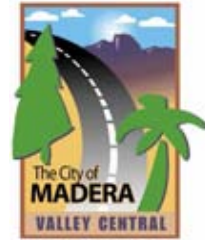


TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES



CHAPTER 4: CIRCULATION AND INFRASTRUCTURE ELEMENT

This Element addresses a broad range of topics related to “infrastructure,” the physical systems of roads, walkways, water lines, etc., that allow Madera to function. Issues in this Element are:

- **Circulation** – Roadways, bicycling, walking, airports, and railways
- **Water** – Domestic water service for homes and businesses
- **Sewer** – Wastewater treatment
- **Solid Waste** – Disposal of waste (household garbage, etc.)

Two additional infrastructure topics are addressed in other Elements:

- **Storm drainage** is covered in the Health and Safety Element (Chapter 6)
- **Parks and Recreation** are addressed in the Parks and Recreation Element (Chapter 10)
- **Schools** are addressed in the Sustainability Element (Chapter 11)

Transportation in Madera

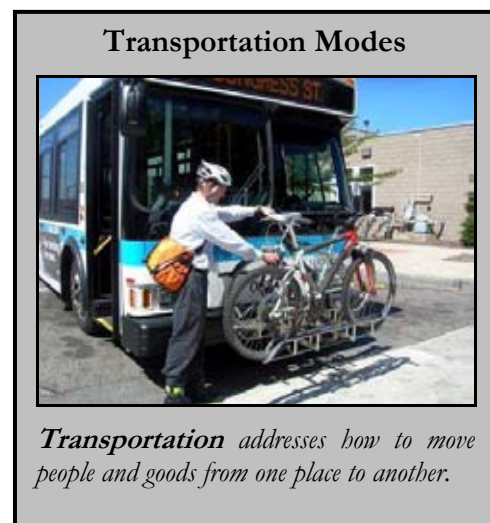
Transportation—the movement of people and goods and the facilities needed to accommodate them (roads, railroads, bicycle routes, sidewalks, public transportation, and airports)—is addressed in this Element of the General Plan. This Element is closely related to the Land Use Element, and the reader is invited to refer to both for a complete picture of the City’s goals and policies related to this important issue.

Vision 2025 described the Madera transportation system that the community seeks to create:

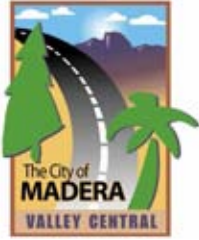
“Madera’s comprehensive transportation system connects local neighborhoods and districts with efficient, affordable mass transit. Madera is a friendly community for pedestrians and bicyclists. There is a well-developed system of walking and bicycle trails throughout the city. Safe, clean and attractive streets accommodate traffic, providing easy access to all parts of the city.”

Major features of Madera’s circulation system include these:

- Madera’s Downtown District has a compact, grid street system that features short block lengths and provides the



Transportation addresses how to move people and goods from one place to another.



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

choice of many routes for motorists, pedestrians, and cyclists.

- State Highway 99 is a key economic and transportation corridor of the San Joaquin Valley.
- State Highway 145 runs both east-west, into the foothills from downtown, and then turns south of the city's downtown toward Fresno.
- Madera Municipal Airport is a general aviation airport that serves personal and business aircraft.
- Two railroad lines run parallel to State Highway 99 through the city. A major freight line passes through the city just east of Hwy 99. A second line, used by freight trains and the Amtrak passenger rail system, passes east of Madera. This eastern line is proposed to be used by the proposed statewide high-speed rail system.

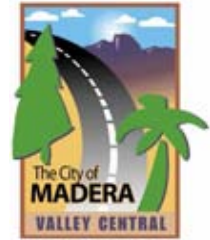
As is the case in region and the nation, most Maderans (more than 90%) travel to work by automobile. Relative few workers in Madera walk or bike to work, but the rate of carpooling (about 23%) is almost twice the national average. Information on how Maderans travel to work is shown in the table below.

Table CI-A: How Maderans Travel to Work

Commuter Mode Choice	City of Madera	Madera County	California	U.S.
Single-Occupant Vehicle	68.2%	73.1%	71.8%	75.7%
Carpool	23.2%	18.1%	14.5%	12.2%
Public Transit	1.5%	0.7%	5.1%	4.7%
Bicycling/Walking	2.6%	2.8%	3.7%	3.3%
Other Means	2.0%	1.0%	1.0%	0.8%
Work at Home	2.5%	4.2%	3.8%	3.3%
Percentage Who Work Outside County	23.6%	31.2%	17.0%	27.0%
Mean Travel Time to Work (minutes)	25.5	26.3	27.7	25.5

Source: US Census, Madera County 2004 Regional Bicycle Transportation Plan

Traffic levels on Madera's roadways are generally acceptable, but there are several areas well-known to Madera drivers where congestion often happens:



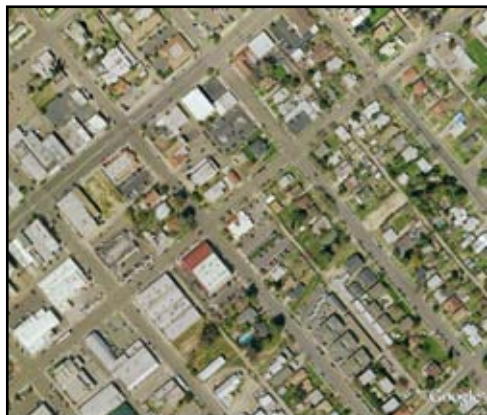
- The Cleveland/Gateway/Country Club intersection east of Hwy 99, where several roadways come together in a complicated intersection (*see photo at right*).
- Gateway Drive between 4th Street and 6th Street.
- Howard Avenue at Pine Street.

Policies and actions in this Element and other parts of the General Plan are aimed at reducing congestion by making it more attractive to walk and bike in Madera.



With a freeway offramp, several roadways, and multiple traffic signals, the Cleveland/Gateway/Country Club intersection is a challenge for motorists.

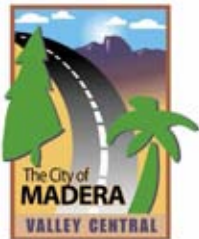
Walking



Walking has always been a part of the transportation system in Madera. Automobiles were not widely available when the city was founded, and for many years the city remained compact enough that the average man could easily walk from one edge of the city to the other. Madera's downtown grid of roadways (*photo at left*) reflects these early days—its short blocks are easy to walk, and the many intersecting roads make it easy to select the best route from point *A* to point *B*.

With the rise in the popularity of the automobile, walking in Madera (and in most cities in the US) began to fall into disfavor. Today, as noted earlier, more than 90 percent of Madera's workers now travel to their jobs in cars; fewer than 2 percent walked to work.

However, walking as an increasingly important part of life in Madera is one of the major facets of the City's goals to become a healthier and more livable place. The Building Blocks concept described in the Land Use Element of this General Plan is built around walkability, and calls for the creation of neighborhoods sized to the walking ability of the average person. This Circulation Element contains numerous policies intended to make walking easier and more acceptable.



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Bicycling



This entrepreneur uses pedal power to travel around Madera selling snacks and cold drinks.

Bicycle use in Madera in 2008, as in most California cities, makes up only a small portion of travel. Less than two percent of workers in Madera use bicycles to commute to work.

Bicycle use is most likely reduced by a relative lack of bicycle facilities (such as on-street bike lanes and off-street trails), but the city's flat topography and relatively compact size (the urban area is only about five miles across, well within the capability of most cyclists to easily ride) combine to create the opportunity for increased bicycle use. At a public workshop in 2008, audience members overwhelmingly favored more bicycle use, and most said they would ride several miles for daily shopping or other needs if there were safe routes to ride.

Increasing bicycle use is part of the City's overall strategy of providing a more healthful, compact city, and this Circulation Element therefore contains policies intended to encourage more bicycling.

Public Transportation



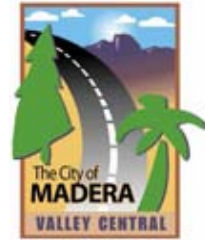
Chowchilla, Fairmead, and communities in eastern Madera County.

The Planning Area is served by three different transit systems:

- Scheduled fixed-route bus service is provided by Madera Area Express (MAX). MAX operates only inside the Madera city limits.
- City-operated dial-a-ride and paratransit service extends throughout most of the Planning Area.
- Madera County operates also the *Madera County Connection*, a fixed-route bus service that connects Madera to Chowchilla, Fairmead, and communities in eastern Madera County.

In addition to these local services, Greyhound bus currently stops in Madera, offering connections to statewide and nationwide destinations.

Despite the availability of these services, use of public transit remains relatively low. The City hopes to increase transit use.



Rail



Madera is fortunate to be served by two railroad lines running roughly parallel to State Highway 99 through the Planning Area. These lines, and the spur line that extends to the industrial area in southwest Madera, help make the City's industrial areas more competitive in the regional market.

- A major freight line passes through the city just east of Hwy 99.
- A second line, carries both freight traffic and Amtrak passenger trains, passes east of Madera and provides a station stop. This eastern line has been proposed to be

used by the high-speed rail system, which would stop near Madera in Fresno.

Although the city once had a traditional train station in the downtown (now remodeled into offices), the relocation of Amtrak service to the eastern freight/passenger tracks with a stop several miles east of the city center makes it less convenient to take the train to Madera.

Airports

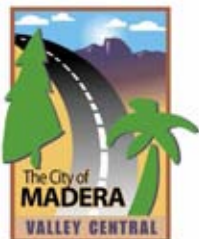


The Madera Municipal Airport is located in the northwest corner of the city. As a general aviation airport it serves personal and business aircraft and is the only public-use airport in the Planning Area.

Madera Airport's main, 5,544-foot-long runway is long enough to serve both propeller and most business jet and turbojet aircraft. A 3,700-foot secondary runway serves mostly agricultural uses (crop dusters). Aviation gasoline and jet fuel is available at the airport.

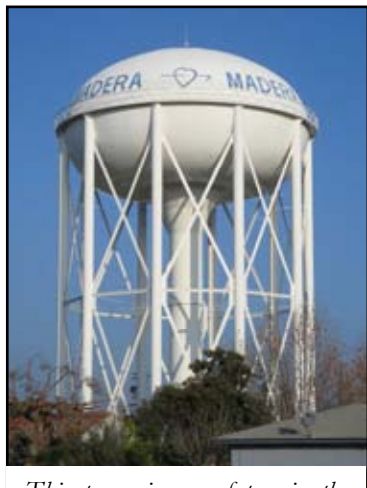
Facilities at the airport include the Terminal/Administration building, hangars for small and large planes, permanent and transient tie-down spaces, three (3) fixed Base Operations (FBO) hangars, and an agricultural aerial application complex.

Madera Airport does not offer regular passenger service. The closest available service is at Fresno Airport, about 30 miles south of Madera. Passengers can fly to statewide, nationwide, and international destinations from Fresno Airport.



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Water and Sewer



This tower is one of two in the City's water system.

The Water and Sewer Division of the City of Madera Public Works Department is divided into three areas: Water Maintenance Division, Water Quality Division and Sewer Maintenance Division, which provide for the maintenance and operation of the City's water system and sanitary sewer collection system.

The City's Water Division is responsible for 16 groundwater wells (with another new well under construction as of 2008), the Loy E. Cook 1-million gallon water storage tower, and more than 200 miles of water distribution pipe lines.

The Sewer Division maintains approximately 140 miles of sanitary sewer mains in a system that includes five sewer lift pump stations and main pipe lines ranging in size from 6" to 48". The Wastewater Treatment Plant is the regional facility for disposal of waste water. The treatment plant handles waste water and sewage from approximately 10,000 residential, commercial and industrial accounts.

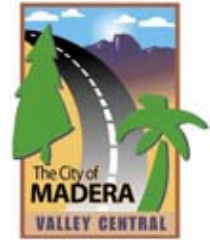
Solid Waste



City of Madera Solid Waste Division provides all residential customers with solid waste and greenwaste services. There are several recycling companies in Madera that accept beverage containers and other recyclables. The City also recently (2008) launched a "blue can" curbside recycling system, making it easier for Maderans to recycle paper, bottles, cans, and other recyclables.

Computer monitors and television sets containing hazardous waste is accepted at the Fairmead Landfill in Chowchilla. The landfill also accepts many recyclables free of charge, and some at reduced rates.

There are several locations in Madera County to recycle used motor oil and filters.

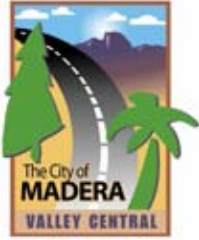


Storm Drainage

For information and policies related to storm drainage and flooding, please see the Health and Safety Element of this General Plan (Chapter 6).

Schools

Issues related to schools in Madera are addressed in the Sustainability Element of this General Plan (Chapter 11).

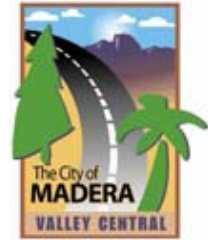


CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Circulation and Infrastructure Goals

- Goal 1:** Quality infrastructure that meets the needs of the community at the time it is needed.
- Goal 2:** Provide sufficient long-term solid waste disposal capacity for the City.
- Goal 3:** A roadway system that accommodates land uses at the City's desired level of service, provides multiple options for travel routes, protects residential areas from excessive traffic, coexists with other travel modes, and contributes to the quality of the City's residential, commercial, office, and industrial areas.
- Goal 4:** An extensive, complete, smooth, interconnected, and continuous pedestrian and bicycle network that is a safe and attractive option for local or regional trips or recreation and that connects to the City's neighborhoods, parks and schools, employment areas, and retail centers.
- Goal 5:** A viable transit system that connects all parts of the City and links with regional destinations.
- Goal 6:** A transportation system that assists in the City's goals for reducing air pollution and the generation of greenhouse gases.

Note to the Reader: Please see also the Health and Safety Element, the Parks and Recreation Element, and the Sustainability Element for additional goals and policies that affect physical systems and services in Madera.



Circulation Policies

Circulation Master Plan/Roadway Classifications

Policy CI-1: Figure CI-1 shows the Circulation Master Plan of the City of Madera. The City will implement this Master Plan through implementation of the policies contained in this and other Elements of the Madera General Plan.

Action Item CI-1.1: Require the dedication of right of way and the installation of roadway improvements as part of the review and approval of development projects.

Policy CI-2: The following are general descriptions of the roadway types shown on the Circulation Master Plan:

Freeways: Limited-access facilities designed for high speed regional mobility. Freeways may include up to eight lanes (four lanes in each direction).

Arterial: Streets which provide the principle network for traffic flow in the community, connecting areas of major activity to each other and to state highways and important County roads. Arterials will generally include up to four lanes (two in each direction)¹, although total widths of six lanes may be appropriate in some locations. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.²

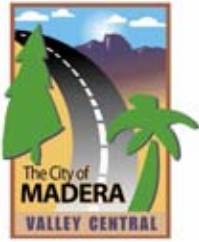
Madera Loop: This is a system of arterial streets intended to provide for easy intra-city travel. The arterials on the Madera Loop will generally be up to four lanes wide (two in each direction). To reduce traffic interruptions and improve safety, direct access to the Madera Loop is generally not permitted.

Collector: Streets which provide access and movement between residential, commercial, and industrial areas. The primary function of collector streets is to collect and distribute traffic between local streets and the arterial roadway system. Roadway widths of up to four lanes. To reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Local/Branch Collector: Streets which collect traffic from Minor Streets and feed into the Collector and Arterial system. Design speeds are lower than for Collector roadways (potentially through the use of meanders, roundabouts, narrower road sections, etc.). To

¹ Left- or right-turn lanes or median turn lanes do not count toward the lane totals defined in Policy CI-2.

² Note: Hwy 145 in Madera currently (2008) functions as an arterial roadway.



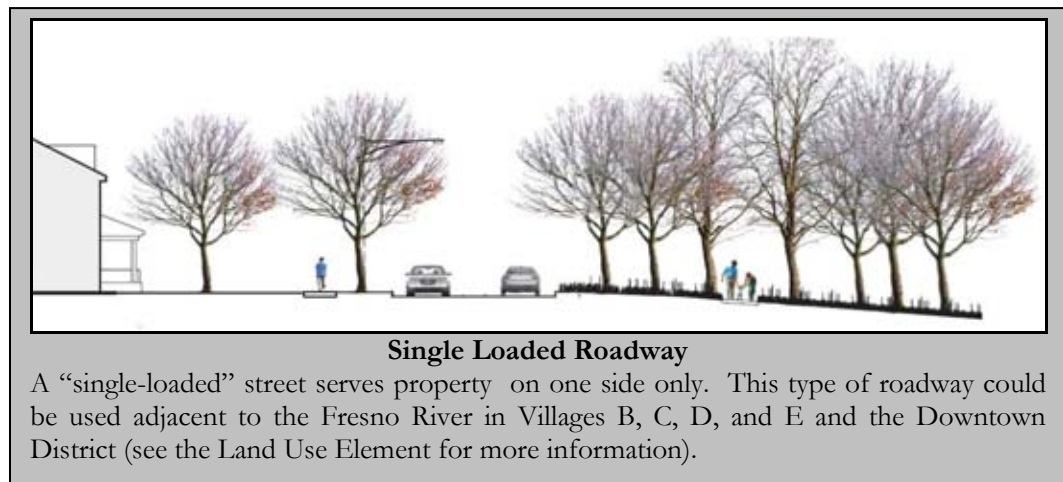
CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

reduce traffic interruptions and improve safety, direct access via driveways is generally not permitted.

Minor Streets: Roadways which provide access to individual homes and businesses. Minor streets have one lane in each direction. Minor streets are shown on the Circulation Map for informational purposes only; the General Plan does not define the desired alignments of minor streets.

Action Item CI-2.1: The City shall maintain and implement standards defining details for each roadway type (overall right of way width, lane widths, etc.).

Policy CI-3: The City shall seek to locate arterials or other major roadways, including the Madera Loop, inside the edge of the City's desired urban growth area. These roadways shall be designed to serve development on both sides, rather than be constructed as a single-loaded road on the edge of the urban area.



Note to the Reader: Please see the Land Use Element for policies related to the Urban Growth area.

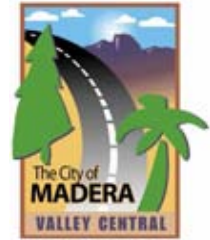
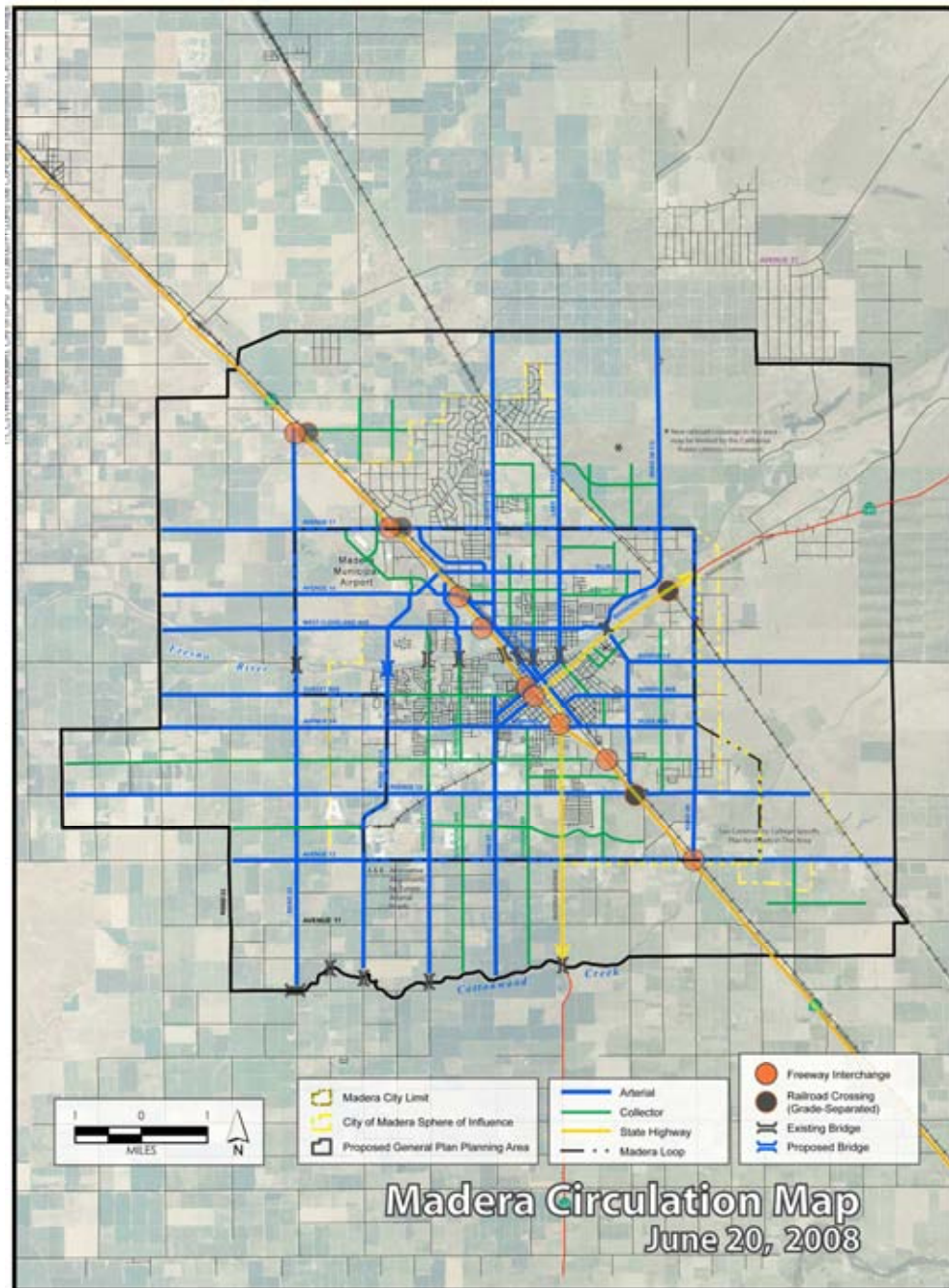
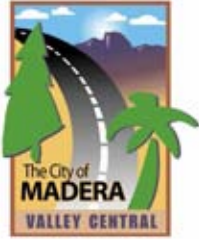


Figure CI-#: Circulation Master Plan





CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Roadway Implementation Policies

Policy CI-4: The City shall require the dedication of major road rights of way (arterials and collectors) at the earliest opportunity in the development process in order to implement the Roadway Master Plan.

Policy CI-5: The City shall protect future right-of-way needed for arterial and collector streets from encroachment by development or other incompatible uses or structures.

Policy CI-6: Priority will be given to upgrades on those streets where any of the following exist:

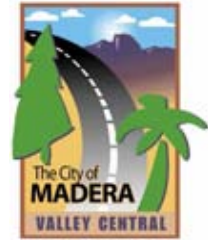
- High current and projected traffic volumes are involved;
- Joint funding is possible;
- Significant contributions of private or assessment district funds are involved as part of the cost of developing adjacent lands; or
- Where the rate of serious accidents has been high and where hazards to public safety are great.
- Where circulation improvements can help stimulate economic growth consistent with this General Plan.

Policy CI-7: The City will work cooperatively with Caltrans to implement improvements to the state highway system in Madera.

Policy CI-8: Maintain a high level of coordination with the County of Madera and Caltrans, through the Madera County Transportation Commission, in implementing the Roadway Master Plan. The City will participate in the planning of regional roadway and transportation facilities, particularly those that indirectly or directly affect Madera.

Policy CI-9: Development projects shall be required to provide funding or to construct roadway/intersection improvements to implement the City's Circulation Master Plan. The payment of established traffic impact or similar fees shall be considered to provide compliance with the requirements of this policy with regard to those facilities included in the fee program, provided that the City finds that the fee adequately funds all required roadway and intersection improvements. If payment of established fees is used to provide compliance with this policy, the City may also require the payment of additional fees if necessary to cover the fair share cost of facilities not included in the fee program.

Policy CI-10: Where a development project is required to perform new roadway construction or road widening, the developer shall be required to build all on-site portions of the roadway and, if needed for public safety, additional off-site improvements. The developer shall also provide facilities adequate to ensure pedestrian safety as determined by the City Engineer.



Policy CI-11: New development shall provide funding acceptable to the City for the construction and permanent maintenance of all roadway facilities. Potential funding mechanisms may include assessment districts, utility districts, or other methods.

Roadway Design Policies

General Design Policies

Policy CI-12: “Right-of-way” shall be defined as including the full paved roadway, landscape strip, utility easements, bicycle/pedestrian pathway/trail, and potential transit travel lanes along public roadways.

Action Item CI-12.1: Update the City’s Public Works standards to implement Policy CI-12.

Policy CI-13: To the extent possible, major traffic routes for residential areas should be separate from those used by the city’s industrial areas, with the purpose of avoiding traffic conflicts and potential safety problems.

Policy CI-14: Residential areas should not access the collector or arterial system via a route that passes through an industrial area.

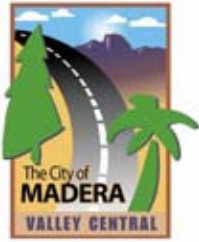
Policy CI-15: Left turn lanes into commercial centers shall be provided only where necessary for traffic safety.

Action Item CI-15.1: Establish a threshold for use in implementing Policy CI-15.

Policy CI-16: Shared driveways, driveway consolidation, reciprocal access easements, and cross access easements to commercial centers shall be required along arterials and collector roads in new development projects and in the redevelopment or redesign of existing development to minimize traffic hazards associated with driveways and curb cuts.

Policy CI-17: Direct access from a residential lot onto an arterial, collector, or local/branch collector is allowed only where there is no feasible alternative. Backout driveways onto arterial, collector, and local/branch collector streets are prohibited even if access is allowed.

Policy CI-18: The City may consider roundabouts as an alternative to stop-sign control or traffic signals where applicable.



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Minor Streets

Policy CI-19: To keep Minor street volume within design capacity, street length (not block length) shall be kept under 1,600 feet or two blocks where possible unless interrupted by an arterial or collector street.

Policy CI-20: Curb, gutter, sidewalk and paving needs along minor streets shall be the responsibility of affected property owners. The City will assume responsibility for engineering services and additional costs occasioned by higher standards of street construction and drainage than were involved at the time of original street construction. As an alternative, the City will consider sharing equally in total costs where a majority of property owners are willing to accept assessment proceedings or another appropriate method of collective project financing.

Level of Service

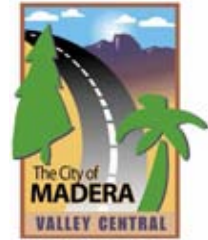
Policy CI-21: The City shall seek to maintain Level of Service (LOS) C at all times on all roadways and intersections in Madera, with the following exceptions:

- a) On arterial roadways or roadways with at-grade railroad crossings that were experiencing congestion exceeding LOS C during peak hour travel times as of the date this General Plan Update is adopted the City shall seek to maintain LOS D or better.
- b) This policy does not extend to freeways (where Caltrans policies apply) or to private roadways.
- c) In the Downtown District (as defined in the Land Use Element of this General Plan), the City shall seek to maintain LOS D.
- d) The City recognizes that Level of Service C may not be achieved on some roadway segments, and may also not be achieved at some intersections. The roadways and intersections where LOS C is already exceeded are listed below with their current level of service (based on the traffic analysis by Fehr & Peers conducted as part of this General Plan update). The City shall ensure that improvements to construct the ultimate roadway system as shown

Traffic Terms

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

- **Volume** refers to the number of cars on a roadway, usually measured either on an average day or during a **peak hour**
- **Peak hour** refers to the times of day at which traffic is heaviest—usually the morning or evening “rush hour.” Most roadways are analyzed and then built to carry the traffic load projected for the peak hours.
- **Capacity** refers to the maximum number of vehicles that can be carried by a roadway.
- **Level of Service (LOS)** is a measure of how well a roadway is able to carry traffic. LOS is often expressed as a ratio between volume and capacity. LOS is usually designated with a letter grade A-F. LOS “A” is best; “F” is worst.



in this Circulation Element and other system wide improvements are completed to ensure that further degradation of the level of service does not occur at these locations.

- Roadway 1/LOS X
- Roadway 2/LOS X
- Etc.

Action Item CI-21.1: Consider, during the review of proposed development projects, how to shift travel demand away from the peak period, especially in those situations where peak traffic problems result from a few major generators (e.g. outlying employment locations).

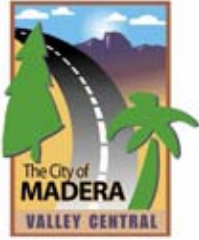
Action Item CI-21.2: Perform routine, ongoing evaluation of the efficiency of the urban street traffic control system, with emphasis on traffic signal timing, phasing and coordination to optimize traffic flow along arterial corridors. Use traffic control systems to balance arterial street utilization (e.g., timing and phasing for turn movements, peak period and off-peak signal timing plans).

Policy CI-22: Projects contributing traffic to the roadways listed in Policy C-21 may be required to fund system wide traffic improvements, including cumulative traffic mitigation at off-site locations (as applicable), and to assist in promoting non-vehicular transportation as a condition of project approval.

Grid Street System

Policy CI-23: The City shall seek to use a modified grid system for the roadway network, particularly in new development. The City defines a “modified grid” road system as follows:

- The roadway system shall have a system of arterial roadways in the form of a grid of arterials that will distribute traffic evenly and will avoid excessive concentrations of traffic in any given area.
- Arterials should be generally spaced at one (1) mile increments and collector roads generally at one half (1/2) mile increments.
- Collector and smaller roadways shall be designed to encourage access to retail centers from residential areas.
- Residential blocks shall be designed to limit traffic speeds and encourage pedestrian and bicycle safety through the design of the roadways or the use traffic calming measures (such as narrower streets).



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

- The grid system may be modified as necessary to adjust for topography, existing development, and other factors as deemed appropriate by the City.

Parking

Policy CI-24: Parking for all uses shall be provided on-site and shall not require the use of parking spaces in the right of way of a public or private street to provide required parking. The following are exceptions to this policy:

- In the Downtown District, where limited space is available for off-street parking, a portion of required parking may be provided on-street
- Parking for non-standard uses (that is, those requiring either more or less parking than typical uses) may be determined and imposed on a case-by-case basis.

Action Item CI-24.1: Include a parking standard allowing the use of on-street parking in the Downtown District in either the Zoning Code or any future Downtown Plan.

Note to the Reader: Please see the Land Use Element for a map and discussion of the Downtown District.

Note to the Reader: Please see the Community Design Element for policies related to the design of parking areas.

Policy CI-25: Providing more than the required amount of parking shall be allowed only when the City determines that there is a demonstrated need for additional parking.

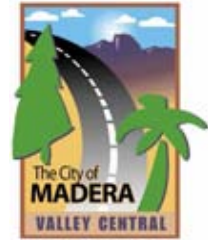
Mobility and Alternative Modes of Transportation

Policy CI-26: The City shall encourage pedestrian circulation and access around the City and at the neighborhood level through the design of roadways and pedestrian facilities.

Policy CI-27: New development areas shall include pedestrian and bicycle facilities and connections to public transit systems, commercial centers, schools, employment centers, community centers, parks, senior centers and residences, and high-density residential areas.

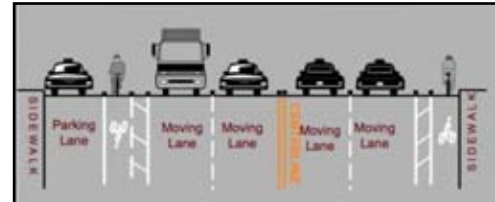
Policy CI-28: The City shall create a connected system of on- and off-street trails and paths for pedestrians and bicycles throughout Madera in both existing and new development areas, with a focus on on-street bike trails on collector roads, and off-street trails in parkways and along the Fresno River and other creeks.

Policy CI-29: Where it deems appropriate, the City may require the dedication of additional right of way to accommodate pedestrian, bicycle, light rail, additional travel lanes, safety or efficiency-related improvements, or other similar uses.



Policy CI-30: The City’s roadway cross-sections shall incorporate “complete streets” concepts and be designed to safely accommodate vehicles, cyclists, pedestrians, diverse and disabled users, and transit. “Complete streets” are defined as streets that are designed for a variety of users rather than having a focus on the automobile.

Action Item CI-30.1: Develop “Complete Street” standards for new arterial, collector, and minor street construction. “Complete street” standards should include options for narrower travel way widths (on existing streets only, where needed to fit all uses into the existing right of way) and curb return radii, bike lanes, landscape strips, sidewalks that compliment adjacent land uses, bus turnouts, and similar features.



A “complete street” accommodates pedestrians (on the sidewalk), bicyclists (in an onstreet designated lane) and motorists. In the example above, additional space is provided between cyclists and motorists to improve safety.

Policy CI-31: To maintain walkability and pedestrian safety, the City shall consider roadway width and roadway design features such as islands, pedestrian refuges, count down timers, and other such mechanisms. This policy applies to new roadway construction and existing roadways where pedestrian hazards may occur due to roadway design or width.

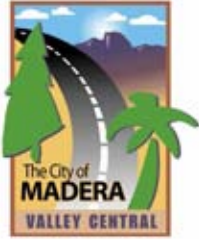
Action Item CI-31.1: Update the City’s standards and specifications to include the items in Policy CI-31.

Policy CI-32: The needs of pedestrians and bicyclists shall be routinely considered and, where practical, accommodated in all roadway construction and renovation projects.

Policy CI-33: Where sufficient right-of-way is available, bicycle lanes should be added to City roadways when repaving or upgrading of the roadway occurs, provided that the bicycle facility would implement the City’s Bicycle Master Plan. The City shall encourage Caltrans to follow these same guidelines on state highways in Madera.

Action Item CI-33.1: The City shall implement the Bicycle Master Plan through repaving, restriping, providing additional paving for bicycle lanes, or other methods as appropriate.

Policy CI-34: The City shall encourage grade-separated crossings or enhanced atgrade crossings where Class I bicycle facilities intersect arterial roadways at key locations to maximize the safety and attractiveness of bicycling and walking routes. Underpasses are preferable to overpasses in new development areas.



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

Policy CI-35: The City shall encourage an increase in bicycle ridership and pedestrian trips over automobile traffic, as a way to improve traffic safety, air quality and the health of Madera residents.

Policy CI-36: The City encourages the use of ridesharing and other Transportation Demand Management (TDM) tactics for reducing area traffic congestion and improving air quality.

Railroads

Policy CI-37: The City supports the development of the statewide high speed rail system.

Action Item CI-37.1: The City will work with state and local agencies to ensure easy access from the Fresno high speed rail station to Madera.

Policy CI-38: The City supports the timely extension of rail service to the Industrial area east of Hwy 99 to provide an incentive to development in this area.

Note to the Reader: Please see the Health and Safety Element for policies related to safety at at-grade rail crossings.

Airports

Policy CI-39: The City supports Madera Airport in its role as an important part of the local commercial economy.

Note to the Reader: Please see the Health and Safety Element for policies related to airport safety and land uses near the airport.

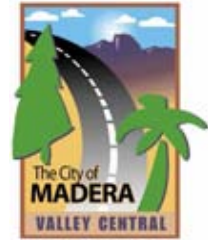
Other Transportation Policies

Policy CI-40: Circulation planning for all modes of travel (vehicle, transit, bicycle, pedestrian, etc.) shall be coordinated with efforts to reduce air pollution and greenhouse gases.

Note to the Reader: Please see the Conservation and Sustainability elements for additional policies related to energy efficiency, air pollution, and greenhouse gases.

Policy CI-41: The City's desire is that Highway 145 in Madera function as a traditional arterial roadway without impacting adjacent uses (particularly in the Downtown District) with excessive traffic levels or restrictive landscaping standards.

Action Item CI-41.1: The City will work with Caltrans to determine the best method to implement Policy CI-41. This may include relocating Highway 145, providing additional control to the City with regard to roadway design and/or operation, or some other method.



Action Item CI-41.2: In conjunction with Policy CI-41, the City shall determine the best roadway design for downtown. If Highway 145 is rerouted outside of downtown, the City may consider reducing the number of travel lanes through the downtown to two lanes and increasing the width of the pedestrian corridor, including amenities and landscaping along roadways in the downtown.

Infrastructure Policies

General Infrastructure Policies

Policy CI-42: Public facilities should be phased in a logical manner which avoids “leapfrog” development and encourages the orderly development of roadways, water and sewer, and other public facilities. The City shall not provide public financing or assistance for projects that do not comply with the planned phasing of public facilities.

Policy CI-43: The City will assist developers seek reimbursement for later developments for the construction cost of facilities which are consistent with this General Plan and with the City’s master plans.

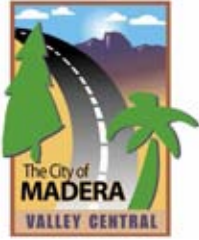
Policy CI-44: Interim facilities may be used only if specifically approved by the City Council. No City funds will be used to construct interim facilities.

Policy CI-45: Require that all major development projects prepare a Public Facilities Financing Plan (PFFP) that articulates infrastructure and public facilities requirements and costs and funding mechanisms.

Policy CI-46: The City Council may impose limits on the total amount of development demonstrated to be out of compliance when such development, in aggregate, has or is forecast to exceed Threshold Standards or otherwise negatively affect quality of life and public health, safety, or welfare of the City.

Policy CI-47: The City shall require secure financing for all components of the transportation system through the use of special taxes, assessment districts, developer dedications, or other appropriate mechanisms in order to provide for the completion of required major public facilities at their full planned widths or capacities in one phase. For the purposes of this policy, “major” facilities shall include the following:

- Any roadway of a collector size or above, including any roadway shown on the Circulation Plan in this General Plan
- Wells, water transmission lines, treatment facilities, and storage tanks
- All sewer trunk and interceptor lines and treatment plants or treatment plant capacity



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

- Reclaimed water distribution lines
- Ongoing maintenance

The City shall use its financial capacity to facilitate implementation of this policy if necessary, including, but not limited to:

- Issuing bonds or other forms of municipal financing as appropriate
- Using City funds directly, with repayment from future development fees
- Creating special assessment districts, Mello-Roos Community Facility Districts, etc.
- Fee programs
- Developer financing

Policy CI-48: Except when prohibited by state law, the City shall require that sufficient capacity in all public services and facilities will be available on time to maintain desired service levels and avoid capacity shortages, traffic congestion, or other negative effects on safety and quality of life.

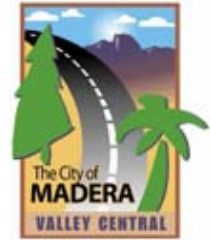
Water Service Policies

Policy CI-49: Water supply and delivery systems shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

Action Item CI-49.1: The following shall be required for all development projects, excluding subdivisions:

- An assured water supply and delivery system shall be available at the time of project approval. If a choice of alternative methods of supply and/or delivery is selected, each shall be capable individually of providing water to the project.
- All required water infrastructure for the project shall be in place at the time of project approval, or shall be assured through the use of bonds or other sureties to the City's satisfaction. Water infrastructure may be phased to coincide with the phased development of large-scale projects.

Action Item CI-49.2: The following shall be required for all subdivisions to the extent permitted by state law:



- Proposed water supply and delivery systems shall be identified at the time of tentative map approval to the satisfaction of the City. Alternative methods of supply and/or delivery may be proposed, provided that each is capable individually of providing water to the project.
- Prior to the approval of the Final Map by the City, sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects in the same service area, and other projects which have received commitments for water service.
- Offsite and onsite water infrastructure sufficient to provide adequate water to the subdivision shall be in place prior to the approval of the Final Map or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
- Offsite and onsite water distribution systems required to serve the subdivision shall be in place and contain water at sufficient quantity and pressure prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

Note to the Reader: Please see the Conservation Element for additional policies related to water conservation.

Policy CI-50: The City supports the use of reclaimed water for irrigation wherever feasible.

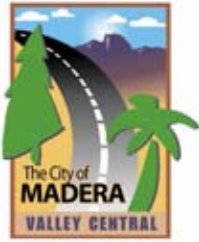
Policy CI-51: The City shall seek to protect the quality and quantity of groundwater resources, including those which serve households and businesses which rely on private wells.

Policy CI-52: The City shall require that water flow and pressure be provided at sufficient levels to meet domestic, commercial, industrial, and firefighting needs.

Sewer Service Policies

Policy CI-53: Sewage conveyance and treatment capacity shall be available in time to meet the demand created by new development, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

Action Item CI-53.1: The following shall be required for all development projects, excluding subdivisions:



CHAPTER 4: CIRCULATION & INFRASTRUCTURE ELEMENT

- Sewer/wastewater treatment capacity shall be available at the time of project approval.
- All required sewer/wastewater infrastructure for the project shall be in place at the time of project approval, or shall be assured through the use of bonds or other sureties to the City's satisfaction.

Action Item CI-53.2: The following shall be required for all subdivisions to the extent permitted by state law:

- Sewage/wastewater treatment capacity shall be available at the time of tentative map approval.
- Sewer service to the subdivision shall be demonstrated prior to the approval of the Final Map by the City. Sufficient capacity shall be available to accommodate the subdivision plus existing development, and other approved projects using the same conveyance lines, and projects which have received sewage treatment capacity commitment.
- Onsite and offsite sewage conveyance systems required to serve the subdivision shall be in place prior to the approval of the Final Map, or their financing shall be assured to the satisfaction of the City, consistent with the requirements of the Subdivision Map Act.
- Sewage conveyance systems inside the subdivision shall be in place and connected to the sewage disposal system prior to the issuance of any building permits. Model homes may be exempted from this policy as determined appropriate by the City, and subject to approval by the City.

Action Item CI-53.3: Continually monitor wastewater flows and anticipate future wastewater increases that may result from changes in adopted land use patterns.

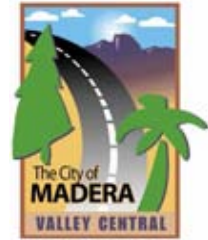
Policy CI-54: Development along corridors identified as locations of future sewerage conveyance facilities shall incorporate appropriate easements as a condition of approval.

Policy CI-55: The City shall strongly discourage the extension of sewer service into any area outside the Urban Growth Boundary shown on the Land Use Policy Map. This policy shall not be construed to limit the ability of any agency to construct sewer lines whose only purpose is to carry sewage from other areas and which cannot be connected to in the area outside the Urban Growth Boundary.

Policy CI-56: Independent community sewer systems may not be established for new development.

Solid Waste Policies

Policy CI-57: The City will promote solid waste source reduction, reuse, recycling, composting and environmentally-safe transformation of waste. The City will seek to comply with the



requirements of AB 939 with regard to meeting state-mandated targets for reductions in the amount of solid waste generated in Madera.

Action Item CI-57.1: The City shall provide information to businesses and residents on available options to implement waste reduction targets. Other actions may include:

- Actively promoting a comprehensive, consistent, and effective recycled materials procurement effort among other governmental agencies and local businesses.
- Encouraging all companies that do business in Madera to recycle and reuse construction scraps, demolition materials, concrete, industrial waste, and green waste.

Policy CI-58: The City itself will be a leader in promoting waste reduction and recycling through a variety of means when feasible, including:

- Adopting requirements for the use of recycled base materials (e.g., recycled raw batch materials, rubberized asphalt from recycled tires, and other appropriate materials), if practicable, in requests for bids for public roadway construction projects.
- Procurement policies and procedures, which facilitate purchase of recycled, recyclable, or reusable products and materials where feasible.
- Requiring contractors to provide products and services to the City, including printing services, demonstrating that they will comply with the City's recycled materials policies.

Policy CI-59: The City supports efforts to provide solid waste resource recovery facilities and household hazardous waste collection facilities convenient to residences, businesses, and industries.