

SECTION 4: TRANSPORTATION AND CIRCULATION

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I. PURPOSE

The Transportation and Circulation Section of the Meadow Vista Community Plan is intended to serve the following five purposes: establish goals and policies to guide the development of the transportation system; describe existing transportation conditions and circulation features within the Plan

area; describe future transportation conditions resulting from development of the Plan area in accordance with proposed land uses; identify improvements to, and development of, the transportation system to insure the provision of a safe, efficient and multi-modal transportation system consistent with the established goals and policies, and; identify a method for financing the identified transportation needs in the plan area.

II. GOALS, POLICIES, AND IMPLEMENTATION PROGRAMS

GOALS AND POLICIES

Streets and Highways

Goal 4.A: To provide for the long-range planning and development of the county's roadway system to ensure the safe and efficient movement of people and goods. [Goal 3.A]

Policies

- 4.A.1. The County shall plan, design, and regulate roadways in accordance with the functional classification system established in the Placer County General Plan and reflected in the Circulation Plan Diagram contained therein. [3.A.1. *]
- 4.A.2. The County shall require that streets and roads be dedicated, widened, and constructed according to the roadway design and access standards generally defined in the Placer County General Plan and the County's Highway Deficiency Report. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Public Works Director that safe and adequate public access and circulation are preserved by such exceptions. [3.A.2.]
- 4.A.3. The County shall require that roadway rights-of way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations. [3.A.3. *]
- 4.A.4. The County shall encourage maximum intersection spacing on arterial roadways and thoroughfares. Driveway encroachments along arterial roadways, and to a lesser degree, collector roadways, shall be minimized. Access control restrictions for each class of roadway in the county are specified in Part I of the Placer County General Plan Policy Document (see page 29). [3.A.4.]
- 4.A.5. The County shall require through-traffic to be accommodated in a manner that discourages the use of neighborhood roadways, particularly local streets. This through-traffic, including through truck traffic, shall be directed to appropriate routes in order to maintain public safety and local quality of life. [3.A.5.]
- 4.A.6. The County shall require all new development to provide off-street parking, either on-site or in consolidated lots or structures. When Placer Hills Road is widened to three lanes, restrict on-street parking in the central town area. [3.A.6.*]

- 4.A.7. The County shall develop and manage its roadway system to maintain the following minimum levels of service (LOS).
- a. LOS "C" on rural roadways, except within one-half mile of state highways where the standard shall be LOS "D". [3.A.7. *]
- 4.A.8. The County shall strive to meet the LOS standards through a balanced transportation system that provides alternatives to the automobile. [3.A.10. *]
- 4.A.9. The County shall plan and implement a complete road network including emergency access and evacuation routes to serve the needs of local traffic. [3.A.11. *]
- 4.A.10. The County shall require an analysis of the effects of traffic from land development projects. Each such project shall construct or fund improvements necessary to mitigate the effects of traffic from the project. Such improvements may include a fair share of improvements that provide benefits to others. [3.A.12.]
- 4.A.11. The County shall secure financing in a timely manner for all components of the transportation system to achieve and maintain adopted level of service standards. [3.A.13.]
- 4.A.12. The County shall assess fees on new development sufficient to cover the fair share portion of that development's impacts on the local and regional transportation system. Exceptions may be made when new development generates significant public benefits (e.g., low income housing, needed health facilities) and alternative sources of funding can be identified to offset foregone revenues. [3.A.14. *]
- 4.A.13. As a means of maintaining the rural character of the Plan Area, the County shall limit the number and extent of roadway cuts and fills required in construction, reconstruction, and road maintenance to a minimum consistent with standard design practices.
- 4.A.14. As a means of maintaining the rural character of the Plan Area, the County shall insure that cut and fill slopes created by roadway, trail and path construction and reconstruction activities will be re-vegetated with native plant materials.
- 4.A.15. The County shall coordinate the road network and alternative transportation systems within the Community Plan area with similar systems in surrounding areas. [1.1]
- 4.A.16. The County shall require provisions for safe, convenient access to residences, businesses, and public facilities located in Meadow Vista. [1.2]
- 4.A.17. The County shall keep to a minimum the number of driveway encroachments along public roadways -- particularly along Placer Hills Road. [1.7]
- 4.A.18. The County shall develop a system of off-street connections between adjacent properties in the downtown area.
- Goal 4B:** To maintain roads, trails, and other transportation facilities at a standard which assures safe public use. [GOAL 2]

Policies

- 4.B.1. The County shall construct safety improvements and otherwise improve existing, substandard roads in the Community Plan area. [2.2]

4.B.2. The County shall provide adequate safety precautions at major intersections to improve safety for pedestrians and vehicles. Such precautions may include turn lanes, pedestrian crosswalks, or other measures. [2.4]

4.B.3. Safety shall be a heavily-weighted criterion in determining priorities for projects in the Capital Improvement Program (CIP). [2.5]

Goal 4.C: To implement a capital improvement program (CIP) sufficient to ensure that adopted levels of service for traffic on the community plan area's road network and for transit are achieved as development occurs. Ensure that sufficient funding is available to complete the road network, transit, and other projects included in the CIP.

Policies

4.C.1. The County shall prepare a plan which describes all major improvements to roads, paths, and bikeways required to serve the community at buildout. [4.1]

4.C.2. The County shall ensure that sufficient funding is available to complete the road network, transit, and other projects included in the CIP. [4.2]

Transportation Systems Management (TSM)

Goal 4.D: To maintain the rural character of Meadow Vista, and at the same time promote the efficient use of transportation facilities by: 1) reducing travel demand on the county's roadway system; 2) reducing the amount of investment required in new or expanded facilities; 3) reducing the quantity of emissions of pollutants from automobiles; and 4) increasing the energy-efficiency of the transportation system. [Goal 3.C]

Policies

4.D.1. The County shall promote the use of transportation systems management (TSM) programs that divert automobile commute trips to transit, walking, and bicycling. [3.C.1.]

4.D.2. The County shall promote the use, by both the public and private sectors, of TSM programs that increase the average occupancy of vehicles. [3.C.2.]

4.D.3. The County shall work with other responsible agencies to develop other measures to reduce vehicular travel demand and meet air quality goals. [3.C.3.]

4.D.4. During the development review process, the County shall require that proposed projects meet adopted Trip Reduction Ordinance (TRO) requirements. [3.C.4.]

Non-motorized Transportation

Goal 4.E: To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation. [Goal 3.D]

Policies

4.E.1. The County shall promote the development of a comprehensive and safe system of recreational and commuter bicycle routes that provides connections between the County's major employment and housing areas and between its existing and planned bikeways. [3.D.1.]

4.E.2. The County shall work with neighboring jurisdictions to coordinate planning and development of the County's bikeways and multi-purpose trails with those of neighboring jurisdictions. [3.D.2.]

- 4.E.3. The County shall pursue all available sources of funding for the development and improvement of trails for non-motorized transportation (bikeways, pedestrian, and equestrian). [3.D.3.]
- 4.E.4. The County shall promote non-motorized travel (bikeways, pedestrian, and equestrian) through appropriate facilities, programs, and information. [3.D.4.]
- 4.E.5. The County shall continue to require developers to finance and install multi-purpose paths in new development, as appropriate. [3.D.5.]
- 4.E.6. The County shall support the development of parking areas near access to hiking and equestrian trails. [3.D.6.]
- 4.E.7. The County shall encourage implementation of road-adjacent trails along Combie Road, Placer Hills Road, Meadow Vista Road, and Volley Road.
- 4.E.8. The County shall, where appropriate, require new development to provide sheltered public transit stops, with turnouts. [3.D.7.]

[See also policies/programs under Goal 6.D., Recreational Trails]

IMPLEMENTATION PROGRAMS

1. Review development projects for compliance with the goals, policies, and specific discussions contained in the Transportation and Circulation Section and throughout the Plan.

Responsible Agency/Department: Land Development Departments/Meadow Vista Municipal Advisory Committee/Board of Supervisors
Time Frame: Ongoing
Funding: Application fees
2. Prepare/adopt an ordinance implementing traffic mitigation fees for Roadway Capital Improvement Program.

Responsible Agency/Department: Department of Public Works/Board of Supervisors
Time frame: 1995
Funding: Road Fund
3. Revise road improvement and right-of-way dedication requirements for land development projects within the Plan area.

Responsible Agency/Department: Department of Public Works
Time frame: 1995
Funding: Road Fund
4. Coordinate transportation planning with the Placer County Transportation Planning Agency, adjacent jurisdictions and Caltrans.

Responsible Agency/Department: Department of Public Works
Time frame: Ongoing
Funding: General Fund/Road Fund
5. Require land development projects to construct public transportation improvements.

Responsible Agency/Department: Department of Public Works
Time frame: Ongoing
Funding: General Fund/Road Fund

6. Develop funding sources for road adjacent trails.

Responsible Agency/Department: Department of Public Works/Facility Services/Board of Supervisors
Time frame: 1996
Funding: General Fund/Road Fund

7. Pursue other sources of funding for transportation improvements.

Responsible Agency/Department: County Executive Office/Department of Public Works
Time frame: Ongoing
Funding: General Fund/Road Fund

8. Continue existing transportation construction and maintenance programs.

Responsible Agency/Department: Public Works/Caltrans
Time frame: Ongoing
Funding: Varied

III. DISCUSSION

1. Existing Transportation System

The transportation system which presently serves the Meadow Vista community includes a network of streets and highways, bicycle and pedestrian paths, public transit, private transit and park and ride facilities. To provide a foundation for the development of future transportation needs in the Plan area, the existing condition of each component of the transportation system is described in this section.

1.1. Streets and Highways

Due to the predominance of low density residential development, automobile travel is the most prominent mode of transportation in the Meadow Vista area. Automobile travel relies on a system of streets and highways for local and regional travel. Therefore, the most important element of the transportation network is the system of regional and local roadways which serve the Plan area. The network of streets and highways that serve a community is ordered in a hierarchal fashion, ranging from the local roadways intended to serve only adjacent land uses to freeways which are intended to serve long distance, high speed travel and provide no access to adjacent properties. This hierarchy of the street and highway network includes freeways, arterials, collectors and local roadways.

Roadways serve two incompatible functions from a design standpoint: to provide mobility and to provide access to adjacent land uses. High and constant

speeds are desirable for mobility, while access to adjacent land uses is accomplished at low speeds.

The functional classification of roadways serves to emphasize the design function of roadways. Local facilities emphasize the land access function, arterial roadways emphasize a high level of mobility for through movement, and collector roadways offer a more balanced service to both functions. Only at the extremes of the functional classification system do roadways serve an exclusive function: a cul-de-sac serves a land access function only and does not serve any through traffic; a freeway serves only through traffic and provides no local land access function. Between these extremes, the functional classification of a roadway more realistically represents the function of a roadway within a continuum between the land access emphasis of local roadways and the higher speed mobility emphasis of an arterial roadway.

Existing roadways in the plan area are described below, within the context of this functional classification hierarchy.

1.1.1. Freeways

Freeways are multi-lane roadways which serve to move people and goods long distances at high speeds. No direct access to adjacent properties is allowed or provided. Rather, access to freeways is provided via access ramps which connect to local and regional surface streets. All crossings of freeways are grade

separated to alleviate any conflict with through travel on the freeway. Within the Plan area, I-80 is the only freeway. It is a six-lane roadway with access to the Plan area provided only at Placer Hills Road.

I-80 serves a variety of traffic purposes including interstate and inter-regional truck movement of goods; recreational travel to the attractions of the Sierra Nevada mountains, Lake Tahoe and Reno, Nevada areas, and; weekday commute travel.

While the Placer Hills Road/Clipper Gap Road interchange is the only access to the freeway which lies within the Plan Area, other nearby freeway interchanges serve traffic to/from the Plan area. These include interchanges at Applegate Road and at West Weimar Crossroad.

1.1.2. Arterial Roadways

Arterial roadways are streets and highways that function to move traffic at relatively high speeds between regional centers and from collectors to freeways. A secondary and subordinate purpose of an arterial roadway is to provide access to abutting properties, although the relatively high speed of traffic can lead to a conflict in these two purposes. These conflicting purposes present conditions where safety problems are a concern. For these reasons, Placer County attempts to limit the number, location and frequency of access points to arterial roadways. The only roadway within the Plan Area which can be considered an arterial roadway is Placer Hills Road.

Placer Hills Road is a two lane north/south oriented roadway which serves the heart of the Plan area. Turn lanes are provided at major intersections along Placer Hills Road, including Sugar Pine Road and Combie Road. The roadway extends from I-80 at the southern extreme of the Plan area, through the downtown area of Meadow Vista, and on north, eventually connecting to the City of Colfax, north of the Plan area. In the downtown area, Placer Hills Road provides access to numerous adjacent land uses, resulting in reduced speeds and increased turning movement conflicts.

The speed limit on Placer Hills Road varies with location, with portions south of the downtown area signed for 45 MPH travel, the downtown area signed for 25 MPH and the portions north of the downtown signed for 35 MPH. There are presently no fully functional traffic signals on Placer Hills Road from I-80 through the Plan area. There is however, a pedestrian activated signal at Placer Hills School,

located in the downtown area. The intersection of Placer Hills Road at Crother Road is stop sign controlled on all three approaches.

1.1.3. Collector Roadways

Collector roadways are roadways which serve to "collect" traffic from local roadways and move it to arterial roadways. Speeds are typically lower on collector roadways than on arterial roadways and an important secondary role for collector roadways is to provide access to adjacent properties. While the Placer County General Plan only identifies two collector roadways in the Meadow Vista area (Meadow Vista Road and Sugar Pine Road), Combie Road, Meadow Gate Road, Lake Arthur Road and Volley Road are all roadways which exhibit characteristics of collector roadways. All of the collector roadways within the Plan area are two lane rural roadways, some with auxiliary turning lanes provided at major intersections. In the future, the connection between Bancroft Road and Sugar Pine Road along the old County right-of-way, as well as some roadways internal to the Winchester project, will serve as collector roadways.

1.2. Existing Roadway Conditions

1.2.1. Traffic Operations

Traffic operations are quantified in terms of "level of service" (LOS). LOS is a qualitative measure of the effect of a number of factors which include speed and travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience and operation costs. LOS is expressed as a letter grade ranging from LOS "A" to LOS "F", representing progressively worsening traffic operating conditions. LOS "A" can be characterized as free-flow traffic conditions, with little or no delay. LOS "F", on the other hand, represents forced traffic flow conditions often characterized by excessive delays.

All roadways within the Community Plan area presently operate at acceptable levels of service. However, there are circulation and traffic operating conditions within the Meadow Vista community which warrant special consideration and examination. For example, delays are often experienced on southbound Placer Hills Road due to the grade and the presence of loaded gravel trucks from the quarry operations at the north end of Combie Road. These trucks, because of their weight, can not maintain highway speeds on the upgrade. This problem also

exists, although not near as acute nor as often, on the uphill grade from I-80 into the community. Typically, gravel trucks travelling in this direction are not loaded and therefore are better able to maintain highway speeds.

Another area of specific concern is Placer Hills Road through the downtown area. In this area, there are numerous driveways serving adjacent land uses. Delays are caused by turning movements and speed changes by vehicle accessing these driveways. Placer Hill School is also located in this area and traffic congestion and delay are experienced during the times that school is opening and being dismissed.

1.2.2. Rural Characteristics

The Meadow Vista community, through community surveys and public forums, has expressed an intense desire to maintain the rural character of roadways within the Plan area. "Rural character" is hard to define, although a common feature of most roadways within the Plan area is that they do not adhere to current design standards for horizontal alignment, vertical alignment, and/or geometric cross-section. Vertical alignment refers to the undulations--the hill crests and depression sags--of a road. Horizontal alignment refers to the curviness of the roadway. Geometric cross section refers to the pavement width, lane width and shoulder width. In other words, it is not uncommon for a roadway within the Plan area to have a lot of crests and sags, be winding, have narrow pavement and lane widths and/or have no shoulders.

These "rural characteristic" features are often at odds with Plan area goals and policies, as well as the public responsibility, to provide "safe" roadways. Additionally, the non-standard features of a roadway may be appropriate for a small volume of traffic, but there is an undefined point where traffic volumes dictate that the design features of a roadway must be upgraded. Roadway improvements therefore, whether for capacity or safety purposes, must adhere to accepted engineering design standards. For this reason, the above discussed "rural characteristics," can not always be perpetuated. Certain design features can be incorporated into a roadway improvement project to reduce the impact of the project on the "rural characteristics" of the area. These features include such measures as minimizing cuts and fills and re-vegetating cuts and fills with native plantings. These tactics have been incorporated into the goals and policies of the Meadow Vista Community Plan.

On the other hand, the opposite of "rural character" is "urban character." Urban area roads often include such features as concrete curb, gutter and sidewalk; underground collection and transmission of storm waters; on-street parking; etcetera. The "rural" alternative to these features are typically off-road trails, roadside ditches and no parking. These "urban characteristics" are inappropriate for most, if not all of the Meadow Vista area and the "rural characteristics" will be predominant.

1.3. Public Transportation

Public transportation is provided within the Plan area by Placer County Transit, the Consolidated Transportation Services Agency and private taxi services. Each of these is discussed in the EIR.

1.4. Park-n-Ride Lots

Given the importance of I-80 for inter-regional travel and the increasing use of the corridor as a weekday commute route, Park-N-Ride lots have been developed by Caltrans, Placer County and the incorporated cities in Placer County. Within the Plan area, a Park-N-Ride lot is provided at Meadow Vista Park, near the intersection of Meadow Vista Road/Placer Hills Road and just outside of the Plan area at the intersection of Placer Hills Road/Applegate Road.

1.5. Bikeways

Bikeways serve two major trip purposes, commute trips for work and school and recreational trips. Cyclists utilizing bikeways for work and school commute trips purposes generally are seeking safe and direct routes between origin and destination. On-street bikelanes serve this function as well as serving recreational riders.

Bikeways fall within one of three classes of design, which are characterized by the degree to which motor vehicles are separated from the bikeway. Figure 4.1 illustrates the three classes of bikeways which include:

Class I bikeways provide a completely separate facility designed for the exclusive use of bicycles and pedestrians, with cross flows by motor vehicles minimized. These are often called bike paths or bike trails.

Class II bikeways share the roadway with motor vehicles, with right-of-way on the travelled way

dedicated to bicycles. Through use of the bikeway by motor vehicles is therefore prohibited, but the right-of-way could be shared with vehicle parking, and cross flows by motor vehicles is permitted. Class II bikeways are often called bike lanes.

Class III bikeways are designated by signing or other permanent markings. They share the roadway with pedestrians and motor vehicles. These bicycle facilities are often called bike routes.

The Placer County Transportation Commission developed and adopted a Bikeways Master Plan in 1988. This plan provides a blueprint for the development of a comprehensive system of bikeways on the western slope of Placer County. The Bikeways Master Plan delineates Class 3 bikeways on Lake Arthur Road and Placer Hills Road within the plan area. The Department of Public Works has been developing a Class 2 bikeway along Placer Hills Road. It currently extends from Sugar Pine Road to Combie Road.

2. Future Transportation Systems

2.1. Roadways

2.1.1. Future Conditions

The Meadow Vista Community Plan provides a blueprint for future land development throughout the Plan area. Proposed land use development, as envisioned by the Community Plan, will occur in a fashion which is consistent with current land use development patterns. There are few large land holdings that would result in large land development projects. The major exception to this is the Winchester property which recently received approval for the construction of a residential subdivision and golf course which will ultimately contain over 400 new homes. This project is located in the southwest portion of the Plan area, essentially spanning from Sugar Pine Road to Christian Valley. Other large holdings are located between Placer Hills Road and Lake Arthur Road in the southeast portion of the Plan Area and adjacent to Placer Hills Road, south of Crother Road. With these exceptions, most anticipated development in the Plan Area will be residential infill development, expansion of the commercial core area of the community and highway oriented service commercial in the Clipper Gap area.

The Meadow Vista community is situated such that traffic conditions within the Plan area are not heavily influenced by traffic originating outside of the Plan area. Development potential outside of the Plan area which would alter this condition is not likely to occur. Therefore, there is currently little traffic which passes through the community and substantial increases in through traffic are not anticipated.

To assess the potential impacts of future development of the Community Plan on Plan area roadways and to determine future roadway needs a traditional travel demand forecasting technique has been used. A basic travel demand forecasting task includes estimates of "trip generation," "trip distribution" and "trip assignment."

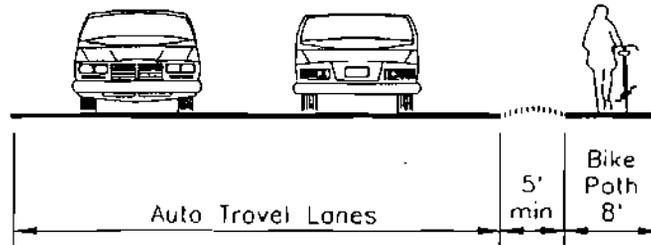
To facilitate the travel demand forecasting procedure, the entire study area has been divided into analysis zones. Within each analysis zone, an estimate of the amount of development which will occur was made based on consideration of the existing and proposed zoning, the number of vacant and under-developed parcels and an estimate of the percentage of these vacant and under-developed parcels which will develop.

The first step in the travel demand forecasting procedure--trip generation--is an estimate of the amount of new trips that new development will create. The second step in the travel demand forecasting process is to determine the "distribution" of the new trips generated. This is, in essence, an identification of the origin and destination of the new trips, some of which will be internal to the Plan area and many that will have an origin or destination outside of the Plan area. The trip distribution was estimated with consideration given to the number of trips attracted to, or produced by, each analysis zone, the type of land use and the trip purposes which are typically associated with the land uses. Finally, in the trip assignment step, new trips are accumulated on streets and roadways which link the analysis zone of origin to the analysis zone of the destination.

Future traffic volumes on I-80 near the Plan area have been estimated based on examination of historical traffic counts reported by Caltrans. Future traffic projections and the associated level of service for Plan area roadways and for I-80 are presented in the Plan's EIR.

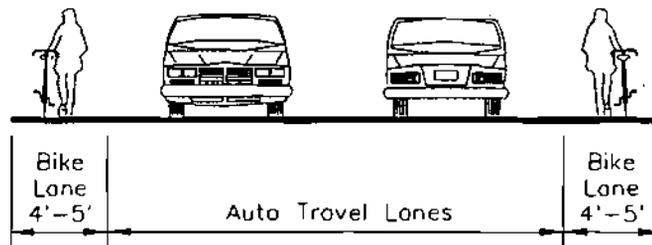
a. Class I Bikeway (bike path or bike trail)

Provides a completely separated facility designed for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.



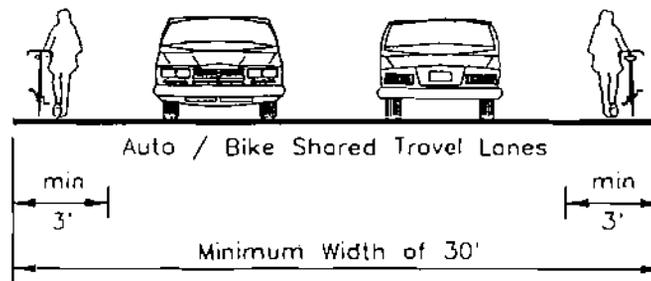
b. Class II Bikeway (bike lane)

Provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.



c. Class III Bikeway (bike route)

Provides a right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.



With buildout of the Community Plan area, acceptable levels of service are anticipated to be maintained on all roadways within the Plan area with the exception of Placer Hills Road. Placer Hills Road is anticipated to operate at level of service E without improvement to the roadway.

2.1.2. Roadway Improvements

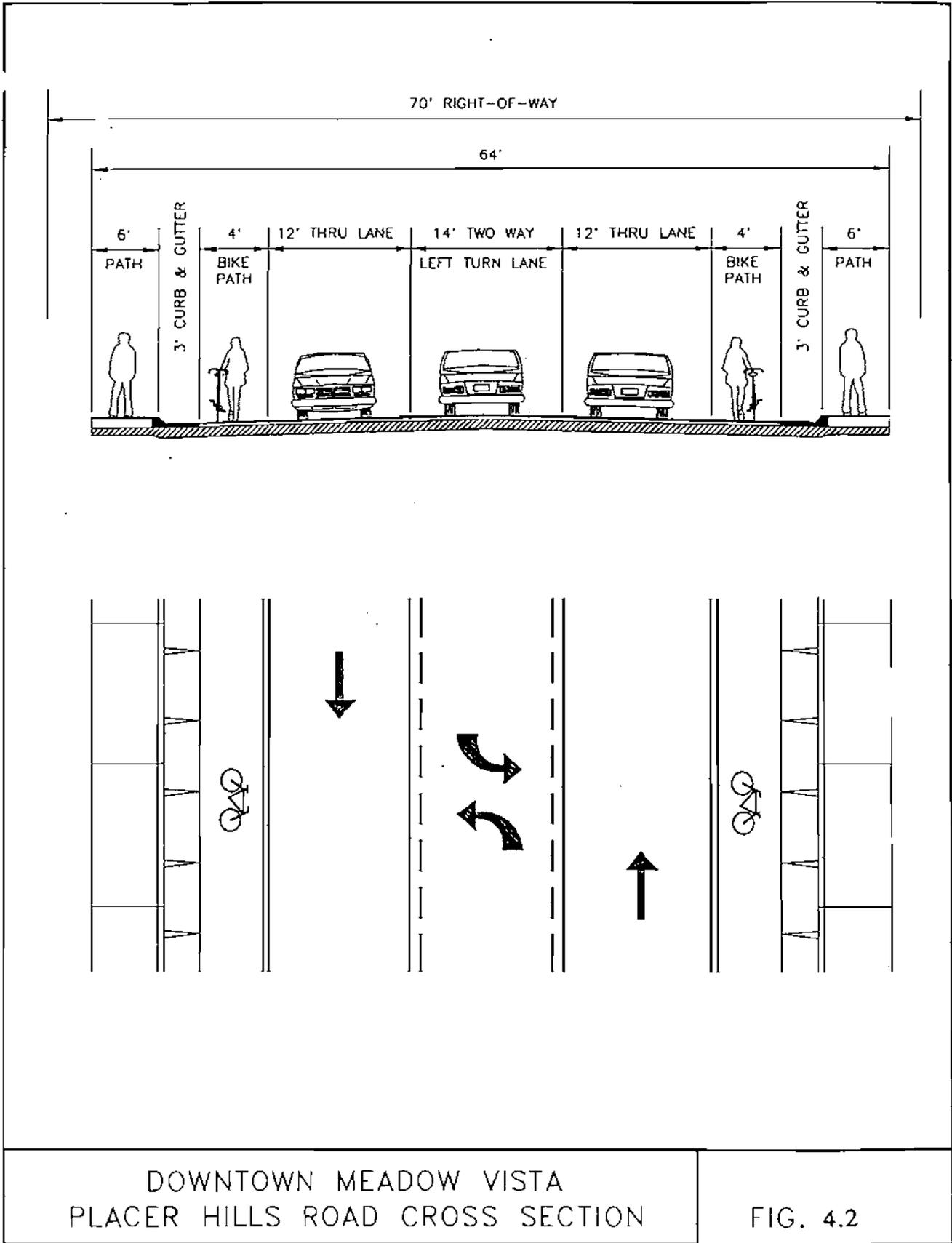
Improvements to Plan Area roadways are necessary to attain the desired goals and policies of the Community Plan. Generally, two types of improvements are necessary. These include capacity enhancing improvements and safety improvements. The capacity enhancing improvements are necessary to provide desirable traffic operating conditions and are necessary only on Placer Hills Road. Shoulder widening improvements are also identified as being necessary. Shoulder widening serves primarily a safety related purpose, but also serves bicyclists and pedestrians. Finally, improvements are likely to be needed on Lake Arthur Road in the Clipper Gap area in conjunction with development of highway oriented commercial uses as designated in the Community Plan. Impacts from development of this area are anticipated to be restricted to the immediate I-80 interchange and Lake Arthur Road area and will be a function of the specific uses and configuration of uses in the area. Impacts and mitigation measures will be identified during the review of proposed development in the area.

Placer Hills Road. The future traffic projections and evaluation of traffic operating characteristics indicate that in order to achieve acceptable traffic operating conditions on Placer Hills Road, widening is necessary from I-80 to north of Combie Road. This section of roadway was studied extensively by Placer County during the evaluation of the Winchester Planned Community project. This evaluation, which has been verified by the future traffic projections discussed above, revealed that a three lane roadway is necessary. The concept of the roadway is to provide two northbound lanes and one southbound lane from I-80 to the crest of the hill (south of Sugar Pine Road) and one northbound and two southbound lanes from the crest of the hill to Meadow Vista Road. This concept provides two lanes in the uphill direction on both sides of the crest, providing an opportunity for passing on the upgrades, thereby reducing delays caused by slow moving vehicles. These improvements would also include the provision of adequate shoulders.

In the downtown area, a three lane section is also needed due to projected traffic volumes. The concept in the downtown area is to have single northbound and southbound lanes with a two way center left turn lane. This reduces the delays associated with left turning vehicles accessing the numerous driveways which serve the adjacent land uses in the downtown area. A landscaped median with left turn channelization is not feasible given the existing configuration of parcels in the downtown area. In other words, left turn channelization can not be provided because of the conflicts between the numerous existing and likely future points of access to Placer Hills Road. Should development occur on a consolidation of existing parcels, a center raised median with left turn channelization may be possible. This could be accomplished within the proposed cross section of the roadway. With the widening to three lanes, adequate shoulders would also be provided. The proposed cross section through the downtown is shown in Figure 4.2.

Bancroft/Sugar Pine Connector. A future collector roadway is proposed to connect Bancroft Road with Sugar Pine Road along right-of-way dedicated to the County in 1886. This roadway will greatly enhance circulation between the Meadow Vista Community and Christian Valley.

Shoulder Widening. Roadway shoulders serve a very important safety function on rural two lane roadways. They provide space for pedestrians and bicyclists to travel out of the travel lanes, recovery areas for vehicles, storage area for disabled vehicles, etcetera. On very low volume roadways, the need for shoulders, while not diminished in importance or function, is not as acute as on higher volume roadways. With the new growth anticipated in the Plan area, traffic volumes on some of the collector roadways are expected to increase to a point where a concerted effort should be made to insure the construction of shoulders. Specifically, shoulders are anticipated to be needed on Meadow Vista Road from McElroy Road to Placer Hills Road, on Combie Road from Lakeview Hills Road to Placer Hills Road, on Sugar Pine Road from the Winchester development to Placer Hills Road and on Placer Hills Road from Combie Road north to the Plan area boundary. On other roadways, shoulders will be considered in conjunction with land development projects and County roadway improvement projects.



It is important to understand that the proposed shoulder widening improvements are required to serve projected levels of vehicular traffic. While also providing a service to pedestrian and bicycle traffic, they are not intended to fulfill the desire for road adjacent trails which serve a more recreational function.

Signalization. With the projected increase in traffic volumes on Placer Hills Road and intersecting roadways, it is anticipated that traffic signals will be required at three locations. The specific locations include the Placer Hills Road intersections with Lake Arthur Road, Sugar Pine Road and Meadow Vista Road.

Improvement Timing The improvements which have been discussed in this section have all been identified to serve the projected traffic volumes while maintaining desired levels of service or safety. None of the improvements is required to serve the existing levels of traffic in the Community Plan area. For these reasons, the improvements will be implemented as traffic levels increase and measures of effectiveness of the street system (traffic density, travel speed, travel delay, etcetera) or accident incidence dictate the need for improvement. The monitoring of traffic conditions to determine when improvements are made will occur as a normal function of the Department of Public Works. In other words, it is not the intent of the County to make any of the identified improvements until such time as they are needed.

2.2. Bikeways

The transportation system should encourage safe, alternative forms of transportation such as bicycling. Bikeways routes within the Community Plan area have been identified through consultation with the Meadow Vista Trails Committee and the Placer County Bikeway Master Plan developed by the Placer County Transportation Commission.

On-road bikeways have been identified to serve as an integral part of an comprehensive system of on and off-road trails. This system includes on and off-road trails identified in the Recreation Section of the Community Plan as well as an extensive (10 miles) system of bikelanes, both on and off-road, planned as part of the Winchester project. On-road bikeways are proposed to serve major through routes and major attractors of bicycle traffic - destinations such as

Halsey Forebay, Placer Hills School, Sierra Hills School and Meadow Vista Park. The purpose of these bicycle facilities is to foster safe work, school and recreational bicycle trips within and through the Plan area. To this end, on-road bikelanes are proposed along the following roadways:

- Placer Hills Road through the Plan area
- Lake Arthur Road through the Plan area
- Sugar Pine Road from Placer Hills Road to the Winchester project
- Bancroft Road from Winchester connector to the Plan area boundary
- Combie Road from Placer Hills Road to Lakeview Hills Road
- Meadow Vista Road from Placer Hills Road to McElroy Road

These on-road bikeways can be accommodated within the shoulder widening which is also necessary along these roadways. The exceptions to this are Bancroft Road and Lake Arthur Road (from the south Plan area boundary to Pinewood Way) where traffic volumes are not anticipated to increase substantially and therefore, shoulder widening has not been identified as a necessary safety improvement. The shoulder widening identified for these two roadways is proposed for the purpose of accommodating bikeways.

2.3 Road Adjacent Trails

The Meadow Vista Community, through the Municipal Advisory Council, Trail Advisory Committee and Community meetings has expressed a desire for road adjacent trails along a number of roadways in the community. These trails would serve pedestrians, bicyclists and equestrians. In this respect the trails serve a dual function, both for transportation and for recreation, and therefore could fall under the purview of the Department of Public Works, the Parks and Recreation Division of the Department of Facility Services, or both. These trails are envisioned to consist of native materials where possible and therefore, their construction would entail little more than right of way or easement acquisition and minor grading. Maintenance however would be an ongoing expense. The capital improvement program, which is discussed later, identifies the need for the road adjacent trails. New development will be expected to pay its fair share toward the cost of these trails. This fair share contribution will be included in the traffic limitation

zone ordinance, discussed later. The capital funding shortfall for these trails, as well as ongoing maintenance expenses, must come from other sources. Possible sources include park and recreation fees, a community-wide assessment district, a Community Service Area (CSA), etc. Identification of the source of these additional funds shall be the responsibility of the Department of Public Works and/or the Parks and Recreation Division of the Department of Facility Services.

There are measures that can be taken by the Department of Public Works to help facilitate the road adjacent trails. Such measures could include acquiring excess right of way when it is necessary for some other improvement, requesting dedication or preservation of right of way or easements as conditions of approval of development, etcetera.

2.4. Public Transit

Placer County Transit (PCT) is presently conducting a system-wide efficiency study. A consultant has been retained for this evaluation. All routes are being reviewed for operating performance and changes to increase efficiency and performance will be examined. The consultant will also develop a five year plan for expansion of service. PCT has identified the Meadow Vista/Applegate and Christian Valley areas as possible areas for independent community shuttles within the next five years. The five year plan will review service needs in the Meadow Vista Community and make recommendations for consideration by PCT.

2.5. Capital Improvement Program

Based on the above discussion of roadway and bikeway system development, a capital improvement program has been proposed to support future development of the Plan Area. Other capital improvements may also be necessary to correct existing roadway and geometric deficiencies. However, the need for these additional improvements is not due to anticipated growth and development in the Plan area. The improvements required as a result of additional traffic generated by new growth are presented in Table 4.1.

2.6. Capital Improvement Funding

Placer County can not presently fund all of the needed maintenance of streets and roadways within

the County. This is due to the fact that gasoline tax dollars and other highway user fees which support the Road Fund are not sufficient for maintenance needs, let alone improvements to support future development. Therefore, very little County Road Fund revenues are available for the projects presented in the capital improvement program.

To offset the anticipated capital funding shortfalls, a "Traffic Limitation" zone is proposed for the Meadow Vista Community Plan. A Traffic Limitation (TL) zone is a zoning designation which requires the payment of specified fees to be used for transportation improvements necessary to mitigate the adverse impacts of traffic resulting from residential, commercial and industrial development. The fees collected from new development are based on an analysis of the impact of traffic from the new development. This is accomplished by a three step process:

1. **Development of a capital improvements program.** The improvements necessary to support the Community Plan were presented earlier. However, the entire list of improvements will not be carried forward to the TL zone capital improvement program because some of the improvements will be accomplished by other means, such as requirements of project approval (specifically in conjunction with the Winchester Planned Community and in the downtown area).

The Capital Improvement Program proposed as part of the TL program is presented in Table 4.2.

2. **Determination of the proportion of the cost of the capital improvement program which is attributable to new development.** The need for the improvements identified as being necessary to support the Community Plan land uses is not due exclusively to traffic generated by new development. In some cases the need for improvements can be attributed to the combination of existing traffic, traffic which passes through the study area and traffic from new development. The TL program does not collect money from new development to pay for improvements that are needed to serve existing traffic or traffic which passes through the Plan area. For the improvements identified in the capital improvement program, all of the shoulder widening projects, which are primarily safety related, provide a direct benefit to existing traffic volumes. Therefore, the TL program will collect only the

proportion of the cost which is attributable to new development.

3. Spread of the proportionate share of cost to the new development. The final step in developing the TL program is the equitable spread of costs to new development. Placer County has used numerous methods in the past. The method which has recently been adopted by the Board of Supervisors, and which is therefore used exclusively for new programs, is based on the concept of expressing all land uses impact in terms of dwelling unit equivalents (DUE). This method incorporates three travel related parameters to determine vehicle miles of travel created by new development. It is based on the type of land use, the P.M. peak hour trip generation of the land use, the average trip length of trips generated by the land use, and the percentage of trip generation which is "new" traffic, versus traffic already on the road which patronizes a use as part of another primary trip purpose.

A single-family dwelling unit typically generates an average of 5.02 vehicle miles of travel (VMT) in the P.M. peak hour. This rate (5.02 VMT) is therefore known as a dwelling unit equivalent (DUE) and the VMT generation of other uses is expressed in terms of DUEs. Although the precise number of DUEs that will be generated by additional development can not be determined until the exact non-residential uses are known, an estimate has been made based on specialty type commercial uses that are now prevalent in the Meadow Vista community. The estimated number of DUEs resulting from new development is 924.

With a total capital improvement cost of \$2,700,000 attributable to new development, the per DUE fee is estimated to be \$2,922.

The adoption of the TL program is a process separate from the Community Plan update. It requires an ordinance for consideration by the Board of Supervisors and certain findings mandated by State law and/or case law. The ordinance will be considered at a public hearing and will establish the improvements to be funded, the method of collection, processes for appeal and update, the actual fee to be collected, etcetera. The findings will establish that new development is not paying more than its proportionate share. Minor changes to the capital improvement program are also considered by the Board of Supervisors and do not require a

Community Plan amendment, while major changes would require amendment. The process of adoption of the TL program will follow the adoption of the Community Plan.

**Table 4.1
Future Improvement Needs**

ROADWAY AND LIMITS	IMPROVEMENT
Old County Road: Bancroft Road to Sugar Pine Road	Construct 2 lanes
Placer Hills Road: I-80 to 1/4 Mile n/o Sugar Pine Road 1/4 mile n/o Sugar Pine to Meadow Vista Road Meadow Vista Road to Combie Road Combie Road to Coyote Mtn. Road	Widen to 3 lanes* Widen to 3 lanes* Widen to 3 lanes* Shoulder widening
Meadow Vista Road: Placer Hills Road to McElroy Road	Shoulder widening
Combie Road: Placer Hills to Lakeview Hills	Shoulder widening
Bancroft Road: Placer Hills to Conifer Lane	Shoulder widening
Sugar Pine Road: Placer Hills Road to Winchester	Re-construction/widening
Lake Arthur Road: Plan Area Boundary north to Pinewood Way	Shoulder widening
Road Adjacent Trails: Various Locations	Construct trails
Signalization: Placer Hills Road at Meadow Vista Placer Hills Road at Sugar Pine Road Placer Hills Road at Lake Arthur Road	Signalization Signalization Signalization

* The widening would also include provision of adequate shoulders.

**Table 4.2
Proposed TL Program
Meadow Vista Community Plan**

Roadway	Location	Improvement	Cost	Frontage Improvements	Other Sources	TL Program
Placer Hills Road	I-80 to ¼ mile n/o Sugar Pine Road ¼ mile n/o Sugar Pine to Meadow Vista Road Meadow Vista to n/o Combie Road Combie Road to Coyote Mountain Road At Meadow Vista Road	Widen to 3 lanes*	\$500,000		\$50,000	\$450,000
		Widen to 3 lanes*	\$960,000		\$96,000	\$864,000
		Widen to 3 lanes*	\$1,325,000	\$239,000	\$109,000	\$977,000
		Shoulder widening	\$248,000		\$146,000	\$102,000
		Signalization	\$100,000		\$7,000	\$93,000
Meadow Vista Road	Placer Hills Road to McElroy Road	Shoulder widening	\$151,000		\$106,000	\$45,000
Combie Road	Placer Hills Road to Lakeview Hills Road	Shoulder widening	\$147,000		\$97,000	\$50,000
Lake Arthur Road	Plan Area Boundary North to Pinewood	Shoulder widening	\$50,000		\$33,000	\$17,000
Road Adjacent Trails	Various Locations	Minor grading	\$159,000	\$16,000	\$111,000	\$32,000
Old County Road	Bancroft Road to Sugar Pine Road	Construct 2 lanes	\$188,000	\$122,000		\$66,000
Bancroft Road	Winchester Connector to Plan Area	Shoulder widening	\$13,000		\$9,000	\$4,000
			\$3,841,000	\$361,000	\$620,000	\$2,700,000

*Includes shoulder widening and the possibility of road adjacent trails