

## CHAPTER 2: CIRCULATION ELEMENT

### INTRODUCTION

A well balanced transportation system that relies upon all transportation modes is essential to the efficient use of public funds and the provision of affordable infrastructure. There are many ways that the design of new developments and proper utilization of existing infrastructure can encourage a more balanced transportation system without overly burdening one mode. The Circulation Element has been created to help policy makers, administrators, planners, engineers and developers understand how to design communities and projects that promote an efficiently balanced transportation system that reflects the needs of not just automobiles, but of pedestrians, transit riders and bicyclists. However, these efforts must be grounded to the realities of both geographical and funding constraints.

Transportation is the basic system which provides mobility to sustain social, economic and recreational activities in Tuolumne County. An improperly developed or out of balance transportation system can result in ineffective mobility and cause adverse and undesirable conditions such as safety hazards, long delays, air pollution, unnecessary energy consumption and a loss of community identity. The goals, policies and implementation programs in this plan are intended to guide the development of a transportation system which will maintain and improve the quality of life in Tuolumne County while accommodating new growth.

The following goals, with correlated policies and implementation programs, are statements of aims and desired future conditions relating to the County's circulation.

### GOALS, POLICIES AND IMPLEMENTATION PROGRAMS

#### STREETS AND HIGHWAYS

The basic street and highway network in Tuolumne County is comprised of a combination of approximately 139 miles of State highways, 600 miles of maintained County roads and 26 miles of maintained City streets. Beyond this basic system, there also exists several hundred additional miles of Federal (Bureau of Land Management, Forest Service and National Park) and privately owned roads.

When these roads are grouped by category, they form the functional system of roadways for Tuolumne County. Typical minimum right-of-way criteria for each class of roadway in the County and a list of those State Highways, County roads and City streets classified within each category are provided in Appendix 2.A. A brief summary of each functional category, as defined by the American Association of State Highway Transportation Officials (AASHTO) follows:

##### Rural Arterial

The rural principal arterial system consists of a network of regional routes functioning primarily for the movement of through traffic, usually on continuous routes, with trip length and capacities suitable for substantial statewide or interstate travel. The State Department of Transportation and within Yosemite National Park, the Park Service, are the agencies responsible for improving and maintaining these routes.

##### Rural Minor Arterial

The rural minor arterial functions in conjunction with the principal major arterials to form a regional network providing high speed, high volume travel corridors for movement between traffic generators such as cities, large towns and resort areas and uninterrupted intercounty travel. Rural minor arterials are spaced consistent with population density to provide a relatively high level of service to all developed areas of the State. The

State Department of Transportation is the agency responsible for improving and maintaining these routes.

### **Rural Collector**

Rural collector routes provide service between local roads and the arterial system and are primarily important for intracounty travel. These routes are subclassified as follows:

#### **Major Collector**

These routes function as corridors for through traffic within local areas providing service to towns and other major traffic generators within the County which are not directly served by the arterial system. They also serve to link minor collectors and local access roads with nearby towns and communities or the arterial system.

#### **Minor Collector**

These routes generally serve lower density areas and, therefore, do not have the traffic volume that major collectors do. Minor roads often serve to funnel traffic from groups of local roads onto the major collectors and arterial routes. Minor collectors should be spaced to bring all developing areas of the County within reasonable distance of major collectors or arterial routes.

### **Rural Local Road**

The rural local road system primarily provides direct access to residential property and other areas which are not directly served by the collector or arterial system. Local roads make up a major portion of the County Road System, accounting for approximately 403 miles.

### **Scenic Routes**

A scenic route is one which traverses an area of outstanding scenic quality. Portions of State Highways 49, 108 and 120 are considered locally as scenic routes.

### **Urban Streets**

An urban street provides access for automotive vehicles as well as increased pedestrians and bicyclists to the urbanized areas of the County, such as the City of Sonora. Urban streets are all those portions of County roads within one mile of a traffic signal/stop control and/or have eight (8) or more access points per mile.

The Tuolumne County road system was evaluated (Countywide Traffic Circulation System Model, Transportation Improvement Program and Funding Strategy, January 1996) to determine the operating level of service rating on all Arterial and Collector roads in 2007. The level of service (LOS) of roadways is a qualitative measure of the operating conditions on a section of roadway. It is defined by the motorists' perception of their mobility and comfort. In general, LOS "A" through LOS "C" indicate minimal or acceptable delays. LOS "D" represents high density stable flow with motorists feeling noticeable congestion. LOS "E" indicates the roadway is operating at or near its capacity and there are frequently intolerable delays. LOS "F" means the traffic volume is higher than the capacity of the roadway so queuing will occur; there will be excessive delay and stop and go conditions through the queue until the demand level drops off.

**GOAL 2.A      Preserve the County's substantial investment in the existing road system and provide for the long-range planning and development of the County's transportation system for the safe and efficient movement of people and goods.**

### **Policies**

2.A.1            Assess the needs of street and road users regularly through the land development application review process.

- 2.A.2 Direct the Community Resources Agency, in conjunction with Caltrans, to regularly conduct assessments of the current status of the highway system to determine the current level of needs in the system, and report those needs to the Board of Supervisors.
- 2.A.3 Prioritize expenditure of limited public funds for maintenance based upon a roadway's traffic volume and functional classification.
- 2.A.4 Evaluate and analyze the traffic impacts of proposed land uses in relation to stated goals and objectives of the General Plan since growth policies regarding land use decisions directly affect the existing and future transportation system.
- 2.A.5 Set forth recommendations for the future of the County's streets and highways system in each update of the Regional Transportation Plan.
- 2.A.6 Coordinate with State and Federal agencies and developers to secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards.
- 2.A.7 Evaluate the need for the provision of County roads to serve as alternative routes to the State Highway network within the County's boundaries and, if warranted, pursue funding for and construction of and/or improvements to the identified alternative routes.

**Implementation Programs**

- 2.A.a Develop and Maintain Roadways in Accordance with Functional Classification System and Master Plan of Streets and Highways
 

Plan, design and regulate roadways in accordance with the following functional classification system which is reflected in the County's Regional Transportation Plan, is shown on the Master Plan of Streets and Highways in Figures 2.1 and 2.2, and is discussed in more detail in Appendix 2.A:

  - \* Rural Arterial
  - \* Rural Minor Arterial
  - \* Rural Collector
  - \* Major Collector
  - \* Minor Collector
  - \* Rural Local Road
  - \* Scenic Routes
  - \* Urban Streets
- 2.A.b Utilize Roadway Design and Access Standards in Developing Roads
 

Dedicate, widen and construct streets and roads according to the roadway design and access standards generally defined in Appendix 2.A and, more specifically, the County Ordinance Code and the Countywide Traffic Circulation Improvement Program. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Director of Transportation or Board of Supervisors that safe and adequate public access and circulation are preserved by such exceptions.
- 2.A.c Establish Standards for Rights-of-Way Width
 

Require that roadway rights-of-way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes, as well as any planned bikeways and required drainage, utilities, landscaping and suitable separations. Minimum right-of-way criteria for each class on roadway in the County are specified in Appendix 2.A of this Element and the

County Ordinance Code. However, additional right-of-way, beyond the minimum criteria may be required to provide for location specific needs.

2.A.d Align and Extend Roads to Provide Continuity

Require local roads serving new development to be aligned with existing local roads on abutting properties and extend existing roads to link with other roads wherever possible to provide continuity and provide safety in the local road system.

2.A.e Maximize Intersection Spacing

Maximize intersection spacing on arterial and collector roadways and thoroughfares. Driveway encroachments along collector and arterial roadways shall be minimized. Except where specific site conditions warrant, no new intersection of a local road or new driveway with an arterial or collector road shall be closer to an existing local road or driveway than 500 feet in rural areas or 200 feet within urbanized areas.

2.A.f Discourage Use of Local Roads for Through-Traffic

Accommodate through-traffic in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including particularly truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life.

2.A.g Require Development to Contribute to the Provision of Parking

Require that all new development participate in the provision of off-street parking, either on-site or in consolidated lots or structures, by providing parking facilities or through the payment of in-lieu fees. Provide for the payment of in-lieu parking fees for new development within Historic Design Preservation (HDP) Districts as an alternative to providing on-site parking in order to retain the historic character of those districts and in recognition of the size limitations of existing parcels in historic areas to accommodate on-site parking.

2.A.h Establish Level of Service for the County's Roadway System

Develop and manage the County's roadway system to maintain the following minimum levels of service (LOS):

The minimum LOS standard for Minor Collectors, Major Collectors, Rural Arterials and Urban Streets shall be LOS D, unless an exception is made by the County. The minimum LOS standard for local and residential roads shall be LOS C. The minimum peak hour LOS standard for all intersections shall be LOS D.

LOS on County roads shall be evaluated using the methodology adopted by the Tuolumne County Transportation Council.

The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable. In allowing any exception to the standards, the County shall consider the following factors:

- The number of hours per day that the intersection or roadway segment would operate at conditions worse than the standard.
- The ability of the required improvement to significantly reduce peak hour delay and improve traffic operations.
- The right-of-way needs and the physical impacts on surrounding properties.
- The visual aesthetics of the required improvement and its impact on community identity and character.

- Environmental impacts, including air quality and noise impacts.
- Construction and right-of-way acquisition costs.
- The impacts on general safety.
- The impacts of the required construction phasing and traffic flows.
- The impacts on quality of life as perceived by residents.
- Consideration of other geographical, environmental, social or economic factors on which the County may base findings to allow an exceedance of the standards.
- The ability to equitably fund needed improvements.
- The importance of proposed improvements in relation to other road needs given limited resources.

Exceptions to the standards will only be allowed after all reasonable measures and options are explored, including alternative forms of transportation.

2.A.i County's Level of Service (LOS) for State Highways

Support, when reasonable, the State's goal of maintaining Level of Service (LOS) C on State Highways and at intersections with County roads. The minimum LOS standard for the State Highway System shall be no lower than LOS E. The methodology for evaluating LOS on State Highways shall be pursuant to the Highway Capacity Manual 2010.

2.A.j Cooperate With Other Jurisdictions on Funding and Establishing Road Standards

Work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on the roadways that cross the County's boundaries.

2.A.k Encourage Use of Alternative Forms of Transportation

Strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

2.A.l Master Plan a Complete Road Network

Maintain, periodically update and implement the Tuolumne County Master Plan of Streets and Highways, shown in Figures 2.1 and 2.2, which addresses a complete road network to serve the transportation needs of the community. This road network should include roadways parallel to regional facilities so that the regional roadway system can function effectively and efficiently. Funding for this network should be provided from a combination of sources, such as new development, sales tax, gas tax, State partnerships and federal transportation programs.

2.A.m Analyze Increased Traffic Generated by New Development

Require proposed new development projects to analyze their contribution to increased traffic and to implement improvements necessary to address the increase.

2.A.n Require Fair Share Contribution to Mitigating Traffic Impacts

Require new development to mitigate that development's impacts on the local and regional transportation system through the fair share contribution of improvements to the master planned system and/or the payment of mitigation fees. Exceptions to the payment of impact mitigation fees may be made when new development generates significant public benefits, such as low income housing, high wage employment and needed health care facilities, and when alternative sources of funding can be identified to offset foregone revenues.

2.A.o Establish Priorities for the Limited Amount of Funding Available for Road Improvement Projects

Emphasize, consistent with legal and funding constraints, the following prioritization of road improvement projects in the County Road Improvement Program:

1. Projects needed to maximize the safety of the road system on high accident road segments and intersections, including, but not limited to, additional road widths and turn lanes, realignments, shoulder improvements, bridge improvements, hazard elimination and hazard control devices.
2. Projects needed to improve rideability and preserve past infrastructure investments, including, but not limited to, pavement life extension and rehabilitation. To provide the most effective expenditure of funds, maintenance shall emphasize the arterial and major collector segments of the road system utilizing the County Pavement Management System.
3. Projects needed to improve capacity and travel speed, particularly on roads carrying through traffic, and including, but not limited to, interchange improvements, additional road lanes and/or widths, turn lanes, signalization and bridge improvements that help fire, police and other emergency services achieve acceptable response times.
4. Projects needed to improve the use of other modes of transportation, including, but not limited to, public transportation facilities (transit facilities and stops), park and ride facilities, bikeways, non-motorized trails and pedestrian facilities.

To the maximum extent feasible, road improvement projects shall support development of the following:

- employment generating uses;
- affordable housing; and
- facilities for higher education.

2.A.p

#### Recognize Funding Limitations for Road Improvements and Maintenance

Recognize the major funding limitations that exist within the State and County system and find that, as a matter of legislative policy, additional growth and development may be allowed within the County, notwithstanding the adverse impacts which may result in the short term by this growth and development. Therefore, it shall be the policy of the County to:

1. Encourage the existing partnership between Tuolumne County, the State and developers in working together to solve State highway and County road problems created by growth and funding limitations.
2. Cooperate with governmental agencies in identifying and funding improvements necessary to mitigate the deficiencies in the transportation in Tuolumne County.
3. Acknowledge that short-term adverse impacts to the Tuolumne County transportation system resulting from growth and development within and outside of the County will occur until adequate funding is made available and improvements made through projects identified in the adopted State Transportation Improvements Program.
4. Monitor responsible agencies' activities in responding to the needs of the transportation system within the County.
5. Solutions to State highway system problems shall include formal County review and input to the State Transportation Improvements Program, formal County requests for specific improvements and/or facilities and requests for inclusion of said improvements and/or facilities within the County's Regional Transportation Plan.

6. Should critical State highway improvements not be identified in the adopted State Transportation Improvements Program, the County should review its policies to determine if additional growth and development should be curtailed in the impacted areas to maintain established minimum LOS standards.

2.A.q Consideration of Development Projects When Traffic Impacts Cannot be Mitigated

Consider the impacts of new development on the County's transportation system and require such development to provide mitigation for its fair share of the impact. New development that is determined by the County to create or exacerbate an identified deficiency in the transportation system will not be approved if a plan and funding program to provide needed roadway improvements has not been approved and if the mitigation provided by the development will not correct the deficiency or if it will create an additional burden on County transportation funds. This implementation program shall not apply to new development for which the County makes a finding of overriding considerations for traffic impacts related to the new development in accordance with the California Environmental Quality Act (CEQA).

2.A.r Cooperate in Implementation of Regional Transportation Plan

Cooperate with the Tuolumne County Transportation Council in the implementation of the Regional Transportation Plan.

2.A.s Give Priority to Safety Related Road Improvement Projects

Maintain an awareness of those portions of the streets and highways system which experience an unusual number of motor vehicle traffic accidents, design necessary improvements and implement necessary improvements in a timely manner to the greatest extent possible.

2.A.t Identify Development-Related Impacts and Mitigation Measures for the County's Roads

Encourage the identification and implementation of mitigation measures for all projects impacting local arterial and collector roads.

2.A.u Coordinate a Financially Constrained Regional Transportation Program

Continue to coordinate a financially constrained Regional Transportation Improvement Program.

**Responsibility for Programs:** Administration of the Implementation Programs listed in this section is the shared responsibility of the Board of Supervisors and Community Resources Agency with the Community Resources Agency serving as the primary administrator.

**Funding Sources:** Administration of the Implementation Programs listed herein will be funded through the County's General Fund and Road Fund.

**Time Frame for Implementation:** All programs are ongoing.

FIGURE 2.1

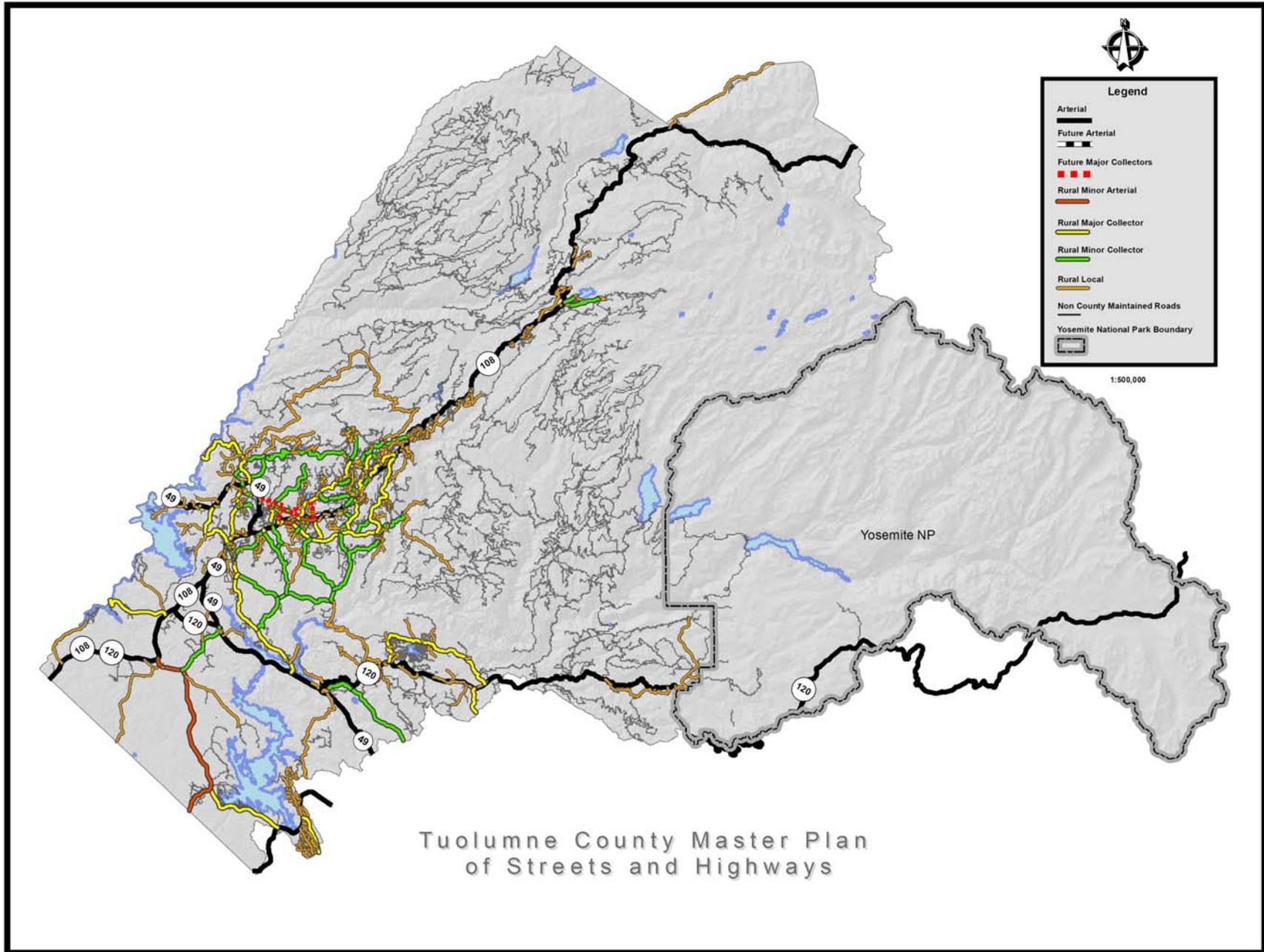
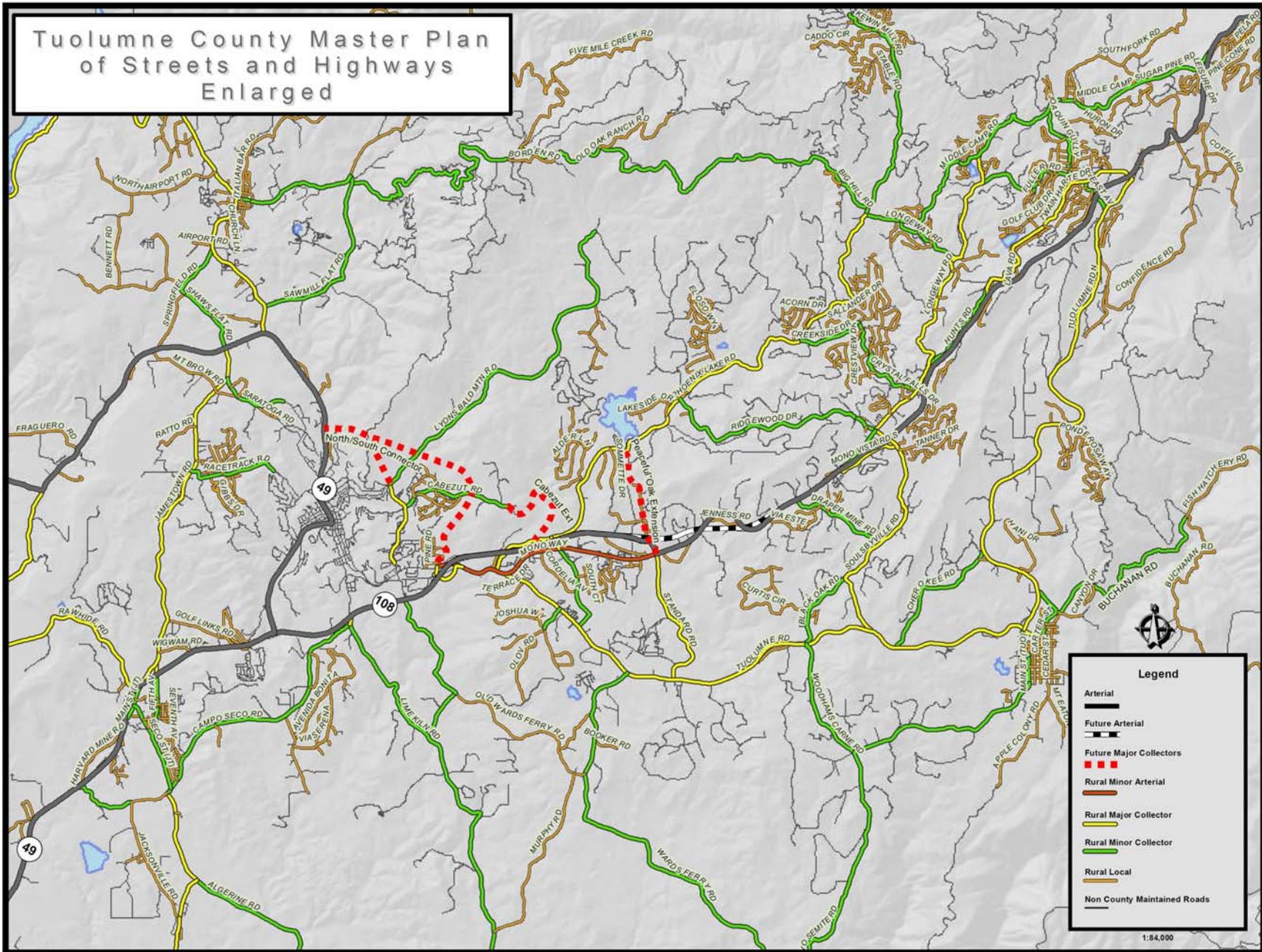


FIGURE 2.2



## NON-MOTORIZED TRANSPORTATION

The number of existing bicycle, pedestrian and equestrian trails in Tuolumne County is limited. Many of these trails have been constructed by private volunteer efforts. However, in October 1993, the California Transportation Commission (CTC) approved Proposition 116 funds for bicycle/pedestrian facility projects in Sonora, Columbia, Jamestown and Groveland. Also, in March 1994, the CTC approved discretionary Transportation Enhancement Activities (TEA) Program funds for bicycle/pedestrian trails in Tuolumne and Soulsbyville. All of these projects represent the highest priority non-motorized projects in the County's Regional Transportation Plan (RTP). These projects are all currently under design.

The current focus is on short, high impact, less expensive routes. While this means that some of the planned routes could realistically be built with currently available funds, additional funding is desperately needed if enough of these routes are to be built to significantly reduce impacts on road circulation. Furthermore, continued volunteer aid should be sought from local civic groups to construct facilities to satisfy the County's recreational needs.

**GOAL 2.B Encourage the use of alternative means of transportation by providing safe bicycle and pedestrian facilities between high use areas thereby reducing road congestion which improves circulation, health and air quality within the County.**

### Policies

- 2.B.1 Actively investigate and seek alternative funding sources for bicycle and pedestrian facilities.
- 2.B.2 Construct bicycle and pedestrian facilities as soon as possible when funds become available.
- 2.B.3 Give special attention to the needs of pedestrians, bicyclists and individuals with disabilities in the project design review process.

### Implementation Programs

- 2.B.a Integrate Recreational and Transportation Bicycle and Pedestrian Facilities  
Give consideration to designing bicycle and pedestrian transportation routes which can be integrated into the recreational routes designated in the County's Recreation Master Plan.
- 2.B.b Coordinate Bike Facility Design With Schools  
New bicycle and pedestrian facilities should be designed to accommodate preferred safe routes to the school from nearby population centers.
- 2.B.c Require Provision of Bicycle Storage Facilities in Specified Developments  
Require, when appropriate, new commercial, high density residential and recreational development to provide and maintain bicycle storage facilities, such as bicycle racks, at various locations throughout the developments.
- 2.B.d Encourage Class I and Class II Bicycle and Pedestrian Facilities  
Encourage the construction of pedestrian facilities and Class I and Class II bicycle facilities, such as widened and striped shoulders or completely separate facilities. In high traffic/high speed motorized transportation areas which receive high use by school children, require the construction, where feasible, of barriers between motorized and non-motorized traffic. Such barriers can include, but are not limited to, construction of an asphalt or concrete curb or berm between motorized and non-motorized traffic ways.

- 2.B.e Support Provision of Bicycle and Pedestrian Facilities by the Private Sector  
Support private efforts to construct bicycle and pedestrian facilities between high use areas.
- 2.B.f Require Bicycle and Pedestrian Route Plans  
Require all new community plans to include, as part of their respective Circulation Elements, a bicycle and pedestrian routes plan.
- 2.B.g Require Contributions Towards Provisions of Bicycle and Pedestrian Facilities  
Require, when appropriate and warranted, new development to contribute to, or construct, bicycle and pedestrian facilities. New development zoned R-1, R-2, R-3, C-O, C-1, C-2, C-K and M-U occurring within a two mile radius of a school, shopping center, life enrichment facility or work concentration area and located along a major or minor collector or arterial shall be targeted for providing bicycle and pedestrian facilities within the new development. If existing conditions prohibit development from constructing warranted facilities, such developments shall set aside sufficient room along the project frontage and pay in-lieu fees to construct bicycle and pedestrian facilities. For new residential subdivisions of five or more parcels, the provision of bicycle and pedestrian facilities or the payment of in-lieu fees may be credited toward the recreational facilities requirements for that type of development.
- 2.B.h Seek Dedication of Rights-of-Way for Future Bicycle and Pedestrian Facilities  
Require, where appropriate and warranted, dedication of right-of-way for and/or construction of bicycle and pedestrian facilities along routes identified in the priority and non-priority lists contained in Tables 1 and 2 of the Non-Motorized Element of the County of Tuolumne Regional Transportation Plan.
- 2.B.i Establish Thresholds for Requiring Widened Shoulders for Pedestrians  
Require in rural areas, where appropriate, development in the RE-1 zoning district to provide and stripe minimum four-foot wide shoulders to accommodate pedestrians unless average lot sizes are greater than two acres.
- 2.B.j Designate Local Transportation Funds for Bicycle and Pedestrian Facilities  
Continue to set aside two percent (2%) of all new apportionments of Local Transportation Fund (LTF) dollars to fund bicycle and pedestrian facility projects listed in the Regional Transportation Plan or Recreation Master Plan.
- 2.B.k Explore Funding Sources  
Continue to explore new funding sources for construction and maintenance of bicycle and pedestrian facilities.

**Responsibility for Programs:** Administration of the Implementation Programs listed in this section is the shared responsibility of the Board of Supervisors and Community Resources Agency with the Community Resources Agency serving as the primary administrator.

**Funding Sources:** Administration of the Implementation Programs listed herein will be funded through the County's General Fund and Road Fund.

**Time Frame for Implementation:** All programs are ongoing.

## PUBLIC TRANSPORTATION

Public transportation, referred to as transit, has helped foster traditional community values in Tuolumne County. Transit effectively promotes economic development, enables work, instead of welfare, and helps build a sense of community. The transit needs of persons in Tuolumne County are met primarily through a cooperative effort of social service organizations, private enterprise, volunteers and the County's public transit system. This combined effort allows transit dependent persons, such as senior citizens, persons with disabilities, youths and persons of limited means to patronize local businesses, contribute to community activities, participate in recreational activities and access health/public services. Perhaps most importantly, public transportation provides an important link between public assistance and eventual self reliance by providing access to educational and employment opportunities.

It is very important, especially in non-urban areas, for a transit system to be very clear about its mission and which markets its aims to serve. Generally, users of public transportation tend to fall into one of two categories: a) people who have automobiles available but use the system by choice (choice riders), and b) people who use the system because they really have no alternative (transit dependent riders). Existing transportation services have met the reasonable needs of transit dependent persons. Efforts by both private and public services to serve choice riders have repeatedly failed to meet expectations. Quite simply, the disincentives that encourage the choice rider to use transit instead of driving that are prevalent in urban areas, such as heavy congestion, long commutes, poor air quality and expensive/limited parking, do not exist in Tuolumne County. However, as the County continues to grow, there will be a corresponding need for public transportation services.

**GOAL 2.C      Provide safe, effective and efficient transportation service which meets the reasonable needs of transit dependent senior citizens and residents within Tuolumne County.**

### Policies

- 2.C.1      Support the development of all area public and social service transportation systems as outlined in the Tuolumne County Transit Development Plan (TDP).
- 2.C.2      Encourage eligible claimants in Tuolumne County to maximize the use of Federal and State funds for public transportation purposes.
- 2.C.3      Promote coordination among all public and social service transportation operations to provide the highest level of efficiency and cost-effectiveness possible.
- 2.C.4      Strive to meet the needs of the transportation disadvantaged, including youths, elderly, persons with disabilities and the economically disadvantaged. Secondly, transit services should strive to accommodate choice riders.
- 2.C.5      Pursue public input into the operation of social service transportation systems as received via rider surveys, the Transit Productivity Advisory Committee and comments made during the annual unmet transit needs hearing.
- 2.C.6      Encourage increased marketing of all existing transportation in Tuolumne County.
- 2.C.7      Maintain compliance with the Americans with Disabilities Act.
- 2.C.8      Encourage a continuous and interconnected pedestrian friendly system of paths that lead to transit stops.
- 2.C.9      Encourage building site designs that cater to transit riders, pedestrians and cyclists, as well as those arriving by car.

- 2.C.10 Encourage a mixture of high density land uses in proximity to transit stops.
- 2.C.11 Support street designs that are accommodating to pedestrians and transit.
- 2.C.12 Support integration of transit into the community.

**Implementation Programs**

- 2.C.a Direct Transit Services to Destination Points  
Strive to direct transit services to major commercial destinations and activity centers.
- 2.C.b Establish Service Standards  
Strive to establish 60 to 90 minute service frequency in the Sonora area, 120 to 180 minute service frequency on inter-city routes that service Sierra Village and Tuolumne and life line services to remote communities, such as Groveland.
- 2.C.c Provide Demand-responsive Services  
Provide flexible and reliable demand-responsive services to paratransit patron by striving to limit dial-a-ride trip turn downs to one per day and limiting subscription dial-a-ride to 50% of hourly capacity.
- 2.C.d Encourage Urban Density Development Near Transit Facilities  
Encourage, where appropriate, the following housing densities: 6 units per acre within 3/4 mile of an existing transit corridor and 12 units per acre within . mile of existing transit corridors.
- 2.C.e Monitor Transit Program Efficiency  
Monitor the efficiency of the transit program and maintain compliance with established standards on a continual basis.
- 2.C.f Cooperate with Public Agencies and Private Business in Seeking Funds for Transit Programs  
Cooperate with public transportation providers, the Tuolumne County Transit Authority, State and Federal Governments and private business to fund transportation services.
- 2.C.g Implement Transit Development Plan  
Implement the Tuolumne County Transit Development Plan.
- 2.C.h Adopt a Transit Marketing Plan  
Adopt, on an annual basis, a creative marketing plan that provides user friendly route schedules and service brochures, cultivates media contacts and makes special efforts to promote service to target markets.
- 2.C.i Coordinate Transit System Development with Land Use Planning  
Coordinate transit system development with community planning and development efforts by implementing the following land use policies:
  - 1. Encourage new facilities which may have public transit impacts to locate in current service areas, with pedestrian access to current bus stops.

2. Encourage any new large developments, such as urban density subdivisions, multi-family housing complexes, commercial centers or business parks, to provide amenities, such as shelters and benches, for transit users.
3. Discourage low income/senior/disabled housing projects more than 3/4 mile from existing service corridors. Consider charging new projects outside service areas, which create additional transit service needs, the incremental cost of new service as a disincentive to locating in such areas.

2.C.j Determine Need for Transportation Demand Management Programs

Work with Caltrans and other agencies to determine the need for Transportation Demand Management Programs, such as park and ride facilities, transit incentives and telecommute centers.

2.C.k Establish Design Standards Within Transit Corridors

Prepare and adopt land use and design standards for areas within designated transit corridors consistent with the policies and standards in this policy document.

2.C.l Support Recreational Opportunity Expansion Through the Transit Program

Support reasonable efforts to expand recreational opportunities with transit services.

**Responsibility for Programs:** Administration of the Implementation Programs listed in this section is the shared responsibility of the Board of Supervisors and Community Resources Agency with the Community Resources Agency serving as the primary administrator.

**Funding Sources:** Administration of the Implementation Programs listed herein will be funded through the County's General Fund and Road Fund.

**Time Frame for Implementation:** Implementation of the programs listed in this section is ongoing.

## RAIL

Tuolumne County is served by the Sierra Railroad which operates between Oakdale, in Stanislaus County, and Standard, in Tuolumne County. Connections are made with both the Southern Pacific and the Santa Fee Railroads in Oakdale. The Sierra Railroad includes 49 miles of track and has been in operation since 1897.

The Sierra Railroad is vital to the local economy. The railroad not only provides local industry with access to distant markets, but also provides historic rail excursions and scenic cinemographic opportunities for the film industry.

Located along the Sierra Railroad in Jamestown is Railtown 1897 State Historic Park, which includes a functional roundhouse, several steam engines and an inventory of vintage passenger and freight cars. In recent years, Railtown 1897 excursion train ridership has dwindled to just over 40,000 passengers per year. Annually, 3 or 4 television/movie productions are filmed on the Sierra Railroad, infusing several million dollars each year to the local economy.

Despite the importance of the Sierra Railroad, the condition of trackage has been in decline since 1980, when freight usage significantly decreased. Because of the poor physical condition of Sierra Railroad's trackage, about one-half of the trackage is restricted to a maximum authorized speed of 15 miles per hour (MPH), one-third is restricted to 20 MPH and one-sixth to 10 MPH. Modern high capacity freight cars are not able to access lumber mills and passenger train excursions have been curtailed, limiting access to the film set near Yosemite Junction and Sonora, for safety reasons.

### **GOAL 2.D. Support and encourage the revitalization of the Sierra Railroad.**

#### **Policies**

- 2.D.1 Support and encourage State and Federal grant applications aimed at the upgrading and rehabilitation of Sierra Railroad trackage.
- 2.D.2 Support the revival of passenger, excursion and film train operations on the Sierra Railroad to the extent that such operations themselves can be proven cost-effective and do not conflict with freight operations on the Railroad.
- 2.D.3 Support the intermodal linkage of truck on rail as a technique of reducing truck AADT (Annual Average Daily Trips) on highway corridors.
- 2.D.4 Encourage the use of rail as the preferred method to move high load tonnage commodities.
- 2.D.5 Develop through cooperation with all agencies involved, a railroad system that provides for the convenient and reliable movement of freight.

#### **Implementation Programs**

- 2.D.a Assist in Seeking State and Federal Funding
  - Work with the owners of the Sierra Railroad to apply to the State and Federal Government for funding to rehabilitate Sierra Railroad.
- 2.D.b Encourage Compatible Development
  - Encourage industrial and recreation land uses along the Sierra Railroad that may increase rail operations and which will not detract from use of the Railroad by the filming industry.
- 2.D.c Support Increasing Charges to Mitigate Truck Traffic Impacts

Support State and Federal efforts to levy higher user charges for mitigating truck traffic impacts.

**Responsibility for Programs:** Administration of the Implementation Programs listed in this section is the shared responsibility of the Board of Supervisors and Community Resources Agency with the Community Resources Agency serving as the primary administrator.

**Funding Sources:** Administration of the Implementation Programs listed herein will be funded through the County's General Fund, State Planning Assistance Funds and Local Transportation Funds.

**Time Frame for Implementation:** Implementation of the programs listed in this section is ongoing.

## AVIATION

General aviation needs in Tuolumne County are met by two County owned and operated airports; the Columbia Airport, located near the town of Columbia, and the Pine Mountain Lake Airport, located near the town of Groveland. In 1994, Columbia Airport had 85 tie downs and 75 hangar spaces for based aircraft and 49 tie-downs for transient aircraft. Total annual operations (takeoffs and landings) at the Airport are estimated at 41,000 according to the Columbia Airport Master Plan. Pine Mountain Lake Airport has 54 tiedowns and 5 hangars for based aircraft and 9 tiedowns for transient aircraft. Total annual operations are estimated at 20,000 by the Tuolumne County Airports Director.

During the fire season, the Columbia Airport is host to the California Department of Forestry and Fire Protection Columbia Air Attack Base. During wildland fire emergencies, the Pine Mountain Lake Airport often serves as a staging area for helicopter operations, though the runway is too short to accommodate air tankers. Both airports also serve as staging areas for medical evacuations and search and rescue operations.

The Columbia Airport has been identified as a potential center for economic expansion within Tuolumne County in the Economic Development Strategy for the County of Tuolumne and the City of Sonora prepared in May, 1994. Use of this airport could, therefore, change significantly in the future.

Operation of the two airports is overseen by the Tuolumne County Airports Director. The Tuolumne County Airport Land Use Commission is charged with insuring that development in the vicinity is consistent with the continued safe operation of the airports. To guide them in their determinations, the Commission applies the policies contained in the Tuolumne County Airport Land Use Compatibility Plan, adopted on January 22, 2003, as it may be amended from time to time. [Resolution 78-09 adopted June 16, 2009]

Increased use of the airports and pressure to develop land surrounding them, makes it critical to establish policies which continue safe and functional operation of each airports.

### **GOAL 2.E      Maintain the viability and future accessibility of the airports and promote the planned development of aviation facilities in order to meet the general aviation and emergency transportation needs within Tuolumne County.**

#### **Policies**

- 2.E.1      Support the development of the Columbia and Pine Mountain Lake (PML) Airports in accordance with the Tuolumne County Airport Land Use Compatibility Plan, and existing and future Master Plans. [Resolution 78-09 adopted June 16, 2009]
- 2.E.2      Support the creation and/or expansion of sources of capital improvement funds for the Columbia and PML Airports.
- 2.E.3      Support the continued existence of an Airport Enterprise Fund for each Airport, and the dedication of all revenues generated from airport properties for use in funding airport operational and capital improvement costs.
- 2.E.4      Support the development of a plan aimed at creating a countywide system of emergency heliports.
- 2.E.5      Continue to support the operation of the Columbia and Pine Mountain Lake Airports.
- 2.E.6      Support existing levels of service and aviation opportunities available at the County airports.
- 2.E.7      Promote new compatible or aviation-related businesses at the Columbia Airport.

## Implementation Programs

- 2.E.a Pursue Funds for Maintenance and Improvements  
Continue to pursue funds for maintenance and capital improvement projects for both Airports.
- 2.E.b Develop Plan for Emergency Heliports  
Assist the Emergency Medical Services Agency in developing a workable plan which will create a county-wide system of emergency heliports. This will include the specific task of obtaining night lighting for the Bald Mountain, Buck Meadows and Moccasin heliports.
- 2.E.c Improve Instrument Approach at Columbia Airport  
Seek to replace existing circling non-precision instrument approach with a stand alone, straight-in approach.
- 2.E.d Improve Service at Airports  
Continue to strive to improve the service available at both Airports, while becoming financially more self-supporting.
- 2.E.e Continue Airport Operations  
Support continued operations at the Columbia and Pine Mountain Lake Airports, and seek funding sources to perpetuate the County Airports Department as a viable resource for aviation in Tuolumne County.
- 2.E.f Maintain an Array of Air-related Service Businesses  
Maintain an array of air-related service businesses, such as air charter, helicopter, pilot's training, maintenance, search and rescue, air ambulance and other aviation related businesses presently using the airports.
- 2.E.g Promote New Businesses at Columbia Airport  
Develop presently vacant property at the Columbia Airport with industries or businesses that are aviation-related, aviation-dependent, or otherwise compatible with the future use of the Columbia Airport.
- 2.E.h Support the Retention of the CDF Air Attack Base  
Promote the retention of the California Department of Forestry and Fire Protection (CDF) Air Attack Base at the Columbia Airport by accommodating CDF's operational needs at the airport and working with the local community to influence the State to keep the Air Attack Base at its current location.

## **GOAL 2.F Maintain land use and development patterns in the vicinity of the County airports which are compatible with aircraft operations.**

### Policies

- 2.F.1 Plan for future airport operations, considering possible expansion of airport operations, services and the proximity of adjacent land uses.
- 2.F.2 Encourage development in the vicinity of County airports that would not cause land use

conflicts, hazards to aviation or hazards to the public.

### **Implementation Programs**

2.F.a Implement the Columbia Airport Master Plan

Implement the Columbia Airport Master Plan adopted March 25, 1997 in order to update operational and safety procedures, reflect State and Federal mandates, better utilize Airport property and recommend land use compatibility standards for land surrounding the Airport.

2.F.b Implement the Pine Mountain Lake Airport Master Plan

Implement the Pine Mountain Lake Airport Master Plan to guide the development of the Pine Mountain Lake Airport. The master plan should reflect desired operational and safety procedures, State and Federal mandates, and the internal needs of the airport.

2.F.c Implement and Update the Airport Land Use Compatibility Plan

Implement the Tuolumne County Airport Land Use Compatibility Plan, adopted on January 22, 2003, by amending the Tuolumne County General Plan, Tuolumne County Ordinance Code and other development regulations to bring them into conformity with that Plan and seek funding to allow the Airport Land Use Commission to update the Plan periodically to ensure that land use decisions affecting property in the vicinity of the County airports are consistent with the continued safe operation of the airports. [Resolution 78-09 adopted June 16, 2009]

2.F.d Master Plan Future County Airports

Require future County-owned, public-use airport facilities and surrounding land use zones to be master planned prior to operation in order to establish safe operation of the airport.

2.F.e Review Proposed Land Use Changes and Development Applications

Review General Plan Amendments, Zone Changes, and development applications within the referral area of a County airport for consistency with the Airport Land Use Compatibility Plan in order to continue safe operation of the airports.

**Responsibility for Programs:** Administration of the Implementation Programs listed in this section is the shared responsibility of the Board of Supervisors, Airports Director, Airport Land Use Commission and Community Resources Agency with the Airports Director serving as the primary administrator.

**Funding Sources:** Administration of the Implementation Programs in this section will be funded through the County's General Fund, the Airport Enterprise Fund, and application fees for land development projects.

**Time Frame for Implementation:** All programs are ongoing.

## APPENDIX 2.A

### TUOLUMNE COUNTY FUNCTIONAL SYSTEM OF ROADWAYS

#### Rural Arterial

The rural principal arterial system consists of a network of routes functioning primarily for the movement of through traffic, usually on continuous routes, with trip length and capacities suitable for substantial statewide or interstate travel. The State Department of Transportation is the agency responsible for improving and maintaining these routes.

- \* State Highway 120

#### Rural Minor Arterial

The rural minor arterial functions in conjunction with the principal major arterials to form a network providing high speed, high volume travel corridors for movement between traffic generators such as cities, large towns and resort areas and uninterrupted intercounty travel. Rural minor arterials are spaced consistent with population density to provide a relatively high level of service to all developed areas of the State. The State Department of Transportation is the agency responsible for improving and maintaining these routes.

- \* Mono Way
- \* La Grange Road (J 59)
- \* State Highway 49
- \* State Highway 108
- \* State Highway 132

#### Rural Collector

Rural collector routes provide service between local roads and the arterial system and are primarily important for intracounty travel. These routes are subclassified as follows:

##### Major Collector

These routes function as corridors for through traffic within local areas providing service to towns and other major traffic generators within the County which are not directly served by the arterial system. They also serve to link minor collectors and local access roads with nearby towns and communities or the arterial system.

- \* Algerine Road (Stent Cutoff to Jacksonville Road)
- \* Bonds Flat Road
- \* Ferretti Road
- \* Greenley Road
- \* Fifth Avenue North (State Highway 49 to Jamestown Road)
- \* Fir Drive (Mono Way to Sanguinetti Road)
- \* Hess Avenue (Mono Way to Phoenix Lake Road)
- \* Jacksonville Road (State Highway 120 to Stent Cutoff)
- \* Jamestown Road
- \* Lime Kiln Road (Campo Seco Road to State Highway 108)
- \* Longeway Road (Soulsbyville Road to South Fork Road)
- \* Merced Falls Road
- \* Mono Vista Road South
- \* O'Byrnes Ferry Road
- \* Parrotts Ferry Road
- \* Phoenix Lake Road
- \* Rawhide Road

- \* Sanguinetti Road
- \* Shaws Flat Road (Jamestown Road to Hwy. 49)
- \* Smith Station Road
- \* Soulsbyville Road
- \* Standard Road
- \* Stent Cutoff
- \* Tuolumne Road
- \* Tuolumne Road North
- \* Twain Harte Drive
- \* South Fork Road (Longeway Road to Middle Camp Road)

### **Minor Collector**

These routes generally serve lower density areas and, therefore, do not have the traffic volume that major collectors do. Minor roads often serve to funnel traffic from groups of local roads onto the major collectors and arterial routes. Minor collectors should be spaced to bring all developing areas of the County within reasonable distance of major collectors or arterial routes.

- \* Algerine Road (Stent Cutoff to Lime Kiln Road)
- \* Algerine/Wards Ferry Road
- \* Bay Avenue (Cherry Valley Blvd to Main Street, Tuolumne)
- \* Bear River Drive (Crestview Drive to Crystal Falls Drive)
- \* Bell Mooney Road
- \* Big Hill Road
- \* Black Oak Road (Tuolumne Road to Soulsbyville Road)
- \* Buchanan Road (Carter Street to Stanislaus National Forest Boundary)
- \* Cabezut Road (Greenly Road to Cabezut Court)
- \* Campo Seco Road
- \* Carter Street
- \* Cherokee Road (Tuolumne Road to Tuolumne Road North)
- \* Cherry Valley Blvd (Tuolumne Road to Bay Avenue)
- \* Creekside Drive (Phoenix Lake Road to Crestview Drive)
- \* Crestview Drive (Bear River Drive to Creekside Drive)
- \* Crestview Drive (Ridgewood Drive to North Sunshine Road)
- \* Crystal Falls Drive (Longeway Road to Bear River Drive)
- \* Dodge Ridge Road
- \* Draper Mine Road
- \* East Avenue
- \* Fifth Avenue (Jamestown)
- \* Fuller Road (Little Fuller Road to Joaquin Gully Road)
- \* Hess Avenue (Mono Way to Tuolumne Road)
- \* Hunts Road (Longeway Road to Twain Harte Drive)
- \* Jackson Street (Bigler Street to Parrotts Ferry Road)
- \* Jacobs Road
- \* Joaquin Gully Road
- \* Kewin Mill Road
- \* Lambert Lake Road
- \* Lime Kiln Road (Campo Seco Road to Algerine Road)
- \* Little Fuller Road (South Fork Road to Fuller Road)
- \* Longeway Road (South Fork Road to Kewin Mill Road)
- \* Lyons Bald Mountain Road
- \* Main Street, Jamestown
- \* Main Street, Tuolumne (Bay Avenue to Maple Avenue)
- \* Middle Camp/Sugar Pine Road
- \* North Sunshine Road
- \* Old Priest Grade

- \* Old Wards Ferry Road (State Highway 108 overpass to Jacobs Road)
- \* Pinecrest Lake Road (State Highway 108 to Pinecrest Lake)
- \* Priest Coulterville Road
- \* Racetrack Road (Jamestown Road to East Bay Meadow Drive)
- \* Red Hill Road
- \* Ridgewood Road
- \* Sawmill Flat Road
- \* Seco Street
- \* Shaws Flat Road (Springfield Road to State Highway 49)
- \* Shaws Flat Road (Jamestown Road to East Keeley Drive)
- \* Sierra Avenue
- \* Springfield Road (Parrotts Ferry Road to Shaws Flat Road)
- \* Twist Road
- \* Wards Ferry Road (Algerine/Wards Ferry Road to Tuolumne Road)
- \* Woodhams Carne Road (Yosemite Road to Tuolumne Road)
- \* Yankee Hill Road (Sawmill Flat Road to Bigler Street)
- \* Yosemite Road

**Rural Local Road**

The rural local road system primarily provides direct access to residential property and other areas which are not directly served by the collector or arterial system. Local roads make up a major portion of the County Road System, accounting for approximately 403 miles.

Local roads are all those County roads not classified under the Arterial or Collector categories.

**Scenic Routes**

A scenic route is one which traverses an area of outstanding scenic quality. The following three roadways are locally designated scenic routes in Tuolumne County:

<b>SCENIC ROUTES</b>	
<b>Route</b>	<b>Description</b>
State Highway Route 49	This route traverses the western foothills and Mother Lode and connects many historical sites and towns. This highway shall be designated as a Scenic Route from the Mariposa County line to Route 120 near Moccasin Creek and from Route 120 at Chinese Camp to the Calaveras County line, exclusive of the City of Sonora. This highway is included in the "Master Plan for State Scenic Highways".
State Highway Route 108	The Sonora Pass Highway, from Route 49 easterly into Mono County. This, like State Route 49 described above, gives access and exposure to spectacular mountain country. This route is also on the State Scenic Highways Master Plan.
State Highway Route 120	From Route 49 near Chinese Camp easterly to Route 49 near Moccasin Creek. This route is also in the "Master Plan for State Scenic Highways".

**Urban Streets**

The following roadways within Tuolumne County will be analyzed as Urban Streets with Urban LOS thresholds for operations and capacity analyses. Urban Streets are categorized into the following classifications for operations analyses.

- \* 2-Lane Freeway
- \* 2-Lane Freeway plus Auxiliary Lane
- \* 3-Lane Freeway
- \* 3-Lane Freeway plus Auxiliary Lane
- \* 4-Lane Divided Arterial (with left-turn lane)
- \* 4-Lane Undivided Arterial (no left-turn lane)
- \* 2-Lane Divided Arterial (with left-turn lane)
- \* 2-Lane Undivided Arterial (no left-turn lane)

The following roadways will be analyzed with Urban LOS thresholds:

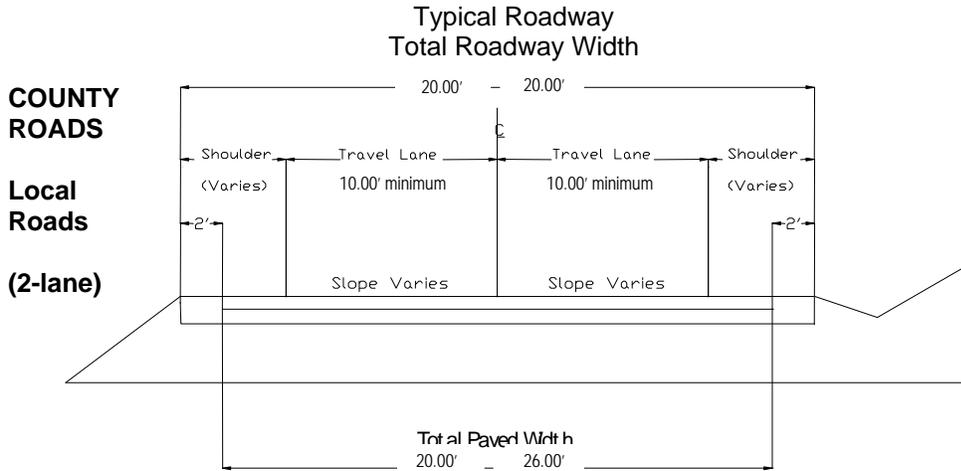
- \* Greenley Road (including the future Greenley Road extension)
- \* Jamestown Road (State Highway 49 to State Highway 108)
- \* Lime Kiln Road (State Highway 108 to Campo Seco Road)
- \* Mono Way
- \* Old Wards Ferry Road (Sanguinetti Road to Sullivan Creek)
- \* Parrotts Ferry Road (State Highway 49 to North Airport Road)
- \* Standard Road
- \* State Highway 49 (Chicken Ranch Road to Shaws Flat Road)
- \* State Highway 120 (Deer Flat Road to Ferretti Road)
- \* Tuolumne Road (Mono Way to future Peaceful Oak Road)
- \* Twain Harte Drive

In addition to the above roads, all streets within one mile of a traffic signal/stop control and/or having eight (8) or more access points per mile shall be considered an Urban Street.

**Figure 2.A.1**

**Typical Cross-Sections**

The cross-sections below are typical illustrations of minimum road improvements required. However, additional right-of-way or paved sections may be required to accommodate additional travel lanes, drainage, utilities or grading.



**\*Notes**

On Parcel Maps with parcels 2 acres or larger and for unpaved roads serving four parcels or less, no shoulder is required.

On Parcel maps with paved roads and for paved roads serving four or less parcels 1' shoulders are required.

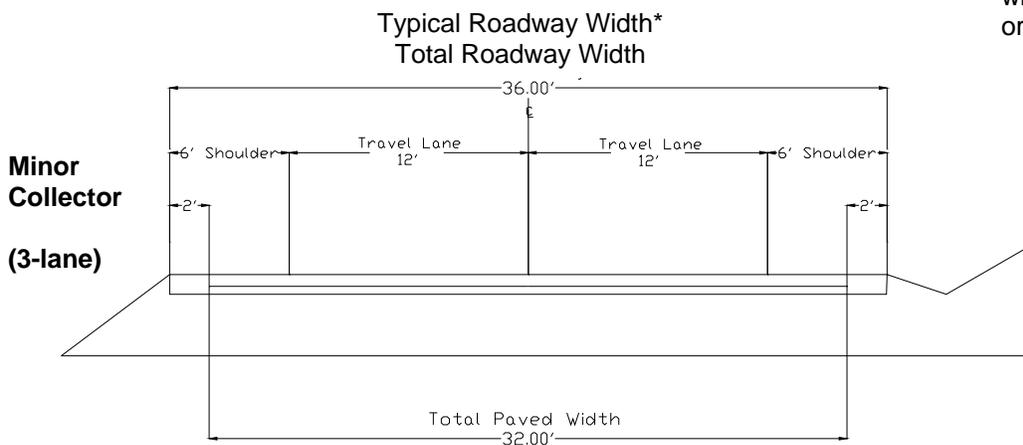
Roads for final maps with parcels 2 acres or larger require 2' shoulders.

Urban development on final maps require 4' shoulders with 3' paved.

Not required for final maps with minimum parcel size of 5 or more acres, or for parcel maps with minimum parcel size of 2 or more acres.

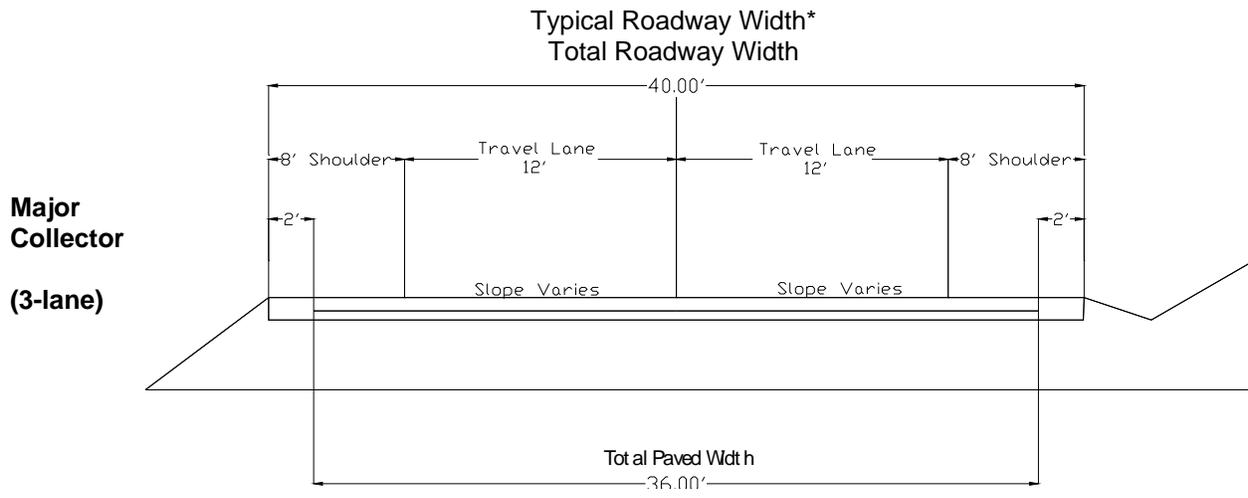
**Local Road Minimum**  
50 ft. right of way unless otherwise increased or decreased pursuant to the Tuolumne County Ordinance Code or approved Planned Unit Development.

\* When appropriate additional roadway width may be required to accommodate auxiliary turn lanes.



**Minor Collector Minimum Road Section**  
64 ft. right of way unless otherwise increased or decreased pursuant to the Tuolumne County Ordinance Code or approved Planned Unit Development.

\* When appropriate additional roadway width may be required to accommodate auxiliary turn lanes.



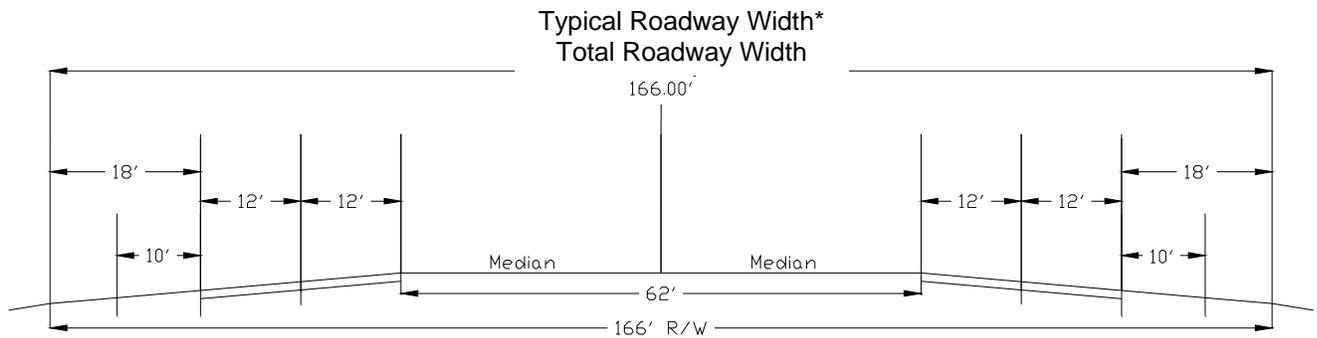
**Major  
Collector  
(3-lane)**

**Major Collector Minimum Road Section**  
80 ft. right of way unless otherwise increased or decreased pursuant to the Tuolumne County Ordinance Code or approved Planned Unit Development.

\* When appropriate additional roadway width may be required to accommodate auxiliary turn lanes.

**STATE  
HIGHWAYS**

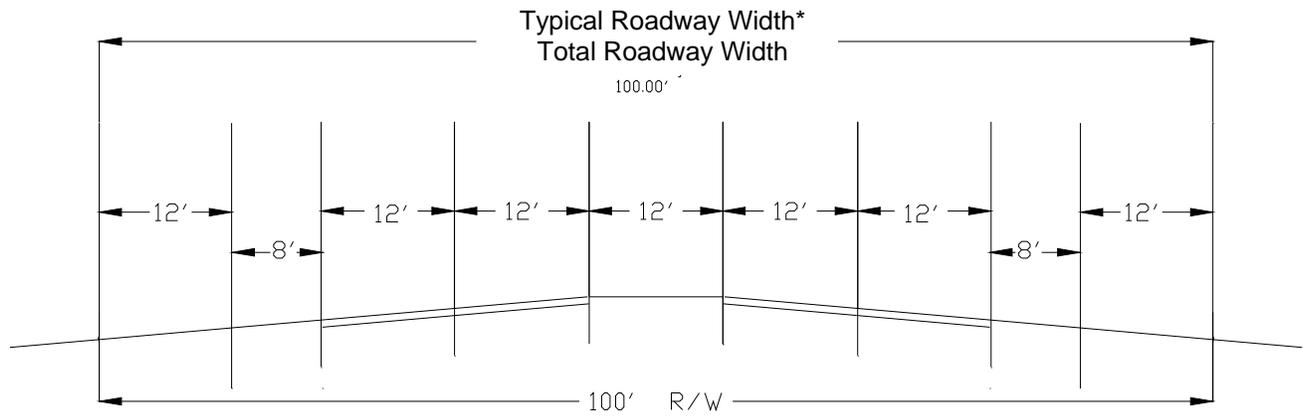
**Rural Expressways**



166 ft. right of way unless otherwise increased or decreased pursuant to the Tuolumne County Ordinance Code or approved Planned Unit Development.

\* When appropriate additional roadway width may be required to accommodate auxiliary turn lanes.

## Urban Arterials



100 ft. right of way unless otherwise increased or decreased pursuant to the Tuolumne County Ordinance Code or approved Planned Unit Development.

\* When appropriate additional roadway width may be required to accommodate auxiliary turn lanes.

## APPENDIX 2.B

### ROAD SYSTEM OPERATING CONDITIONS

The Tuolumne County road system was evaluated in conjunction with the Tuolumne County Regional Transportation Plan Update in 2010 to determine the operating level of service rating on all Arterial and Collector roads. The level of service (LOS) of roadways is a qualitative measure of the operating conditions on a section of roadway. It is defined by the motorists' perception of their mobility and comfort. In general, LOS "A" through LOS "C" indicate minimal or acceptable delays. LOS "D" represents high density stable flow with motorists feeling noticeable congestion. LOS "E" indicates the roadway is operating at or near its capacity and there are frequently intolerable delays. LOS "F" means the traffic volume is higher than the capacity of the roadway so queuing will occur; there will be excessive delay and stop and go conditions through the queue until the demand level drops off. According to Implementation Program 2.A.h of the Tuolumne County General Plan, deficient County roadways are those which operate at LOS E and F.

The impacts of projected growth in Tuolumne County have been studied per the population estimates in the Regional Blueprint project and it has been found that many of the future roadway deficiencies will occur on segments which have a degree of current deficiency. The traffic conditions on those segments will generally worsen by at least one level of service, unless improvements are constructed to accommodate increased traffic volumes. The County has a Capital Improvement Program (CIP) to mitigate growth impacts to the regional road system through the payment of fees for construction of road improvements or dedications of right-of-ways. Figure 2.B.1 illustrates how the road system will operate with growth but no improvements (2040 Base Case) and with growth and full implementation of a CIP with both State and County road improvements.

Figure 2.B.1

#### Road System Operations

Level of Service	2010	2040 Base Case	2040 w/CIP
	% Share	% Share	% Share
A-D	95%	94%	96%
E	1%	2%	1%
F	4%	4%	3%

Note that, when compared with the 2040 Base Case scenario, roadway deficiencies operating at LOS E and F, have been reduced from six percent to four percent. Level of Service analysis shows most deficiencies are on the State Highway System or on major roadways in and around the City of Sonora. However, this General Plan recognizes the major funding limitations that currently exist in the State of California. These limitations threaten the ability of responsible agencies to deliver needed projects. Furthermore, there are substantial shortfalls in funding for maintenance and operation of existing transportation facilities and services that must be resolved if California is to maximize its investment in the existing system. Finally, impact fees usually fail to not only generate sufficient revenue to pay for new facilities needed to accommodate new growth, but are restricted by law from paying for correction of existing deficiencies. Use of impact fees as the only method of replacing the decreases in public funding raises serious questions about cost allocation equity.