

Circulation

Introduction and Intent

The Circulation Element is a required component of the Gustine General Plan. This Element presents goals and policies that coordinate the transportation and circulation system with planned land uses; promote the efficient movement of people, goods and services within the Sphere of Influence utilizing the existing system to its fullest extent. In addition, this Element also plans for practices that will improve the quality of the environment of Gustine. It is intended to guide the development of the City's circulation system in a manner that is compatible with the Land Use Element and other Elements of this General Plan.

The Circulation Element has been devised to create an overall blueprint of circulation that works well with planned land uses as well as the existing infrastructure system. In addition, the Circulation Element is designed to be compatible with the various elements of the General Plan and responds to the land use, open space, and conservation goals of the city.

State law recognizes that circulation and land use are especially related and emphasizes a definite correlation between these two required General Plan Elements. California Government Code Section 65302 requires Circulation Elements to identify:

"...The general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the Land Use Element..."

The goals and policies presented here are intended to coordinate transportation/circulation with land use and other pertinent areas of the general plan, while promoting the efficient movement of people, goods and services within the Gustine area. The overall public benefit is twofold. The public enjoys a broader choice of realistic options for circulating through the urban area. Secondly, their trips are easier and more efficient.

Scope

Build-out of the General Plan will result in an estimated population of 8,000. The proper designation of the community's street network can assist in the development of an efficient system for both mobility and access. The proper balance ensures street sizing that functions properly and allows a community to properly allocate its resources to the streets needing additional capacity improvements.

Gustine's General Plan relies on a variety of transportation modes, including passengers, vehicles, truck, pedestrian, bicycles, rail, and transit. Each mode must allow for maximum use and efficiency.

Transportation and Circulation Goals, Policies and Actions

Whenever transportation issues are discussed some common issues arise:

1. City street and road improvements must be planned and constructed to accommodate growth and safety.
2. The provision of safe and convenient commercial parking facilities needs constant attention from City officials and downtown merchants.
3. Public transportation that will meet the needs of the community should be pursued and supported.



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4. Infrastructure installation, and storm drains in City streets and State highways demand constant attention from community officials to insure coordinated street improvements and best use of public right-of-ways.
5. Development of pedestrian and biking trails through sections of the City should be pursued.

Goals and Policies

Based on these concerns and the preceding transportation and Circulation discussions, the following Goals, Policies and Implementing Actions are proposed.

Circulation Planning

People continue to drive more. Vehicle miles of travel and the number of automobiles registered per person have continued to increase throughout the State. Shifts in employment patterns and other factors have concentrated auto use during peak daily use periods. This has special implications for an area like Gustine.

Coordination of Land Use and Circulation

Specific goals and policies linking land use to transportation/circulation concerns are found in various locations within this plan, including the Land Use Chapter.

This Chapter and its Goals, Policies and Implementation Actions are coordinated with the land use element in the following manner:

1. The Circulation element is based on population projections that are also used in the Land Use Element projections of future population and economic growth.
2. Projections of future travel demands are based upon the land use element distribution of future population and economic activity.
3. The circulation plan and policies are designed to support the land use plan, maps, objectives and policies that emphasize city-centered development and limited growth outside City sphere of influence.

The location and intensity of development has an effect on traffic levels in the surrounding area and on the City as a whole. Transportation engineers have developed several mathematical tools to monitor the relationship between land use and the transportation system. One tool is the traffic-forecasting model. This model forecasts traffic volumes and simulates traffic conditions under future land use scenarios based on a) estimates of traffic which will be generated by new development; b) streets the traffic will use; c) and the amount of new traffic the street system can ultimately accommodate.

Several traffic models have been developed to analyze the circulation system in and around the City of Gustine. This Chapter relies primarily on the model developed by the Merced County Association of Governments. The study projects traffic capacity through the year 2020 based on assumptions of growth and land use that are part of the adopted policy of this General Plan. This study contains traffic projections and Level of Service projections for major roadways and intersections within the City's Sphere of Influence (Planning Area).

The resulting roadway level of service capacity is summarized in **Table 6-1**. The financing of the proposed circulation system improvements is discussed in Chapter PF, Public Facilities and Services. The resulting Circulation Plan (map) is shown in **Figure 6-2**.



The transportation system outlined in this Circulation Element recognizes the likely limitations of funding as well as the growth inducing potential of excessive roadway capacity in areas not planned for growth. The Circulation Element includes a plan for future transportation facilities that will:

- 1) help accomplish the planned pattern of future land uses,
- 2) serve the needs of all population groups and enable transport of goods and materials, and
- 3) contribute to environmental quality and achieve environmental goals.

Major considerations in the plan policies are the efficient use of existing facilities, the high cost of improvements and the critical need to study possible State Highway improvement on the SR-33/140 corridor along with a possible bypass for this segment of roadway.

Coordination of Circulation System Planning

Coordination between various transportation planning agencies is an important method of managing traffic growth as well as local and regional traffic problems. It is important that land use and transportation/ circulation policies be carefully coordinated on a regional level. This offers the best possible opportunity for achieving consistent comprehensive planning including a well-balanced jobs to housing relationship, which in turn can reduce the length and number of commute trips in the City's urban area.

The Merced County Association of Governments (MCAG) is County's regional (countywide) planning agency, responsible for coordinating circulation planning with the State. MCAG, through a governing board a) assesses regional transportation needs; b) establishes related transportation priorities; c) provides regional transportation planning; and d) administers regional programs.

Elements of the Transportation System

A transportation system utilizes many elements. Traditional transportation planning has focused on one primary mode of transportation; the motor vehicle. The primary focus of the transportation planning for the City of Gustine is to accommodate the automobile, truck and bus. Modern transportation planning concepts recognize the inter-connectedness between various modes of transportation. The following discussion addresses these individual elements of the total system.

Public Transportation Services

The City of Gustine and the surrounding areas are served by two public transportation organizations. Merced County Transit, The Bus, operates Merced's Regional transit system. There are no direct fixed routes in Gustine, however connections can be made in Los Banos through the Dial A Ride system. The Dial A Ride service requires a telephone call or other service request from a customer to the transit dispatch center. Transit service is then radio dispatched within a reasonable period of time to the customer within 30 minutes of the pickup request. Every route is provided with wheel chair access. Gustine is also served by the Stanislaus area Regional Transit system (StaRT).

Private Transportation

The future of private transit operators (taxis, vanpools, etc.) is difficult to predict because of the volatile nature of the business in recent years. Changing market



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forces and state and federal government regulations will influence future service levels of inter-city transit. Demand for service to and from the Gustine area can be expected to increase. With increasing demands brought about by air quality and congestion management, the private inter-community operations in Merced County and the San Joaquin Valley may be expanded. It should be noted that if the private sector is unable to respond to this commuter demand, some of the demand could shift to the public sector.

The major portion of Merced County employment is centered in Merced and along the Highway 99 corridor to the east. At the same time, Gustine and other communities along the I-5 Corridor and Highway 33 provide affordable housing for workers in the Livermore Valley/Bay area to the northwest and San Jose/Santa Clara County to the southwest.

Consequently, some car and vanpools utilize Gustine as a destination. Efforts to provide parking for car and vanpools will encourage additional usage. Any effort that results in the reduction of traffic congestion and parking demands will assist the City. Major groups within the City that may need additional assistance with public transportation are senior citizens, the physically handicapped, and the developmentally disabled.

Rail Service

The California Northern Railroad line runs through Gustine, adjacent to Highway 33/140. The line runs north to Tracy, with east-west connections, and south to Los Banos, with multiple rail connections. An average of one to two trains daily pass through Gustine.

The relatively minor traffic involved poses only occasional problems of traffic congestion when trains block major intersections. Not all crossings are protected by automatic signals and guards. Further development in the City should be required to participate in the funding of signals along the railroad corridor.

An AMTRAK passenger train station is located in Merced, about 30 miles east of Gustine. Trains run three times daily in each direction up and down the San Joaquin Valley. Major destinations include Fresno, and Bakersfield to the south (with bus connections to Los Angeles from Bakersfield) and Stockton, Antioch, Martinez, and Oakland to the north, with bus connections in Stockton to Sacramento and San Jose.

Parking

Just as levels of service are important for maintaining free vehicular movement, so too are terminals (off-street parking) for providing adequate space to stop and conduct business. The reduction of curb side parking also improves the free flow of traffic.

Parking facility development must address current demand and shopping convenience in addition to the need for visitor and bus parking. Parking standards should be continually evaluated to ensure that new development does not create additional parking problems.

Community off-street parking has been provided as new commercial buildings have been constructed. This requirement should be continued and revised if it is found that insufficient spaces are being required for particular types of uses.



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Maintenance

The City has several road maintenance projects which it has identified in the Regional Transportation Improvement Plan. The City does not yet have a pavement management system (PMS), consistent with the California Streets and Highways Code but is working to implement one (refer to Figure 10). A PMS is a program set up by the City to ensure that local streets are adequately maintained. This is accomplished by assessing street conditions and scheduling maintenance based on assessment findings. The program also includes budgeting and identifying financial sources for improvements.

Bicycle Circulation System

In the future, bicycles have the potential to become an important mode of transportation in the community. Gustine has both a favorable climate and terrain to encourage the use of bicycles for both recreation and transportation functions. As bicycle use increases, adequate facilities must be provided to furnish direct routes of access between destinations while minimizing conflicts with automobiles.

Bicycle facilities are categorized by the degree in which they separate bicycle movement from vehicular movement. There are two major types of bikeways: (1) off-street bikeways, and (2) on-street bikeways.

Based on the State Department of Transportation classification system, off-street bikeways should be Class I (Bike Paths or Bike Trails) whenever possible. Class I bike paths provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized. Class I bike paths generally take advantage of creekside or canal locations and other non-street facilities. Although the off-street bikeways provide extensive recreational opportunities, another primary focus is on safe and efficient transportation linking major land uses and connecting with on-street bikeways at strategic locations.

On-street bikeways are intended to be Class II (Bike Lanes) whenever possible. Class II bike lanes provide a restricted right-of-way on the street for the exclusive or semi-exclusive use of bicycles. Through travel by motor vehicles or pedestrians is prohibited, but cross flows by pedestrians and motorists are permitted.

The on-street bikeway system may use Class III (Bike Route) designations occasionally where Class II bike lanes are not feasible. Class III bike routes provide a right-of-way generally designated by signs and shared with pedestrians or motorists. Class III bike routes are to be avoided if possible and used only to connect or continue Class I or II facilities for short distances. On-street bikeways should utilize those existing or proposed major streets that provide the quickest, shortest, and safest route to take for bicyclists as well as motorists.

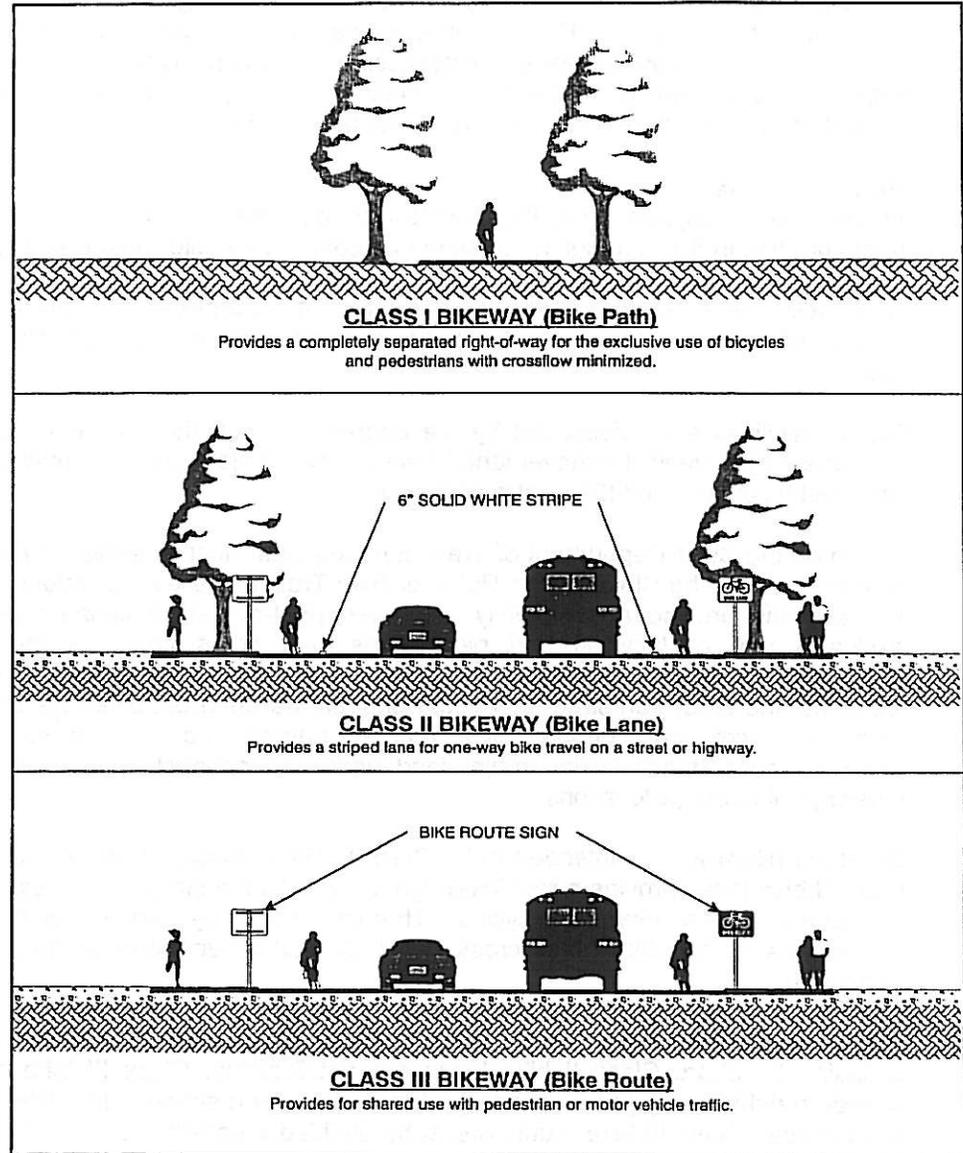
Truck Route System

Truck traffic on the regional road network and City streets is a major source of congestion and noise. Trucks provide the means for transporting commodities and raw material to and from local industries. The main truck routes in the City are along the Highway 33/140 corridor.

Conflicts between truck traffic and residential uses can be avoided by the design of the circulation system and designation of truck routes. The designation of truck routes from major regional arterials (State Highways) and local industries will minimize land use conflicts and support the City's growing industrial sector.



Figure 6-1
City of Gustine
General Bikeway Classifications



GENERAL BIKEWAY CLASSIFICATIONS

Bicycle use of most existing major roadways within the City is hazardous due to inadequate width and due to roadway needs of maintenance and construction. It is not probable that roadway widening to meet the needs of cyclists will occur. Several roads are planned to be wide enough to provide for bike lanes should financing become available.



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The potential for increased use of bicycles, should improvements encourage their use, needs attention to ensure that proper consideration is given to the development of bicycle paths that would link areas of traffic generation.

The City has adopted the Regional Merced County Bikeway Plan and elements of that Plan have been incorporated into this Chapter.

Pedestrian Circulation

Pedestrian-ways should provide safe and convenient movement to major pedestrian destinations. The needs of school children and the special problems of the handicapped are of special importance. Care must be taken where development is phased or non-contiguous to provide adequate and safe pedestrian facilities at all times.

Both sidewalks and separate paths can be provided for pedestrian movement. As with bicycles, separate public easements or rights-of-way provide unique opportunities for pedestrian circulation.

Indirect street systems, found in modern subdivisions, are often inconvenient to the pedestrian. The planning of residential areas needs to recognize pedestrian movements, whether to schools, parks, shopping, or public transit routes. A system of pedestrian ways can also serve a secondary use as bicycle access to local streets and other portions of the bicycle path system.

Sidewalks provide safety and convenience by separating vehicular and pedestrian traffic. The most critical areas for the location of sidewalks are in the Central Business Districts and in areas where residential uses transition into commercial uses. It is important that the City maintain existing sidewalks and encourage the development of new sidewalks.

The City contains several scenic areas including Central California Irrigation District's Canal, wherein walking trails could be developed and maintained. This would allow increased enjoyment of the area in a controlled and safe manner.

Equestrian travel within the City provides recreation to many residents though a formal trail system does not exist. Most equestrian travel takes place on private lands.

Standards of the Circulation System

The functional road classification categorizes each existing street or proposed street according to its primary function. This creates a hierarchical system as the basis for establishing standards, designing streets, selecting necessary traffic control measures, establishing a priority for construction, and measuring the quality of movement. In many cases, this system will also define appropriate land uses, the intensity of development, and the location of public facilities. The City's classification system is based on functional categories used by County, Regional, State, and Federal agencies. The functional classification of streets and highways rests on the following concepts:

- Streets and highways are classified into separate and distinct systems in accordance with their intended primary circulation purpose. Each system serves the movement of traffic and the access to property to a different degree.
- Street classification governs design standards and construction and improvement priorities.



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- The City's circulation system must be coordinated with the networks of the State and County.
- All major streets and highways have continuity, logical termini, and adequate capacity to allow and provide a high quality of flow.

The functional classification system used in the Circulation Element and Map (**Figure 7**) divides all streets and highways into categories. These are illustrative characteristics only. Official design requirements are found in the City of Gustine's Improvement Standards.

State Highway System

Two State Highways, Routes 33 and 140 provide access to Gustine. State route 33 bisects Gustine on a north-south axis. To the south SR 33 leads to the City of Los Banos and to the north is Newman, Patterson and Tracy. State Route 140, is an east-west route that brings in heavy traffic from Merced and western side of the San Joaquin Valley and SR-99 to SR-33 and I-5.

The Merced County Regional Transportation Plan classifies these two State Highways as minor arterials. Minor arterials are defined as follows:

Minor Arterials. This service classification provides a network of roads that are spaced throughout the County with the purpose of connecting community areas, traffic destination centers (such as recreation facilities and resources), and establish corridors to move traffic into and through the county. Traffic utilizing a minor arterial road tends to be a mix of through (inter-county), visitor or recreation (designation), and town to town (inter-county) traffic. All State Highways in the county are minor arterials.

Traffic volumes have been steadily increasing on SR 33 and SR 140. The increased usage is due to expanding commercial and regional traffic and local growth.

The primary traffic circulation problems of the City of Gustine stem from Routes 33, 140, and local traffic's joint usage of these facilities; the City's only north-south arterial.

City Streets

City and regional streets and highways are classified by categories that reflect their importance and function. Freeways are the highest level of roadway, with fully controlled access, high operating speeds and volumes, and highest design standards. Local streets and alleys are the lowest functional classification, with low speeds and volumes and direct access to adjacent property.

The accompanying tables (**Table 6-1 & 6-2**) summarize the characteristics of roadway categories. Specific design requirements are found in the City's Improvement Standards, which are amended on a regular basis.

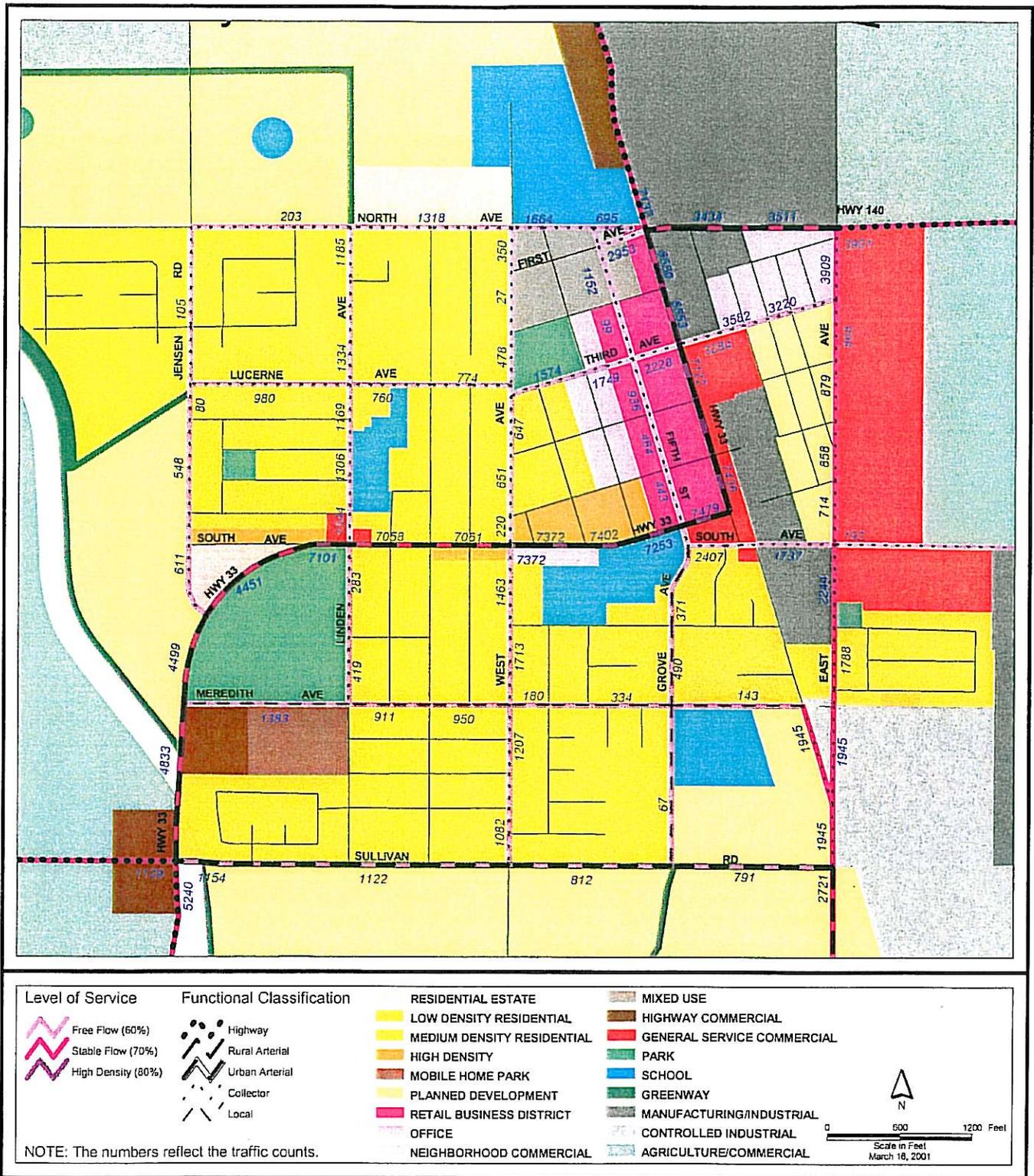
Functional Classification System

Roadway characteristics and standards described in the Circulation Element apply to most common situations and generally should be considered as minimums. However, detailed traffic and design studies for specific development projects or roadway improvements may indicate that higher levels of improvements are required or that other standards may be permitted. Like other infrastructure, circulation improvements will be required as development occurs.

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Figure 6-2: City of Gustine - Circulation Plan







**Table 6-1
City of Gustine
Summary of Functional Classification System**

CLASSIFICATION	FUNCTION	TYPES OF STANDARDS
Arterial	Carry large traffic volumes over long distances; county-wide or regional importance; connect major traffic operators	Number of travel lanes, driveway spacing, signalization, parking restrictions, right-of-way width, roadway width, and access control
Collector	Carry local area traffic to the arterial system	Number of travel lanes, sidewalks, right-of-way width, roadway width
Minor Road	Provide access to property; carry local traffic	Road width, right-of-way and sidewalks

A proper balance of the road classifications set forth above will achieve a desired level of service for the community. Guidelines for the design of the various arterial roadway classifications is set forth in Table 6-2:

**Table 6-2
City of Gustine
Summary of Street and Highway Standards**

Roadway Classification	Right of Way Width	Pavement Width
Highway 4 & 49	80' - 100'	12' lanes 8' shoulder
City Arterial	80 ft.	12 ft. lanes 8' shoulder
Collector	60 ft.	12 ft. lanes 4 – 8 ft. shoulder
Local	40 – 50 ft.	12 ft. lanes 4 ft. shoulder

Standards in this table are considered to be guidelines that may be modified where warranted by site specific conditions or where Federal and State standards supersede. Appropriate traffic index and design speeds for various classifications of roadways are set forth in the City Improvement Standards and are subject to revision by resolution of the City Council.

Highways, Streets and Roads

Urban growth as characterized in the Land Use Element will result in significant levels of vehicular trips on City streets and roads. The following describes the City's circulation system.

Freeway

Freeways provide mobility between regions. Freeways provide for through traffic movement on a continuous route with no access to abutting property. Intersections with cross streets are by interchanges or grade separation structures.

Although not in the defined planning area, Interstate 5, 5-miles west of the City, is the only freeway serving Gustine. It is a major north/south connector providing access to services and supplies in neighboring cities and counties.

**Arterial**

Arterial streets are generally 4-lane routes constructed on right-of-ways of 80 to 100-feet wide. Major streets provide for through traffic movement on a continuous route joining major traffic generators such as other arterials, expressways, and freeways.

Arterial streets are:

- State Highway 33
- State Highway 140
- Gun Club Road and the extension of Gun Club Road, between State Highway 33 and Kneibes Road

Collector

Collector streets provide internal traffic movement within an area and connect local streets to the arterial road system. Collectors are normally two lane streets and access from adjoining property may be controlled. Most collector streets are two lane roads with 60-foot right-of-ways, and are contained within local neighborhoods.

Collector Streets are:

- Fifth Street, between North Avenue and South Avenue
- East Avenue/Hunt Road, between North Avenue/Highway 140 and Meredith Avenue
- North Avenue, between Jensen Road and East Avenue
- Jensen Road, between North Avenue and the intersection of State Highway 33
- Kneibes Road, between the extension of Gun Club Road and Highway 140
- Linden Avenue, between North Avenue and Sullivan Road
- Lucerne Avenue, between Jensen Road and West Avenue
- West Avenue, between North Avenue and Sullivan Road
- First Avenue, between Fifth Street and Fourth Street
- Carnation Road, between Fifth Street and Kneibes Road

Local Street (Minor Street)

Local Streets serve as land access facilities. They constitute the largest part of the City's circulation system. Trip lengths are normally short and traffic volumes small. Local streets are 2-lane with 40-foot right-of-ways. Since these streets traverse internal residential areas, traffic volume, frequency of noise, and safety are very important issues to local residents. Often the quality of these streets may make the difference between a desirable or an undesirable neighborhood. The remaining balance of streets in the City is included in this definition and is not listed individually.

Alleys

Alleys also constitute transportation facilities in older neighborhoods. Alleys many times contain other public utilities and serve as limited access to rear yards and are sometimes used as refuse collection routes. Occasionally, alleys may be used as access to parking areas for higher density residential development. All dedicated alleys are included in this definition.

Truck Routes

Truck routes for through truck traffic for access to the industrial area are:

- Carnation Road
- Kneibes Road
- Highways 33/South Avenue
- Highway 140



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Median Breaks and Driveway Standards

Median breaks and driveway standards for arterial, collector, and local streets directly affect the performance of these roadways, and the following minimum standards have been developed to properly facilitate the proper operation of these roadways:

Arterial Street Standards: Driveway access to major activity centers should be located no closer than 200-feet to the adjacent intersection of a collector or arterial street, measured from the curb return to the nearest edge of the driveway. If driveways must be provided near intersections for facilities (such as service stations) these driveways shall not be serviced by median breaks and shall be located no less than 50-feet from the intersection measured from the curb return to the nearest edge of the driveway. If more than one is required to serve a property, the driveways shall be separated by 50-feet measured edge to edge, not centerline to centerline.

Where practical and desirable, driveways should be located on adjacent collector streets rather than arterials. Driveway consolidation shall be encouraged through joint access agreements along arterials.

Collector Street Standards: Driveway access to major activity centers should be located no closer than 150 feet to the adjacent intersection of a collector or arterial street as measured from the curb return to the nearest edge of the driveway.

Scenic Highway Designations

There are no streets or highways in the planning area which meet the criteria for Scenic Highway Designation. State Highway 33/Fourth Avenue, State Highway 140, and Hunt Road are defined as "Roads of Regional Significance" by the Merced County Regional Transportation Plan Update, 1984.

Arterial Access Spacing

The prospective arterial system has two basic requirements if it is to be successful --1) adequate right-of-way (ROW) preservation to accommodate the amount of traffic expected from major future growth, and 2) strict access control to maintain efficient movement for this greatly expanded traffic.

In order for the street system to function properly, enough capacity must be built into the roadways to handle the traffic for the next 20 to 40-years and beyond. For that purpose, the rights-of-way (ROW's) for arterials need to be substantial.

Along with the amount of right-of-way, access control greatly affects street capacity. Every street has a maximum traffic-carrying capacity; the maximum number of vehicles that can be carried at a particular speed past any given point.

To maintain this capacity, speed must be maintained. Therefore, unnecessary disruptions to peak hour traffic flow must be avoided. Carefully controlling the number of intersections is the key to maintaining such roadway efficiency.

The locations at which streets intersect a major roadway, and the spacing or distance between such intersecting streets, are important factors affecting how well the major road fulfills its traffic carrying responsibility. The growth of traffic over time, along with accompanying disruptions such as increasing numbers of vehicle accidents, can significantly affect the efficiency of intersections.



Table 6-3
City of Gustine
Summary of Street and Highway Access Standards

ROAD CLASSIFICATION	RIGHT-OF-WAY	# OF LANES	DRIVEWAY ACCESS RESTRICTIONS	STREET INTERSECTION SPACING	PARKING
Arterial-State Hwy.	80-100 ft	2-6	¹ Partial	1/6 - 1/2 mile	No
City Arterial	80 ft	2-4	¹ Partial	1/6 - 1/2 mile	No
Collector	60 ft	2	² Partial	As needed	² Permitted in Selected Areas
Minor Road	40-50 ft	2	No	As needed	Permitted

¹Generally no direct access to adjacent property. Right-turn-in/right-turn-out local streets or combined access driveways may be permitted at the City's discretion at 1/8-mile points.

² Fronting lots would be permitted on Collectors where a traffic analysis shows daily traffic volumes will not exceed 1,500 vehicles under ultimate conditions. Driveways or other direct access and parking are to be avoided if feasible within 300 feet of existing signalized intersection or an intersection with realistic prospects for future signalization

NOTE: These are general standards appropriate for most situations. Higher standards may be required or lower standards may be permitted based on detailed design studies. Expanded ROW's may be required at intersections to accommodate turn lanes. On-street parking may be deleted if adequate, convenient off-street parking is provided in a subdivision design.

Spacing is a critical element in any subsequent need for installing traffic signals. Effectively spaced traffic signals can be efficiently synchronized. This allows greater peak hour efficiency, with more vehicles traveling farther, and faster, during these problem periods. As spacing becomes less consistent, traffic signals can themselves cause disruption and be less effective for moving traffic.

Poor locations and/or spacing create problems that even signals will not be able to overcome. Proper distances involve one-eighth and/or one-quarter mile spacing for streets intersecting with divided and higher order arterials, and one-mile distances for streets intersecting with expressways.

Collector Design

"Collector" is a term describing, typically, a residential street that collects traffic from, and distributes traffic to, the local streets of a neighborhood. On a map a simple collector system might look like a group of smaller twigs connecting into a larger tree limb (the collector).

Ideally a residential collector serves as a simple conduit for local traffic. The collector carries such traffic to nearby attractors such as a shopping center, school, or community facility or to a major roadway (minor arterial, or larger street) for a longer trip within the City or beyond.

There are two major, and often conflicting, functions for residential collectors. This conflict creates a delicate balance. On the one hand, it is a residential street and as such is expected to fit into the quiet, safe setting of the surrounding neighborhood. On the other hand, a collector designed to efficiently fulfill its



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function of carrying traffic through and out of the area has potential for factors such as noise and speed which negatively impact the residential setting.

When neighborhoods become concerned about the impacts of a collector, they can create a strong lobby for imposing measures that will affect traffic flow, such as installation of stop signs. In some cases these may be generally effective within the larger street system. In other instances, such measures may simply force some traffic to find another route, which merely moves undesirable impacts to another neighborhood.

Growth and change can increase the role of existing collectors beyond their expected level of operation. These factors may also force the role of collector onto local streets not really designed as collectors.

Such streets often share similar characteristics, including substantial length, significant traffic destinations such as a major land use(s) or major roadway (often at both ends), and unimpeded access to such major destinations (a "straight-shot" traffic corridor with no real inconveniences to the motorists involved). These circumstances tend to make it convenient for traffic from beyond the adjoining residential areas to use these streets as "through-ways" to get from one major destination to another, without the need of using an arterial or other major traffic carrier.

Other factors also contribute to neighborhood conflict with collectors. One involves subdivision design that forces local residents to back their automobiles out of residential driveways onto a collector. This disrupts traffic flow and increases the opportunity for accidents. Another factor is the conflict with parked cars. Parked vehicles have a natural tendency to slow collector traffic but also decrease visibility. Each creates an impact upon local residents and over time can create increasing tensions regarding collectors.

While there are residential driveway design options to avoid automobiles backing into traffic (circular driveways, hammerhead driveways, etc.), smaller lot sizes generally do not have sufficient room for such alternatives. A workable option, which has the added advantage of reducing the need for on-street parking, is to avoid fronting lots on collectors. On the other hand, such residential subdivision designs that orient lots only to side streets create limits on subdivision design flexibility which can reduce the overall number of lots obtained, while increasing the amount of streets.

An acceptable compromise is to avoid fronting residential lots on streets deemed "Major" Residential Collectors (500 vehicles per hour or more—**See Table 6-5**). This would eliminate driveway and parked car conflicts with collector traffic on the most significant residential collectors.

Experience indicates that an important factor in neighborhood security can be the ability of neighbors to maintain surveillance on local activities. Design features, such as open-end cul-de-sacs, would be important in allowing residents oriented away from Major Collectors to continue to observe local activities within the entire neighborhood.

Other residential streets are not major collectors but collect/distribute traffic in a more limited fashion. A likely point of conflict on such streets is the approach to its intersection with a major street. While a requirement preventing fronting lots along the entire length of such minor collectors might not be realistic, such a



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The preferred LOS levels are typically "C" and "D," particularly for larger roads and major intersections. With LOS "C" the road provides stable operation but is still underutilized to some degree. LOS "D" represents a fine balance between the relatively large number of vehicles served and the generally an acceptable level of service.

It is the intent of the City's standards and policies for new and upgraded intersections and higher order (Arterial, etc.) road segments to be designed and built to function at LOS "D" ("tolerable delay"), at least, during peak traffic periods. In the interests of addressing long-term needs, however, LOS "C" or better is desirable on the Arterial system. The residential streets, including Collectors, should be planned to meet LOS "C" or better standards.

Maintaining a Level of Service "D" at existing intersections is not always feasible, appropriate, or necessary, however. People may expect and tolerate varying levels of congestion depending on location (e.g. Downtown Gustine) and time of day. Heavier traffic can also be a reason to encourage greater pedestrian activity and heavier transit use in such areas. Other factors may make higher levels of service infeasible. In Downtown Gustine, for example, widening existing streets could create great disruption to stable older neighborhoods and or the destruction of significant historic resources. In these areas, "significant delays" (LOS "E") or even LOS "F" may have to be acceptable at peak hours.



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**Table 6-4
Level of Service Traffic Description**

Level of Service (LOS)	Traffic Condition
LOS "A"	Free flow conditions - Low volumes - High operating speed- Uninterrupted flow - No restriction on maneuverability-Drivers maintain desired speeds - Little or no delays
LOS "B"	Stable flow condition -Operating speeds beginning to be restricted
LOS "C"	Stable flow but speed and maneuverability restricted by higher traffic volumes - Satisfactory operating speed for urban conditions-Delays at signals
LOS "D"	Approaching unstable flow - Low speeds - Major delays at signals-Little freedom to maneuver
LOS "E"	Lower operating speeds -Volume at or near capacity -Unstable flow-Major delays and stoppages
LOS "F"	-Forced flow conditions -Low speeds -Volumes below capacity, may be zero -Stoppages for long periods because of downstream congestion

Level of service (LOS) is based on traffic conditions that have some subjectivity to them. In evaluating project impacts from increased traffic the LOS during peak hour movements is used. The approximate daily and peak hour vehicle capacities for various street classifications at levels of service "C" and "D" are set forth in **Table 6-5**:

**Table 6-5
Approximate Peak Hour (60 Minutes) Maximum Vehicle
Capacities at Levels of Service "C" and "D"
(Vehicles per Hour in Heavier Direction)**

Type Facility	Capacity @ Level of Service	
	"C"	"D"
Rural Road 2 L, good geometric* 1 L	1,000 100	1,200 120
Residential Street 2 L	80	140
Collector 2 L Major 3 L Major 2 L Minor	500 650 400	560 800 450
City Arterial 2 L 4 L	700 1,500	780 1,680
Arterial (State Highways) 2 L 4 L	900 2,000	1,010 2,240

*Consistent with "A Geometric Design of Highways and Streets" by the American Association of State Highway and Transportation Officials.



Table 6-6
Approximate Daily Vehicle Capacities
At Levels of Service "C" and "D"
 (Total for all lanes, both directions)

Type Facility	Level of Service "C"	Level of Service "D"
<i>Rural Road</i>		
2 L good geometric*	5,000	5,600
1 L	1,200	1,400
Residential Street 2 L	1,200	1,400
<i>Collector</i>		
2 L Major	7,000	8,000
3 L w/2way left turn lane (major)	10,000	11,000
2L Minor	5,000	5,600
City Arterials		
2 L	10,000	11,300
4 L	20,000	23,000
3 L w/2-way left turn lane	14,000	15,700
Major Arterials (State Hwy's)		
2 L	12,000	13,500
4 L	22,000	25,000

*As per the current text of "A Policy on Geometric Design of Highways and Streets" by the America Association of State Highway and Transportation Officials.

The overall planned improvements of the overall circulation system have been evaluated in terms of gross capacity (average daily traffic or ADT) and level of service. The results of that evaluation are contained in **Table 6-7** of this document.



Table 6-7

City of Gustine Circulation System
Projected Future Condition
Level of Service

# on Map	Street Name - From, To	2020 Traf.	2020 LOS
1	HIGHWAY 140/SULLIVAN RD - FROM PRINCE AV TO HWY 33	12,900	D
2	HIGHWAY 33 / FROM BORBA RD TO HWY 140/SULLIVAN RD	15,600	D
3	SULLIVAN RD - FROM HWY 33 TO LINDEN AVE	8,900	D
4	SULLIVAN RD - FROM LINDEN AVE WEST AVE	8,800	D
5	SULLIVAN RD - FROM WEST AVE TO GROVE AVE	8,400	D
6	SULLIVAN RD - FROM GROVE AVE TO HUNT RD	10,300	D/E
7	SULLIVAN RD - FROM HUNT RD Kniebes Rd	3,600	C
8	Kniebes Rd - Sullivan Rd to Carnation Rd	4,100	C
9	Kniebes Rd - FROM CARNATION RD TO HWY 140	4,900	C
10	HIGHWAY 140 - FROM Kniebes Rd TO SANTA FE GRADE	9,600	C
11	HIGHWAY 33/140 - FROM SULLIVAN RD TO MERRIDITH AVE	11,100	F
12	HIGHWAY 33/140 - FROM MERRIDITH AVE TO JENSEN RD	9,400	D
13	HIGHWAY 33/140 - FROM JENSEN RD TO LINDEN AVE	7,300	D
14	HIGHWAY 33/140 - FROM LINDEN AVE TO WEST AVE	7,400	D
15	HIGHWAY 33/140 - FROM WEST AVE TO GROVE AVE	7,900	D
16	HIGHWAY 33/140 - FROM GROVE AVE TO 3RD AVE	13,800	F
17	HIGHWAY 33/140 - FROM 3RD AVE TO HWY 140	19,000	F
18	HIGHWAY 33 - FROM HWY 140 TO NETHERTON RD	38,500	F
19	JENSEN RD - FROM HWY 33/140 TO LUCERNE AVE	2,300	C
20	JENSEN RD - FROM LUCERNE AVE TO NORTH AVE	600	C
21	JENSEN RD - FROM NORTH AVE TO BAMBAUER RD	200	C
22	HUNT RD - FROM NOBLE RD TO HWY 140	5,700	C
23	HUNT RD - FROM HWY 140 TO MERIDITH AVE	5,800	C
24	HUNT RD - FROM MERIDITH AVE TO SOUTH AVE	7,800	C
25	Kniebes Rd - FROM SOUTH AVE TO HWY 140	7,700	C
26	NORTH AVE - FROM JENSEN RD TO LINDEN AVE	2,700	C
27	NORTH AVE - FROM LINDEN AVE TO WEST AVE	4,500	C
28	NORTH AVE - FROM WEST AVE TO HWY 33	5,100	C
29	LUCERN AVE - FROM JENSEN RD TO LINDEN AVE	2,800	C
30	LUCERN AVE - FROM LINDEN AVE TO WEST AVE	1,500	C
31	MERIDITH AVE - FROM HWY 33/140 TO LINDEN AVE	1,800	C
32	MERIDITH AVE - FROM LINDEN AVE TO WEST AVE	100	C
33	MERIDITH AVE - FROM WEST AVE TO GROVE AVE	800	C
34	MERIDITH AVE - FROM GROVE AVE TO HUNT RD	200	C
35	3RD AVE - FROM WEST AVE FIFTH ST	3,400	C
36	3RD AVE - FROM FIFTH ST TO HUNT RD	4,500	C
37	CARNATION RD - FROM GROVE AVE TO HUNT RD	7,600	C
38	CARNATION RD - FROM HUNT RD TO Kniebes Rd	1,200	C
39	HIGHWAY 140 - FROM SECOND AVE TO EAST	9,700	D
40	HIGHWAY 140 - FROM HWY 33 TO EAST AVE	12,800	E
41	HIGHWAY 140 - FROM EAST AVE TO Kniebes Rd	7,000	C



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42	FIFTH ST - FROM NORTH AVE TO 3RD AVE	1,300	C
43	FIFTH ST - FROM 3RD AVE TO SOUTH AVE	2,600	C
44	LINDEN AVE - FROM MERIDITH AVE TO SOUTH AVE	1,200	C
45	LINDEN AVE - FROM SOUTH AVE TO LUCERNE AVE	2,600	C
46	LINDEN AVE - FROM LUCERNE AVE TO NORTH AVE	3,300	C
47	WEST AVE - FROM HWY 140 TO MERIDITH AVE	1,900	C
48	WEST AVE - FROM MERIDITH AVE SOUTH AVE	1,600	C
49	WEST AVE - FROM SOUTH AVE TO 3RD AVE	700	C
50	WEST AVE - FROM 3RD AVE TO HWY 140	700	C
51	GROVE AVE - FROM HWY 140 TO MERIDITH AVE	3,100	C
52	GROVE AVE - FROM MERIDITH AVE TO CARNATION AVE	3,500	C

Transportation System Management (TSM)

The goal of transportation systems management is to reduce the use of the motor vehicle that is currently the most heavily used method of transporting people and goods. It also includes methods of more effective use of the present roadway system. Elimination of on-street parking and replacement with off-street parking facilities can increase the capacity of existing streets. Intersection improvements and signalization can improve LOS at intersections.

In rural areas such as Merced County the dependence on the automobile for personal transportation to and from work and shopping is more pronounced than in a metropolitan area such as the San Francisco Bay Area, Sacramento or Stockton. Public transportation is only cost effective in those areas with a relatively high density of population. As the population of the County continues to grow, some form of transit in addition to the present specialized services may be practical.

General TSM Strategies:

The TSM Alternatives represent the best that can be done for mobility with existing infrastructure -- that is, without construction of major new transportation facilities. Generally, the TSM Alternative emphasizes small physical improvements and operational efficiencies -- intersection improvements, minor widening, focused traffic engineering actions, contra-flow lanes for carpools and buses, expanded bus service, transit centers, and improved access to transit services.

The Guidelines go on to state that given the crucial role of the TSM Alternative as both a realistic near-term package of improvements and a rational baseline for evaluating the major transportation improvement projects such as the SR 4 and 49 bypasses, it deserves significant attention in its definition and refinement. The proposed scope of TSM solutions is an initial step in this evaluation. Operationally, TSM is broken into sub-program areas known as TDM, TCM and TSM in this report.

Within this Chapter, these non-capacity enhancing transportation strategies are classified under three program areas:

- Transportation Demand Management (TDM),
- Transportation Control Measures (TCM), and
- Transportation System Management (TSM).

The traditional approach to transportation planning uses a combination of all three programs to manage the vehicular flow on the City's streets and the State Highway system. The following is a brief description of the characteristics of each



Circulation

program. It should be recognized that there is overlap between program areas in instances of specific application, however, these programs can be generally characterized as follows.

Transportation Demand Management (TDM)

This program consists of managing behavior regarding how, when and where people travel. TDM strategies are designed to reduce vehicular trips during peak hours by shifting trips to other modes of transportation. Transportation Demand Management strategies specifically target the work force which generates the majority of peak hour traffic. Some specific TDM strategies include:

- Ridesharing Programs
- Transit Usage
- Flex Hours
- Van Pools
- Bicycling and Walking
- Telecommuting
- Mixed Land Use Planning Techniques

Transportation Control Measures (TCM)

These programs are designed to reduce vehicle miles traveled, vehicle idling, or traffic congestion in order to reduce motor vehicle emissions.

Specific TCM program efforts can include:

- Ridership Programs,
- Park-And-Ride Lots,
- Telecommunications,
- Alternate Work Schedules,
- Trip Reduction Ordinances
- High Occupancy Vehicle Lanes
- Bicycle Facilities,
- Pedestrian Facilities,
- Public Transit,
- Maintenance of Vehicle Emission Control Systems, and
- Use of Low Emission Fuels.

Many of these programs can only effectively operate on a state or region-wide level, such as a low emission fuel program and vehicle emission control system maintenance. Other programs, however, can be implemented within the City.

Transportation System Management (TSM)

These programs are designed to identify short-term, low cost capital improvements that improve the operational efficiency of the existing transportation infrastructure. An effective TSM program, using the appropriate techniques, can improve circulation and reduce automobile emission throughout the planning area. Naturally, TSM strategies are used in coordination with TDM and TCM programs to improve local and regional circulation.



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Specific TSM program strategies include traffic flow improvements such as:

- Traffic Signal Synchronization,
- Traffic Engineering Improvements (Geometric Design),
- Channelization,
- One-Way Streets,
- Turning and Bus Pocket Bays,
- Bus Terminals,
- Removal of On-Street Parking,
- Limiting Arterial Street Access,
- Street and Highway Widening,
- Bicycle Facilities, and
- Pedestrian Malls.

There are many ways for providing such facilities. The City should evaluate possible alternatives, including:

- 1) working with Caltrans and the Air District to identify suitable sites, which could be designated on the general plan land use and circulation plans;
- 2) consideration of funding of park and ride lots as mitigation during CEQA review of residential development projects;
- 3) coordinating with appropriate transportation agencies and major employers to establish express buses and vanpools to increase the patronage of park and ride lots; and,
- 4) 6) allowing developers to reach agreements with auto-oriented shopping center owners to use commercial parking lots as park and ride lots and multi-modal transfer sites.

The Goals, Policies and Implementation Actions (See Section 6.2) of this Chapter incorporate applicable TSM measures that can be employed in the City of Gustine.

Issues Requiring Further Study

Throughout the twenty-year planning period, automobile and truck transportation will continue to be the primary mode for moving people and commodities in and through Gustine. This section responds to automobile and truck transportation as the primary source for moving people and commodities in and through Gustine.

The relationship between land use and circulation cannot be over-emphasized and the transportation objectives in this chapter are predicated upon the land use designations identified in the Proposed General Plan map.

It is also possible that land use designations could be amended (whether initiated by the City, County or private development) which would affect the function of a road and require changes to this Circulation Plan.

The location and classification of roads within the Gustine SOI will be those necessary to accommodate future land uses designated on the Proposed Circulation map which would serve the City through ultimate build out. The City Council believes a new east/west road is needed North of North Avenue to relieve the future congestion from planned residential development.

The City still advocates the designation and extension of Sullivan Road as an Arterial between State Highway 33 and Kniebes Road. Traffic modelling has demonstrated that the Sullivan to Kniebes Road loop will significantly reduce through town vehicle trips during the planning period.



Goal Area: Transportation & Circulation
GOALS
6.1 An Integrated Road System that is Safe and Efficient 6.1.1 Design Streets Consistent with Circulation Function and Affected Land Uses. 6.1.2 Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies. 6.1.3 Design Major Roads to Maximize Efficiency. 6.1.4 Study Development of a State Highway Bypass System Around Central Gustine. 6.1.5. Provide for Safe and Accessible Public Parking that Promotes Non-Vehicular Travel Patterns and/or Use of Public Transit Systems.
6.2 A Circulation System that Minimizes Adverse Impacts upon the Community 6.2.1 Promote Traffic Safety. 6.2.2 Minimize Unnecessary Travel Demand on City Streets (DSM). 6.2.3 Minimize Adverse Impacts on the Environment from Existing and Proposed Road Systems. 6.2.4 Minimize Street System Impacts on Residential Neighborhoods and Other Sensitive Land Uses.
6.3 An Efficient and Comprehensive Public Transit System 6.3.1 Support and Enhance the Use of Public Transit. 6.3.2 Support a Safe and Effective Public Transit System.
6.4 A Comprehensive System of Safe and Convenient Bicycle Routes (Within the Community and Throughout the Urban Area) 6.4.1 Encourage the Use of Bicycles as Alternative Transportation. 6.4.2 Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use. 6.4.3 Maintain and Expand the Community's Existing Bicycle Circulation System.
6.5 A Comprehensive System of Safe and Convenient Pedestrianways 6.5.1 Maintain a Pedestrian-Friendly Environment. 6.5.2 Improve Planning for Pedestrians.

Policy 6.1.1
Design Streets Consistent with Circulation Function and Affected Land Uses.
<i>Implementing Actions:</i> 6.1.1.a Implement the General Plan Circulation Plan (Figure 6.2) as development occurs. 6.1.1.b Whenever feasible implement a system of arterials and higher order streets in new growth areas based on the Circulation Plan concept of arterials and State Highways. 6.1.1.c Upgrade existing streets in older portions of the City as resources become available. 6.1.1.d Design and build residential collector streets that balance as effectively as possible competing needs to be safe and efficient yet preserve the residential nature of area. 6.1.1.e Study projected future areas of city expansion prior to development to identify the most effective circulation pattern(s). 6.1.1.f Consider measures to increase the capacity of the existing road network prior to constructing more capacity (additional lanes, new roadways, etc.). 6.1.1.g Require new construction or major renovation of commercial or multi-family buildings to replace, repair or provide improvements to meet current City standards.

**Policy 6.1.2****Coordinate Circulation and Transportation Planning with Pertinent Regional, State and Federal Agencies.***Implementing Actions:*

- 6.1.2.a Coordinate local circulation/transportation plans and improvements with interested area and regional agencies.
- 6.1.2.b Identify a hierarchy pattern of major streets within the City's General Plan and Sphere of Influence areas, and work with the County of Merced to retain unimpeded future rights-of-way to accommodate the current general plan period and projected future growth.
- 6.1.2.c Coordinate local circulation/transportation funding programs with Merced County and Caltrans to maximize impact of limited transportation dollars.

Policy 6.1.3**Design Major Roads to Maximize Efficiency.***Implementing Actions:*

- 6.1.3.a Adhere, to the greatest possible extent, to Plan Standards for spacing streets that intersect arterials and higher order roadways.
- 6.1.3.b Improve traffic flow of all new Arterial streets to the greatest possible extent by the use of median strips of sufficient width to facilitate vehicle movement.
- 6.1.3.c Improve traffic flow of Arterials and other major roadways whenever possible by avoiding or eliminating on-street parking.
- 6.1.3.d Work to insure that land uses fronting Arterial streets have shared access across adjacent properties and provide sufficient on-site parking to avoid depending upon on-street parking.
- 6.1.3.e Promote the provision of on-site visitor parking in multi-family projects.
- 6.1.3.f Whenever feasible avoid, or eliminate, unnecessary or poorly placed median openings.
- 6.1.3.g Avoid when possible residential "fronting lots" and driveway access on Collectors and higher order streets.
- 6.1.3.h Obtain whenever feasible necessary rights-of-way in proximity to major intersections for needed turn lanes.
- 6.1.3.i In new growth areas, obtain expanded Arterial intersection rights-of-way (ROW) requirements.
- 6.1.3.j Approve driveway access locations only if consistent with approved minimum acceptable distances from major intersections, except in unusual circumstances.

**Policy 6.1.4****Study Development of a State Highway Bypass System Around Central Gustine.***Implementing Actions:*

- 6.1.4.a Continue a program planning and design, in cooperation with the Merced County Association of Governments and Caltrans, for the SH33/140 bypass.
- 6.1.4.b Involve the public in the identification of appropriate Bypass routes and funding strategies.
- 6.1.4.c Plan for Collector street connections into the Bypass system in such a manner as to not reduce the capacity of the system unnecessarily.
- 6.1.4.d Review new development and/or City annexation proposals for consistency with Bypass route concepts and necessary local road linkages.

Policy 6.1.5**Provide for Safe and Accessible Public Parking that Promotes Non-Vehicular Travel.***Implementing Actions:*

- 6.1.5.a Sign parking lots and encourage their use.
- 6.1.5.b Encourage the business community to use off-street parking lots.
- 6.1.5.c Provide adequate parking to serve existing and future development and improve traffic flow on narrow streets.
- 6.1.5.d Retain all available off-street parking spaces.
- 6.1.5.e Develop a parking plan for existing and potential commercial areas.
- 6.1.5.f Provide public parking at strategic locations in the downtown area.
- 6.1.5.g Require new development to provide adequate off-street parking.
- 6.1.5.h Pursue Federal and State funding for all circulation purposes, including specialized circulation facilities such as public transit, walking, biking, and riding trails as the need for such facilities arises.



Circulation

Policy 6.2.1

Promote Traffic Safety.

Implementing Actions:

- 6.2.1.a If fronting driveways cannot be avoided on a Collector or higher order street, seek design solutions that will allow automobiles to avoid backing out.
- 6.2.1.b Allow only adopted spacing of streets intersecting and traffic signals on any Arterial or higher order street, unless prior actions or unusual circumstances make this infeasible.
- 6.2.1.c Promote increased traffic safety with special attention to hazards that could cause personal injury.
- 6.2.1.d Reserve adequate road and intersection right-of-way to provide for the needs of traffic safety.
- 6.1.1.e Continue as feasible to mitigate or reduce safety hazards and program improvements to congested intersections before they become significant problems.
- 6.2.1.f Monitor traffic conditions on the State Highway system in the Gustine Planning Area and work with Caltrans to implement improvements where needed.
- 6.2.1.g Provide traffic controls at intersections where traffic warrants are satisfied.
- 6.2.1.h Work with Caltrans and MCAG to identify alternatives to upgrade SH 33/140 from the Highway 33/140 intersection to the southern City limits.
- 6.2.1.i Review intersections for signal warrants and investigate the congestion signals generate; identify signalization alternatives in meeting communities best interests.
- 6.2.1.j Require traffic signal installation and/or intersection improvements when development adds significant traffic volumes.
- 6.2.1.k Upgrade existing streets as needed to carry anticipated traffic. Provide extension and connection of existing streets, whenever possible, to improve traffic circulation patterns.
- 6.2.1.l Where traffic congestion occurs or safety equipment access is restricted, prohibit parked vehicle encroachment into the traveled way.

Policy 6.2.2

Minimize Unnecessary Travel Demand on City Streets (DSM).

Implementing Actions:

- 6.2.2.a Promote bus service to and from special events from local parking facilities; charter bus service from the bay area and valley locations should be promoted for special events that are expected to draw large crowds.
- 6.2.2.b Reduce the number of trips to the post office by encouraging the postal service to provide delivery of mail to existing homes and businesses.
- 6.2.2.c Encourage retail stores to provide delivery service and telephone and catalogue shopping services.
- 6.2.2.d Encourage carpooling.
- 6.2.2.e Encourage employers to provide incentives to employees who carpool.
- 6.2.2.f Plan for park-and-ride facilities at strategic locations along SH 33 and 140 in cooperation with Caltrans.
- 6.2.2.g Encourage delivery service to homes and businesses.
- 6.2.2.h Centralize civic services where possible (fire, police, government offices, etc.) to provide easy access from all points in the City.
- 6.2.2.i Work with employers and developers to provide employees and residents with attractive, affordable transportation alternatives.



Policy 6.2.3

Minimize Adverse Impacts on the Environment from Existing and Proposed Road Systems.

Implementing Actions:

- 6.2.3.a Continue working to minimize environmental impacts associated with heavily traveled traffic corridors, such as high noise levels and stop and go traffic situations.
- 6.2.3.b Make a strong commitment to increase the number of people per vehicle so that the existing street system is utilized to its fullest.
- 6.2.3.c Consider ways to encourage employers to reduce impacts upon the existing street system.
- 6.2.3.d Avoid neighborhood street system designs whenever possible that requires a local resident to travel away from a local destination in order to reach it.
- 6.2.3.e Encourage road pattern designs that follow natural land contours and minimize the need for grading.
- 6.2.3.f Maintain and upgrade existing roadways as a priority over City financed new road construction.

Policy 6.2.4

Minimize Street System Impacts on Residential Neighborhoods and Other Sensitive Land Uses.

Implementing Actions:

- 6.2.4.a To the greatest extent feasible, maintain a distinct hierarchy of streets that will provide for major roadways between neighborhoods rather than through neighborhood areas.
- 6.2.4.b Whenever feasible, approve street circulation patterns that discourage exterior traffic from driving through neighborhoods.
- 6.2.4.c Encourage design of local and collector streets within neighborhoods to provide multiple, reasonably direct routes to local neighborhood destinations .
- 6.2.4.d Avoid whenever feasible neighborhood street system designs that make it more convenient for a local resident to use an arterial street to reach an in-neighborhood destination than to remain on the local street system.
- 6.2.4.e Locate Arterial and other higher order streets away from homes, schools and parks.
- 6.2.4.f Require setbacks that will ensure adequate room for street widening and beautification.
- 6.2.4.g Promote street beautification projects including tree planting, sidewalk construction and other street-scape enhancements.
- 6.2.4.h Require street signs that enhance public safety and complement the neighborhood environment.
- 6.2.4.i The City shall designate appropriate truck routes. Industrial and commercial development shall be planned so that truck access through residential areas is minimized.



Circulation

Policy 6.3.1

Support and Enhance the Use of Public Transit.

Implementing Actions:

- 6.3.1.a Promote land development patterns and site design criteria that support and enhance the use of public transit.
- 6.3.1.b Whenever feasible, avoid residential subdivision designs that require pedestrians to duplicate walking distance (double-back) to reach public transit routes.
- 6.3.1.c Work with the consolidated transit system to seek Federal, State, and other funding sources which provide major funding for transit equipment, maintenance, and operation. Support legislation that will provide additional funding.
- 6.3.1.d Support and participate in regional public transit planning
- 6.3.1.e Plan for multi-modal transfer sites that incorporate auto parking areas, bike parking, transit, pedestrian and bicycle paths, and park and ride pick-up points.
- 6.3.1.f Encourage park and ride lots at suitable locations serving long distance and local commuters.
- 6.3.1.g Promote public transit service in the county and region.

Policy 6.3.2

Support a Safe and Effective Public Transit System.

Implementing Actions:

- 6.3.2.a Include public transportation access in the review process for major public and private development projects, as well as all significant land use design proposals considered by the City.
- 6.3.2.b Provide transit stops on major streets.
- 6.3.2.c Avoid whenever possible public transportation transfer points that force passengers to cross major vehicle routes on foot.
- 6.3.2.d Provide off-street passenger loading/unloading at major public transportation destinations (shopping centers, etc.) whenever possible.

Policy 6.4.1

Encourage the Use of Bicycles as Alternative Transportation.

Implementing Actions:

- 6.4.1.a Encourage area employers to promote bicycle use through incentive programs or other means.
- 6.4.1.b Study options and opportunities for extending the off-street trail (pedestrian and bicycle path) system.
- 6.4.1.c Continue to support whenever feasible local efforts to promote cycling.
- 6.4.1.d Seek to involve a cross-section of actual bicycle users in bicycle planning efforts and transportation-related bicycle activities.

**Policy 6.4.2****Provide Convenient Bicycle Support Facilities to Encourage Bicycle Use.***Implementing Actions:*

- 6.4.2.a Develop guidelines for public and private development relating to the design and location of bicycle parking facilities.
- 6.4.2.b Design criteria in the construction of all bicycle trails, lanes and routes (Class I, II, and III bikeways) should conform to the State of California "Planning and Design Criteria for Bikeways in California;" Class I bikeways should have grade separation with all major streets where possible.
- 6.4.2.c Support the placement of bicycle racks on buses and at public places, such as parks and playgrounds and other appropriate public site destinations.
- 6.4.2.d Require future development to construct bikeways included in the proposed system as a condition of development.
- 6.4.2.e Encourage future commercial development to provide bicycle access to surrounding residential areas.
- 6.4.2.f Require future commercial development to place bike racks near entrances for employees and customers.
- 6.4.2.g Meet the requirements of the Americans with Disabilities Act when constructing facilities contained in the proposed system, where applicable.
- 6.4.2.h Encourage future development to consider schools as important destinations for bicyclists when designing circulation systems within new developments.
- 6.4.2.i Provide connections to the proposed system from all existing and future transit facilities, stations, and terminals in Merced County.
- 6.4.2.j Provide support facilities such as bicycle racks, personal lockers, and showers at appropriate locations such as "park and ride" facilities, employment centers, schools, and commercial centers.
- 6.4.2.k Incorporate standard signing and traffic controls as established by Caltrans to ensure a high level of safety for the bicyclist and motorist.
- 6.4.2.l Consider the effect on other transportation facilities such as travel lane widths, turn lanes, on-street parking, and on-site circulation when planning and designing on-street bikeways.



Circulation

Policy 6.4.3

Maintain and Expand the Community's Existing Bicycle Circulation System.

Implementing Actions:

- 6.4.3.a Construct bikeways identified in the Merced County Bikeway Master Plan and provide for the maintenance of both existing and new facilities.
- 6.4.3.b Update City of Gustine roadway design standards to include sufficient pavement sections to accommodate bikeway facilities.
- 6.4.3.c Consider landowner concerns when planning and acquiring off-street bikeway easements.
- 6.4.3.d Coordinate implementation and planning of the Bicycle Transportation Plan with the County of Merced.
- 6.4.3.e Explore available revenue sources for implementing the Bicycle Transportation Plan.
- 6.4.3.c Provide bicycle lanes and sidewalks on new streets and existing streets when improvements are planned.
- 6.4.3.f Provide bicycle lanes or paved shoulders on all new arterial and collector roadway facilities.
- 6.4.3g Prohibit parking on arterial and collectors so that the shoulder of the roadway can be used by cyclists and emergency parking.
- 6.4.3.h On local subdivision streets, limit traffic speeds and volumes to permit the cyclist to use the traffic lane.
- 6.4.3.i Require new development to provide additional roadway widths and/or separate bike paths to accommodate bicycle traffic where shown on the master City Bikeway Plan.

Policy 6.5.1

Maintain a Pedestrian-Friendly Environment.

Implementing Actions:

- 6.5.1.a Retain parkstrip and street tree planting requirements in residential areas.
- 6.5.1.b Locate streetlights, street signs, fire hydrants, and other obstacles so they do not obstruct sidewalks and other pedestrianways.
- 6.5.1.c Continue to require corner curb cuts to accommodate wheelchairs.
- 6.5.7.d Work to maintain safe and convenient streetscape for pedestrians.
- 6.5.1.e Continue to require sidewalks and pedestrianways for subdivisions and other development projects.
- 6.5.1.f Continue to encourage safe and convenient pedestrian environments in the central business district and other major commercial areas that attract a great deal of pedestrian traffic.
- 6.5.1.g Continue to encourage the provision of plazas, malls, arcades, and walk-throughs.
- 6.5.1.h Encourage the planting of shade trees and as a minimum plan for the prospective establishment of rest areas with seating facilities along major pedestrianways .
- 6.5.1.i Continue to review and evaluate possible options for dealing with the issue of incomplete pedestrian access to development projects that will be major pedestrian destinations.

**Policy 6.5.2****Improve Planning for Pedestrians.***Implementing Actions:*

- 6.5.2.a Seek to provide more flexible, more usable pedestrian access opportunities to land uses and land use combinations that are prospective pedestrian destinations (sports club facilities, schools, government facilities, parks, public open space areas, etc.)
- 6.5.2.b Evaluate the future need for sidewalks in business parks and industrially zoned areas.
- 6.5.2.c Continue to review land use and project proposals with the intent to avoid pedestrian barriers that prevent, or create unnecessarily circuitous, access to community and commercial areas.
- 6.5.2.d Identify and develop safe walkways from residential areas to schools and shopping for the convenient use of pedestrians.
- 6.5.2.e Develop a sidewalk plan that will expand the existing sidewalks and identify areas where new sidewalks are needed.
- 6.5.2.f Provide for pedestrian facilities in public service, commercial and multi-family developments.
- 6.5.2.g Subdivision and site plan approvals should be reviewed for location and development of new sidewalk facilities and connections with existing sidewalk facilities.
- 6.5.2.h Develop walkways in commercial centers, including stairways to parking lots when necessary.