napa County are filled by persons who also live in the county. Solano County contributes the highest number of out-of-county workers (14%), followed by Sonoma County (5%).

Rail transportation in Napa County is limited to commercial and freight services. No commuter rail service exists within the county at this time. (The Napa Valley Wine Train is not a transit service but is essentially a sightseeing service between Napa and St. Helena.)

¹ "Single Occupant Vehicle" includes motorcycles.



As of this update, freight service is limited and is planned to be reestablished on a line extending from American Canyon to Schellville, in Sonoma County. This freight line has a spur which extends north to the County's industrial area and the City of Napa.

Air transportation venues in Napa County are principally provided by Napa County Airport and Angwin-Parrett Field Airport.

Located 6.5 miles south of the city of Napa in the unincorporated area, **Napa County Airport** is a general aviation airport operated by the County of Napa. Originally established by the U.S. Army in 1942 as the Napa Auxiliary Air Defense Field, it was turned over to the county in 1945.

Angwin Airport (Parrett Field) is privately owned and operated. It also offers ground schools and flight instruction.

The Lake Berryessa Seaplane Base has an emergency seaplane landing area that is also open to the public for recreational use.

Some visitors come to Napa County by water. Boats can motor up the Napa River as far as the First Street Bridge in the city of Napa. The Napa River played an important role in the early days of Napa County's development, providing an easy means to get the county's agricultural and other products to market.

NAPA COUNTY'S ROADWAY SYSTEM

Napa County's roadway system reflects its primarily agricultural character. The County is different from most other counties in the Bay Area in this regard; the limited number of roadway types and the primarily rural nature of the roadways set Napa County apart from its more urban neighbors.

For instance, only one interstate freeway is located in the county, although there is no direct access to that freeway (I-80) from the county (American Canyon Road and Jamieson Canyon Road connect to the freeway in Solano County).

Types of Bicycle Facilities



Class I Bike Paths are facilities specifically designated for the exclusive use of bicycles and pedestrians. Class I bike paths are separate from streets, although they may cross roadways.

Class II Bike Lanes are striped lanes on a street or highway, designated for use by bicycles. Vehicle parking and vehicle pedestrian cross-flows are permitted at designated locations.

Class III Bike Routes are usually designated by pavement markings to indicate the use of bicycles within the vehicular travel lane of a roadway.

In the county's rural eastern area, no roadway more than two lanes wide currently exists or is planned; all roadways are two lanes wide and are often steep and curving, reflecting the topography of the area.

In the Napa Valley, some roadways are more urban in character. A freeway is located here: a portion of Hwy 29 north of Hwy 121 is designated as a freeway. Also, the portion of Hwy 29 between SR 37 and SR 12/121 is considered part of the Federal Highway Administration's National Highway System, for which the state and federal governments have agreed-upon standards and principles. Roadways serving the incorporated cities

and town are often four lanes wide, although north of the city of Napa most roads remain two lanes wide (but must accommodate higher traffic volumes than often desired).

The Goals and Policies section of this Element defines the types of roadways which are shown on the Circulation Map.

TRAFFIC CONGESTION & OTHER ISSUES FACING THE COUNTY

Car and truck traffic in Napa County has continued to increase since the introduction of the first motor vehicles into the county more than 100 years ago—and this increase in traffic is expected to continue into the foreseeable future as growth in Napa County and the region continues to place more drivers on the road. Existing (2003) and projected traffic volumes for several major roadways in the county are shown in Table CIR-B.

TABLE CIR-B:
EXISTING AND PROJECTED DAILY TRAFFIC VOLUMES FOR SELECTED COUNTY ROADWAYS

Roadway	2003 Volume 2030 Projection		Projected Increase 2003-2030	
Jamieson Canyon (Hwy 12) at Hwy 29	30,410	53,960	23,550 (77%)	
American Canyon Road west of I-80	19,160	25,170	6,010 (31%)	
Hwy 29 south of South Kelly	23,920	67,450	43,530 (181%)	
Hwy 29 north of Hwy 12	34,500	59,420	24,920 (72%)	
Hwy 29 south of Yountville	24,690	42,070	17,380 (70%)	
Hwy 29 north of Zinfandel	19,430	29,490	10,060 (52%)	
Hwy 29 north of Tubbs Lane	6,990	7,610	620 (9%)	
Hwy 121 to Sonoma	27,200	32,090	4,890 (18%)	
Silverado Trail at Sage Canyon	13,520	17,880	4,360 (32%)	
Hwy 128 at Monticello Road	2,220	6,620	4,400 (198%)	

Source: NCTPA Travel Forecast Model, Napa County General Plan Draft EIR Table 4.4-3, 2007. Projected increases in traffic assume some increases in roadway capacity.

As shown above, traffic volumes on roadways in the County are expected to increase substantially in the future, according to regional planning agencies such as the Metropolitan Transportation Commission (MTC) and the Napa County Transportation and Planning Agency (NCTPA). Much of the increase in traffic on county roadways will occur as the result of growth beyond the control of Napa County, because the increase will either be created by development in the cities and towns of Napa County or outside the county entirely (in the Bay Area and the Sacramento region). Table CIR-C shows the percentage of existing vehicle trips starting or ending in the incorporated areas and outside the county. As shown in Table CIR-C, trips involving the unincorporated area currently make up 22 percent of all trips on an average day; in the future, this share is expected to drop slightly to 21 percent.



In addition to commuter traffic, Napa County (and particularly the Napa Valley) is subject to traffic generated by the many tourists who visit the county. According to industry studies, the number of tourist visits to Napa County totals approximately 4.7 million person-trips each year.² Wine-related visitors make up some 80 percent of this total, or approximately 3.2 million persons per year, attracted in large part by the county's approximately 300 wineries, its many world-class restaurants, and the Napa Valley's scenic beauty.

Because most of the county's visitors come to visit wineries, tourism-related impacts are also concentrated on roads providing access to wineries. A study of weekend vs. weekday traffic volumes on major roadways in the county found that the following roadways have higher traffic levels on weekends (when most tourists can be expected to be driving):

- Chiles Pope Valley Road
- Petrified Forest Road
- Silverado Trail
- Wooden Valley Road
- Yountville Cross Road
- Pope Canyon Road

Only one of these roadways—Wooden Valley Road—is not in or directly connected to the Napa Valley, although it does serve a number of wineries in that area, is a shortcut to Lake Berryessa, and provides access to I-80.

Tourists have similar needs to residents—both need safe, efficient ways to move around the county. Tourists, because they are generally less familiar with the county, can be expected to travel mostly on major roads. Because they are somewhat less familiar with local roads, tourists also need better signage to help them find their destinations and to make safe traffic movements (e.g., enough time to be in the proper lane to make a left or right turn).

Although not specifically a circulation issue, the county's visitors also expect a pleasing driving experience which emphasizes the area's scenic beauty and minimizes sign clutter and other intrusions which detract from that beauty. This

Travel in Napa County

- The number of daily vehicle trips that start and end in the county during the evening commute hour is expected to increase from approximately 24,000 in 2003 to about 30,000 in 2030. The total number of miles traveled on an average day will climb from 166,000 miles to approximately 320,000 miles will increase to a greater extent than the number of trips because the average trip will also be longer.
- By 2030, approximately 14,500 cars each day will traverse the county to and from places outside Napa County.
- Trips that start and end inside the county currently account for about 65% of all cars on the road in Napa County. By 2030, these "inside the county" trips will fall to about 50% of total trips.
- 87% of commuting in Napa County is by car.

Source: General Plan EIR, BDR 2005; RIDES Associates "Commuter Profile 2005, Regional Report"

issue is dealt with directly in the Community Character Element of this General Plan.

² "Economic Impact of Wine and Vineyards in Napa County," June 2005, MKF Research. A "person-trip" is equal to one person visiting for one day. For example, one person visiting for two days would count as two "person-trips."



TABLE CIR-C: EXISTING AND PROJECTED SOURCE OF VEHICLE TRIPS IN NAPA COUNTY

Trip Type and Percent of Total	2003	2030
Trips starting and ending in the unincorporated area of the county	7%	7%
Trips starting and ending in cities and town in Napa County	43%	31%
Trips between the unincorporated area and cities and town in Napa County	15%	14%
Trips between Napa County and other counties		24%
Trips starting and ending outside Napa County (that is, passing through the county)		24%

Source: General Plan Traffic Study, 2006

Higher traffic volumes in the future will have a number of potential impacts on the quality of life in Napa County:

- Generally, as traffic volumes³ increase, congestion also increases (unless the capacity of the roadway is improved). Traffic slows down, and trips (especially rush hour commutes) take longer.
- Congested traffic and reduced speeds make it more difficult for residents to move around the County and can make it harder for businesses, visitors, and emergency access.
- Because cars and trucks waste fuel while idling and work most efficiently at speeds of about 45-55
 mph, energy use goes up and personal and business spending on energy increases as a result of
 congested, slow-speed driving.
- More air pollutants are generated for every mile traveled, particularly when vehicles are idling or moving at slower speeds
- Higher traffic volumes also create more traffic noise.

This Element of the General Plan addresses these challenges by setting forth goals, policies, objectives, and action items to guide future infrastructure and land use decision-making. At a broad scale, the goals and policies about transportation included here are correlated with policies of the Agricultural Preservation & Land Use Element by allowing for selected roadway capacity increases in the southern part of the county where the most growth is anticipated, and by focusing attention on access, safety, and alternate modes of transportation throughout Napa County. By correlating transportation goals and policies with the Agricultural Preservation and Land Use Element, this Element is also protective of natural resources (Conservation Element), visual character (Community Character), and the county's thriving economy (Economic Development).

³ See the information box on the next page for definitions of commonly used traffic terminology.



In Napa County, building new or wider roads has been determined to be feasible and desirable in only a few locations, given the rural character of the area and the tremendous cost of road improvements. Attractive public transit alternatives are also difficult to implement in the county's rural areas, where the low number of riders usually means that the service requires substantial government subsidy. In the more developed (and flatter) Napa Valley, these alternative transportation modes are more feasible, and the potential exists to convince drivers to use their cars less, supporting the County's long-held commitment to urban-centered growth.

This Circulation Element outlines a set of policies that include only very limited construction of new or wider roadways. In most areas of the county, the roadway system which exists today (2006) is intended to be the roadway system of the future. Policies explain where roads will be improved, where traffic congestion will be accepted as a trade-off for maintaining the county's rural character, how safe and convenient local access will be provided for, and some creative approaches to transportation alternatives and transportation demand management. Attention is given to special needs populations and the elderly, and ways that any new developments can address the impacts they create or contribute to.

Note to the Reader: Emergency evacuation routes and access are addressed in the Safety Element of this General Plan.

Traffic Terms



The following are a few terms commonly used when discussing traffic issues:

- Volume refers to the number of cars on a roadway, usually measured either on an average day or during a peak hour.
- Peak hour refers to the times of day at which traffic is heaviest usually the morning or evening "rush hour." Most roadways are analyzed and then built to carry the traffic load projected for the peak hours.
- Capacity refers to the maximum number of vehicles that can be carried by a roadway.
- Level of Service is a measure of how well a roadway is able to carry traffic. Level of Service (or "LOS") is often expressed as a ratio between volume and capacity. LOS is usually designated with a letter grade A-F. LOS "A" is best; "F" is worst.
- Transportation Demand Management is the use of measures to place fewer cars on the road (especially during peak hours).
 Typical measures include encouraging car- and vanpools, telecommuting incentives, and flexible work schedules.



CIRCULATION GOALS, POLICIES, OBJECTIVES, AND ACTIONS

Goal CIR-1: The County's transportation system shall be correlated with the

policies of the Agricultural Preservation and Land Use Element and

protective of the County's rural character.

Policy CIR-1: Consistent with urban-centered growth policies in the Agricultural Preservation and

Land Use Element, new residential and commercial development shall be concentrated within existing cities and towns and urbanized areas where sufficient densities can

support transit services and development of pedestrian and bicycle facilities.

Policy CIR-2: The County will work with the cities and town through the Napa County Transportation

and Planning Agency to coordinate seamless transportation systems and improve the efficiency of the transportation system by coordinating the construction of planned

roadway, bicycle, pedestrian, and other transportation systems.

Policy CIR-3: The County will seek to concentrate multi-unit housing development in proximity to

employment centers and services to increase the percentage of work trips that are by

modes other than private drive-alone automobile.

Policy CIR-4: The County supports a coordinated approach to land use and circulation planning to

promote a healthier community by encouraging walking, bicycling, and other forms of

transportation which decrease motor vehicle use.

Note to the Reader: Please see the Housing Element of this General Plan for information on how the County is encouraging the development of workforce housing so that persons employed in the county can avoid long commutes from other areas.

Policy CIR-5: Roadways outside the urbanized areas of the county shall reflect the rural character of

the county.

Policy CIR-6: The county's roadway improvements should minimize disruption to residential

neighborhoods, communities, and agriculture.

<u>Policy CIR-7</u>: Roadway improvements shall be designed to conform to existing landforms and shall

include landscaping and/or other treatments to ensure that aesthetics and rural character

are preserved.

Policy CIR-8: Roadway, culvert, and bridge improvements and repairs shall be designed and

constructed to minimize fine-sediment and other pollutant delivery to waterways, to minimize increases in peak flows and flooding on adjacent properties, and where applicable to allow for fish passage and migration, consistent with all applicable codes

and regulations.

<u>Policy CIR-9</u>: The County supports beautification programs for roadways in the unincorporated area.

Roadway beautification shall be consistent with the character of the area in which the roadway is located and with other County policies related to preserving the character of



the county including policies on signage as defined in the Community Character Element.

Policy CIR-10:

The County will work with NCTPA and seek to develop innovative approaches to providing transportation service to the county's rural areas without the need for additional roadway lanes or other improvements that would detract from the visual and community character of these areas.

Action Item CIR-10.1: County staff shall participate in the periodic updates of the Napa County Transportation and Planning Agency's Strategic Transportation Plan (STP), and use that forum for consideration and development of innovative strategies related to the movement of people and services without increasing the use of private vehicles. The County shall seek input from experts in sustainability, smart growth, and land use planning in developing potential new strategies.

Goal CIR-2:

The County's transportation system shall provide for safe and efficient movement on well-maintained roads throughout the County, meeting the needs of Napa County residents, businesses, employees, visitors, special needs populations, and the elderly.

Policy CIR-11:

The Circulation Map contained in this Element shall show the following roadway types as comprising the planned roadway system. Local roadways need not be shown on the Circulation Map. The Circulation Map is a visual depiction of the County's policy regarding the ultimate width and general location of roadways in the unincorporated area.

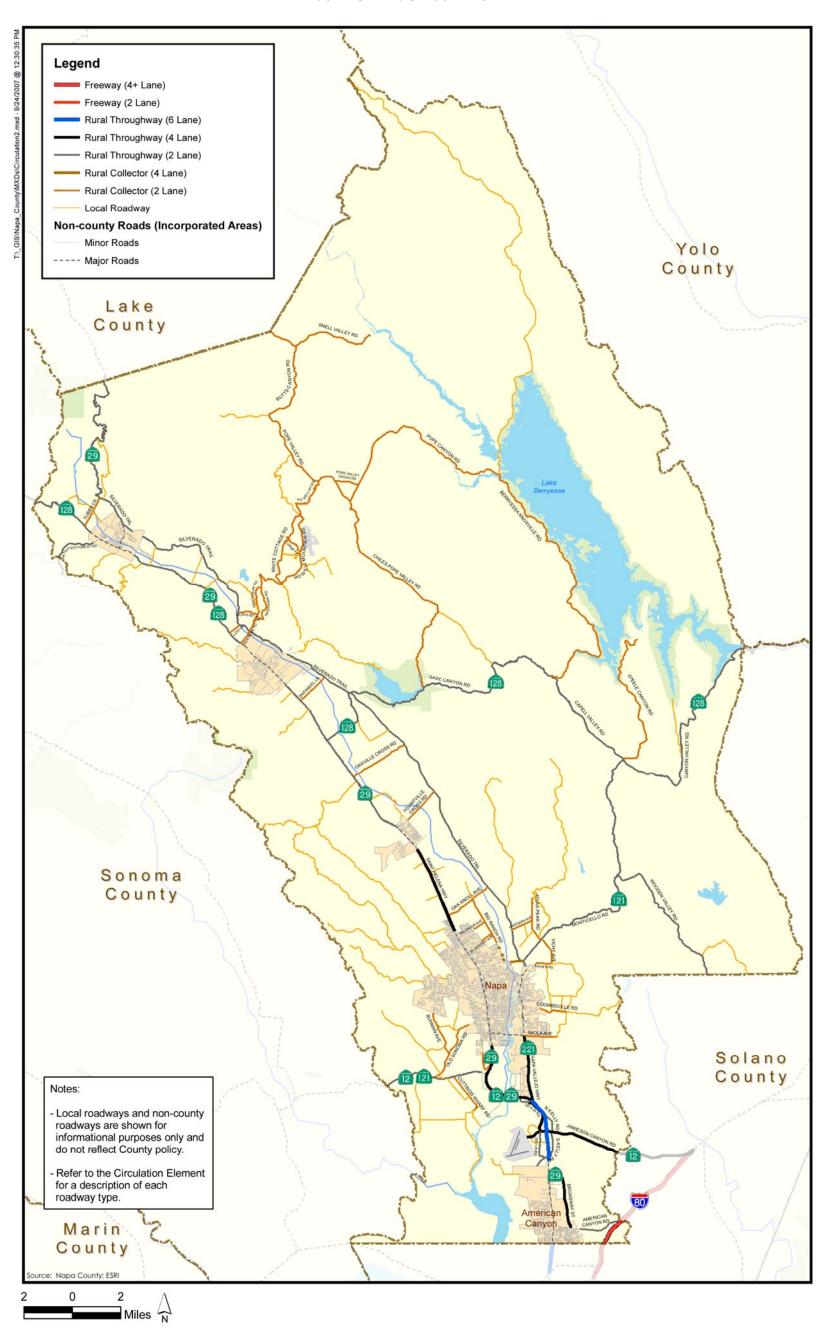
Freeways: Four- to six-through-lane⁴ roadways characterized by limited access (e.g., only at interchanges) and controlled (e.g., ramp metering) access and designed for high speed (up to 70 mph) travel.

Rural Throughway: Two- to six-through-lane roadways such as Highway 29 or Silverado Trail designed primarily for longer-distance travel between major centers of activity (such as incorporated jurisdictions or distant locations in the county) and built to accommodate this type of travel (fewer or more gentle curves, wider shoulders, limited driveway access, etc.). These roadways are often referred to as "arterials." The six-lane configuration is to be applied only to the portion of Hwy 29 in the unincorporated area south of the Hwy 221/12 interchange.

⁴ Note: Each roadway will typically have the same number of lanes in each direction; a four-through-lane roadway will usually have two lanes in each direction. Left or right turn lanes or medians are not considered to be through lanes and are not included in the lane counts.



FIGURE CIR-1: CIRCULATION MAP



Source: Napa County, 2007



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Rural Collectors: Two- to four-through-lane roadways designed primarily to link locally important activity centers and provide a collection system for the local roads. Rural collectors will typically be designed for slower travel speeds than Rural Throughways and may incorporate sharper curves, narrower pavement widths, and other features consistent with slower vehicle speeds.

Local Roadways: Roadways which provide access to individual homes and businesses.

Action Item CIR-11.1: The County shall adopt, periodically review, and revise as appropriate specific road and street standards for County roads. These standards shall include overall right-of-way widths, pavement widths, lane and shoulder widths, and other design details. The County's roadway standards shall be developed in consultation with the County Fire Marshal, County Public Works, and others to ensure adequate widths for safety and emergency access and evacuation.

Policy CIR-12:

Roadway improvements at entrances to the county shall be carefully considered, and additional lanes shall be added only where necessary for safety and only if the additional lanes will not exacerbate traffic congestion elsewhere in the county. Key entrances where capacity will generally not be increased include:

- Hwy 128 from Yolo County
- Hwy 29 from Lake County
- Petrified Forest Road from Sonoma County
- Hwy 121 from Sonoma County
- Butts Canyon Road from Lake County

Other entrances, as determined by the County, may also be given special consideration.

Policy CIR-13:

The County seeks to provide a roadway system that maintains current roadway capacities in most locations and is both safe and efficient in terms of providing local access. The following list of improvements, illustrated as the County's ultimate road network in Figure CIR-1, has been supported by policy makers within the County and all five incorporated cities/town, and will be implemented over time by the County and other agencies to the extent that improvements continue to enjoy political support and funding becomes available:

South of Napa

- Widen Jamieson Canyon Road (Route 12) by adding one additional vehicular travel lane and room for a class II bike lane in each direction. Construct a safety median barrier in the centerline, straighten unsafe curves, lower the grade where possible, install turn lanes for safety and to allow for parcel access as appropriate, and allow a Ridge Trail crossing for pedestrian, equestrian, and bicycle use.
- Construct an interchange at the intersection of State Route 12, Airport Boulevard, and State Route 29 within the most efficient footprint, including any necessary appurtenant facilities.



- Extend Flosden/Newell Road from American Canyon Road to Green Island Road as a reliever route to traffic on Hwy 29 in collaboration with the City of American Canyon.
- Complete Devlin Road between Soscol Ferry Road and Green Island Road in collaboration with the City of American Canyon as a reliever route to Highway 29.
- In coordination with the City of American Canyon, consider widening Hwy 29 between SR 221 and the Solano County line
- Work with the City of American Canyon to synchronize traffic signals on Hwy 29 between SR 221 and the Solano County line.
- Improve the intersection of State Route 221/State Route 12/Hwy 29 to increase capacity and safety.

North of Napa

- Intersection improvements to improve safety and traffic flow at the intersections of State Route 29 and Silverado Trail with Oakville Grade, Oakville Cross Road, Rutherford Cross Road, Yountville Cross Road, Deer Park Road, Dunaweal Lane, Lincoln Avenue, and Tubbs Lane. Also including the intersections of State Route 29 with Silverado Trail, and the intersections of State Route 128 with Petrified Forest Road and Tubbs Lane.
- Construct safety and flow improvements to SR 29 between Oakville and St. Helena.
- Develop and implement methods to divert traffic from downtown St. Helena and Calistoga to reduce congestion and improve intra-county traffic flow.

Countywide

- Install safety improvements on rural roads and highways throughout the county including but not limited to new signals, bike lanes, bikeways, shoulder widening, softening sharp curves, etc.
- Consider roundabouts as effective alternatives to stop signals or signal controlled intersections, where appropriate.

Action Item CIR-13.1: Work with the Napa County Transportation and Planning Agency and other agencies to fund and implement the improvements listed in Policy CIR-13.

Note to the Reader: Please see also Policy CC-11 in the Community Character Element of this General Plan, which addresses aesthetic improvements to Hwy 29 to be pursued jointly with the City of American Canyon.

Policy CIR-13.5:

While not suitable for all intersections, roundabouts have a wide variety of applications, and Napa County will consider them as an alternative for intersection improvements. Roundabouts have been used extensively in Europe for several decades, and their use in the United States has grown substantially over the past several years. Research shows that they have the potential to reduce accidents, traffic delays, fuel consumption, air pollution, maintenance, and in some cases construction costs compared to more traditional intersection controls.

Policy CIR-14:

Recognizing limited funding for road maintenance, the County shall prioritize maintenance activities which provide safe travel for the public.

Policy CIR-15:

The County shall maintain and apply highway consistent access standards regarding new driveways to minimize interference with through traffic while providing adequate local access. County shall also maintain and apply consistent standards (though not exceeding public road standards) regarding road widths, turn lanes, and other improvements required in association with new Application of these development. standards shall consider the level of improvements on contiguous roads.

Policy CIR-16:

The County shall seek to maintain an adequate level of service on roads and at intersections as follows. The desired level of service shall be measured at peak hours on weekdays.

 The County shall seek to maintain an arterial Level of Service D or better on all county roadways, except where maintaining this desired level of service would require the installation of more travel lanes than shown on the Circulation Map.

Level of Service

Level of Service (LOS) is a measure of how well an intersection or roadway is able to carry traffic. LOS is usually designated with a letter grade A-F, where "A" is best and "F" is worst. The following are basic descriptions of each LOS:

- Level of Service A Relatively free flow of traffic, with little or no limitation on vehicle movement or speed.
- Level of Service B A steady flow of traffic, with only slight delays in vehicle movement and speed. All cars are able to clear intersections in a single signal cycle.
- Level of Service C A reasonably steady, high-volume flow of traffic, with some limitations on movement and speed, and occasional backups on critical approaches.
- Level of Service D The level where traffic nears an unstable flow. Intersections still function, but short queues develop and cars may have to wait through one cycle during short peaks.
- Level of Service E Traffic characterized by slow movement and frequent (although momentary) stoppages. At peak traffic hours, traffic frequently stops, there are long-standing queues, and intersections may be blocked by cars attempting to cross.
- Level of Service F LOS F is marked by "stop-and-go" traffic and stoppages of long duration. Vehicles at signalized intersections usually have to wait through one or more signal changes, and intersections may be blocked by the long queues.



- The County shall seek to maintain a Level of Service D or better at all signalized intersections, except where the level of service already exceeds this standard (i.e., Level of Service E or F) and where increased intersection capacity is not feasible without substantial additional right-of-way.
- No single level of service standard is appropriate for un-signalized intersections, which shall be evaluated on a case-by-case basis to determine if signal warrants are met.

Action Item CIR-16.1: Work with the Napa County Transportation and Planning Agency, adjacent counties, the Metropolitan Transportation Commission, and the California Department of Transportation to monitor traffic volumes and congestion on the roadway system in Napa County.

Policy CIR-17:

Where traffic signals are within ¼ mile of each other, work with the agencies who have jurisdiction to synchronize the signals in order to reduce delay, improve traffic flow, and reduce energy consumption and air pollutant emissions.

Policy CIR-18:

Traffic safety and adequate local access will be priorities on roadway segments and at signalized intersections where a Level of Service D or better cannot be achieved. Therefore, proposed capital improvements and development projects in these areas shall be evaluated to determine their effect on safety or local access. Projects that improve safety, improve local access, or alleviate congestion will be prioritized.

Policy CIR-19:

Applicants proposing new discretionary development projects with the potential to significantly affect traffic operations shall be required to prepare a traffic analysis prior to consideration of their project by the County and shall be required to mitigate project impacts and to pay their fair share of countywide cumulative traffic improvements based on their contribution to the need for these improvements.

Action Item CIR-19.1: In cooperation with the Napa County Transportation and Planning Agency, develop a countywide traffic impact fee to address cumulative (i.e., not project-specific) impacts associated with new employment. Fees shall be used to pay for the cost of network improvements listed in Policy CIR-13 as well as other transportation improvements such as transit.

Policy CIR-20:

The County shall seek to discourage increases in commuter traffic passing through the county on all roadways except I-80 by providing a balanced land use pattern, by designing county roadways to meet local rather than regional needs, and by supporting improvements to alternative facilities outside the County (e.g., State Route 37).

Objective CIR-1:

By 2030, reduce the growth rate for the number of pass-through trips (those using Napa County roadways to access starting points and destinations outside the county) to no more than the growth rate for trips with start and/or end points in the county.

Policy CIR-21:

The County shall support provision of alternate (parallel) routes for local residents to avoid traffic congestion on major thoroughfares.



Policy CIR-22:

While the design of roadways shall be based on meeting local needs, the County shall also seek to meet the specific needs of senior citizens and tourist drivers, such as signage and intersections, to make driving for all users safer and easier.

Action Item CIR-22.1: The County shall work with the incorporated cities and town, the Napa County Transportation and Planning Agency, and Caltrans to develop a coordinated approach to roadway design to enhance driver and pedestrian safety, particularly for children and senior citizens.

Policy CIR-23:

New uses shall provide adequate parking to meet their anticipated parking demand and shall not provide excess parking that could stimulate unnecessary vehicle trips or commercial activity exceeding the site's capacity. The concept of shared parking may be considered.

Policy CIR-24:

Parking lost as the result of roadway improvement projects shall be replaced to ensure that County Zoning Code parking standards are maintained.

Goal CIR-3:

The County's transportation system shall encompass the use of private vehicles, local and regional transit, paratransit, walking, bicycling, air travel, rail, and water transport.

Policy CIR-25:

Preserve rail corridors and the navigable sections of the Napa River as regional transportation assets, encouraging and not precluding their future use for recreational travel as well as for the movement of passengers and goods.

Policy CIR-26:

Increase the attractiveness and use of energy-efficient forms of transportation such as public transit, walking, and bicycling through a variety of means, including promoting transit-oriented development in existing municipalities and urbanized areas and the use of transit by visitors to Napa County.

Action Item CIR-26.1: The County will work with the Napa County Transportation and Planning Agency to conduct regular reviews of public transit use and opportunities for its expansion in Napa County.

Note to the Reader: Increasing the use of energy-efficient forms of transportation is closely related to the goals and policies contained in the Conservation Element to reduce the emission of air pollutants and greenhouse gases.

Objective CIR-2:

Work with the Napa County Transportation and Planning Agency and incorporated jurisdictions in Napa County to reduce the percentage of work trips that are by private, single-occupant vehicles by 2030 such that Napa County's percentage decreases to 50 percent. This objective may be accomplished by increasing the percentage of trips by bicycle, walking, transit, and/or carpool, and by increasing non-traditional work schedules and work practices (e.g., working at home).

Action Item CIR-26.2: The County shall establish targets for interim years to enable the County to monitor progress towards its objective of reducing the percentage of work trips that are by private, single occupant vehicles to 50%.



Policy CIR-27:

Transportation services shall address the needs of non-drivers and those without cars living in rural areas. Services may include community-focused and private transit and paratransit services.

Objective CIR-3:

The County shall work with Caltrans and other agencies to construct or designate approximately 40 miles of additional bicycle lanes in Napa County by 2030, consistent with priorities identified in the Napa Countywide Bicycle Master Plan.

Note to the Reader: Please see the Recreation and Open Space Element for additional policies and objectives related to offstreet trails, including prohibitions on the use of eminent domain for recreational facilities.

Policy CIR-28:

The County supports programs to reduce single-occupant vehicle use and encourage carpooling, transit use, and alternative modes such bicycle, walking, and telecommuting, and shall seek to maintain total trips in the County using travel modes other than private vehicles (transit, walking, bicycling, public transit, etc.) at least at the 2006 levels.

Action Item CIR-28.1: Work with major employers and the Napa County Transportation and Planning Agency to offer incentives for carpooling and the use of cost-efficient ground transportation alternatives to the private automobile.

Action Item CIR-28.2: Adopt hours of operation/schedules for County meetings (e.g., Planning Commission and Board of Supervisors) which are coordinated with public transit availability in order to make it easier for residents to use transit when doing business with the County. The County shall encourage schools and other public agencies to do the same.

Policy CIR-29:

As a major employer, the County of Napa shall demonstrate leadership in the implementation of programs encouraging the use of alternative modes of transportation by its employees, as well as the use of alternative fuels. Example programs may include:

- Preferential carpool parking and other ridesharing incentives;
- Flexible working hours or telecommuting where consistent with job duties and customer service needs;
- A purchasing program that favors hybrid, electric, or other non-gasoline vehicles;
- Assisting in the development of demonstration projects for alternative fuel technologies such as ethanol, hydrogen, and electricity;
- Secure bicycle parking; and
- Transit incentives.

Policy CIR-30:

The County shall encourage the use of public transportation by tourists and visitors and will work with wineries to encourage the use of these options and the development of private mass transit.

Policy CIR-31:

The County shall work with the Napa County Transportation and Planning Agency and other transit agencies in adjoining counties to develop effective connections between public transit in Napa County and regional transportation networks (BART, Baylink ferry, airports, etc.) via rail, bus, bicycle, and other means to serve the needs of local residents, commuters, and visitors.

Policy CIR-32:

All developments along fixed transit routes shall provide appropriate amenities designed to encourage carpooling, bicycle, and transit use. Typical features could include public bus turnouts/access located in coordination with the Napa County Transportation and Planning Agency, bicycle lockers, and carpool/vanpool parking.

Action Item CIR-32.1: Update the County Zoning Code to include requirements and standards related to carpooling, bicycling, and transit amenities in development projects.

Policy CIR-33:

Pedestrian and bicycle access shall be integrated into all parking lots where feasible and appropriate and considered in the evaluation of development proposals and public projects.

Policy CIR-34:

Where they are not needed for other transportation purposes and where such use would implement the Napa Countywide Bicycle Plan or other County-adopted master plan, newly abandoned rail rights-of-way shall be used for alternative uses such as public transit routes, bicycle paths, or pedestrian/hiking routes, provided that they are compatible with adjacent uses and sufficient funding is available for right-of-way acquisition, construction, and long-term maintenance.

Policy CIR-35:

The County shall work with the Napa County Transportation and Planning Agency, the incorporated cities and town, other agencies, and development projects to work toward implementation of the Napa Countywide Master Bicycle Plan.

Policy CIR-36:

The needs of pedestrians and bicyclists shall be routinely considered and, where possible, accommodated in all roadway construction and renovation projects.

Policy CIR-37:

Where sufficient right-of-way is available, bicycle lanes shall be added to county roadways when repaving or upgrading of the roadway occurs, provided that the bicycle facility would implement the Countywide Bicycle Master Plan. Additional paving shall be provided only where the facility meets the "Regional Assessment System" adopted by the Napa County Transportation and Planning Agency. The County shall encourage Caltrans to follow these same guidelines on state highways in Napa County.

Policy CIR-38:

Maintain Napa County Airport as a general aviation facility and avoid land use conflicts via land use compatibility planning and by ensuring appropriate reviews of land use decisions by the Airport Land Use Commission.

Policy CIR-39:

The County supports runway and other technological improvements to Napa County Airport to improve its safety and usefulness as a civil aviation center.

Policy CIR-40:

The County supports the preservation of Angwin Airport (Parrett Field) for general aviation.



Policy CIR-41:

The County shall review this Circulation Element periodically to ensure that it embraces future technological innovations that improve vehicle emissions, transportation options, and airport operations.