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# Circulation Element



## THE CIRCULATION ELEMENT

"As the transportation facilities of a community are, so is the community. A community without water transportation, with inadequate facilities for railroad traffic, and with bad roads cannot hope to be prosperous and progressive in any great degree; and the possession of these advantages goes a great way toward counteracting the lack of others".

McComish and Lambert  
History of Colusa County, 1918

### ORGANIZATION OF THE CIRCULATION ELEMENT

The Circulation Element addresses the movement of people and goods through Colusa County. All cities and counties in California are required to have a plan for streets, highways, public transit, airports, railroads, waterways, bicyclists and pedestrians, pipelines, and electric transmission lines. Each of these systems will be impacted somehow by the changes in land use that are planned during the next two decades. This element summarizes these impacts and describes the improvements that will be needed to ensure continued mobility in the county. The Element has relied heavily on the 1986 Regional Transportation Plan as the source of information and recommendations.

The Element begins with an explanation of its intent and the factors that must be taken into consideration when planning circulation improvements. The legal basis for circulation planning is cited, and the relationship of this element to other transportation plans--namely the Regional Transportation Plan and the Caltrans District 3 Systems Management Plan--is reviewed. An overview of each component of the circulation system is provided, followed by an assessment of the impact of the land use plan on circulation needs. Circulation policies which achieve the goals and objectives set forth in Chapter II are then presented. These policies are tied to a countywide plan for circulation improvements and to thoroughfare plans for Ar-buckle, Colusa, Maxwell, and Williams. This chapter also includes a section on scenic highways, listing policies that protect and enhance the visual qualities of the county's roads.

### BACKGROUND

#### THE TRANSPORTATION PROBLEM

Most Colusa Countians agree that scenic, uncongested roadways are one of the county's greatest assets. They recognize the county's good fortune in being spared the traffic jams and gridlock conditions that have become prevalent in many of the state's urban and resort areas. At the same time, county residents agree that Colusa County roads are far from ideal. Many segments of the road system are in poor condition. Driving in the county can be dangerous as well as damaging to motor vehicles.

Despite its relatively low traffic volumes and smooth operating conditions, Colusa County's road system faces serious maintenance problems. A financial crisis brought about by increasing travel demand, soaring construction costs, and decreasing state and federal funds has prevented the county from expanding its transportation system. More significantly, maintenance of the existing system has been deferred, reducing the capacity of the system as well as hindering its expansion.

Maintenance of the county's roadways is more than just a local concern; the county's road system furnishes mobility to agricultural and timber vehicles which serve state and even national markets. About 2 million tons of field crops and up to 1 million board feet of lumber are transported on county roads each year. Many of the vehicles responsible for the high cost of maintaining Colusa County roads--farm trucks, lumber trucks, and recreational trailers--originate outside the county and contribute nothing to the repair of county roadways. As this situation continues in the future, the gap between road costs and county finances will become greater. Inequities between those who use the road system and those who are left paying for improvements will also become greater.

Because road improvement needs far exceed local financial resources, a greater emphasis has been placed on making the most efficient use of existing transportation systems rather than expanding or building new systems. The most conventional way to do this is to encourage the use of public transit, to improve provisions for pedestrians and bicyclists, and to establish ridesharing and carpooling programs. Unfortunately, all of these approaches are best suited to urban settings and can only achieve limited success in a rural area like Colusa County.

In Colusa County, the most effective method to reduce future traffic problems is to encourage a community-centered land use pattern in which people travel relatively short distances between their homes, work places, shopping places, schools, and recreational areas. Each community's land use plan should encourage some degree of self-sufficiency. The land use plan should also consider the capacity of the existing transportation system and should locate future development in those areas where road improvements can be kept to a minimum. Developments which mandate new or improved roadways must pay their fair share of construction costs.

## OVERVIEW OF ONGOING CIRCULATION PLANNING ACTIVITIES

### Caltrans District 3

Assembly Bill 69 (1972) created the California Department of Transportation (Caltrans) and established a requirement for Statewide and regional transportation planning. The Systems Management Plan (SMP) for District 3, published in June, 1986, focuses on getting goods, people, and services moved to where they need to go.

The District 3 SMP is designed to guide improvements to the State highway system over the next 20 to 30 years. The Plan identifies current and projected system deficiencies and sets priorities for future improvements in an 11-county area that stretches from Sacramento to Chico and from the Coast Range to Nevada. The Plan acknowledges the fiscal constraints mentioned in the previous section. It gives first priority to roads which support the economy and commerce of the state, second priority to "lifeline" routes that provide the only means of access to smaller cities

and towns, and third priority to local routes that serve recreational traffic or areas with very low populations. In Colusa County, only Interstate 5 is designated a first priority route, and only Highway 20 is a second priority route. State Highways 16 and 45 are designated third priority routes, indicating that lower service levels are acceptable.

The focus of the SMP is on the Sacramento Metro Area and on Interstate 80. Because of the low growth assumptions for Colusa County, few improvements were found to be necessary to the portions of the state and federal highway systems in the county. In fact, of the four alternative funding plans developed in the SMP, only one assumes any major improvements to Colusa County state highways between now and the year 2005. This improvement would be a 2-lane bypass around Colusa to alleviate projected high volumes of truck traffic in town on Highway 20. The \$6.5 million project is scheduled for the 1990-1995 State Transportation Improvement Plan, but has been assigned a relatively low priority.

Subsequent revisions to the SMP should consider revised population forecasts for the county as well as the land use and circulation plans contained within this document. Larger growth forecasts for Williams and Colusa and higher traffic volumes on Highway 20 may justify raising the priority ranking of the Bypass project.

### **Colusa County Local Transportation Planning Commission**

The Colusa County Transportation Commission was initially established to administer the regional funds for roadway improvements originating from the state sales and gasoline taxes. In 1977, the Commission became one of 43 agencies in California delegated as the governing body for regional transportation planning, and was charged with the task of preparing and regularly updating a countywide transportation plan. The first plan had actually been prepared in April, 1975. It was updated in 1976, 1982, and 1986. The 1986 plan included separate documents for general transportation planning and transit planning.

The Commission consists of three members of the Board of Supervisors, and three council members from the cities of Colusa and Williams. An annual work program is prepared each year identifying the activities necessary to prepare and administer the Regional Transportation Plan. The Commission is aided by a Technical Advisory Committee consisting of planning and engineering staff members from the County and two cities, and representatives from Caltrans and the California Highway Patrol.

The 1986 Regional Transportation Plan provides a policy framework for recommendations, actions, and decisions affecting the county's transportation system. It differs from the Circulation Element in that it focuses on regional needs and the linkages between the county's road system and the rest of Northern California. By contrast, the Circulation Element focuses on the implications of the future land use plan for local transportation improvements. The Circulation Element attempts to coordinate circulation plans with the other elements of the plan so that local objectives regarding noise, safety, air quality, energy conservation, and environmental protection may be accomplished. Both the Circulation Element and the Regional Transportation Plan share the common goal of improving mobility and establishing locations for new thoroughfares, terminals, and transit routes.

## COMPONENTS OF THE CIRCULATION SYSTEM

### Streets and Highways

Streets and highways form the most important component of the county's transportation system--both for the movement of local commodities and local residents. Air freight is virtually nonexistent, the railroad carries only a small volume of local goods, and river freight service has been discontinued. The road system is the most flexible form of transportation in the county, providing the greatest choice of destinations and routes between producers, distributors, and consumers. The network is used extensively by automobiles, trucks, buses, taxicabs, farm machinery, bicycles, pedestrians, and even horseback riders. Sometimes the multiple use of the roads by so many transportation modes creates conflicts between the different users, particularly farm machinery and automobiles.

The street and highway system contains 113 miles of State highways, 741 miles of county roads, 35 miles of City streets, and 160 miles of Forest Service roads. Travel on State highways averaged 830,000 Daily Vehicle Miles in 1987, up from 759,000 in 1984. As of 1987, there were 8,234 automobiles (57 %), 5,779 trucks (41 %), and 345 motorcycles (2 %) registered in Colusa County. At the same time, there were 10,600 licensed drivers, representing about 70 percent of the county's population.

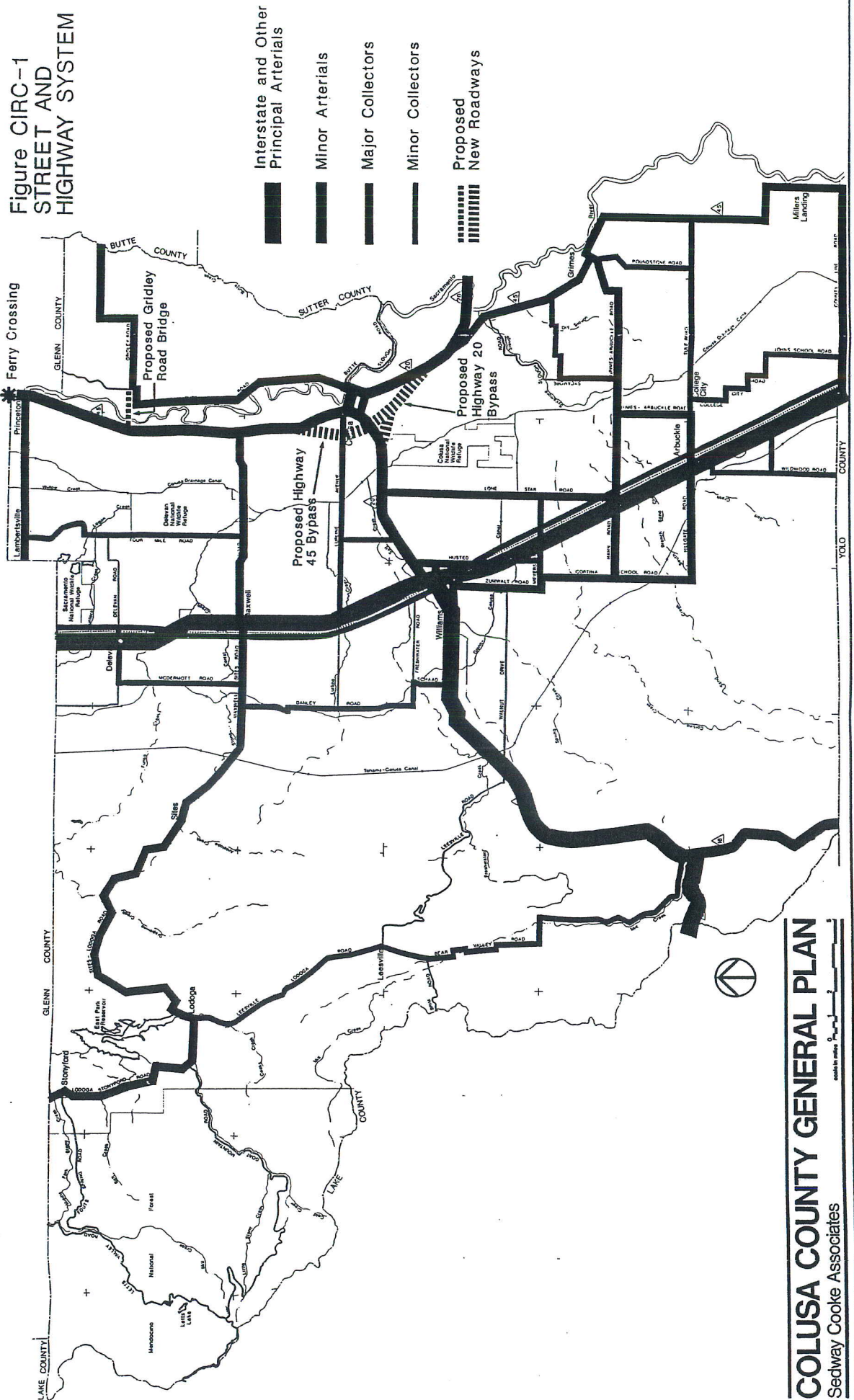
The roadway system consists of a hierarchy of principal arterials, minor arterials, major collectors, minor collectors, and local streets. The principal arterials are the most critical roads, while the local streets serve individual residences or farms. The U.S. Forest roads function as a separate but interdependent system. Table CIRC-1 shows the current mileage in each component of the street and highway system. The table also includes current traffic volumes on each type of road. The location of principal arterials and collectors is shown in Figure CIRC-1.

The framework of the County's circulation system is formed by Interstate 5 and Highway 20, the two roads of inter-regional significance which cross the county. Together with State Highways 16 and 45, these are the primary roads linking Colusa County with the rest of California. I-5 is the state's major north-south access route, while Highway 20 is the only major mountain crossing between the Pacific Coast and the North Sacramento Valley. Because these two roads are the prime arteries for moving local produce to market, it is essential that a high level of service be maintained on both.

The intersection of I-5 and Highway 20 in Williams is considered the transportation hub of the county. I-5 and the portion of Highway 20 between Williams and the Lake County line are both designated **Principal Arterials**. Highway 20 east of Williams, Highway 45 north of Colusa, and Highway 16 are designated **Minor Arterials**. Although these roads compose less than 10 percent of the county's road mileage, they carry one half of the county's traffic. These roads are also designated Federal-Aid Primary routes (I-5 is a Federal-Aid Interstate route), making them eligible for funding through the Federal Highway Administration.

Principal and Minor Arterials are supplemented by about 100 miles of **Major Collectors**, including the Stonyford-Lodoga Road, the Maxwell-Colusa Road, River Road, Gridley Road, Highway 45 between Yolo County and Sycamore, Norman Road, Lone Star Road, County Line Road, Hillgate Road, Hahn Road, Cortina School Road,

**Figure CIRC-1  
STREET AND  
HIGHWAY SYSTEM**



**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates

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**Table CIRC-1: Colusa County Roadways: Total Miles and Vehicle Travel**

<u>Roadway Classification</u>	<u>Total Miles</u>	<u>1985 Daily Vehicle Miles</u>
Principal Arterials	56	579,000
Minor Arterials	57	135,000
Major Collectors	102	130,000
Minor Collectors	162	146,000
Local Roads	530	207,000
U.S. Forest Service Roads	160	53,000
TOTAL	1,067	1,250,000

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Source: 1986 Regional Transportation Plan.



Zumwalt Road, and Arbuckle-Grimes Road. These roads are designated Federal-Aid Secondary roads, making them eligible for funding through the Federal Highway Administration. They are the highest classified segments of the County road system and serve travel of intra-County importance. The roads are typically rural mail routes, farm-to-market routes, public school bus routes, and major access routes between towns within the county.

The system is further supplemented by 162 miles of **Minor Collectors**, including Bear Valley Road, Danley Road, McDermott Road, Old Highway 99, Lurline Road, Four Mile Road, Walnut Drive, Husted Road, Able Road, Meyers Road, Wildwood Road, Green Bay Road, College City Road, Tule Road, Poundstone Road, Sycamore Slough Road, and San Jose Road. Travel is generally limited to short segments on these roads, although some through-traffic occurs.

Fifty percent of the county's road system consists of **Local Roads**, including city streets and many rural farm roads. Most of the rural area roads are gravel or dirt. Although local roads represent half of the total road mileage in Colusa County, they carry only one-seventh of the total traffic.

### **Public Transit**

The travel demands of Colusa County residents are accommodated almost solely by the use of the automobile. However, there are segments of the population who either have no access to a car, are too young to drive, or are physically disabled. These individuals must rely on the county's public transit system.

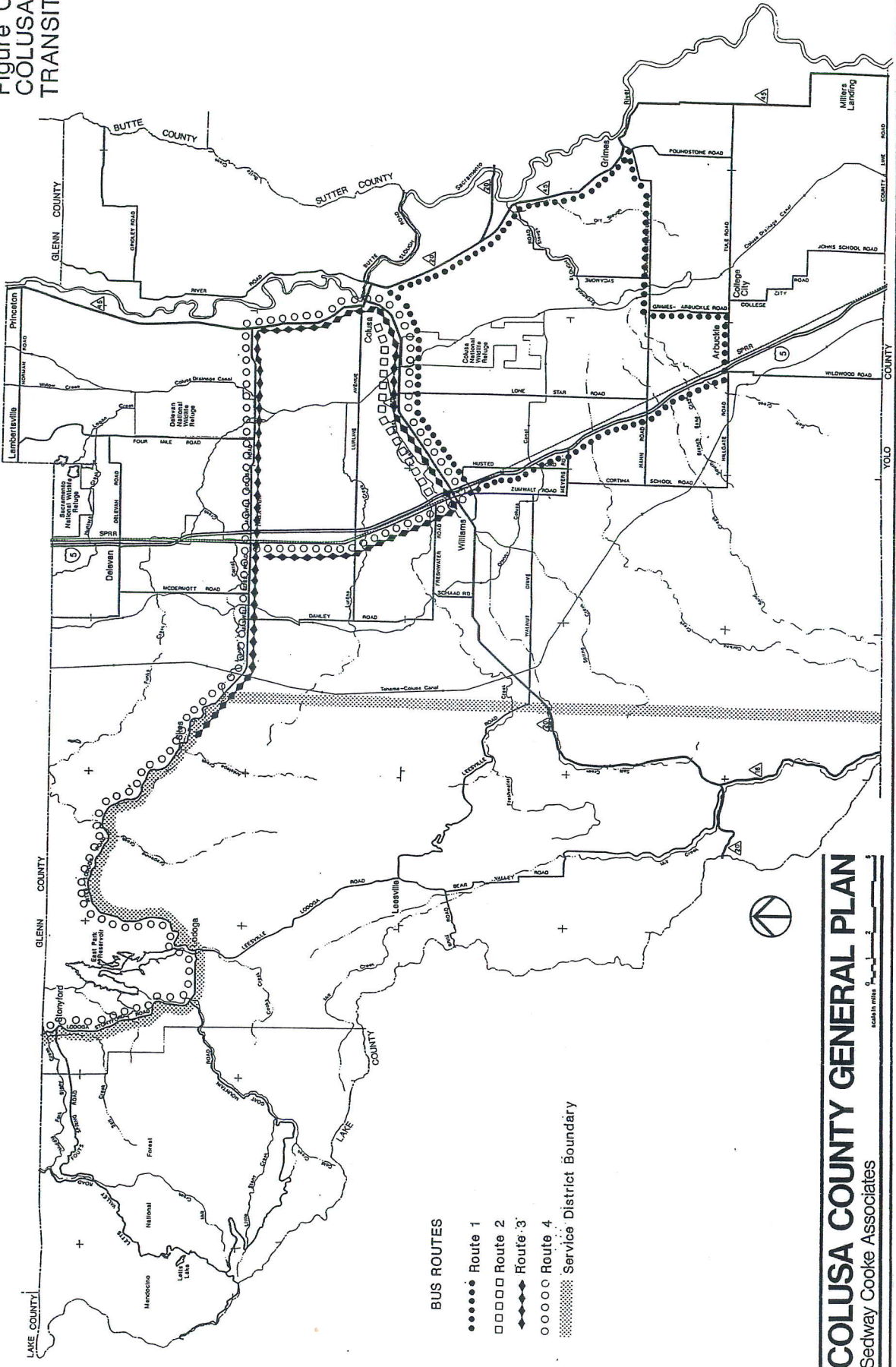
The Mini-Transit Program (MTP) provides mobility to transportation-disadvantaged people between Colusa, Williams, Arbuckle, Maxwell, Grimes, College City, Sites, and Stonyford-Lodoga. The system provides modified dial-a-ride service along four scheduled routes, with the frequency of service varying from daily to bi-weekly. The routes are shown in Figure CIRC-2. Fares are \$.75 in town and \$1.25 in the county.

Colusa County Transit uses five van-buses and one station wagon as carriers, with three of the vans lift-equipped for the handicapped. Three of the vehicles have well over 100,000 miles and have been driven beyond their normal life expectancy. The vehicles are stored in a vacant airplane hangar at the Colusa Airport and are not maintained at any centralized location. A new van-bus is presently being purchased, allowing the older vehicles to function as back-up vans. The transit service carried 41,318 passengers during the 1987-88 fiscal year, with 75 percent of the patronage in Colusa and Williams. Ridership increased steadily after the system's inception in late 1979, growing by 250 percent between 1980 and 1985, but has leveled off during the late 1980s.

The system is supplemented by a privately owned partially-subsidized taxi company which operates in the evenings as well as during the day. The taxis only operate under certain conditions during the day; on weekdays, most riders must wait until after 5:00 P.M. to use the service. About 85 percent of the taxi patrons reside in Colusa and Williams. Taxis carried 7,362 passengers during the 1987-88 fiscal year.

There are two other forms of bus transportation operating in Colusa County. Thirty public school buses travel 250,000 miles each year on Colusa County roads, transporting students to the county's schools. Western Greyhound Lines Company provides nine northbound and seven southbound buses each day along Interstate 5 with sched-

Figure CIRC-2  
COLUSA COUNTY  
TRANSIT ROUTES



**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates

uled stops in Williams and Arbuckle and a flag stop in Maxwell. In addition to Greyhound, Cascade Trailways also makes one daily scheduled stop in Williams. There is no commercial bus access to the city of Colusa.

## Railroad

Amtrak discontinued service through Colusa County in 1982. The closest passenger train service is in Marysville, 25 miles east of Colusa. The Amtrak stop at Marysville provides service for the Coast Starlight train which operates between Seattle and Los Angeles. Buses also stop in Marysville to connect with the San Joaquin train which operates between Oakland and Bakersfield. One of the Shasta Skyhawk's two daily stops in Williams makes connections (on a reservations basis) to Amtrak's California Zephyr at the Sacramento Amtrak Station; this train provides service eastward as far as Chicago.

The Southern Pacific Railroad provides freight service to Arbuckle, Williams, and Maxwell. The line runs parallel to I-5, providing the main rail link between California and Oregon. Two trains a day operate on the line, one during the day and one around midnight. The branch line which served Grimes, Princeton, and Colusa has been abandoned.

## Aviation - See page 32

Colusa County has one public general aviation airport and numerous landing strips used primarily for crop dusters. The Colusa County Airport has one 60' x 3000' asphaltic concrete and concrete surfaced runway, 22 T-hangars and 2 conventional hangars, and one maintenance building. Medium-intensity runway lights are provided from dusk to dawn.

During 1985-86 there were 132 aircraft reported on the tax rolls, down from 143 aircraft the previous year. Statistics on the annual flight operations of these planes are not kept on a regular basis. There is no commercial flight service from Colusa; residents generally travel to Sacramento or the Bay Area for long-distance travel. Shasta Skyhawk operates vans offering two daily roundtrips from Redding to Sacramento Metropolitan Airport, stopping in Williams on a reservation basis.

Most flight operations are agricultural, with about 15 crop-dusting companies based in the county. Aircraft have proven to be much more effective for pesticide, fertilizer, and seed spraying than ground applications, particularly for rice fields which are saturated much of the year.

Legislation requiring the formation of Airport Land Use Commissions (ALUCs) in California counties was passed in 1967 and modified in 1982. The purpose of these commissions is to guide the use of land in areas around airports to ensure public safety and prevent development that could impede flight operations. Colusa County still has no Airport Land Use Commission; there is a local Airport Advisory Committee in Colusa that acts on such matters. A formal commission may be established during the next year.

## **Waterways**

The Sacramento River is considered navigable as far north as Colusa and is under the jurisdiction of the U.S. Coast Guard. The U.S. Army Corps of Engineers is responsible for dredging the river downstream of Colusa to maintain capacity for commercial barges.

The river is spanned by two bridges; one on Route 20 at Meridian (Sutter County) which can be opened to provide additional vertical clearance for river traffic, and another on River Road in Colusa. The Route 20 Bridge was rebuilt in 1977 to higher standards, while the River Road bridge was built in 1980 to replace a historic railroad swing bridge. The center span of the Colusa Bridge can actually be lifted out so that large vessels can pass below during emergencies.

The Princeton Ferry provides a third river crossing about 15 miles up-river from Colusa. The ferry, which was recently renovated, connects Princeton with the town of Afton in Glenn County. Until recently, the cost of operating the ferry was shared jointly by the two counties. However, Colusa County bought Glenn County's interest in the operation for \$150,000 and is now operating the service independently. When operating, the ferry serves about 200 cars a day.

The Colusa County Transportation Plan recommends that the ferry ultimately be replaced by a bridge about 3 miles south of Princeton. Studies indicating the feasibility of such a bridge have yet to be undertaken. Nevertheless, the ferry has important nostalgic, historic and cultural value. The public strongly favors that service be retained, regardless of bridge construction. The location of the ferry crossing and the proposed bridge are both shown on Figure CIRC-1.

## **Bicycle, Hiking, and Off-Road Vehicle Trails**

The Central Valley bicycle trail, part of a statewide network for inter-regional travel, runs parallel to Interstate 5 in Colusa County. No other formal bicycle trails exist in the county, although the possibility of a trail along the Sacramento River was raised in the 1986 Regional Transportation Plan. However, since the majority of the riverfront is in private ownership, construction of such a trail is unlikely.

Hiking, horseback, and off-road vehicle trails in the county are generally located on public lands, notably in the Mendocino National Forest. The popularity of these trails has increased over the past decade and will continue to do so in the future. The extent of these activities is addressed in the Open Space Element of this Plan.

## **Pipe and Transmission Lines**

Pacific Gas and Electric (PG&E) has a 36" gas line running parallel to Interstate 5 through the county. PG&E and the U.S. Bureau of Reclamation have two 230 kV transmission lines which also follow a north-south alignment through the county. There are numerous smaller power lines and pipelines traversing the county.

A new 230 kV overhead transmission line traversing Colusa County has been proposed by a consortium of four public agencies: Sacramento Municipal Utility District,

Northern California Power Agency, Modesto Irrigation District, and the City of Santa Clara. The power line would transmit electrical energy from the Geysers Geothermal Resource Area in Sonoma County to a substation whose exact location has yet to be determined. Fifty corridor combinations were considered for the routing of the transmission line, ranging from about 50 to 100 miles in length.

Of the two preferred alternative alignments, one traverses the hills of western Colusa County before dropping to the Valley floor and terminating at Williams. A 17-acre site would be required for construction of a substation. In Williams, the power line would interconnect with existing power lines.

## RELATIONSHIP BETWEEN THE CIRCULATION AND LAND USE PLANS

The circulation system and development pattern of a community are interdependent. Each pattern of land use generates different requirements for streets, highways, transit, and other modes of transportation. The future circulation system must be designed to adequately serve the level of development allowed by the plan. This often means new traffic lights, widened roadways, realigned highways or bypasses, and new bridges.

At the same time, the qualities of the existing circulation system are a major consideration in designating areas for future development. Perhaps no other feature will influence future land use in Colusa County more than Interstate 5. Areas adjoining freeway interchanges are logically suited for more intense uses such as commerce and industry, since these uses require quick and easy access to regional transportation routes.

Since the cost of new transportation facilities is great, the land use plan must reflect the constraints presented by the existing road system. For instance, it is impractical to relocate an airport, but it is practical to designate land around the airport for business or industrial uses. This serves the dual purpose of ensuring aviation safety and providing development sites near the airport for those land uses which most require proximity to air transportation.

While the General Plan prescribes a future development pattern, it also presents the necessity of modifying current circulation plans as needed. The Plan must incorporate ways to guide development so that the desired circulation system is constructed with the minimum expenditure of private and public funds and with minimum disruption of existing uses. Growth must be directed to those areas where road capacity exists or can be made available with relative ease.

## FUTURE CIRCULATION CONDITIONS

### LONG-RANGE TRANSPORTATION DEMAND

#### **Sources of Traffic Increases**

Increases in traffic on Colusa County roads will emanate from two sources. First, as population and employment in the State and region grow, more cars will use Interstate 5 and Highway 20. Recreational travel demand will grow, putting more ve-

hicles on the roads to the National Forest and other recreational areas in the county. Even if no growth were to occur within the county during the next 20 years, traffic on the principal arterials would increase. Inter-city travelers between fast-growing cities like Sacramento and Redding, and Yuba City and Clear Lake will utilize Colusa County's road network in increasing numbers.

The second component of traffic growth will be created by local population and employment increases. The vast majority of this increase will occur in Arbuckle, Colusa, Maxwell, and Williams. Traffic will increase both on local and collector roads within these communities and on the state and county roads that link the communities to one another. In addition, increases in agricultural activity brought about by the Tehama-Colusa Canal, possible mining activity in the Wilbur Springs area, and timber leases in the forest will add to traffic on the rural network.

The impact of both local and regional growth on the road network was calculated by Caltrans in 1986 to determine what facilities would be needed in the future. Their focus was on inter-city travel rather than on travel within any particular community. In other words, the study's recommendations involved rural highways rather than city streets and intersections. The Caltrans study also assumed slightly lower levels of growth in the county than those used by the General Plan, so projected traffic volumes were somewhat understated.

The Caltrans projections are summarized in Table CIRC-2. The total vehicle miles traveled each day in Colusa County are projected to rise about 60 percent by the year 2010, from 1,250,000 to 2,015,000. The biggest increase, both in sheer numbers and percentages, is on the principal arterials. The magnitude of the increase becomes smaller as the road functions become more local in nature. Thus, while I-5 is projected to experience more than a 70 percent increase in traffic by 2010, local roads in the county will only experience an average traffic increase of 40 percent. Of course, some local roads will experience much greater traffic increases, while others may experience no increases at all. The impact of new development will be felt on a relatively small portion of the county's road network. Rural dirt roads isolated from communities may carry the same number of cars in 2010 as they do now, while local streets in Colusa and Williams may see a doubling in their traffic volumes. To determine which specific roadways will be most impacted, a closer look at each community's land use plan is required.

### **Level of Service**

Every roadway has an absolute capacity, that is, a maximum number of vehicles that can be moved on the roadway at any given time. As traffic volumes approach capacity, congestion results and traffic no longer moves at an uninterrupted flow. The degree of congestion is referred to as the "Level of Service" (LOS) and is usually denoted by a letter from "A" to "F". The type of operating conditions occurring under each LOS is shown in Table CIRC-3.

### **Regional Travel Needs**

Caltrans has determined the minimum acceptable LOS on all state highways in Colusa County. LOS "B" is considered the lowest acceptable condition on Interstate 5, LOS "C" is the lowest acceptable condition on Highway 20, and LOS "D" is the lowest acceptable condition on Highways 16 and 45. The Level of Service on each

**Table CIRC-2: Colusa County Roadways: Projected Daily Vehicle Miles, Years 2005 and 2010**

<u>Roadway Classification</u>	<u>1985 Daily Vehicle Miles</u>	<u>Year 2005 Daily Vehicle Miles</u>	<u>20-Year Percent Increase</u>	<u>Year 2010 Daily Vehicle Miles<sup>1</sup></u>
Principal Arterials	579,000	914,000	50%	999,000
Minor Arterials	135,000	207,000	53%	224,000
Major Collectors	130,000	195,000	50%	211,000
Minor Collectors	146,000	204,000	40%	219,000
Local Roads	207,000	273,000	32%	290,000
U.S. Forest Service Roads	53,000	69,000	30%	73,000
<b>TOTAL</b>	<b>1,250,000</b>	<b>1,862,000</b>		<b>2,016,000</b>

Source: 1986 Regional Transportation Plan.

<sup>1</sup>Year 2010 figures are based on a continuation of the 1985-2005 trend forecasted by Caltrans.

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### Table CIRC-3: Highway Level of Service Interpretations

Level-of-Service A represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream. Freedom to select desired speeds and to maneuver within the traffic stream is extremely high. The general level of comfort and convenience provided to the motorist, passenger, or pedestrian is excellent.

Level-of-Service B is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver within the traffic stream. The level of comfort and convenience is somewhat less than at LOS A because the presence of others in the traffic stream begins to affect individual behavior.

Level-of-Service C is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream. The selection of speed is now affected by the presence of others, and maneuvering within the traffic stream requires substantial vigilance on the part of the user. The level of comfort and convenience declines noticeably at this level.

Level-of-Service D represents high-density, but stable, flow. Speed and freedom to maneuver are severely restricted and the driver or pedestrian experiences a poor level of comfort and convenience. Small increases in traffic flow will generally cause operational problems at this level.

Level-Of-Service E represents operating conditions at or near the capacity level. All speeds are reduced to a low but relatively uniform value. Freedom to maneuver within the traffic stream is extremely difficult and it is generally accomplished by forcing a vehicle or pedestrian to "give way" to accommodate such maneuvers. Comfort and convenience levels are extremely poor, and driver or pedestrian frustration is generally high.

Level-of-Service F is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations. Operations within the queue are characterized by stop and go waves, and they are extremely unstable. Vehicles may progress for several hundred feet or more, then be required to stop in a cyclic fashion.

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Source: 1985 Highway Capacity Manual



roadway can be determined by calculating the number of vehicles per lane that use the road during the peak hour. Level of service standards vary according to the total number of lanes, intensity of adjoining uses (urban vs. rural), and presence of cross-traffic. For instance, the 1985 Highway Capacity Manual indicates that a four-lane freeway carrying 1,000 cars per lane per hour operates at LOS "B", while a two-lane rural highway carrying 1,000 cars per lane per hour operates at LOS "E".

Interstate 5 currently carries between 15,400 and 18,500 vehicles per day, with about 2,000 vehicles at the peak hour in Williams (both directions). This translates to about 500 vehicles per lane at the peak hour, which is well within the limits of LOS "A". Forecasts for the year 2010 indicate a 72 percent increase in miles traveled on Colusa County primary arterials, or an increase in traffic on I-5 to about 850 vehicles per lane during the peak hour. This is below the limits of LOS "B", indicating that no improvements to the Interstate will be required.

Highway 20 carries about 4,000 vehicles a day between Williams and Colusa, about 3,600 vehicles over the hills to Lake County, and about 3,800 vehicles east to Sutter County. Peak hour volumes range from 370 cars to 500 cars per hour in both directions, which is the approximate lower limit of LOS "A". A 70 percent increase in traffic volumes as projected by Caltrans would bring traffic volumes to as high as 850 cars during the peak hour on the segment of road between Williams and Colusa. This is still considered LOS "B", indicating that no improvements will be required.

One shortcoming of this calculation is that the effects of slow-moving trucks and farm vehicles on traffic is not considered. Since the road will remain a two-lane highway, delays due to slow-moving vehicles could make conditions worse than projected. For this reason, the Circulation Element includes a policy supporting the widening of highways to accommodate farm vehicles, and the addition of passing lanes in steep areas such as Highway 20 West.

A second shortcoming of this calculation is that it does not consider specific segments of the highway system that may be impacted by growth within the county. The situation is most critical in the city of Colusa, where the increase in regional traffic may be accompanied by large increases in local traffic. By the year 2010, about 2,600 additional trips will occur on Market Street (Highway 20) in Colusa each day with origins and destinations beyond the city limits. This traffic will be added to the 10,000 daily trips occurring on Market Street now, and several thousand additional trips that will occur as new homes and jobs are added within Colusa. According to Caltrans, the resulting traffic volumes on Market Street will drop to LOS "E" by the year 2005.

In response to the poor operating conditions, a two-lane 3.5-mile bypass has been proposed from Highway 20 at O'Hair Road to Highway 20/45 just south of the Colusa Airport. The new roadway would be located just south of the abandoned railroad bed south of Colusa. To facilitate economic development in Colusa and avoid lengthy traffic delays, it is imperative that the bypass be constructed before the horizon year of this plan. Traffic volumes on North Highway 45 may also warrant construction of a new road on the west side of Colusa. The road would extend about 3.5 miles north from the proposed Highway 20 bypass near Wilson Road and would terminate near Harbison Road. Location of the proposed bypass is shown in Figure CIRC-1.

## Local Travel Needs

The Highway 20/45 bypass described above will primarily serve regional traffic. The potential addition of 8,000 new residents to Colusa, Williams, Arbuckle, and Maxwell will create the need for improvements to the local street system as well. Existing streets will need to be widened, signals or directional signage may need to be added, and new streets will be constructed in developing areas. It is imperative that these streets become a logical extension of the existing street system as they are built. Street layout should also follow prescribed policies which inhibit industrial traffic from entering residential areas and minimize the traffic impact of new projects on existing neighborhoods.

An assessment of roadway needs based on the future land use plans in each community was conducted as part of the general plan update. It was determined that the level of growth projected in College City, Grimes, Princeton, and Stonyford would not warrant major road improvements within these communities. On the other hand, the need for thoroughfare plans showing the alignment of new collector streets was clear in Arbuckle, Colusa, Maxwell, and Williams.

Even with these plans, there will still be a need for more detailed traffic studies as individual developments are proposed. The location of specific improvements such as turning lanes and traffic lights should be determined through follow-up studies after the General Plan is adopted, as well as through Environmental Impact Reports prepared for individual projects. For instance, it is conceivable that mining operations in the foothills could generate the need for roadway reconstruction in the West County, but it is impossible to prescribe specific improvements until the location and scale of the operation is known.

In most cases, changes to the county's rural road network were found to be either unnecessary or impractical between now and the year 2010. However, the Stonyford-Lodoga-Maxwell Road is in very poor condition and must be upgraded to handle higher volumes of recreational and residential traffic. A citizens group recently formed to address the problems of this road and to hasten the repair of its most unsafe portions. Repair of the road is regarded as a necessity to the safety of both residents and visitors. Its maintenance must be made a top priority.

Growth in the other rural areas will not be substantial enough to justify the paving of dirt or gravel roads, and in no area does projected rural growth warrant the construction of new roads. The only possible modifications to the rural network would be the re-routing of Sites-Lodoga Road if the Sites Reservoir is built, and the extension of Gridley Road across the Sacramento River to Highway 45.

Roads such as Lone Star Road, Able Road, and Sites-Lodoga Road may see large increases in traffic, but the volume expected does not warrant the addition of lanes or traffic control devices. The most critical issue on these roads will continue to be maintenance. Additional traffic will mean faster deterioration of the roadways and greater safety hazards, and more inconvenience in the event a road is closed. Funds for road maintenance and safety markings are likely to remain inadequate unless additional State money can be obtained.

In locations where a public road serves only one or two isolated rural homes, it may be possible to "privatize" the roads and leave most maintenance responsibilities to the property owners. However, private road maintenance agreements often fail, resulting in poorly maintained roads, inadequate emergency access provisions, and

pressure by County residents served by these roads for county intervention. If roads deteriorate or if traffic increases in a particular locale, local residents can petition to form a road improvement district to solve their road problems.

## STREET AND HIGHWAY IMPROVEMENTS

### Thoroughfare Plans

Thoroughfare plans for Arbuckle, Colusa, Maxwell, and Williams are presented on the following pages. Each plan shows existing arterial and collector streets, as well as proposed collector streets in projected growth areas. The proposed collectors are usually extensions of existing streets or part of an independent system serving a planned industrial area.

The thoroughfare plans should not be confused with capital improvement plans. At this time, the county has no intent to construct any of the roadways shown as "proposed" on the plans. The plans' purpose is to ensure that circulation systems within new developments fit into a larger system of streets that serve the whole community. As new areas are developed, rights of way for collector streets should be dedicated in accordance with each plan. Roads would generally not be built until the adjacent properties were actually developed.

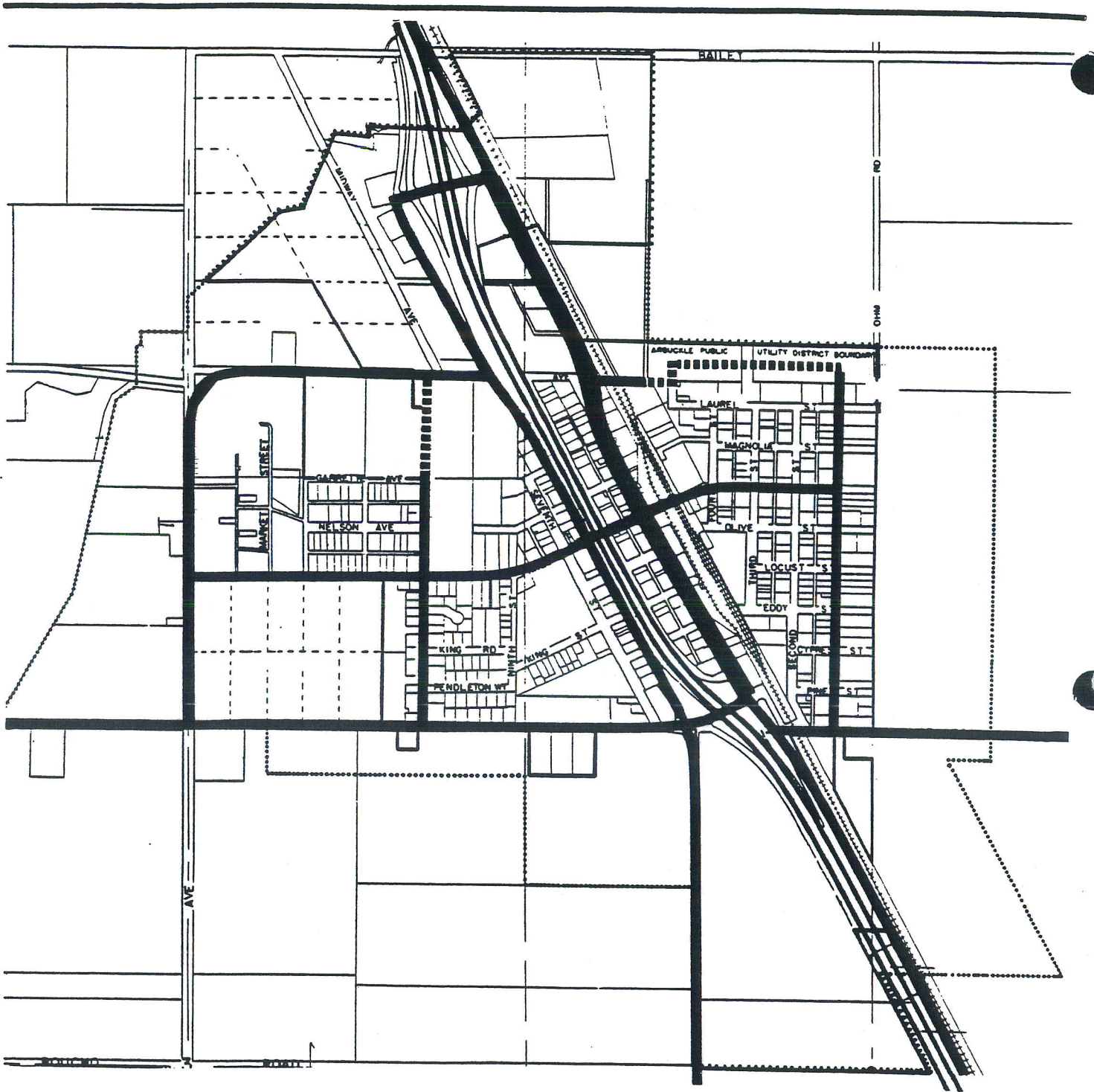
The alignments of proposed roads are approximate only. Some flexibility should be allowed when roads are actually dedicated to ensure that construction does not require the relocation or demolition of structures.

Arbuckle. The thoroughfare plan for Arbuckle is shown in Figure CIRC-3. Since the growth areas are framed by existing rural roads, there will be little need for few new collector streets. Some improvement to Almond Avenue, Gail Avenue and Hillgate Road may be needed as adjacent lands develop.

Colusa. Colusa's thoroughfare plan is shown in Figure CIRC-4. The plan extends Colusa's grid of streets to the south and east into areas where new growth is projected. It calls for the eventual extension of Third, Fifth, Eighth, and Fourteenth Streets southward. These extensions would be intersected by two new east-west collector streets south of Colusa. The plan also shows two new north-south streets on the east side, intersected by eastward extensions of Fremont and Market Streets and a new east-west street opposite Cynthia Drive. Within this framework of collector streets, local streets could continue to follow the grid street pattern or follow curvilinear patterns.

The plan also illustrates the proposed alignments of the Highway 20 and 45 bypasses. The Highway 45 bypass incorporates the extension of McCoy Road to Lurline Road, with McCoy continuing north to Harbison Road. The McCoy extension north of Lurline is unlikely before the year 2010 unless a Highway 45 bypass is funded by the State.

Maxwell. Maxwell's thoroughfare plan is shown in Figure CIRC-5. The plan reinforces the grid of streets around which the town has historically developed. To the west, extensions of North Street and Sycamore Street should occur, and at least one north-south connection between these two streets should be established. To the east, North Street should ultimately extend into the planned industrial area.



**LEGEND**

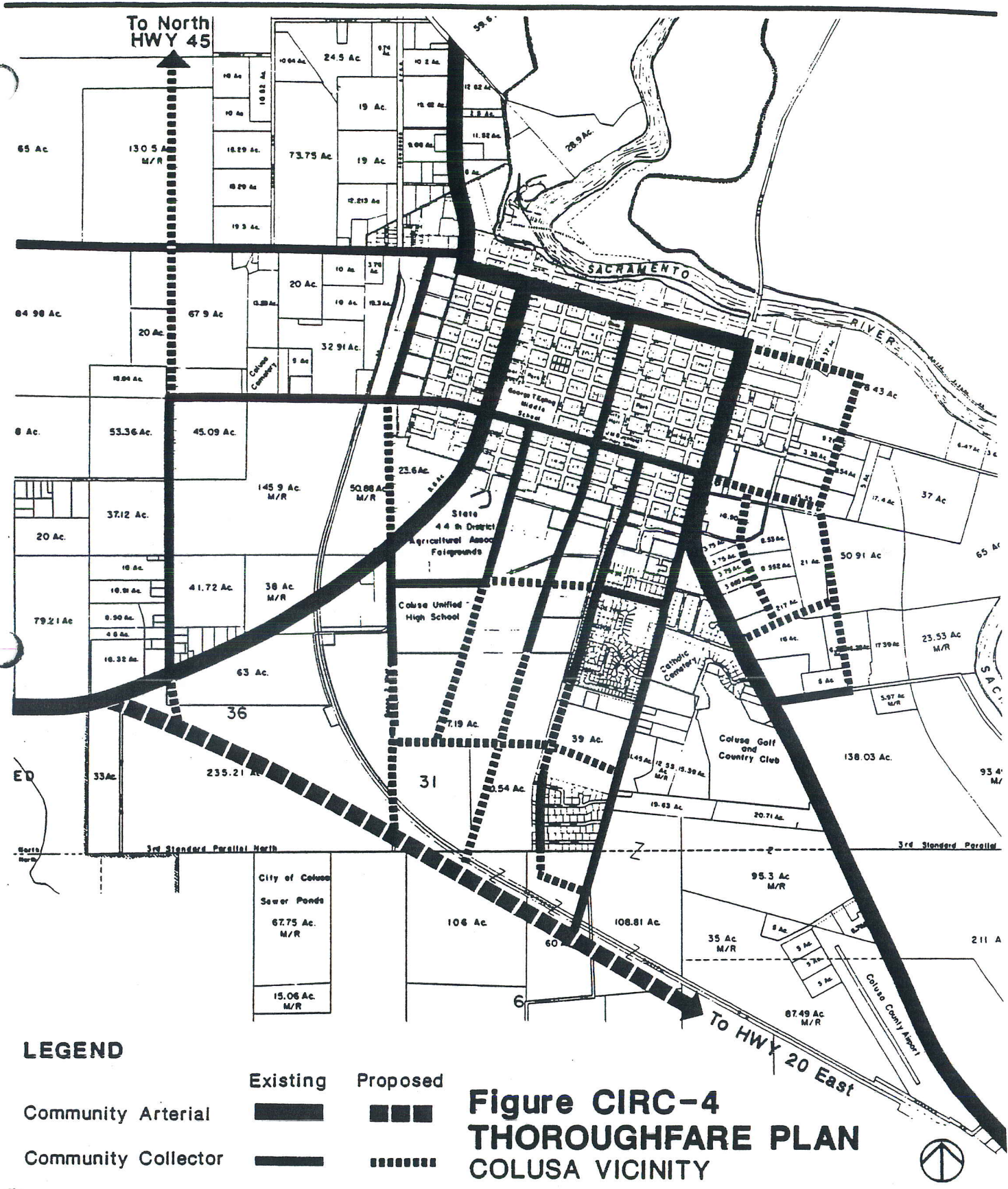
	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

**Figure CIRC-3  
THOROUGHFARE PLAN  
ARBUCKLE**



**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates

SCALE: 1"=1100'

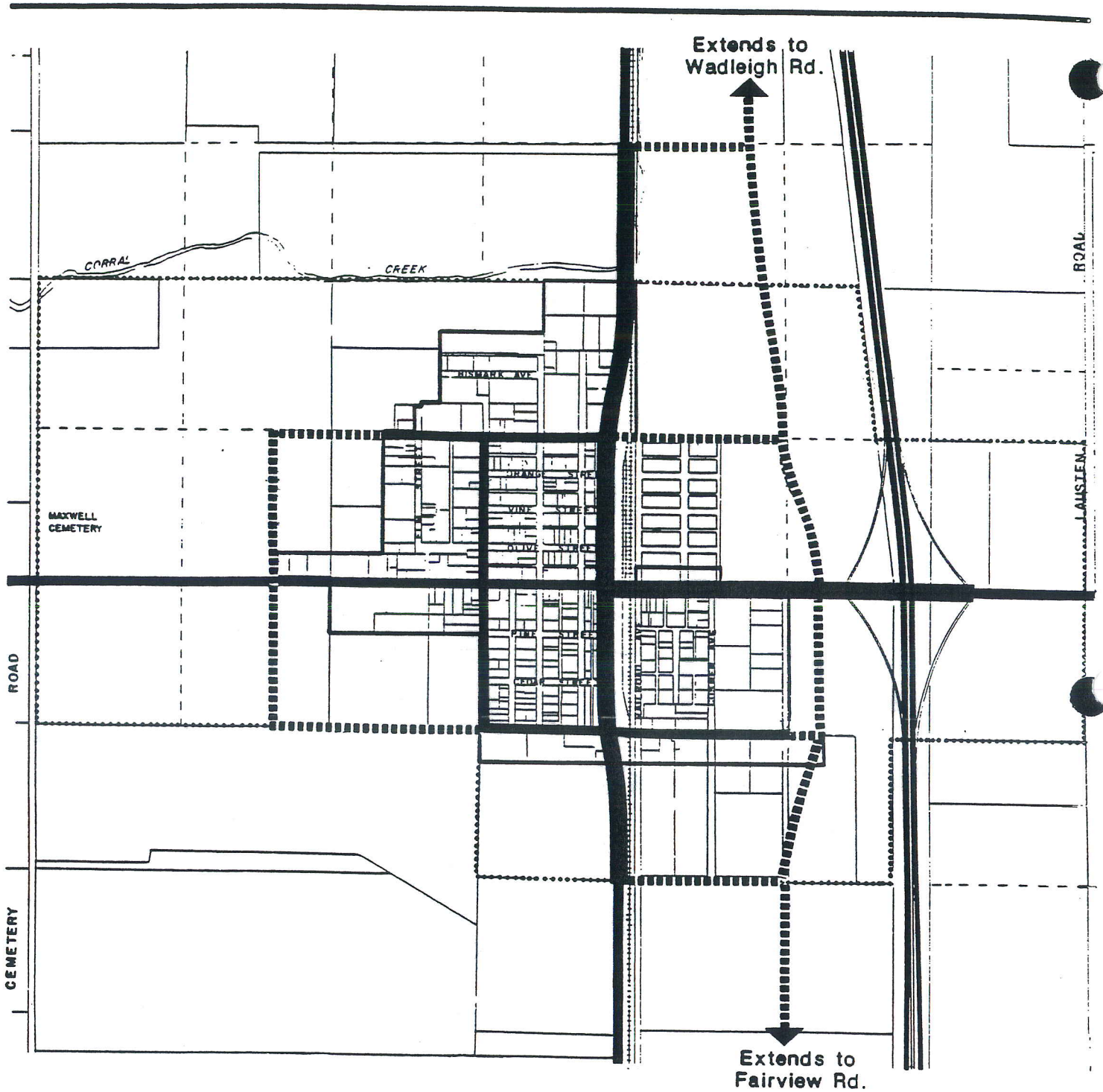


**LEGEND**

	<b>Existing</b>	<b>Proposed</b>
Community Arterial		
Community Collector		
Interstate Highway		

**Figure CIRC-4  
THOROUGHFARE PLAN  
COLUSA VICINITY**

SCALE: 1"=2300'



**LEGEND**

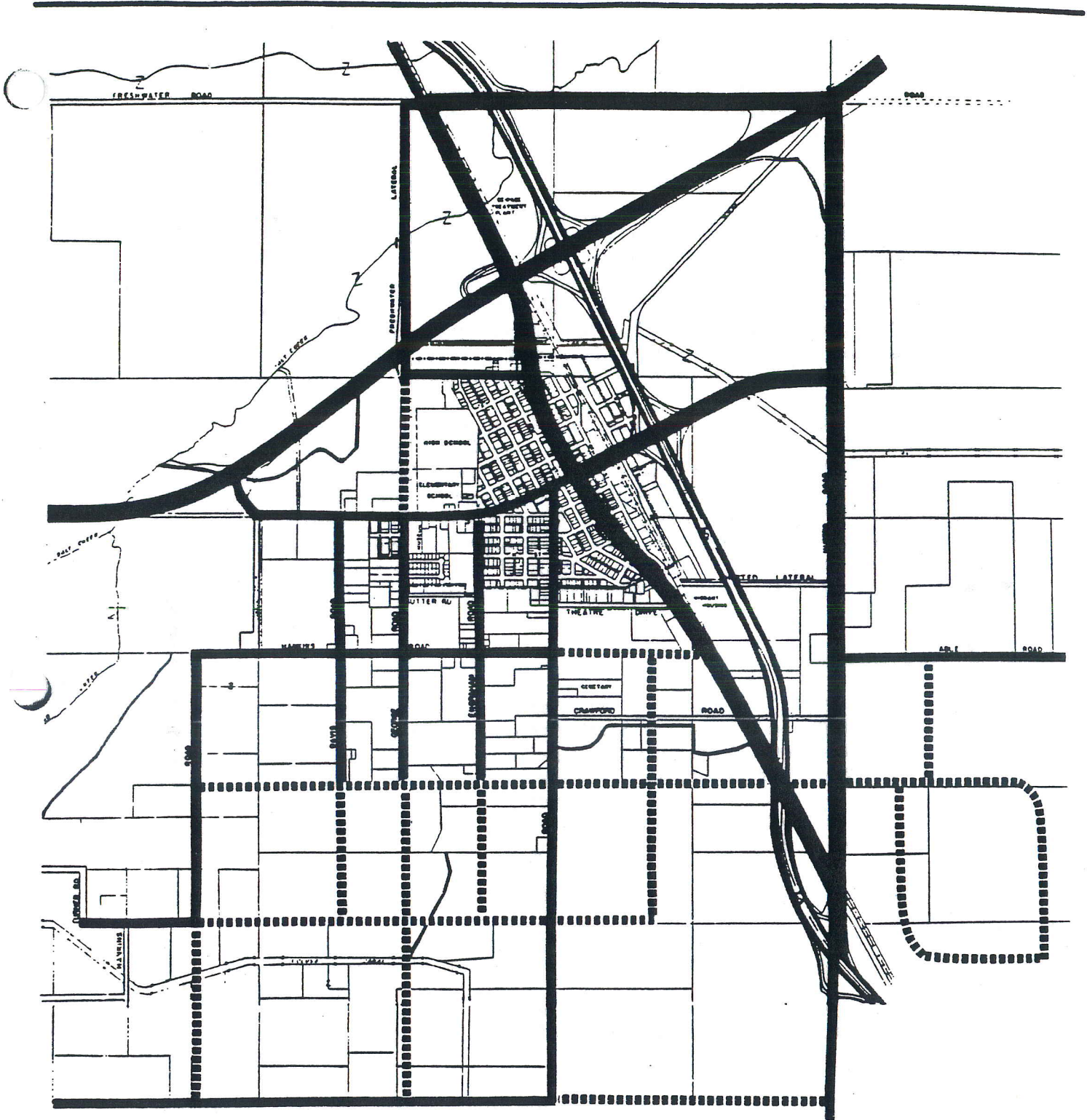
	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

**Figure CIRC-5  
THOROUGHFARE PLAN  
MAXWELL**



SCALE: 1"=1300'

**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates



**LEGEND**

	Existing	Proposed
Community Arterial		
Community Collector		
Interstate Highway		

**Figure CIRC-6**  
**THOROUGHFARE PLAN**  
 WILLIAMS VICINITY



**COLUSA COUNTY GENERAL PLAN**  
 Sedway Cooke Associates

SCALE: 1"=2600'

Within the industrial area, a north-south collector street should funnel traffic to Maxwell-Colusa Road close to the I-5 interchange. The collector street has been aligned so that its impact on existing and planned residential neighborhoods is minimal. Links between Highway 99 and the industrial collector street should be provided as the area develops.

Williams. Williams' thoroughfare plan is shown in Figure CIRC-6. As in Colusa, the plan extends the town's grid of streets southward into the area where growth is projected. Extensions of Hankins, Davis, George, and Engraham Roads are shown, bisected by two new east-west roads south of the city. Hankins Road should ultimately be extended to Highway 99, and Walnut Drive should ultimately be extended to Husted Road. The plan also establishes connections between the planned industrial area east of the freeway with the planned residential area west of the freeway. Industrial traffic would be diverted towards existing interchanges at Husted Road, E Street, and Highway 20 and would not enter residential neighborhoods.

High volumes of industrial and employee traffic could result on the east side of Williams if the planned industrial areas are fully developed. The roads most impacted by this traffic--Husted Road, Freshwater Road, and E Street--have been designated as arterials in the thoroughfare plan. The plan also calls for two additional crossings of Interstate 5, one at Freshwater Road and another opposite the Husted Road entrance to the Plank Industrial Park. Although the need for these crossings and widened arterials is many years away, rights of way should be reserved prior to development to avoid costly condemnation proceedings later.

## Capital Improvements

Projects Serving Existing Development. Planned roadway projects are identified in Table CIRC-4. Included are five-year State Transportation Improvement projects, five-year capital improvement projects for the cities of Colusa and Williams and the County, and unfunded state and county improvement projects. Most of these projects are intended to correct existing deficiencies in the road system and are not being built to accommodate future growth. The projects are generally resurfacing, bridge reconstruction, and structural section repairs.

More than 40 percent of the county's road system--over 300 miles of roadway--is in need of repair at the present time, and 43 bridges are in need of construction or reconstruction. At this time, the only project that has been programmed is the repair of a 3-mile segment of Hahn Road. There are still 116 miles of paved county roads requiring reconstruction and 183 miles of unpaved roads requiring re-graveling or chip sealing. The cost of the unfunded road and bridge projects totals \$37.3 million. This amount far exceeds the \$5,000,000 in county funds budgeted for improvements over the next five years.

Projects Serving New Development. To the maximum extent possible, road improvements that serve new growth should be paid for by the development that generates the need for the new roadway. This can be done through the collection of a road impact fee which varies according to the magnitude of a development, through mandatory road improvement or dedication requirements tailored to specific projects, or through the creation of special assessment districts for road and utility construction.



Table CIRC-4: Colusa County Roadway Improvement Projects<sup>1</sup>

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
State	I-5	Yolo County to Glenn County	Edge drains	N/A
	I-5	Various locations	Bridge approach, slab rehabilitation	\$25,000 (1987)
	I-5	Freshwater Road to County Road 60	Embankment repair	N/A
	I-5	Freshwater Road to 0.7 mile south of Lurline Road	Structural section repair	N/A
	Highway 20	0.1 mile west of Route 16 to 3.0 miles east of Route 16	Structural section repair	\$1,210,000 (1987)
	Highway 20	14-17 miles west of Williams	Widening and grade improvement	N/A
	Highway 20	From Route 45-N junction to 1.1 miles west of Sacramento River	Structural section repair	\$2,230,000
	Highway 20	Bridge Street to Moon Bend Road	Continuous left-turn lane	\$384,000 (1988)
	Highway 45	From Route 20 to Yolo County	Widen to state highway standards	not yet in state plan
	Highway 20	Williams to Lake County	Widen, resurface, and construct passing lane	not yet in state plan
		Various locations	Replacement of "restricted" bridges	not yet in state plan
	I-5	Arbuckle	Soundwalls	unfunded
	I-5	Route 20 to Lurline Road	Structural section repair	unfunded

<sup>1</sup> Source: Colusa County Local Transportation Commission. Colusa County Regional Transportation Plan. November, 1986. (That document may be consulted for further details on these projects).

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
	I-5	Freshwater Road,	Embankment repair	unfunded
	I-5	Maxwell-Colusa Road to 0.2 miles north of Lenahan Road	Embankment repair	unfunded
	Highway 20	0.8 miles west of Walnut Road to Salt Creek (8 miles)	Structural section repair	unfunded
	Highway 20	Husted Road to San Jose Road	Structural section repair	unfunded
	Highway 45	0.75 miles north of Lurline Road	Structural section repair	unfunded
	Highway 20	Abandoned SP rail ROW	Colusa bypass	unfunded
City of Colusa		Harris Street, Main Street, Commercial Alley	Road reconstruction	\$186,000
		Commercial Alley	Road resurfacing	\$76,000
City of Williams		"E" Street	Overlay	\$225,000
		"F" Street, "I" Street, 8th Street, 9th Street	Chip seal	\$216,000
		Miscellaneous		\$50,000
County	Hahn Road	I-5 to Cortina School Road	Reconstruction	N/A
	Misc.	Supervisorial Dist. 1	Road reconstruction-- 48.2 miles	\$10,159,340 (unfunded)
			Bridge reconstruction	\$2,416,200 (unfunded)
			Road surfacing/resurfacing-- 40.4 miles	\$643,400 (unfunded)
		Supervisorial Dist. 2	Road reconstruction-- 3.4 miles	\$708,000 (unfunded)
			Bridge reconstruction	\$50,000 (unfunded)
			Road surfacing/resurfacing-- 1.3 miles	\$22,200 (unfunded)

<u>Sponsor</u>	<u>Route</u>	<u>Location</u>	<u>Project</u>	<u>Escalated Construction Cost (\$)</u>
		Supervisorial Dist. 3	Road reconstruction-- 24.8 miles	\$5,521,400 (unfunded)
			Bridge reconstruction	\$1,547,400 (unfunded)
			Road surfacing/resurfacing-- 63.3 miles	\$1,051,300 (unfunded)
		Supervisorial Dist. 4	Road reconstruction-- 33.9 miles	\$6,946,700 (unfunded)
			Bridge reconstruction	\$1,524,300 (unfunded)
			Road surfacing/resurfacing-- 73.9 miles	\$1,243,700 (unfunded)
		Supervisorial Dist. 5	Road reconstruction-- 5.7 miles	\$1,273,500 (unfunded)
			Bridge reconstruction	\$4,000,000 (unfunded)
			Road surfacing/resurfacing-- 5.5 miles	\$119,600 (unfunded)

N/A = not available

Some of the improvements that will be required by growth may not be attributable to one particular development but will result from the cumulative impact of several projects. There is presently no mechanism in Colusa County to collect funds for off-site improvements to major thoroughfares and bridges as allowed by the Subdivision Map Act. By ordinance, the county may require the payment of a fee to fund such improvements as a condition of project approval. Such an ordinance would require that a geographic zone of benefit be established in the area subject to the fee. The Colusa bypass could be partially funded through such a fee, although the bulk of the funds would still need to come from State or federal sources.

Road construction and new development in the County will increase runoff and alter natural drainage patterns. As this occurs, CalTrans intends to work with the County to develop: (1) an overall solution for upstream collection facilities; (2) increased drainage capacity along county and city roads; and (3) downstream outfall improvements.

### **Public Finance**

Federal. The Federal Surface Transportation Act provides federal funds for a number of highway programs. The amount allocated to Colusa County is determined by formulas specific to each type of project. There are more than 20 categories of projects eligible for federal funding; the amount allocated to each category is determined by Congress and the federal administration each year. In Colusa County, the most critical categories are Federal-Aid Interstate, Federal-Aid Primary, and Federal-Aid Secondary (FAI, FAP, FAS) roadway projects, bridge replacement projects, and highway safety projects.

Revenue is generated from the 9 cent per gallon federal fuel tax, and from excise taxes on commercial vehicles, lubricants, and other transportation-related items. A small amount of road revenue is also generated by the Mendocino National Forest; 25 percent of all revenue generated by product sales in the forest is returned to the county for use on schools and roads. Federal funds for 1987-1991 total an average of \$700,000 a year.

State. Transportation revenues from the State are generated by a 9 cent a gallon fuel tax, which is supplemented by a portion of the State's 6 percent sales tax. Counties are permitted to increase the fuel tax if approved by local voters. About \$2,000,000 a year is projected to be allocated by the State to the county for county road improvements over the 1987-1991 period.

The combined federal, state, and local funds total about \$18.7 million over the next five years. This is still less than half the amount needed to cover current maintenance and reconstruction costs. State funds may increase in the future as statewide ballot measures for transportation improvements are proposed, but such increases are unlikely to meet the county's needs.

County. Colusa County's local road fund provided about \$385,000 for road maintenance in Fiscal Year 1986-87. Due to the reduction in the assessed valuation of the county's farmland, the road fund has actually declined since 1984. Despite higher maintenance costs, the annual road fund was \$65,000 less in FY '86-87 than it was in FY '84-85. There are indications that the gap between local funds and road maintenance costs are growing wider.

One possible solution to the shortage of funds might be to impose a local gasoline tax for road maintenance. An equally effective solution would be to lobby for a modified State formula for calculating transportation fund distribution. Because such formulas place more weight on the number of registered vehicles in the county than on the total road mileage, Colusa County continually receives a much smaller share of funds than its urban counterparts. In fact, Colusa County ranks second to last among California counties in State funds per roadway mile. Orange County received 40 times more State money for its county roads than Colusa, despite the fact that the counties have about the same number of roadway miles.

## Road Standards

Standards for Local, Community Collector, and Community Arterial Streets are shown in Figure CIRC-7. The Community Arterial standards are to be applied to new roads or roads in undeveloped areas only. It would be impractical or prohibitively expensive to widen Tenth Street and Bridge Street in Colusa and Old Highway 99 in Arbuckle, Maxwell, and Williams to 80 foot pavement widths. These roads are called out as Arterials to recognize their function as "main streets" rather than to advocate their widening.

The standards prescribe a right-of-way (ROW) width of 100 feet for Community Arterials, with two moving lanes of traffic in each direction, curbside parking, and a continuous left turn lane. The only road in the county currently designed to these standards is Market Street in downtown Colusa. Roads to be developed to this standard in the future include the Colusa Bypass, and parts of Husted Road and Freshwater Road.

Three different options are shown for the design of Community Collector streets. Residential collectors are to be built to the same standards as local residential streets. They are to include one lane of moving traffic in each direction, sidewalks, a planting strip, and curbside parking, all within a ROW of 60 feet. New collectors in business or industrial parks are to be built within a ROW ranging from 68 to 80 feet. The roads would accommodate four moving lanes of traffic with no curbside parking. The 80' roads would include a landscaped median.

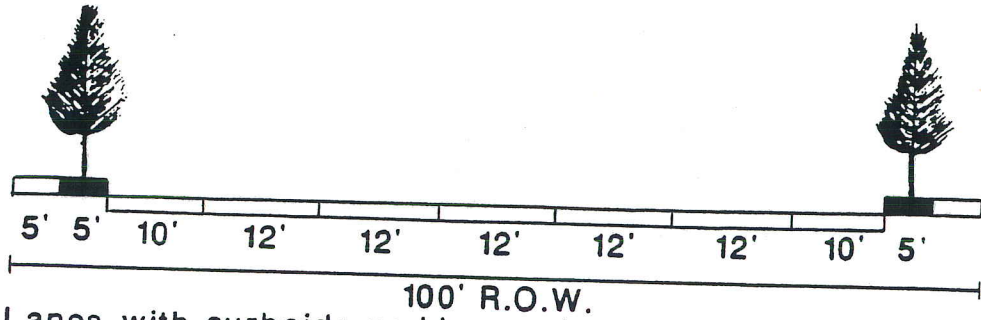
Local streets would include two lanes of curbside parking, two lanes of moving traffic, sidewalks, and a planting strip on either side of the pavement. Rights of way would be 60 feet.

## OTHER CIRCULATION MODES

### Public Transit

Future Needs. The growth of the county in general, and its elderly population in particular, will make additions to the transit system essential in the future. Even at this time, additional vehicles are needed, additional employees are needed, a permanent bus storage building is needed, designated bus stops are needed, and improved maintenance is needed. There is also local interest in extending bus service to Yuba City-Marysville. The need for expansion comes at a time when mass transit funds are declining and pressure to divert such funds for road maintenance is increasing.

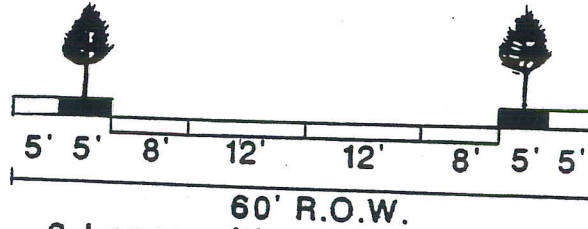
**COMMUNITY  
ARTERIAL**



4 Lanes with curbside parking and continuous left turn lane

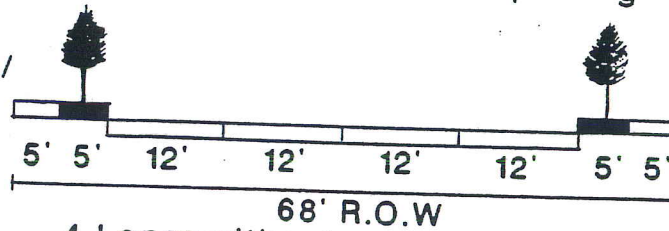
**COMMUNITY  
COLLECTOR**

Residential



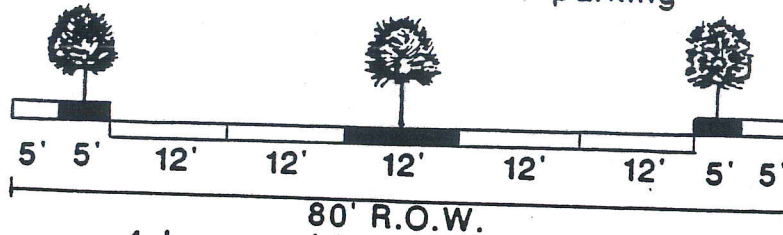
2 Lanes with curbside parking

Commercial/  
Industrial



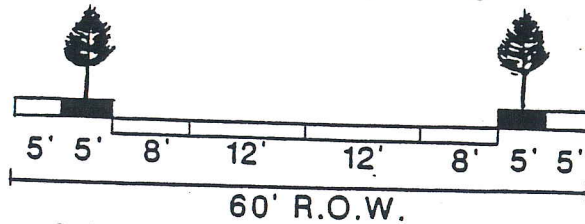
4 Lanes without curbside parking

or



4 Lanes with landscaped median and no curbside parking

**LOCAL STREET**



2 Lanes with curbside parking

**Figure CIRC-7**  
**TYPICAL ROADWAY STANDARDS**  
**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates

If ridership increases proportionally with population growth, about 56,000 passengers will use county bus and taxi services by the year 2010. However, ridership is likely to increase faster than population growth, as it has over the past 5 years. The very rapid ridership increases experienced in the early 1980s (averaging 36 percent a year) will slow down during the 1990s. However, even a 4 percent average annual increase (compared to an annual population increase of 2 percent) would yield a ridership of 90,000 passengers by the year 2010.

There are several factors which suggest that ridership will increase faster than population growth. First, the system is still relatively new and is still in a rapid ridership growth stage. As more people learn about the system, ridership will increase. Second, the demographics of the county are changing. In the future, a greater portion of the county's residents will be senior citizens and may be physically impaired or less inclined to drive. Third, the future land use plan encourages more growth within Colusa and Williams. As the county's population becomes more centralized in these cities, public transit becomes more effective and more viable. Fourth, job growth will be concentrated in a handful of industrial parks, increasing the possible use of transit to travel to and from work. Presently, the system's primary customers are traveling for health care, shopping, or personal services, or to visit friends or relatives. Fifth, rising fuel costs and the uncertain future of energy resources suggest higher transit usage in the future.

Due to the uncertainty of the factors listed above, accurate projections of transit usage beyond five years are impossible to make. The only certainty is that demand will increase and the need for a viable transit system will become more important in the future.

Future Transit System. The General Plan encourages land use patterns that will facilitate future transit operations. Existing bus routes should be maintained and possibly expanded to include service to Yuba City-Marysville. There, the possibility of interconnecting service with the Hub Area Transit Authority should be explored. Continued commercial bus service to Woodland, Sacramento, and the Bay Area should also be supported.

Given the level of population and employment growth projected, more frequent service may be required between the I-5 corridor communities in the future. At this time increased service is impossible due to financial constraints. Express service between Maxwell, Williams and Arbuckle may become viable as employment grows in these communities. Population growth in the rural areas will not be great enough to warrant any change to the current dial-a-ride system, and evening service does not appear viable at this time or in the near future.

Transit Financing. The most pressing issue that confronts Colusa County Transit is not the routing of transit lines, but the cost of maintaining the system. The system is heavily subsidized, with fares covering only 16 percent of capital and operating expenditures. About 14 percent of these costs are covered by federal funds and Nutrition Program funds, and another 14 percent by contract services (taxis). The remaining 56 percent of the system's expenditures is covered by local subsidies through the County Transportation Fund. The heavy reliance on the Transportation Fund has led to the suggestion that service be reduced and the funds be diverted to road maintenance, or that fares be increased to cover a greater portion of the cost.

The Transit system presently consumes about 75 percent of the Local Transportation Fund. This Fund is derived from the statewide sales tax and varies with the amount

of taxable sales that occur in the county each year. The transit system also receives funds through the State Transit Assistance Fund, but this fund has had an uncertain revenue stream in the past. Federal funds covering both operations and capital are available through the amended UMTA. UMTA also provides subsidies to private nonprofit agencies who provide transportation assistance to the elderly and handicapped, and funds transit studies and plans.

The operating cost per rider has declined as ridership has increased, and is likely to decline in the future as well. The 1986 regional Transit Plan projected that farebox revenues would cover 20 percent of operating costs by 1990-1991. Even so, alternatives to funding the system's operation should be explored. Among the possibilities are (1) fare increases, possibly only for non-elderly and disabled persons; and (2) more restrictive dial-a-ride policies to ensure more efficient service.

There are \$114,000 in capital expenditures planned over the next five years. These costs should be covered by UMTA and will be used for three new vehicles and miscellaneous equipment.

## **Railroad**

The extensive amount of industry planned in the I-5 corridor during the next 20 to 25 years will result in an increased demand for rail freight service. Since the railroad right-of-way is fixed and not likely to be expanded, it is important that lands now served by rail are reserved for rail-dependent industry, and that expansion areas for these industries are provided.

No specific improvements to the railroad system are proposed. Policies in this element encourage the protection of public safety at railroad crossings and the siting of development to reduce at-grade crossings. As the number of vehicles and trains increases, new gates and warning lights may be required at unprotected crossings.

## **Aviation**

The land use plans for Colusa and Williams encourage development patterns that allow continued safe operation of the airport and landing strips. Noise and safety factors have both been taken into consideration in the selection of future land uses near the County airport. Although commercial airline service is not likely to be provided to Colusa in the near future, the eventual possibility should not be ruled out. A 900-foot extension of the runway has been proposed, and a navigation system and beacon replacement project appear in the airport's capital improvement plan. The runway extension should be to the southeast, away from the urbanized area. This will result in fewer development constraints within the Colusa Industrial Properties project and will minimize increases in noise and safety hazards to existing residential areas within Colusa.

Given the amount of industrial development planned in the Williams vicinity, upgrading of the airstrip on Husted Road may be required in the future. At the same time, increased housing development south and west of town may eventually encroach on the airstrip on Williams' west side. At some point in the future, that airstrip may need to be relocated, or its services may need to be consolidated at the Husted Road airstrip.



Colusa County Airport is eligible for Federal Airport Improvement Program grants and State Division of Aeronautics Grants for capital improvements. Both funds are primarily supported by taxes on aviation fuel. Colusa County is relying on State funds to cover 90 percent of the County Airport improvement costs.

### **Waterways**

No navigational improvements to the Sacramento River are assumed in the General Plan. Increased commercial shipping and barge operations on the river do not appear likely at this time.

### **Bicycle, Pedestrian, and Off-Road Vehicle Trails**

Bicycles. The future land use plan promotes bicycle travel by containing future growth within existing urban areas. Higher densities and compact development patterns foster the use of bicycles for travel to school, work, shopping, and for leisure. As bicycle use increases, the need for striped lanes separate from motor vehicle lanes will become more apparent. At this time, neither the county nor the cities of Williams and Colusa have a "bikeways" plan. The city of Colusa has a series of signing and striping projects planned to designate bikeways within the city limits. Within each community, new residential collector streets should be sufficiently wide to accommodate bicycle traffic.

The county presently lacks the financial resources to build bikeways and many residents are opposed to the concept of a continuous bike trail along the Sacramento River. A majority of residents feel that road and bridge reconstruction needs are simply too immense to justify local expenditure on bikeways. At this time, State and federal recreation funds offer the best prospects for financing a riverfront bike trail.

Pedestrians. Pedestrian activity will occur both within the county's cities and towns, and in publicly-owned areas such as the Mendocino National Forest. The former type of travel should be accommodated by setting requirements and standards for sidewalks in new developments. The latter type of travel is associated with recreational hiking and backpacking. A number of trailheads cross the Mendocino National Forest, particularly in the Snow Mountain Wilderness and Letts Lake areas. These trails should be expanded and maintained in accordance with the National Forest Management Plan. Total trail mileage in the forest is to increase from 359 to 380 by the year 2012. Only a small portion of this mileage is within Colusa County.

Off-Road Vehicles (ORV). ORV use is popular in the Mendocino National Forest and is projected to become even more popular during the next three decades. ORV Trail mileage in the Forest is expected to grow from 141 miles to 152 miles by the year 2012, but only a small portion of this mileage is in Colusa County. Management of ORV use should be in accordance with the Mendocino Forest Management Plan.

### **Pipeline and Transmission Lines**

As mentioned earlier, the Geothermal Public Power Line will harness the energy resources of the Geysers in Sonoma County for users in Sacramento, Modesto, Santa Clara, and other parts of Northern California. Policies in the Circulation Element recommend that the alignment for this power line be sited in such a way that visual

and agricultural impacts are minimized. Wherever possible, new power lines should be located within existing power line rights-of-way.

A second power project involves the upgrading of the existing Pacific Northwest-Pacific Southwest Inter-Tie on the Valley floor. The project would raise existing transmission towers and would establish a 500 kV line between California and the power source at the Columbia River. The line will permit the transfer of 1,600 megawatts of additional power, and is intended to reduce energy costs in California.

## SCENIC HIGHWAYS

### THE VALUE OF SCENIC HIGHWAYS

The variety and beauty of the Colusa County landscape is valued by residents and visitors alike. Within a relatively short distance, one can travel across vast plains, through stark, wind-eroded hills, into rugged pine forests. Many of the county's roads offer a visual experience that is unique to Colusa County. Along River and Gridley Roads, the jagged form of the Sutter Buttes provide an dramatic backdrop. Further west, gravel roads wind through deep ravines and traverse expansive upland valleys. From all points on the Sacramento Valley floor, Snow and St. John Mountains loom on the western horizon while the distant peaks of the Sierra Nevada rise to the east. Despite its lack of topography, the valley itself is visually significant; its expanse of rice paddies and field crops uninterrupted by urbanization impresses the passing motorist with the importance of agriculture to this region.

The Colusa County landscape is most often experienced through the window of a car. As population and traffic increase, the highways which traverse this landscape will be more vulnerable to degradation. Without regulation, litter could become a serious problem, roadside signage could proliferate, and development could mar the scenery. Since much of Colusa County's landscape is flat and open, it is particularly vulnerable to visual change. A single industrial building can alter the horizon for many miles across the valley. Although a dramatic increase in development along the county's scenic highways is not anticipated, the general plan should provide for their continued protection and enhancement for the duration of the planning period.

Protecting the scenic quality of the highway system is important for several reasons. First, such highways are a reflection of the county's rural lifestyle and make an important contribution to its quality of life. Second, an attractive highway system is good for tourism and economic development. Third, scenic highways create a more aesthetically pleasing environment and contribute to the personal satisfaction of county residents.

All of Colusa County's roadways are "scenic" to some extent. The purpose of addressing scenic highways in the Circulation Element is to identify which of these roadways have particular scenic significance, which are most heavily traveled, and which are most threatened by changes to the landscape. The plan includes policy statements which ensure that the visual quality of these roads is preserved and enhanced in the future. Land in scenic highway corridors is to be used in a way that is harmonious with the corridor's natural character.

## PROCEDURE FOR SCENIC HIGHWAY DESIGNATION

The California Scenic Highway Program was established in 1963 to preserve corridors of outstanding scenic quality. Selection of scenic routes throughout the state has been based on the concept that such routes should:

- o traverse areas of high visual quality or significant landscape features;
- o be interconnected and part of a "network";
- o be coordinated with bicycle routes;
- o be predominantly used for recreation; and
- o connect major recreational, historical, or cultural features.

In Colusa County, only State Highway 16 and Highway 20 from the Lake County line Highway 16 are "eligible" scenic highways. The county may apply for designation of any county roads and some state roads as scenic highways through a three step process. First, the Board of Supervisors must ask Caltrans to do a Scenic Highway Report for the highway corridor. Second, the County must prepare a Corridor Specific Plan which contains guidelines for land use, building placement and design, sign control, and earth moving along the highway. Third, the Corridor study must be adopted by the State Scenic Highway Committee.

In lieu of this process, the county can enact local design guidelines or zoning controls which apply to specific scenic highway corridors. Since Colusa County has limited staff resources to prepare corridor plans, this approach seems most appropriate at this time. Policies stated earlier in this document provide the initial direction for protecting these corridors.

The major objective of these policies is to avoid visually obtrusive development in and commercialization of scenic highway corridors. This can be accomplished through the following measures:

- o setback, landscape, and building material guidelines;
- o requiring certain construction practices during road resurfacing and widening;
- o restricting off-site advertising;
- o undergrounding utilities where feasible; and
- o restricting land use to non-urban categories.

In no case should these measures be used to create a hardship for agriculture in the county. Although natural resource management activities may have temporary adverse impacts on scenic vistas, such activities contribute to the long-term beauty of the landscape. For instance, rice burning and timber harvesting have short-term effects on visual quality. These activities and others like them are necessary and should in no way be inhibited by scenic highway programs.

## RECOMMENDATIONS FOR "SCENIC" DESIGNATION

In addition to the segments of Highways 16 and 20 that have already been granted "eligible" status, the following highways should be considered for local scenic highway designation:

- o Highway 20 between Highway 16 and Williams

- o The Maxwell-Stonyford Road (Maxwell-Sites Road, Sites-Lodoga Road, Lodoga-Stonyford Road)
- o Bear Valley Road/Leesville-Lodoga Road
- o Highway 45 from Yolo County to Glenn County
- o River Road/Gridley Road.

The location of these roads and the features that make them visually significant are noted in Figure CIRC-8.

## CIRCULATION POLICIES

Based on the above analysis of existing conditions and an evaluation of the future land use plan, the following policies have been applied in the development of the county's circulation plan. Many of the policies have been taken directly from the Regional Transportation Plan, since the plan area is the same in both instances.

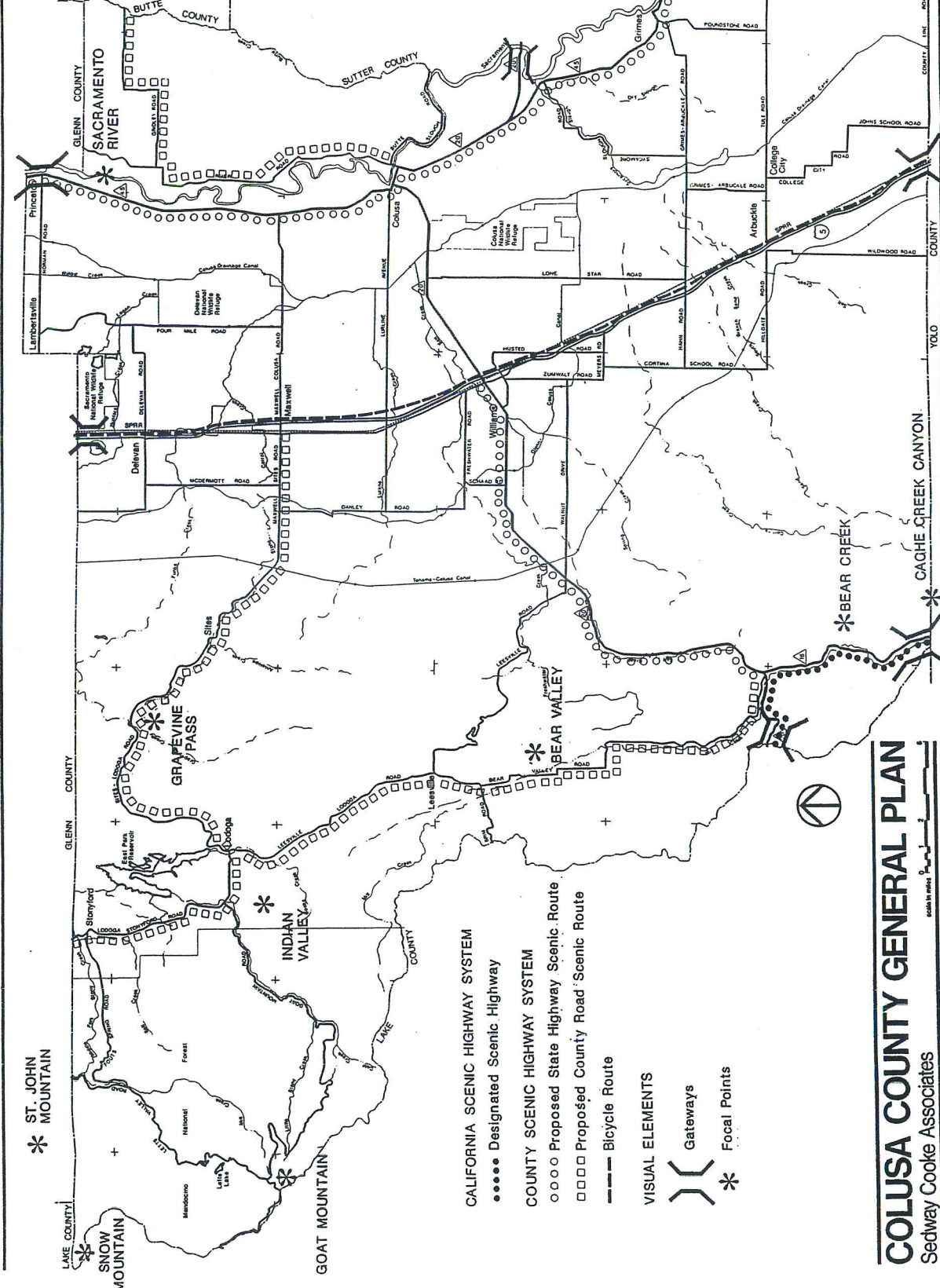
### General

- CIRC-1 Colusa County should pursue a circulation system that is consistent with the land use plan contained in this document. The following hierarchy of streets and highways should be used to describe this system: Principal Arterials, Minor Arterials, Major Collectors, Minor Collectors, and Local Streets. These road types are shown in Figure CIRC-1 and are defined in the first part of this chapter. Road standards applicable to each of these road types should be used by the Public Works Department in the planning of future road improvements.
- CIRC-2 Existing transportation facilities should be utilized fully (Level of Service "C", as defined in Table CIRC-3) before making major new capital improvements.
- CIRC-3 Transportation facilities should be used to support the growth of the region and should not be deliberately used to constrain growth or cause social changes.
- CIRC-4 Local streets, County roads, and State highways should remain the primary elements of the circulation system.
- CIRC-5 Circulation facilities should be sited and designed in such a way that damage to the county's scenic and environmental resources is avoided. Roads should be planned and designed to minimize disruption of soils, topography, vegetative cover, and wildlife habitat.

### Streets and Highways

- CIRC-6 The County shall pursue all available State, federal, and private funding for the development of its transportation system.
- CIRC-7 The County shall support and encourage legislation that will ensure that Colusa County receives a larger share of State and federal road maintenance funds.

**Figure CIRC-8  
BICYCLE ROUTES  
AND  
SCENIC HIGHWAYS  
OF COLUSA COUNTY**



**COLUSA COUNTY GENERAL PLAN**  
Sedway Cooke Associates

- CIRC-8 The County should encourage the operation of Interstate 5 at Level of Service "B" or better and of all other roads at Level of Service "C" or better (Level of Service is defined in the text, Table CIRC-3).
- CIRC-9 A program for the replacement of deficient bridges should be initiated.
- CIRC-10 Driveway intersections and curb cuts should be limited along arterials and collectors to reduce the number of turning movements and limit traffic delays.
- CIRC-11 Local Transportation Funds shall be allocated to the cities of Colusa and Williams and the county by the Local Transportation Commission based on the most current Department of Finance population estimate for each area.
- CIRC-12 Any excess Local Transportation Funds not needed for transit should be used for road maintenance.
- CIRC-13 The removal or reduction of restrictions on the spending of state and federal transportation monies shall be supported.
- CIRC-14 Improvements to existing streets that are needed as a result of private development should be the financial responsibility of that developer. Right-of-way dedication should be required as a condition of approval for any development which encompasses a segment of a proposed new or widened major or minor collector. The County shall also encourage the financing of off-site improvements by developers if it is shown that their projects will require such improvements to avoid unacceptable traffic delays.
- CIRC-15 The County should encourage Caltrans to clear or prevent weed growth along the shoulders and in the median of Interstate 5 to avoid potential fire hazards.
- CIRC-16 In the event that fuel rationing is required, emergency vehicles shall have priority for fuel usage.
- CIRC-17 Due to the prohibitively high cost of road construction, facilities should be constructed to remove or divert floodwater from local roads and State Highways rather than raising the elevation of all flood-prone roads. When flooding is due to private sector causes, the cost of road repair and clean-up should not be funded with county road funds. In such instances, the parties responsible for the problem should bear these costs.
- CIRC-18 The widening of State highways to allow the safe movement of farm vehicles and equipment shall be encouraged.
- CIRC-19 The use of landscaping or sound walls as a means of buffering residential areas from traffic noise along I-5 and Highway 20 shall be encouraged.
- CIRC-20 Increased patrolling of streets and highways by the California Highway Patrol shall be encouraged to enforce speed, weight, and safety regulations on the road.

- CIRC-21 Twenty-five percent of the timber funds generated from forest sales should continue to be used for streets and roads.
- CIRC-22 Transportation improvements which permit increased travel by recreational vehicles should be encouraged, provided that such improvements do not have a negative environmental impact.

### **Public Transit**

- CIRC-23 Colusa County shall apply for Urban Mass Transit Act (UMTA) Section 18 formula and discretionary funds.
- CIRC-24 State Transit Assistance funds shall continue to be used for transit only.
- CIRC-25 The continuation of privately operated inter-city bus service shall be encouraged.
- CIRC-26 The first priority of the local bus system should be to provide transportation for the elderly, handicapped, economically disadvantaged, and others with unmet transportation needs. Lesser priority should be given to diverting automobile trips to transit.
- CIRC-27 Applications for federal subsidies for private nonprofit companies providing transit in rural areas should be supported. Further opportunities for private operation of the transit system should be explored.
- CIRC-28 Transit connections between Colusa County and Yuba City-Marysville should be encouraged.

### **Railroad**

- CIRC-29 The restoration of passenger rail service along the Southern Pacific tracks parallel to Interstate 5 should be encouraged.
- CIRC-30 The continuation of freight service along the main and branch lines of the Southern Pacific railroad shall be supported. The continuation of rail service to businesses and industry along the rail line shall also be encouraged.
- CIRC-31 The County and Southern Pacific should work jointly to encourage the maintenance of facilities and road crossings.
- CIRC-32 Railroad crossings of State and county roads shall be marked, signalized, and gated where warranted by traffic volumes. The land use pattern should avoid extensive grade-level road crossings of the railroad.

## **Air**

- CIRC-33 The expansion and improvement of existing airport facilities shall be promoted. When there is a reasonable chance of approval, the County shall apply for available State and Federal aeronautics funds.
- CIRC-34 Landing and rental fees to help maintain and improve airports in the region shall be increased or established.
- CIRC-35 Formation of an Airport Land Use Commission to monitor land use decisions around the Colusa Airport, ensure the continued sustenance of the airport, and protect public safety should be promoted.
- CIRC-36 Formation of an Airport Noise Overlay Zone with noise insulation standards for land uses occurring in the zone should be encouraged.

## **Pedestrians and Bicycles**

- CIRC-37 Residential development at urban densities (3.5 units per gross acre or greater) should include provisions for bicycle lanes or pedestrian trails. Where possible, these bicycle and pedestrian trails should be integrated with trails serving the rest of the community.
- CIRC-38 Sidewalks should be required within all new development at urban densities if such development is contiguous or within the communities of Arbuckle, Maxwell, Grimes, or Princeton. This requirement also applies to the unincorporated portions of Colusa and Williams, and its adoption by each of these two cities is encouraged.

## **Pipelines and Transmission Lines**

- CIRC-39 Any proposed pipeline or transmission line within the county shall be aligned so that interference with agriculture is minimized.

## **Waterways**

- CIRC-40 Navigational improvements to the Sacramento River should be encouraged to reduce seepage, encourage commercial fishing and tourism, and reduce the danger of boating accidents.

## **Scenic Highways**

- CIRC-41 The natural scenery which exists along locally-recognized scenic highways (see Figure CIRC-8) should be protected from activities which would permanently diminish their aesthetic beauty. Urban development should be discouraged in locally-recognized scenic highway corridors.



- CIRC-42 New structures in scenic highway corridors should be set back as far as possible from the designated roadway and should be in low visibility areas. Structures should be built with natural materials that help them blend into the landscape.
- CIRC-43 A greater number of areas should be provided along scenic highways for vistas, rest stops, or picnicking.
- CIRC-44 Trees along scenic roadways should be preserved, unless their removal is part of a program to enhance vistas. Where tree removal is required for road widening, a roadside revegetation program should also be required.
- CIRC-45 Non-agricultural roadside commercial and industrial activities should be discouraged in scenic highway corridors.
- CIRC-46 Off-site advertising and billboards should not be permitted on portions of scenic highways lying outside of Community Planning Areas.
- CIRC-47 Where financially feasible, utilities in scenic highway corridors should be placed underground. Where this is impossible, utilities should be sited in a way that minimizes their intrusiveness.
- CIRC-48 New roads in hillside areas should be constructed along the lines of the landscape and in a manner which minimizes visual impact from surrounding areas.
- CIRC-49 Any earthmoving or road reconstruction project should be followed by seeding and vegetation which restores a natural appearance.
- CIRC-50 No scenic highway policy shall be used to impose a hardship on agriculture. Agricultural activities which have a temporary adverse visual impact should be recognized as necessary and as contributors to the long-term beauty of the landscape.

### **Implementation**

- CIRC-51 County transportation planning decisions shall be coordinated with all affected public and private agencies.
- CIRC-52 The public shall be informed and invited to attend meetings regarding the future of the circulation system.
- CIRC-53 An inventory of discretionary funds and grant sources that might be used for transportation improvements should be maintained by the county.
- CIRC-54 The County should carry out studies of alternatives to (1) financing road maintenance and construction and (2) reducing the impacts of large trucks on the local road system.
- CIRC-55 Permitted roadside commercial uses should have an approved public access plan. The plan should address public safety and ease of access to the site.

