

5 Circulation

The Circulation Element provides a framework to guide the growth of Turlock’s transportation-related infrastructure over the next 20 years. A safe and efficient transportation network is an important contributor to a community’s quality of life and economic vitality. The circulation system provides access to employment and educational opportunities, public services, commercial and recreational centers, and regional destinations. It provides for travel by automobile, transit, walking, and cycling; and it integrates the needs of railway and truck transport as well as aviation.

State law recognizes the close relationship between transportation and land use and requires that policies for the two topics are related and mutually beneficial. By integrating transportation policies with land use, the General Plan ensures that there will be sufficient roadway capacity to accommodate traffic generated by future planned development. Additionally, by integrating transportation and land use planning so that a greater percentage of short trips can be accomplished by walking, cycling, or transit, the city can also reduce the air quality impacts and greenhouse gas emissions associated with automobile use.

Turlock’s Circulation Element also responds directly to the new State requirement of planning for “Complete Streets.” In response to Assembly Bill 1358, the California Complete Streets Act, all cities and counties are required to plan for the development of multimodal transportation networks in their general plans beginning in January 2011. According to the guidelines, jurisdictions must “plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.”¹ The “users of streets, roads, and highways” refers to bicyclists, pedestrians, children, motorists, persons with disabilities, the elderly, users of public transportation, and commercial goods movers. This plan focuses on strengthening Turlock’s multimodal roadway network in new growth areas as well as improving mobility opportunities within existing areas of the city as well.



The Circulation Element guides the development of ‘Complete Streets,’ which meet the travel needs of all users.

¹ California Government Code Section 65302(b)(2).

The transportation planning and policy set forth in the Circulation Element is a critical component of Turlock's responsibility toward meeting the requirements of SB 375, the Sustainable Communities and Climate Protection Act of 2008. SB 375 requires that MPOs in California prepare a Sustainable Communities Strategy (SCS) for meeting their greenhouse gas reduction targets, through coordinating planning for land use, transportation, and housing. While the SCS is a regional plan, thoughtful land use and transportation planning in Turlock is essential to the larger effort.

Similarly, fourteen cities and eight counties across the San Joaquin Valley have formed the Smart Valley Places Partnership to address sustainable growth and development in the area. Each participating jurisdiction is engaged in individual supporting planning projects to complement the overall regional effort; in Turlock, that is the General Plan Update, Downtown Design Guidelines and Zoning Ordinance Update. The Circulation Element supports the HUD-EPA-DOT Livability Principles, adopted by the Partnership. These principles are:

- Provide more transportation choices;
- Promote equitable, affordable housing;
- Enhance economic competitiveness;
- Support existing communities;
- Coordinate and leverage policies and investment; and
- Value communities and neighborhoods.

This Element sets forth a circulation plan that strengthens Turlock's transportation network, provides more choice of travel modes, identifies needed improvements in both new and existing parts of the city, and works in tandem with land use changes.

5.1 TRAVEL TRENDS

The U.S. Census provides data on Journey to Work that indicates the travel mode to and from work for Turlock residents and nonresident employees. These data, reported in the 1990 Census, 2000 Census, and 2006-2008 American Community Survey, show some shifts in commuting behavior and travel choices.

Table 5-1 shows that currently around 80 percent of Turlock workers (aged 16 and over) drive alone to work. This percentage has remained relatively constant since 1990. Just over 10 percent carpool, over four percent work at home, fewer than three percent walk, 1.2 percent bicycle, and less than one percent each take public transportation, taxicab or motorcycle. The most notable change over time has been the percentage of workers who work from home. While these workers make up only 4.2 percent of the working population in Turlock, their numbers have seen the greatest growth over time: a 77 percent increase from 1990 to 2000, and a 109 percent increase from 2000 to 2008.



The majority (80 percent) of workers in Turlock drive alone to their jobs. Nearly 11 percent carpool.

TABLE 5-1: MEANS OF TRANSPORTATION TO WORK						
MEANS OF TRANSPORTATION AND CARPOOLING	2008 ¹		2000 ²		1990 ³	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Workers 16 and over:	29,791	100.0%	21,764	100.0%	17,456	100.0%
Car, truck, or van	27,153	91.1%	19,989	91.8%	16,116	92.3%
Drove alone	23,923	80.3%	17,275	79.4%	13,876	79.5%
Carpooled	3,230	10.8%	2,714	12.5%	2,240	12.8%
In 2-person carpool	2,530	8.5%	1,903	8.7%		
In 3-person carpool	461	1.5%	487	2.2%		
In 4-or-more person carpool	239	0.8%	324	1.5%		
Public transportation	110	0.3%	110	0.5%	80	0.5%
Taxicab, motorcycle, or other means	204	0.6%	175	0.8%	122	0.7%
Bicycle	350	1.2%	232	1.1%	221	1.3%
Walked	726	2.4%	660	3.0%	580	3.3%
Worked at home	1,248	4.2%	598	2.7%	337	1.9%

Sources:

1. U.S. Census Bureau, 2006-2008 American Community Survey
2. U.S. Census Bureau, Census 2000 Summary File 3, Matrices P30, P31, P33, P34, and P35.
3. U.S. Bureau of the Census, 1990 Census of Population and Housing

Table 5-2 shows commute travel time survey results for 2008, 2000, and 1990. About 41 percent of commuters currently travel less than 15 minutes to work, and about 72 percent of workers commute under 30 minutes. Mean travel time to work increased by about three minutes from 1990 to 2000, but only increased by half a minute from 2000 to 2008. As discussed in the Economic Development section, much of Turlock’s employment is in local services; relatively short commute times are indicative of the dominance of local job centers. Commutes over 30 minutes likely indicate travel to regional employment hubs in Merced, Modesto, or Stockton.

Table 5-3 presents City of Turlock commuter choices and statistics against averages for the State of California. City commuters chose to carpool slightly less, on average, than the State mean. Public transportation use, however, is significantly lower than the State mean. Turlock’s traditionally low density land use pattern is largely responsible for limited transit use; however, policies in this General Plan aim to move the city towards a more compact, transit-supportive urban form. Travel times for commuters are also shorter on average than the State mean, despite there being more workers commuting out of County for jobs than on a statewide basis.

TABLE 5-2: TRAVEL TIME TO WORK						
TRAVEL TIME TO WORK	2008 ¹		2000 ²		1990 ³	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
Workers who did not work at home:	28,543	100.0%	21,166	100.0%	17,119	100.0%
Less than 10 minutes	7,174	25.1%	5,176	24.5%	5,065	29.6%
10 to 14 minutes	4,555	16.0%	4,040	19.1%	3,317	19.4%
15 to 19 minutes	3,960	13.9%	2,682	12.7%	2,102	12.3%
20 to 24 minutes	3,102	10.9%	2,975	14.1%	2,184	12.8%
25 to 29 minutes	1,778	6.2%	1,333	6.3%	806	4.7%
30 to 34 minutes	3,490	12.2%	2,040	9.6%	1,717	10.0%
35 to 44 minutes	1,208	4.2%	671	3.2%	478	2.8%
45 to 59 minutes	1,359	4.8%	862	4.1%	701	4.1%
60 or more minutes	1,917	6.7%	1,387	6.6%	749	4.4%
Walked	726	2.4%	660	3.0%	580	3.3%
Mean travel time to work (minutes)	22.7		22.2		19.0	

Sources:

1. U.S. Census Bureau, 2006-2008 American Community Survey
2. U.S. Census Bureau, Census 2000 Summary File 3, Matrices P30, P31, P33, P34, and P35.
3. U.S. Bureau of the Census, 1990 Census of Population and Housing

TABLE 5-3: CITY AND STATE COMMUTER STATISTICS				
GEOGRAPHIC AREA	WORKERS 16 YEARS AND OLDER			
	PERCENT IN CARPOOLS	PERCENT USING PUBLIC TRANSPORTATION	WHO DID NOT WORK AT HOME – MEAN TRAVEL TIME TO WORK (MINUTES)	PERCENT WORKED OUTSIDE COUNTY OF RESIDENCE
California	12.0	5.2	27.0	17.2
Turlock	10.8	0.3	22.7	18.3

Source: U.S. Census Bureau, 2006-2008 American Community Survey

5.2 ROADWAY NETWORK, STANDARDS, AND IMPROVEMENTS

Generally, Turlock’s roadway network follows a cardinal grid system, with several notable exceptions. The oldest parts of town—Downtown and its immediate surroundings—have a tighter grid pattern that is parallel and perpendicular to the railroad, which runs from the northwest to the southeast. The railroad, Golden State Boulevard, and State Route 99 all run diagonally through the city, disrupting or altering the gridded network at various points. Access to and/or across these rights of way are limited, creating some barriers to cross-town connectivity. The traditional grid has also been modified in recent years in newer neighborhoods to the north and east, where some suburban curvilinear and cul-de-sac streets predominate.

FUNCTIONAL STREET CLASSIFICATIONS

Turlock’s roadway system is based on a hierarchy of street types, known as functional classifications. These classifications are designed to provide access to current and future development, and to maintain acceptable levels of service throughout the city. A route’s design, including the number of lanes needed, is determined both by its classification as well as the projected traffic level on the street generated by existing and new land uses. The classifications and their required development and access standards are described below.

Freeways provide for intra- and inter-regional mobility, generally having four to six lanes in the vicinity of the Study Area. Access is restricted primarily to arterials and expressways via interchanges. Crossings are grade-separated, and continuous medians separate lanes traveling in opposite directions. Typical speeds exceed 55 miles per hour. State Route (SR) 99 is the only freeway in the Study Area. No access is provided to adjacent land uses.



Top: Christofferson Parkway, an expressway, has the capacity to serve new development to the east.

Bottom: Geer Road, an arterial, is Turlock's primary north-south commercial spine.

Expressways provide for movement of through traffic both within the city and to other nearby regional locations. Parking is not permitted, and direct access is generally not provided to adjacent land uses. In those rare circumstances where access to an adjacent land use is required, access shall be by right turns only at prescribed intervals. In the Study Area, expressways generally range from two to four lanes, with some six-lane segments near freeway interchanges where necessary for operational purposes.

Arterials collect and distribute traffic from freeways and expressways to collector streets, and vice versa. They also are designed to move traffic between adjacent jurisdictions. Major arterials in Turlock are four lane facilities and minor arterials are two lane facilities. Limited direct access may be provided to adjacent land uses, with a minimum driveway spacing of 300 feet.

Collectors provide a link between residential neighborhoods and arterials. Collectors typically provide two travel lanes, on-street parking, and bike lanes. Collectors also provide access to adjacent properties, so driveway access is not restricted but should be discouraged. Direct access to adjacent land use is permitted, but, as these roadway classes are intended to funnel traffic from local streets to arterials and expressways, or carry larger amounts of traffic between major destinations within the City, driveways should be spaced at roughly 300 foot intervals in commercial and industrial areas. In residential areas, driveways may be provided to each parcel facing onto the collector.

Local Streets constitute the largest part of Turlock's circulation system. They provide direct access to adjacent properties and have no access restrictions. Local streets provide two travel lanes, landscaped parkway strips, and sidewalks. While bike lanes are generally not required on local streets because of their low traffic volume, it is assumed that every local street is designed to be bike-friendly and may be informally treated as a Class III bike route.

Industrial Streets are roadways designed to accommodate trucks serving industrial areas, and are generally provide two travel lanes. They are primarily found in the TRIP and in some older industrial areas south of Downtown. Their wide lanes are intended to accommodate multiple large trucks' turning movements. Access onto adjacent industrial properties is permitted, including multiple access points per parcel.

Roadway Elements and Dimensions

The typical street elements and widths of the functional classifications are shown in tables 5-4 and 5-5. Figure 5-1 illustrates the different components of the street right-of-way, which are referenced in the two following tables. Table 5-4 shows residential streets, and Table 5-5 shows commercial or industrial streets. However, the total rights of way for each classification are designed to remain constant regardless of surrounding land uses. For example, a collector may traverse a residential area as well as commercial or industrial area, and as long as its classification is defined as a collector for that entire length, the overall right of way will not change. Even as the total right of way remains the same, some elements of the roadway may change depending on the adjacent land uses, namely to address the pedestrian experience. For instance, larger roads through residential areas have both parkway and landscape strips (in other words, landscaping on both sides of the sidewalk) to provide a greater buffer for residential uses from the roadway and to create a more protected pedestrian environment. In commercial areas, sidewalks are wider to accommodate higher volume pedestrian travel.

Figure 5-1: Diagrammatic Street Section

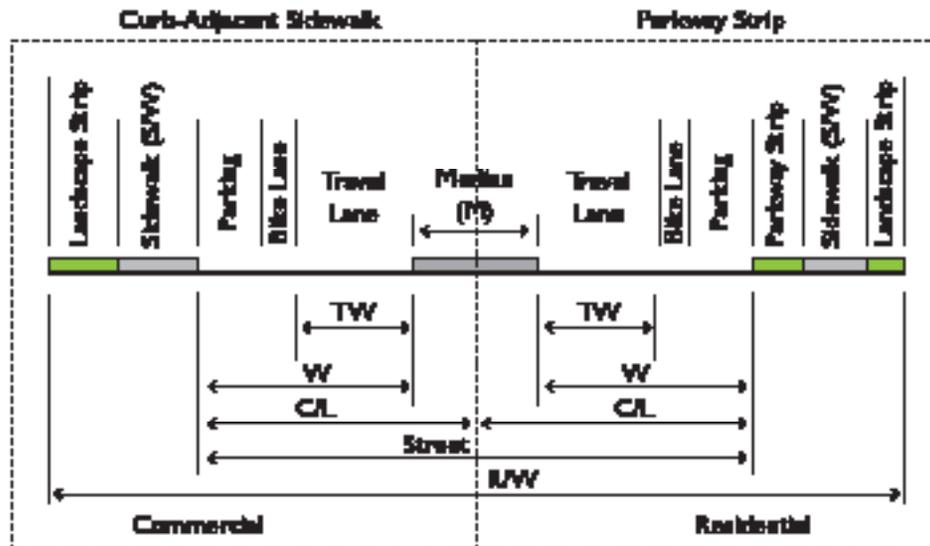


TABLE 5-4: TYPICAL STREET ELEMENTS AND WIDTHS (FEET): RESIDENTIAL FACILITIES

DESIGNATION	TOTAL RIGHT OF WAY (ROW)	LANDSCAPE STRIP	SIDEWALK (S/W)	PARKWAY STRIP (P/WAY)	PARKING	BIKE LANE	STREET	CENTERLINE (C/L)	WIDTH TO CURB FROM MEDIAN (W)	TRAVEL WIDTH (TW)	MEDIAN (M)
Local - Parkway	56	N/A	5	6	7	N/A	34	17	N/A	10	N/A
Collector	62	N/A	5	6	8	N/A	40	20	N/A	12	N/A
Collector (Bike)	72	N/A	5	6	8	5	50	25	N/A	12	N/A
Minor Arterial (2 Lane)	90	4	5	6	N/A	6	60	30	22	16	16
Arterial (4 Lanes)	124	4	5	6	8	6	94	47	39	25	16
Expressway (4 Lanes)	108	4	5	6	N/A	6	78	39	31	25	16
Expressway (6 Lanes)	132	4	5	6	N/A	6	102	51	43	37	16

TABLE 5-5: TYPICAL STREET ELEMENTS AND WIDTHS (FEET): COMMERCIAL OR INDUSTRIAL FACILITIES

DESIGNATION	TOTAL RIGHT OF WAY (ROW)	LANDSCAPE STRIP	SIDEWALK (S/W)	PARKWAY STRIP (P/WAY)	PARKING	BIKE LANE	STREET	CENTERLINE (C/L)	WIDTH TO CURB FROM MEDIAN (W)	TRAVEL WIDTH (TW)	MEDIAN (M)
Local - Curb Adjacent	56	N/A	8	N/A	8	N/A	40	20	N/A	12	N/A
Collector	62	3	8	N/A	8	N/A	40	20	N/A	12	N/A
Collector (Bike)	72	3	8	N/A	8	5	50	25	N/A	12	N/A
Industrial	76	N/A	8	N/A	8	N/A	60	30	N/A	22	N/A
Minor Arterial (2 Lane)	90	7	8	N/A	N/A	6	60	30	22	16	16
Arterial (4Lanes)	124	7	8	N/A	8	6	94	47	39	25	16
Expressway (4 Lanes)	108	7	8	N/A	N/A	6	78	39	31	25	16
Expressway (6 Lanes)	132	7	8	N/A	N/A	6	102	51	43	37	16

Roadway Spacing and Access Standards

Another important way in which the functional classifications' hierarchy is established is through spacing and access standards. The purpose of prescribing roadway spacing and access standards is to create a regular grid system, which will improve overall traffic flow in the city. Table 5-6 describes the optimum spacing between roadway types and any limitations on access to each type.

TABLE 5-6: INTERSECTION SPACING AND ACCESS RESTRICTIONS				
DESIGNATION	INTERSECTION SPACING STANDARDS	TYPICAL SPACING BETWEEN PARALLEL LIKE FACILITIES	ACCESS RESTRICTIONS	NOTES
Local	Maximum block length for local streets is 660 feet.	660 feet	No access restrictions; one driveway may be provided per parcel.	See more detail in Chapter 6.4: City Design for local street spacing and design.
Collector	¼ mile between intersections with other collector or larger streets preferred. Intersections with local streets permitted at greater frequency, at minimum intervals of 300 feet.	¼ mile	Driveways on collector streets should be no closer than 300 feet, except, for residential uses, one driveway may be permitted per parcel.	
Arterial	½ mile between intersections preferred; ¼ mile acceptable.	1 mile	Driveways to major traffic generators may be permitted within the ¼ mile spacing but no closer than 300 feet; other intersections closer than ¼ mile are restricted to right turn access only.	
Expressway	Intersections to be at 1 mile intervals. Collectors may intersect at ¼ mile spacing, but with right-in/right-out access only.	No typical spacing between expressways; these facilities occur in a loop around the city and as regional connectors	Limited access to abutting properties.	See Policy 5.2-u for further detail.

Further standards for intersection design, which differs depending on the types of roadways intersecting, are shown in Table 5-7.

TABLE 5-7: INTERSECTION DESIGN BY CLASSIFICATION TYPE								
INTERSECTIONS	NORTHBOUND & SOUTHBOUND APPROACH (1)				EASTBOUND & WESTBOUND APPROACH (CROSS STREET) (2)			
N\A - NO CONNECTION	LEFT	THRU	RIGHT	BICYCLE	LEFT	THRU	RIGHT	BICYCLE
(1) Local - Parkway								
(2) Local - Parkway	-	1	-	-	-	1	-	
(2) Collector	-	1	-	-	-	1	-	
(2) Collector (Bike)	-	1	-	-	-	1	-	B
(2) Industrial	-	1	-	-	-	1	-	
(2) Minor Arterial\ (2 Lane)	-	-	1	-	-	1	1	B
(2) Arterial/ (4-Lanes)	-	-	1	-	-	2	1	B
(2) Expressway/4-Lanes	N\A	N\A	N\A	-	N\A	N\A	N\A	-
(2) Expressway/6-Lanes	N\A	N\A	N\A	-	N\A	N\A	N\A	-
(1) Collector								
(2) Collector	-	1	-	-	-	1	-	-
(2) Collector (Bike)	-	1	-	-	-	1	-	B
(2) Industrial	-	1	-	-	-	1	-	-
(2) Minor Arterial\ (2 Lane)	1	1	1	-	1	1	1	B
(2) Arterial/ (4-Lanes)	1	1	1	-	1	2	1	B
(2) Expressway/4-Lanes	-	-	1	-	-	2	1	B
(2) Expressway/6-Lanes	-	-	1	-	-	3	1	B
(1) Collector (Bike)								
(2) Collector	-	1	-	B	-	1	-	-
(2) Collector (Bike)	-	1	-	B	-	1	-	B
(2) Industrial	-	1	-	B	-	1	-	-
(2) Minor Arterial\ (2 Lane)	1	1	1	B	1	1	1	B
(2) Arterial/ (4-Lanes)	1	1	1	B	1	2	1	B
(2) Expressway/4-Lanes	-	-	1	B	-	2	1	B
(2) Expressway/6-Lanes	-	-	1	B	-	3	1	B

TABLE 5-7: INTERSECTION DESIGN BY CLASSIFICATION TYPE

INTERSECTIONS	NORTHBOUND & SOUTHBOUND APPROACH (1)				EASTBOUND & WESTBOUND APPROACH (CROSS STREET) (2)			
	LEFT	THRU	RIGHT	BICYCLE	LEFT	THRU	RIGHT	BICYCLE
(1) Industrial								
(2) Industrial	-	1	-	-	-	1	-	-
(2) Minor Arterial\ (2 Lane)	-	-	1	-	-	1	1	B
(2) Arterial/ (4-Lanes)	-	-	1	-	-	2	1	B
(2) Expressway/4-Lanes	N\A	N\A	N\A	-	N\A	N\A	N\A	-
(2) Expressway/6-Lanes	N\A	N\A	N\A	-	N\A	N\A	N\A	-
(1) Minor Arterial/ (2 Lane)								
(2) Minor Arterial\ (2 Lane)	1	1	1	B	1	1	1	B
(2) Arterial/ (4-Lanes)	1	1	1	B	1	2	1	B
(2) Expressway/4-Lanes	1	1	1	B	1	2	1	B
(2) Expressway/6-Lanes	1	1	1	B	1	3	1	B
(1) Arterial/ (4-Lanes)								
(2) Arterial/ (4-Lanes)	2	2	1	B	2	2	1	B
(2) Expressway/4-Lanes	2	2	1	B	2	2	1	B
(2) Expressway/6-Lanes	2	2	1	B	2	3	1	B
(1) Expressway/4-Lanes								
(2) Expressway/4-Lanes	2	2	1	B	2	2	1	B
(2) Expressway/6-Lanes	2	2	1	B	2	3	1	B
(1) Expressway/6-Lanes								
(2) Expressway/6-Lanes	2	3	1	B	2	3	1	B



Most of Turlock’s roadways and intersections operate at acceptable levels of service, even during the peak hour of travel.

EXISTING TRAFFIC CONDITIONS

The City of Turlock roadway facilities were evaluated on a daily basis by use of 2007 and 2008 average daily traffic (ADT) counts. Intersection facilities were evaluated on an AM and PM peak-hour basis by use of 2007 and 2008 peak-hour turning movement counts. Conditions were identified by generating a level-of-service (LOS) determination.

Intersection LOS was calculated for all control types using the methods documented in the Transportation Research Board publications Highway Capacity Manual, Fourth Edition, 2000. Traffic operations have been quantified through the determination of LOS. LOS determinations are presented on a letter grade scale from “A” to “F”, whereby LOS “A” represents free-flow operating conditions and LOS “F” represents over-capacity conditions. For a signalized or all-way stop-controlled (AWSC) intersection, an LOS determination is based on the calculated average delay for all approaches and movements. For a two-way stop-controlled (TWSC) intersection, an LOS determination is based upon the calculated average delay for all movements of the worst-performing approach.

At the time that the traffic counts were conducted, in 2007 and 2008, citywide intersections were determined to mostly operate at LOS C or better. The following intersections were determined to operate at above LOS C, under existing conditions. However, these are likely to change with the implementation of improvements outlined in the General Plan. Where improvements cannot be made due to right of way constraints or other limitations, the exception is noted in a policy. However, it is important to note that LOS, especially peak-hour LOS, was not the ultimate determining factor in designing the General Plan buildout circulation network.

Taylor Road / SR 99 NB Ramps	AM & PM peak-hours (LOS F)
Taylor Road / SR 99 SB Ramps	PM peak-hour (LOS F)
Taylor Road / Walnut Road	AM peak-hour (LOS E)
Monte Vista Avenue / Crowell Road	PM peak-hour (LOS D)
Monte Vista Avenue / Geer Road	PM peak-hour (LOS E)
Fulkerth Road / Golden State Boulevard	PM peak-hour (LOS F)
Main Street / Kilroy Road	AM & PM peak-hours (LOS D)
Westbound Golden State Boulevard / Berkeley Avenue	PM peak-hour (LOS D)
West Glenwood Avenue / Lander Avenue	PM peak-hour (LOS D)
Greenway Avenue / Lander Avenue	AM & PM peak-hours (LOS F)
Clausen Road / Lander Avenue	AM & PM peak-hours (LOS D)

Existing roadway LOS was also determined on a daily basis with 24-hour volume counts taken between 2007 and 2008. LOS was determined relative to average daily volume and facility capacity. Citywide roadways were determined to operate at LOS C or better for the large majority of roadways. However, the following roadway segments were determined to be operating unacceptably according to the 1992 General Plan standard, based on being over or nearing full capacity as currently designed. However, these are likely to change with the implementation of improvements outlined in the General Plan.

State Route 165, Clausen Road to Bradbury Road	LOS F
State Route 165, State Route 99 to Simmons Road	LOS F
Monte Vista Avenue, State Route 99 to Countryside Drive	LOS F
Monte Vista Avenue, Countryside Drive to Golden State Boulevard	LOS F
Taylor Road, Tegner Road to Walnut Road	LOS D

CIRCULATION NETWORK DESIGN AND PERFORMANCE

Prior to this General Plan, the City of Turlock used LOS as a standard for determining roadway performance and planning improvements. However, in support of the new Complete Streets legislation and SB 375, this General Plan moves away from the LOS standard as this measure has a tendency to promote urban sprawl. Rather, roads will be constructed in accordance with the designs specified in the Circulation Diagram in this section (Figure 5-2) and with the improvements detailed in Table B-1, found in Appendix B (consistent with the access, spacing, and intersection configurations described earlier). LOS will still be used as a trigger for preparing a traffic analysis to determine when new improvements are to be made, but it will not be used as the standard to which roads are to be built or improved. However, other mitigation measures such as traffic calming, alternative modes, trip reduction strategies, and others will be used to mitigate congested conditions if it is determined that other improvements are not feasible due to right of way constraints or other factors.

The circulation network was determined by a number of factors, of which current LOS was one. As described in the previous section, the existing conditions of the roadway network were evaluated according to average daily LOS to determine the baseline conditions of the system. Roadway segments and intersections that are known to already operate below LOS D are made priorities for improvement. Where feasible mitigation is possible, improvements are described

and included in the CFF (Appendix Table B-1) However, current LOS was only one factor in determining the desired General Plan circulation network at buildout. That measure was balanced with what is feasible and prudent given other factors, such as current and future land uses and physical constraints. In other words, in some cases, roadway segments may not be able to be improved to ameliorate congestion. The overall network “right-sizes” roads to support the current and planned land uses, and prescribes spacing and design that will facilitate efficient, multimodal use of the street system.

LOS will still be evaluated and used as a basis for triggering improvements of the General Plan roadways at the project level. However, the ultimate buildout of the circulation network shall match the design specified in this plan; in other words, roads shall not be continually widened to achieve a certain LOS. In these cases, traffic calming and other strategies to encourage the use of alternatives to the automobile, will be deployed where insufficient right of way exists and it is determined that the disruption of adjacent land uses would undermine business or residential uses required to meet other General Plan goals.

PLANNED IMPROVEMENTS

The circulation network shown in Figure 5-2 identifies the functional classifications of key routes at buildout. To achieve the spacing standards and capacity assumptions made in the circulation diagram, as well as a balance between existing and future land use and roadway service, improvements to the roadway network will be needed. New arterial and collector roads will provide access to the residential, commercial, and industrial areas, connecting those areas with the existing local and regional transportation system. New local roads in neighborhoods will serve those residents. The new roadways will continue the grid network that currently characterizes Turlock’s circulation network, following the spacing and access standards listed in this chapter, and creating connections between new development areas and established neighborhoods, job and shopping centers, and other destinations.

Major street improvements planned for Turlock are listed in Appendix B. Additionally, intersection improvements will be required at major intersections along new roadways and improved roadways, including but not limited to turn channelization, signalization, and/or construction of roundabouts. The proposed street improvements include both the construction of new streets in master plan areas as well as improvements to existing roadway segments within the current urbanized area.

The future circulation network is illustrated in Figure 5-2. No General Plan amendment is required if the general location, anticipated level of service, and connections to the street network are maintained.

Street designs for the proposed roads shall conform to the typical street widths and design elements defined in tables 5-4 and 5-5. All street designs are subject to review and approval by the Engineering Division of the Development Services Department and the City Engineer. Exceptions may be granted for special cases, but no street may be removed.

Future Traffic Conditions

The City traffic model predicts that by making the planned improvements and building out the proposed circulation network and proposed land uses, development the Turlock Study Area will generate approximately 2,955,000 vehicle miles traveled (VMT) or 23 miles per person per day. The traffic model also indicates the level of service at which the planned road segments would be operating at plan buildout. Table C-1 in Appendix C lists the projected daily roadway segment operations at 2030 buildout.

Even when all possible planned improvements are made, some roadway segments are projected to operate below daily LOS D. These segments are in the existing urbanized area, where improvements would not be possible without impacting adjacent uses. Similarly, in keeping with the Complete Streets concept, the bikeway system will not be compromised to accommodate more vehicular traffic. It is understood that the buildout of the General Plan circulation network will not lead to free-flowing traffic on all streets.

POLICIES

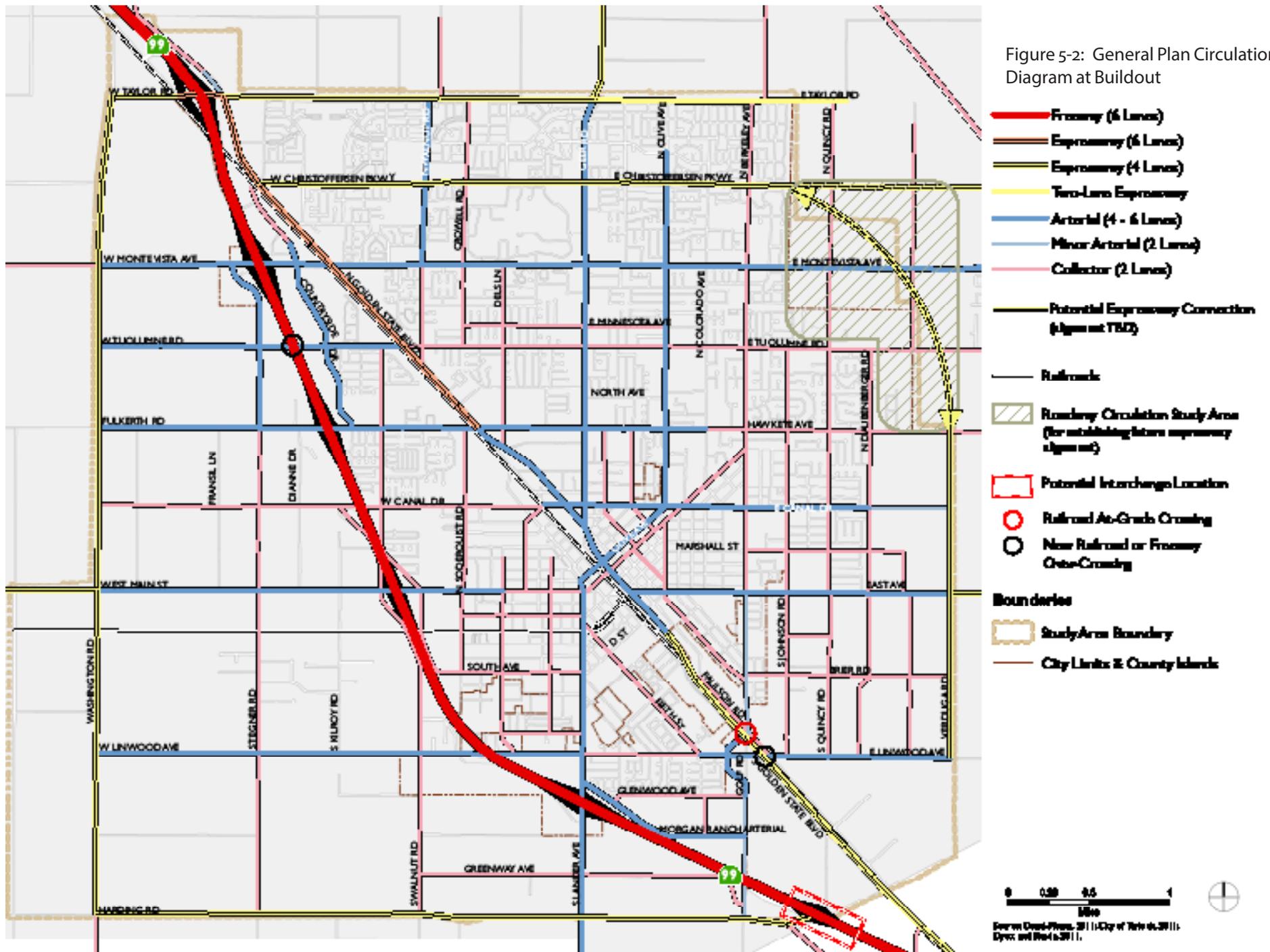
Guiding Policies

- 5.2-a A safe and efficient roadway system. Promote a safe and efficient roadway system for the movement of both people and goods.
- 5.2-b Implement planned roadway improvements. Use Figure 5-2: Circulation System, and Table B-1 in Appendix B, Major Circulation Improvements, to identify, schedule, and implement roadway improvements as development occurs in the future; evaluate



Implementation of the General Plan roadway network will help create active, safe streets for pedestrians, cars, and cyclists alike.

Figure 5-2: General Plan Circulation Diagram at Buildout



future development and roadway improvement plans against standards for the classifications as set forth in Tables 5-4, 5-5, and 5-6.

- 5.2-c Complete Streets. Maintain and update street standards that provide for the design, construction, and maintenance of “Complete Streets.” Turlock’s Complete Streets shall enable safe, comfortable, and attractive access for all users: pedestrians, motorists, bicyclists, and transit riders of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses, and promotes connectivity between uses and areas.
- 5.2-d Design for street improvements. The roadway facility classifications indicated on the General Plan circulation diagram (Figure 5-2) shall be the standard to which roads needing improvements are built, except that in master plan areas, the roadway typologies adopted in the Active Transportation Plan shall be the standard. The circulation diagram depicts the facility types that are necessary to match the traffic generated by General Plan 2030 land use buildout, and therefore represent the maximum standards to which a road segment or intersection shall be improved. LOS is not used as a standard for determining the ultimate design of roadway facilities.

The alternative cross sections in the Active Transportation Plan may also be considered within the existing built environment where: (1) adequate right-of-way is available; (2) impacts to adjacent land uses can be avoided or adequately mitigated to General Plan standards (see Policy 5.2-s of the General Plan) ; (3) the alternative transportation cross section is in harmony and compatible with the surrounding land use and transportation environment; and (4) implementation of the alternative transportation cross section provides for a continuous, consistent, and safe travel corridor for bicyclists and/or pedestrians.

- 5.2-e Use of existing facilities. Make efficient use of existing transportation facilities, and improve these facilities as necessary in accordance with the circulation diagram.
- 5.2-f Coordination of local and regional actions. Coordinate local actions with State and County agencies to ensure consistency between local and regional actions including but not limited to the Regional Transportation Plan, Regional Expressway Study, Regional Transit Plan, and Regional Bicycle Action Plan.
- 5.2-g Reduce Vehicle Miles Traveled. Through layout of land uses, improved alternate modes, and provision of more direct routes, strive to reduce the total vehicle miles traveled.
- 5.2-h Circulation system enhancements. Maintain projected levels of service where possible, and ensure that future development and the circulation system are in balance. Improve the circulation system

as necessary, in accordance with the circulation diagram and spacing/access standards, to support multimodal travel of all users and goods.

- 5.2-i Funding for improvements. Ensure that new development pays its fair share of the costs of transportation facilities. Require development in adjacent unincorporated areas to pay its fair share of impacts on city transportation infrastructure.

Implementing Policies

Regional Cooperation

- 5.2-j Work with Caltrans on freeway improvements. Continue to work with the California Department of Transportation (Caltrans) to achieve timely construction of programmed freeway and interchange improvements.

Caltrans does not currently fund local interchange improvements to accommodate increased traffic growth.
- 5.2-k Coordinate standards. Continue to coordinate the City's design standards for regional roadways with the standards of other agencies.
- 5.2-l New southeast interchange. Continue to work with Caltrans, Stanislaus County, Merced County, and other partner entities to implement a new interchange on State Route 99 at Youngstown Road for the potential realignment of Highway 165 as approved in the Project Study Report (PSR).
- 5.2-m Amend Regional Expressway Study. Seek to amend Stanislaus County's Regional Expressway Study (most recently updated in 2010) to add the Waring/Verduga expressway. The precise alignment shall be determined by the Roadway Circulation Study (see Policy 5.2-au).

The General Plan process allowed a detailed examination and refinement of the Expressway Plan. Though the designation of some streets is different in the two plans, overall objectives are similar. These changes will result in consistency on major policies.
- 5.2-n Use of Congestion Management Process. Utilize the StanCOG Congestion Management Process (CMP) to determine the timing and degree of regional roadway facility improvements in accordance with regionwide plans.
- 5.2-o Off-Site roadway mitigation. If an annexed area will utilize County roads, developers shall be required to fund improvements of affected County roads that connect to the citywide system to meet County standards.

- 5.2-p Area of Influence fee. In order to ensure that all development affecting Turlock's transportation infrastructure contributes to its expansion and maintenance, the City will work with County to expand the current SOI fee into adjacent unincorporated areas where nexus can be established. The SOI fee is to be maintained until the new Area of Influence (AOI) fee is in place.
- 5.2-q Regional fair-share fee program. Work with Caltrans, Stanislaus County, and other jurisdictions to establish a fair-share fee program for improvements to regional routes and state highways. This fee should reflect traffic generated by individual municipalities/unincorporated communities as well as pass-through traffic.

Street Network

In general, policies pertaining to the street network in this section and others (see also policies in Section 6.3: Street Design and Connectivity) promote the maintenance and development of a well-connected circulation system that is integrated with adjacent land uses and facilitates reductions in vehicle miles traveled.

- 5.2-r Follow circulation plan diagram. Locate freeways, expressways, and arterials according to the general alignment shown in the Circulation Plan Diagram. Slight variation from the depicted alignments for collectors will not require a General Plan amendment.
- 5.2-s Trigger for improvements. Require improvements to be constructed where adequate ROW is available and impacts to adjacent land uses can be avoided or adequately mitigated to General Plan standards when LOS is projected to drop below LOS D (on an average daily trips basis).
- 5.2-t Follow adopted City standards. Build freeways, expressways, arterials, and collector streets in accordance with adopted city standards. Where these standards deviate from those set forth in the General Plan, amend the city standards to be consistent with the General Plan.
- 5.2-u Roundabouts. Roundabouts may be used in place of signalized intersections on any roadway facility or intersection type. Roundabouts are particularly encouraged at the intersection of two collector streets.
- 5.2-v Maintain standards through ongoing improvements. Ensure improvements to the circulation system required to maintain standards as set forth in Section 5.2. Improvements shall take place in accord with the City's Capital Improvement Program.
- 5.2-w Expressway access from private property. In general, access from individual private properties onto expressways is not permitted. An exception may be granted by the City Engineer if it is determined



Traffic calming tools, such as curb extensions or intersection ‘bulb-outs,’ may be used to slow car traffic through neighborhoods.

that the conditions listed below are met. In these cases, one access point may be provided onto future expressways to a parcel in existence at the date of adoption of the General Plan. The City may allow access from a private parcel onto an expressway if:

- The applicant has satisfactorily demonstrated to the city that there are either no or only highly restrictive alternative access solutions available to that particular parcel;
- The applicant agrees to take full financial responsibility for constructing the access point, including any reconstruction of the expressway that may be necessary; and
- A properly designed access solution is approved by the City Engineer.

5.2-x CFF and Capital Improvement Program. As part of the 20-year Capital Facilities Fee Program (CFF), annually update a five-year Capital Improvement Program (CIP) of projects required to construct and/or update circulation facilities. The analysis should identify the type of facility, length of the project, right-of-way requirements, physical improvements required and estimated cost.

While some of the projects identified in the Circulation Element are in the City's current CFF, the remaining will need to be incorporated. These are listed in Appendix B. The CFF should also be coordinated with planning for the provision of public utilities. (See Section 3.3)

5.2-y Streets in County Islands. Coordinate with Stanislaus County to evaluate the condition of existing streets in unincorporated areas and explore cooperative funding mechanisms to improve existing substandard streets and install sidewalks, curbs, gutters, and street lighting as a condition of incorporation.

5.2-z Alley maintenance. Continue to work with residents of neighborhoods with alleys to establish an ongoing alley maintenance program.

Storage and trash dumping has reduced the effective travel-ways in many alleys, especially where alleys are not intensively used because access to off-street parking is also provided from the streets.

5.2-aa Exceptions to Standards. In infill areas, where existing rights of way may not conform to the roadway standards set forth in the General Plan, but where improvements are necessary, reasonable deviations from roadway standards may be allowed by the City Engineer.

5.2-ab Downtown exempted from LOS trigger. Exempt Downtown from LOS trigger for improvements in order to encourage infill development, the creation of a pedestrian friendly urban design character, and the densities and intensities of development necessary to support transit and local business development. Development decisions Downtown should be based on community design and

livability goals, rather than traffic LOS. Downtown is defined by the Downtown designation on the Land Use Diagram (Figure 2-2).

Roadway Operations and Monitoring

- 5.2-ac Impacts of new development. No new development will be approved unless it can show that required service standards (accessibility, spacing and capacity in the circulation diagram and in Section 5.2) are provided on the affected roadways.
- 5.2-ad Traffic Calming. Traffic calming techniques may be employed to mitigate the traffic effects of new development.
- See policies in Section 6.3, Street Design and Connectivity, for design characteristics of traffic calming measures.
- 5.2-ae Traffic impact studies. Traffic impact studies are only required where there is a demonstrated change in background traffic or where proposed land uses generate traffic levels that vary substantially from assumed trip generation levels that were used to formulate the General Plan circulation network.
- 5.2-af Traffic and accident monitoring and reduction. Establish and implement programs to help maintain satisfactory roadway performance at intersections and along roadway segments. This may include the following:
- Collect and analyze traffic volume data on a regular basis, and monitor current intersection and roadway segment LOS on a regular basis. This information may be used to update and refine the City's travel forecasting model to continually improve estimates of future conditions.
 - Consider ways to shift travel demand away from the peak period using Transportation Demand Management (TDM) strategies, especially in situations where peak traffic problems result from a few major generators (e.g. large retail developments in highway corridors). Strategies to consider include:
 - Encouraging employer-sponsored incentives for transit, bike, or carpool use
 - Providing shuttle service to major events and destinations
 - Promoting shopping or entertainment events that are at off-peak hours
 - Coordinating centralized TDM programs that serve multiple tenants at large shopping or office centers
 - Perform periodic evaluations of the City's traffic control system, with emphasis on traffic signal timing, phasing, and coordination to optimize flow along arterial and expressway corridors.



Street trees and landscaping along medians and parkway strips provide shade, beauty, and environmental benefits.

Funding for Improvements

- 5.2-ag New development pays fair share. Continue to require that new development pay a fair share of the costs of street and other local transportation improvements based on traffic generated and impacts on service levels. New development in unincorporated areas that benefit from Turlock’s transportation infrastructure shall also pay to support the system, through the Area of Influence fee (see Policy 5.2-p).
- 5.2-ah Citywide fees for transportation improvements. Use citywide traffic impact fees (part of Capital Facilities Fees) and Area of Influence fees (see Policy 5.2-p) to provide additional funding for transportation improvements based on roadway design specified on the Roadway Network Diagram (Figure 5-2).
- 5.2-ai Utilize outside funding sources. Link improvement projects to the most current estimates of available funding from County, State, and federal sources. Continue to participate in the effort to develop and coordinate a financing mechanism for major regional transportation improvements.
- 5.2-aj Capital Improvement Program. Maintain and update a Capital Improvement Program so that improvements are appropriately identified, funded, and constructed in a timely manner.

Street Design and Character

Policies pertaining to street design and character are found in Section 6.3, Street Design and Connectivity.

Landscaping and Street Trees

- 5.2-ak Landscaping requirements. Where roadway facilities are designed with landscaping adjacent to the property line, the property owner shall be able to credit the landscaping in public right of way towards their landscaping requirement on their property. In return, the property owner is held responsible for the maintenance and upkeep of the landscape frontage.
- 5.2-al Street Trees. Street trees in landscape strips and parkways strips must be placed near enough to the sidewalk to provide canopy. In commercial and industrial areas, street trees shall be located within public right-of-way behind the sidewalk. In residential areas, street trees shall be located within the parkway strip.

See policies in Section 6.7, Urban Design, for location and placement of street trees.

- 5.2-am Medians. Medians shall be planted with street trees.

Promote the use of drought-tolerant landscaping in medians.

- 5.2-an Raised medians. Medians shall be installed along newly constructed arterials and expressways that front new development. Raised medians shall also be installed along existing roadways (where medians exist or are added) as the City completes roadway rehabilitation projects, as deemed necessary by the City Engineer.
- 5.2-ao Landscaping and median maintenance. Work with property owners to develop and implement a funding strategy for maintenance of landscaping in medians and in other areas within the public right of way adjacent to existing developed properties. The City will also pursue the development of a manual for workers that explains how to maintain xeriscape/drought-tolerant landscaping.

Right-of-Way Acquisition and Preservation

- 5.2-ap Establish roadway alignments. Take appropriate action to establish precise alignments based on the General Plan diagram and on standards delineated in Table 5-6, and on Caltrans local route requirements, for all existing and proposed freeways, expressways, arterial and collector streets in order to identify future right-of-way needs. Plan lines must be adopted by the City Council.
- 5.2-aq Plan Line Studies included in CFF. Plan Line Studies shall be included in CFF costs. Once plan lines are established, new cost estimates shall be prepared and the CFF updated to reflect the revised and finalized costs.

Plan Line Studies to be included in the CFF are listed in Appendix B.

- 5.2-ar Right of Way consistency. To the extent possible, new roadways shall be designed so that they maintain a consistent right of way along the length of the facility, regardless of adjacent land use changes. In other words, for example, a two-lane collector that passes through a residential area and then a commercial area shall not change width as the land uses change.
- 5.2-as Right of Way acquisition. Rights of way for new roadways shall be acquired such that they can accommodate the width of the facility as designed for full land use buildout, even if the facility to be constructed in the near term is smaller.
- 5.2-at Rights of Way fully within master plan boundaries. Planning areas shall not use roadway centerlines as boundaries. Roadways shall be built to their full width within the annexed city limits. Part-width roads shall not be permitted where master plan areas abut unincorporated properties that are not



Multi-use paths for walking and cycling provide opportunities for exercise, commuting, and travel throughout neighborhoods.

expected to be annexed to the city within the time frame of this General Plan. Road rights of way that demarcate the edge of a planning area shall be fully contained within the development area boundary, and expanded only within that boundary.

- 5.2-au Roadway Circulation Study. In order to determine the alignment for the proposed expressway on the east side of Turlock that will connect Christofferson Parkway to new development in the southeast, a plan line study that will include a study of possible connections to Golden State Boulevard will be undertaken for the Roadway Circulation Study Area shown on Figure 5-2. The Study Area must extend from NE Turlock Master Plan Area to the proposed new Master Plan Area SE 2. The plan line study shall be initiated within one year of the adoption of the General Plan. Funding for the study shall be provided by the Capital Facilities Fee.

If development in the area south of Linwood Avenue and east of Golf Road (currently designated as Urban Reserve) were to eventually occur, a similar roadway circulation study should be undertaken in order to ultimately connect the east side expressway to the new interchange. Note that this connection is not proposed in this General Plan.

Relationship between Modes

See also policies in Chapter 6— City Design Element.

- 5.2-av General transit and pedestrian access. In reviewing designs of proposed developments, ensure that provision is made for access to current and future public transit services. In particular, pedestrian access to arterial and collector streets from subdivisions should not be impeded by continuous segments of sound walls.
- 5.2-aw Bus access on arterials. Design considerations for arterial streets in newly developing areas should provide for bus loading and unloading without disruption of through-traffic.
- 5.2-ax Standards for transit stops and headways. Establish citywide standards for bus stop locations and bus frequencies/headways. In industrial areas, standards may need to be adjusted to provide direct access to employee entrances.

Parking

- 5.2-ay Improve Downtown parking opportunities, as demand grows in the future, using the following strategies:
- Examine rear or vacant lots and other under-utilized areas for off-street parking;

- Consider utilization of the existing parking district mechanism to finance Downtown parking and related street landscaping improvements suggested in the Downtown Master Plan; and
 - Develop a projection of future parking need in Downtown and identify potential locations.
- Downtown parking facilities shall be included in the CFF update.

5.3 PEDESTRIAN AND BICYCLE CIRCULATION

Turlock’s flat topography and its mild rainfall are ideal for commuting and recreational bicycle riding, and walking. However, the intense summer sun and minimally shaded streets in some parts of town can be deterrents to both bicyclists and pedestrians.

The Census data on means of transportation to work (see Table 5-1) does not reveal a significantly high incidence of bicycle use or pedestrian travel to work (1.2 percent of the employed residents biked to work, and 2.4 percent walked to work). The data, however, does not take into account CSUS students who ride bicycles to the campus. There are opportunities to increase bicycling if it is made easier.

The Plan encourages the use of walking and bicycling and recognizes three classes of bikeways:

- **Bike Path (Class I Bikeway, including paseos and public greenways).** Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.
- **Bike Lane (Class II Bikeway).** Provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through-travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.
- **Bike Route (Class III Bikeway).** Provides right-of-way designated by signs or permanent markings and shared with pedestrians and motorists.

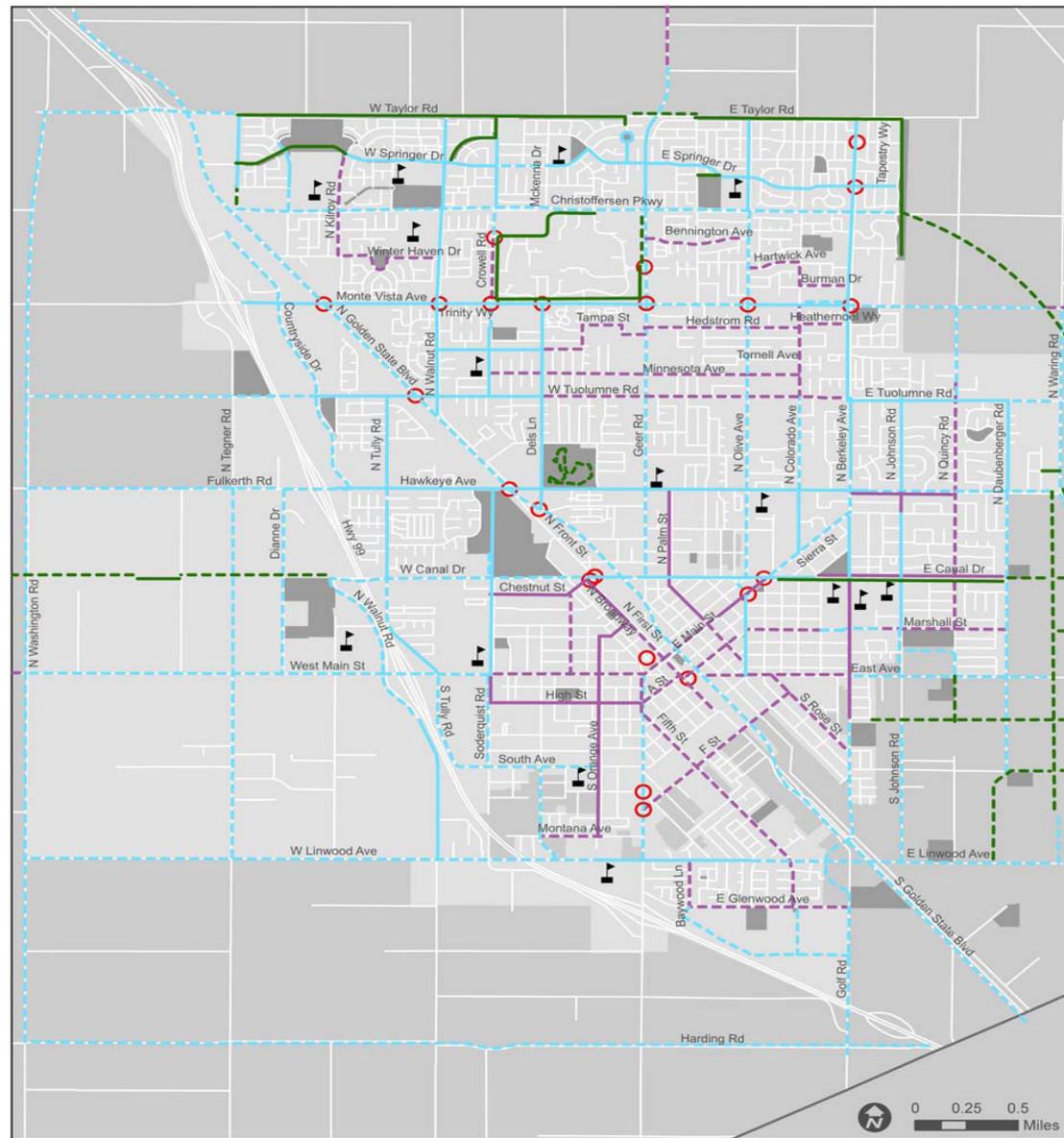
Figure 5-3 depicts existing and future bikeways of all three classes. In addition, it is expected that all local streets operate as Class III bike routes, connecting residents to the larger circulation



Top: The Class I path along Canal Drive will be continued through the new master plan area to the east.

Bottom: Discontinuous portions of the Class I path along Taylor Road are designated as Priority Improvement Areas.

Figure 5-3: Existing and Proposed Bikeways



Active Transportation Plan & General Plan Recommendations

alta Data obtained from: The City of Turlock & Stanislaus County
Map created: October 2014

Facilities

- | | | |
|----------------------|-------------------------|---------------------------|
| Existing / Proposed | Class I Shared-use Path | Parks |
| Class II Bike Lane | Class II Bike Lane | Schools |
| Class III Bike Route | Class III Bike Route | Intersection Improvements |

network, and do not need to be demarcated as such. Designs for all new collector and arterial streets also include Class II bike lanes on almost all roadway facilities and sidewalks on every facility (see Tables 5-4 and 5-5).

Not only does the bicycle plan show bikeways on future roads, it also fills in some of the key “missing links” of the city’s existing bicycle network, improving bicycle access and connectivity in infill areas. Important missing links and troublesome segments or intersections to be improved include:

- Taylor Road at Geer Road (gap in Class I)
- Taylor Road near Crowell Road Right of Way/Lutheran Church (gap in Class I)
- Berkeley Avenue, especially at the Golden State Boulevard intersection (gap in circulation network; difficult crossing)
- Canal Drive and East Main Street (difficult transition from Class I to Class II and III)
- Tegner Road from Taylor Road to Christofferson Parkway; Golden State Boulevard from Christofferson Parkway to Monte Vista Avenue (indirect, heavy traffic, poor route-finding)

These are priority improvement areas to the existing bikeway system, and are indicated as such on Figure 5-4. Implementation of bikeway improvements on existing streets often presents challenges, as right of way width is limited, traffic patterns are established, and there may not be adjacent new development projects from which funding can be collected.

This General Plan also introduces a new park type to Turlock’s park and recreation network, as a subset of the Neighborhood Park category: greenways or recreation corridors (See Section 4.1). These greenways are specifically intended to provide landscaped corridors, separate from streets, with Class I paths that link neighborhoods to schools, parks, and other local destinations. The incorporation of recreation corridors into new development areas will provide significant new spaces for pedestrian and bicycle travel that is efficient and safe for all user groups.

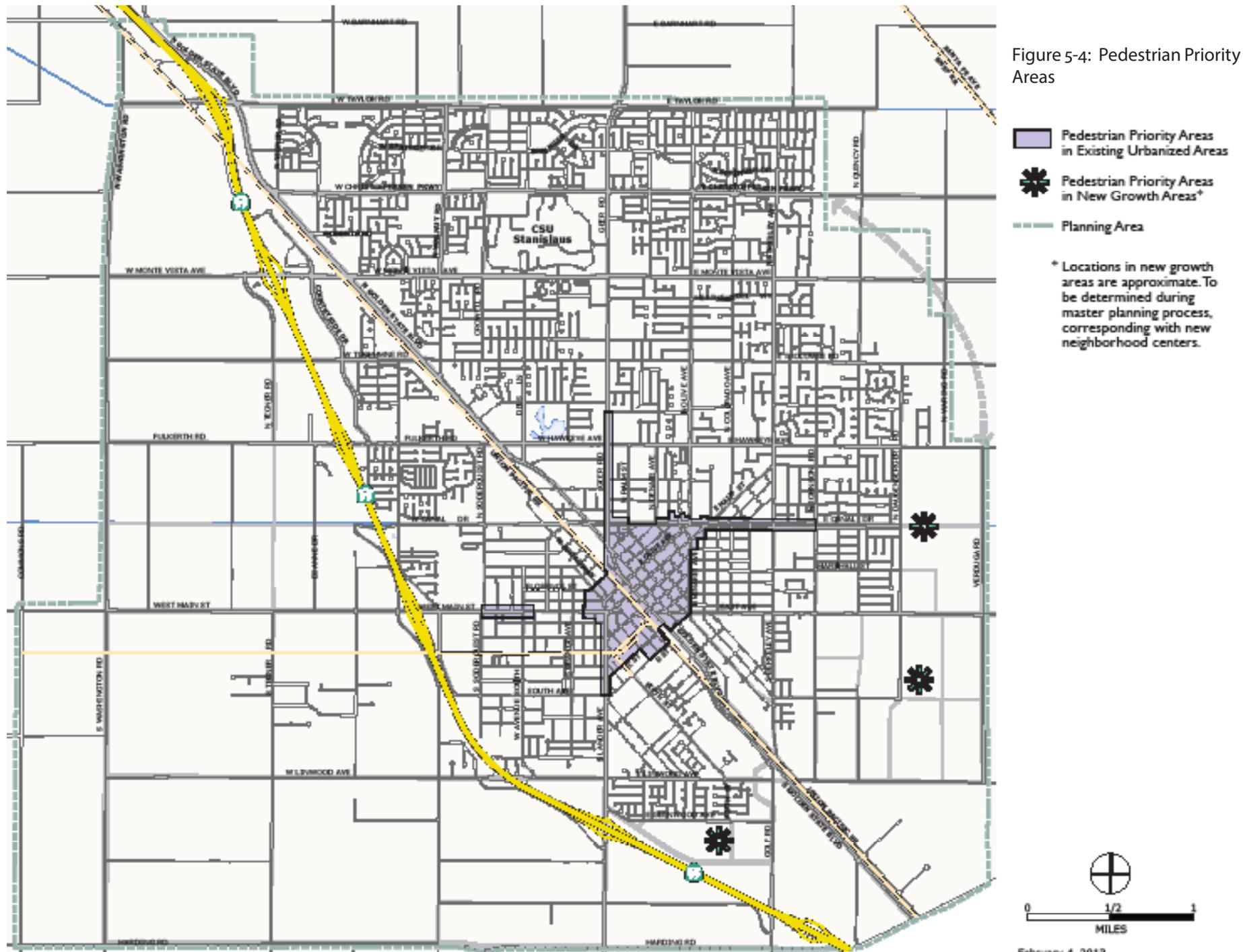
POLICIES

Guiding Policies



Good neighborhood planning and roadway network design enables safe access to schools for local children.

Figure 5-4: Pedestrian Priority Areas



- 5.3-a Promote walking and bicycling. Promote walking and bike riding for transportation, recreation, and improvement of public and environmental health.
- 5.3-b Meet the needs of all users. Recognize and meet the mobility needs of persons using wheelchairs and those with other mobility limitations.
- 5.3-c Develop a safe and efficient non-motorized circulation system. Provide safe and direct pedestrian routes and bikeways between places.

Implementing Policies

Complete Streets

- 5.3-d Integration of land use planning. Implement land use policies designed to create a pattern of activity that makes it easy to shop, play, visit friends, and conduct personal business without driving.

The neighborhoods described in the Land Use and City Design elements are designed to promote non-motorized transportation and to make it easy for those people who cannot or choose not to drive to be independent.
- 5.3-e Provision of bicycle facilities. Facilities for bicycle travel (Class I bike/multiuse paths; Class II bike lanes, and Class III bike routes) shall be provided as shown on Figure 5-3. Bike lane width shall follow the standards in tables 5-4 and 5-5. In cases where existing right of way constraints limit development of Class II facilities, Class III signage and demarcation may be permitted at the discretion of the City Engineer. Deviations from these standards and from the routing shown on the diagram shall only be permitted at the discretion of the City Engineer.
- 5.3-f Street trees for shade and comfort. Ensure that planting plans for street trees take into consideration shade and comfort for pedestrians and bicyclists.

Particular attention should be paid to places frequented by pedestrians, such as Main Street and other areas in Downtown, such as City Hall. Detailed measures relating to street trees are prescribed in policies in Section 6-7, Urban Design.
- 5.3-g Children's access to schools. Work with the Turlock Unified School District to promote drawing of school attendance areas so as to minimize crossings of major arterial streets.
- 5.3-h Universal design. Provide pedestrian facilities that are accessible to persons with disabilities and ensure that roadway improvement projects address accessibility and use universal design concepts.

Funding for Improvements



'Sharrows' clearly demarcate that cyclists share the road with automobiles along Class III routes, and raise drivers' awareness of their presence.

- 5.3-i Air quality funding for bikeways plan. Establish a citywide program, similar to the use of the Air Quality Trust Fund in the Northwest Triangle Specific Plan, to assist in the funding of implementation of the Bikeways plan depicted in Figure 5-3. The fee will be developed and updated concurrently with the update of the CFF.
- 5.3-j Funding for bikeways through street construction funds. Continue to designate a portion of the City's annual street construction and improvement fund for financing bikeway design and construction.
- 5.3-k Bicycle Master Plan. Prepare a Bicycle Master Plan consistent with the requirements in the Streets and Highways Code in order to be eligible for further funding for improvements from the State, such as the Bicycle Lane Account funds.
- 5.3-l Reduced fees for Downtown and Pedestrian Priority Areas. In recognition of its reduced impact on demand for new infrastructure due to its central/infill location, development projects located in Downtown Turlock and in designated Pedestrian Priority Areas will be granted a reduction in capital facilities fees owed. Reduced fees aim to encourage infill development, the creation of a pedestrian friendly urban design character, and the densities and intensities of development necessary to support transit and local business development. Downtown and other Pedestrian Priority Areas are defined on Figure 5-4.

The fee reduction for Downtown and other infill areas will be factored into the CFF. For Pedestrian Priority Areas in master plan areas, the reduced impact shall be incorporated into the Master Plan fees.
- 5.3-m Street trees in Capital Improvement Program. Include street trees as part of Capital Improvement Program programming and implementation.

Increasing Bicycle Use and Safety

- 5.3-n Bicycle use by City employees. Establish a program to encourage bicycle use among City employees.

Bike storage facilities and shower and locker rooms should be provided where feasible. Funding shall be provided through these facilities' incorporation into the CFF.
- 5.3-o Cycling access to parks. Provide safe bicycle access to and parking facilities at all community parks.
- 5.3-p Bicycle safety. Increase the safety of those traveling by bicycle by:
 - Sweeping and repairing bicycle paths and lanes on a regular basis;

- Ensuring that bikeways are delineated and signed according to Caltrans or City standards, and that lighting is provided where needed;
- Providing bicycle paths and lanes on bridges and overpasses;
- Ensuring that all new and improved streets have bicycle-safe drainage grates and are free of hazards such as uneven pavement or gravel;
- Providing adequate signage and markings warning vehicular traffic of the existence of merging or crossing bicycle traffic where bike routes and paths make transitions into or across roadways; and
- Work with the Turlock Unified School District to promote classes on bicycle safety in the schools.

5.3-q Demarcation of Class III Bikeways. In order to increase awareness of bicyclists sharing the roadway with motorized vehicles, demarcate Class III bicycle facilities by painting “sharrows” on streets. Because of high maintenance costs associated with sharrows, their use should be prioritized on areas with higher frequency of bicycle conflicts or where the bikeway may be obscured by traffic or geometrics. This shall apply only to Class III facilities shown on Figure 5-4, and not on local streets.

5.3-r Improved bikeway visibility. Use visual cues, such as brightly-colored paint on bike lanes or a one-foot painted buffer strip, along bicycle routes to provide a visual signal to drivers to watch out for bicyclists and nurture a “share the lane” ethic. Start with areas of town where automobile-bicycle collisions have occurred in the past, based on data from the Statewide Integrated Traffic Records System maintained by the California Highway Patrol.

Pedestrian Access and Comfort

5.3-s Pedestrian access to shopping centers. Install clearly marked crosswalks at intersections near all neighborhood commercial centers, as well as clearly marked pedestrian paths within parking areas. Crosswalks and signage indicating pedestrian activity should also be installed at mid-block entrances where existing shopping centers are adjacent to other high-intensity uses, such as parks and schools where necessary for safety; however, mid-block crossings are discouraged in new development.

5.3-t Pedestrian connections at employment centers. Encourage the development of a network of continuous walkways within new office parks, commercial areas, or industrial areas to improve workers’ ability to walk safely around and from their workplaces.

Improvement Strategy

5.3-u Bikeway improvements in infill areas. To address the Priority Infill Bikeway Improvement Areas indicated on Figure 5-3, complete a feasibility study within two years of the General Plan’s adoption



The BLAST bus provides local transit service in Turlock, with stops within walking distance of many neighborhoods.

that identifies planned improvements and analyzes the cost and process associated with implementing those improvements. The feasibility study shall evaluate the identified areas for safety concerns and identify the minimum improvements necessary to address safety and usability issues. Funding for the feasibility study shall be provided through inclusion in the CFF.

The feasibility study may identify a range of possible improvements to the targeted areas that can be implemented incrementally as funding becomes available. Low-cost enhancements that render some immediate safety improvements may be implemented first. The appropriateness of each type of improvement will be related to the constraints of each individual site. Possible improvements include, but are not limited to:

- Signage improvements
- Painting or re-painting of lanes and/or sharrows
- Installation of “soft-hit” posts or other removable barriers that separate bike lanes from motorized traffic
- Changes to intersection signalization or timing

The feasibility study shall also identify and list possible funding sources.

5.4 PUBLIC TRANSPORTATION

Turlock’s relatively small size and rural surroundings has traditionally resulted in a small role for public transportation. Less than one percent of Turlock’s workforce uses public transportation to travel to work (see Table 5-1) Prior to the late 1990s, the City maintained only a demand-responsive bus system due to the low demand. However, the City has since transitioned from its exclusively demand-responsive operation to a fixed route system. This was the result of the Turlock service area approaching the limits of what a demand responsive transit service could most efficiently serve. The transit industry generally considers 50,000 to be the population threshold where the transition from demand responsive to fixed route should occur, and the 1999 population was approximately 57,000. The overall service area is approximately 21 square miles.

Turlock is also included in the planning for a new regional rail system currently being studied by the San Joaquin Regional Rail Commission. This new service would be an extension of the Altamont Commuter Express (ACE), linking Turlock to employment destinations to the north and west to the Bay Area. Additionally, Turlock is located along one of the potential routes for the future California High Speed Rail (HSR) system. The regional rail system and HSR would

share the same right of way. Turlock is identified as a regional rail stop, but not a High Speed Rail stop.

Over the next 20 years, Turlock’s population is projected to reach between 115,000 and 127,000 people. Much of the new housing is planned to be more compact than that which was developed in the last decade, which will help make Turlock’s public transportation increasingly viable. Continuing to strengthen public transportation options in Turlock is a priority of this General Plan—but is one that is only possible through supportive land use planning and accompanying funding and implementation plans.

CURRENT LOCAL TRANSIT SERVICES

Fixed Route—BLAST

Since 1998, the Bus Line Service of Turlock (BLAST) has provided a local fixed route bus system for Turlock and Denair residents and visitors. BLAST operates 4 separate routes, mostly on the east side of SR 99, from Olive Avenue to Countryside Drive and from Christofferson Parkway to Linwood Avenue. BLAST operates on Saturdays from 9:20 AM to 4:20 PM and Mondays through Fridays 6:10 AM to 6:50 PM, holidays excluded. Buses run about every 35 minutes Monday through Friday and every 70 minutes on Saturdays. Figure 5-5 shows the areas of coverage and access by the current BLAST system.

Demand Responsive—Dial-a-Ride Turlock

Since 1975, the City has operated Dial A Ride Turlock (DART). DART was the only local public transportation until BLAST was started in 1998 to meet increasing demand. DART still operates full-service for residents 65 or older and/or with disabilities but is restricted to trips outside the BLAST system for other passengers. DART operates in Turlock on Saturdays from 9:20 AM to 4:15 PM and Mondays through Fridays 5:35 AM to 6:15 PM. In Denair, DART operates Mondays through Saturdays 9:20 AM to 4:15 PM.

The biggest challenge facing Turlock’s provision of local transit is continuing shortfalls in funds for operation. The funding that the city received for transit through the American Recovery and Reinvestment Act (ARRA) were dedicated to capital improvements; meanwhile, the City continues to struggle with operating costs.

CURRENT REGIONAL SYSTEMS

Both the counties of Stanislaus and Merced operate public transportation systems that provide service to and from the Turlock area.

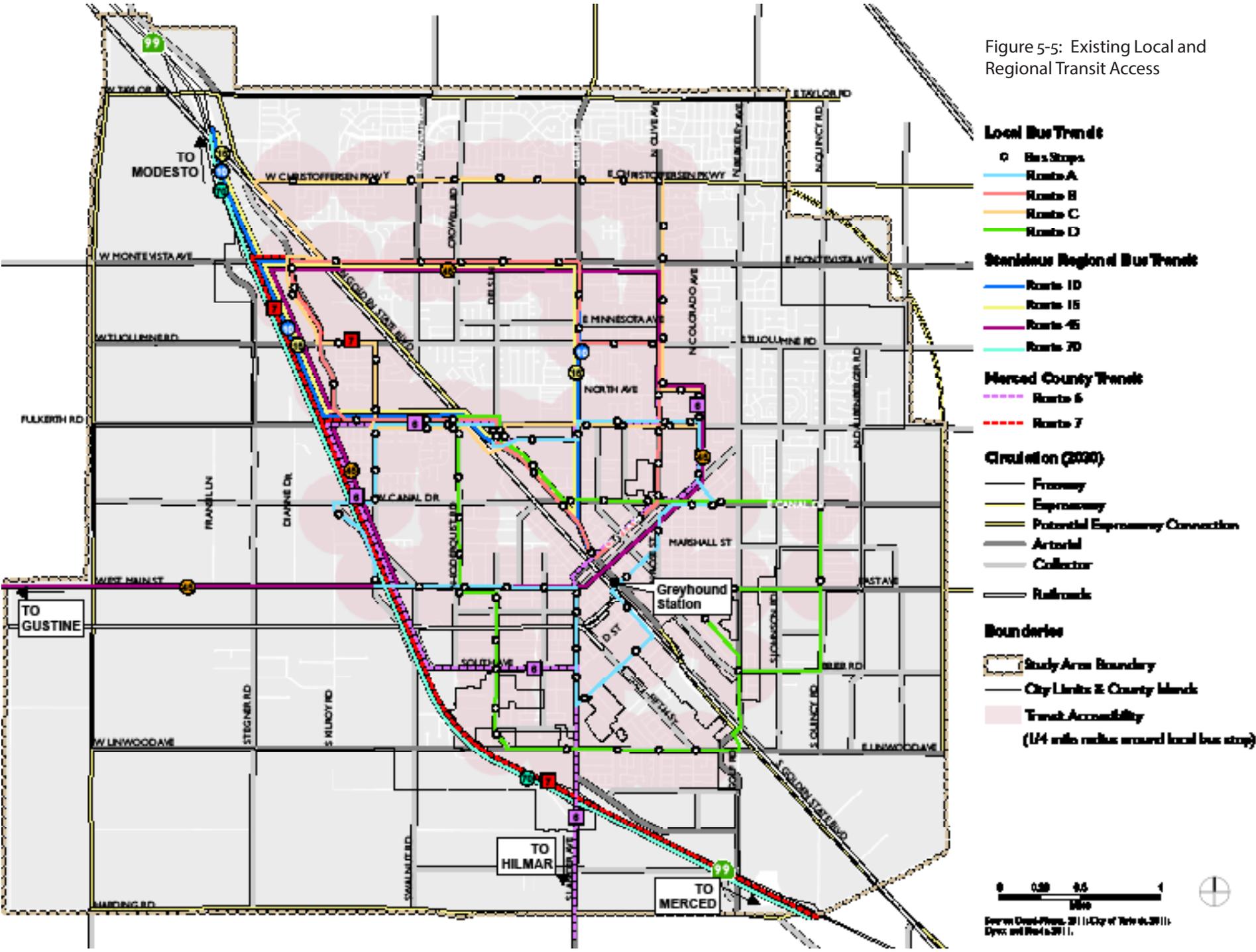
Stanislaus Regional Transit

Stanislaus Regional Transit (StaRT) provides a fixed route system, shuttle services, runabout services, and dial-a-ride services. The Turlock/Modesto Shuttle service provides demand-responsive transit between the Cities of Modesto, Ceres, Keyes, and Turlock. The Turlock area is also served by the StaRT fixed route system via Route 10 Express, Route 15, Route 45, and Route 70. These fixed routes connect the City of Turlock to regional destinations such as Gustine, Newman, Crows Landing, Patterson, Merced, Keyes Ceres, and Modesto. StaRT Route 10 Express has two early buses with 20 minute headways starting at 6:10 from Modesto and 6:42 from Turlock. Between 7:30 AM and 5:00 PM, buses run roughly one hour headways. Another two routes are run after 5:00 PM from both Turlock and Modesto about 20 minutes apart. Route 15 runs about every 2:00 hours Monday through Friday 5:05 AM to 8:01 PM from Modesto and 5:48 AM to 8:56 PM from Turlock. On Saturdays, the service starts later and ends earlier but still runs about every 2 hours. Route 45 runs about every 2 to 3 hours with closer spacing in the morning and evening commute periods. Route 70 runs only twice a day, leaving Modesto at 6:10 AM and 4:10 PM.

Merced County Transit

THE BUS is a service provided by the Transit Joint Powers Authority for Merced County and provides, as with StaRT, both fixed route and dial-a-ride services. THE BUS dial-a-ride service is not available to and from the Turlock area, but the fixed routes provide service to Turlock via Route 6 and Route 7. Route 6 links Turlock with the Hilmar community and travels along SR 165. Route 7 provides service to and from Merced and travels along SR 99. THE BUS Route 6 runs about every hour from 7:00 AM to 9:05 AM and from 1:00 PM to 4:45 PM. Route 7 runs on irregular headways with buses leaving the station anywhere from 1 hour to 2 hours apart. The Saturday Red Route 7 is more limited, with only one bus running the Turlock to Merced and back route. The bus arrives at the Merced terminus at 10:30 AM, 2:00 PM, and 6:45 PM. Figure 5-5 maps the current regional transit routes and shows areas of convenient walkability to transit.

Figure 5-5: Existing Local and Regional Transit Access



Greyhound

Inter-regional, statewide and nationwide bus transportation is provided to the Turlock area via Greyhound. The Greyhound station is open Mondays through Fridays 8:00 AM to 5:30 PM and Saturdays 9:00 AM to 11:59 AM, excluding holidays. The Greyhound depot is located centrally in the Downtown Turlock area, at 243 Golden State Boulevard between Main Street and Marshall Street. The station is identified in Figure 5-5.

Amtrak

Residents of the Turlock community are also served by Amtrak, which runs on the Santa Fe Railroad tracks through Denair. The San Joaquin run offers short passenger trains that make four stops daily, providing direct rail access to other communities in the San Joaquin Valley, with connections to all other Amtrak routes and stations including national routes. There is a small passenger kiosk in Denair.

POTENTIAL FUTURE REGIONAL TRANSIT

Turlock may benefit from the development of one or more future regional rail systems. However, these are still in planning stages and may or may not be in place during this General Plan planning period.

High Speed Rail

Since voter approval of Proposition 1A on the November 4th, 2008 statewide ballot providing \$9 billion in bond funding, the California High-Speed Rail project is moving forward. Plans for High Speed Rail entail electrically-powered trains running on over 800 miles of track, linking San Francisco and Sacramento to Los Angeles and San Diego via the Central Valley. While the system is not planned to stop in Turlock, there are stops planned in Modesto and Merced. This section of the system (San Jose-Merced) is currently in the Alternatives Analysis stage, which will help identify the alignment, precise station locations, and maintenance facilities. Turlock will be able to benefit from the ultimate implementation of High Speed Rail by providing ancillary transit services to nearby stations.

The alignment of the High Speed Rail through the Central Valley has yet to be determined, and it will likely follow one of two existing railroad rights of way: the Union-Pacific Railroad (UPRR) or the Burlington-Northern and Santa Fe (BNSF). The UPRR roughly parallels State Route 99 and Golden State Boulevard, while the BNSF runs northeast of Turlock, through Denair. Two alignments through Turlock are under consideration for the UPRR option: the first through Downtown, and the second on the west side. The ultimate alignment will have important implications for subsequent planning and rail service in Turlock. If the UPRR alignment through Downtown is chosen, the City will have to undertake a new Downtown planning effort to consider and plan for the impacts of the high speed train through central Turlock, as well as for the land uses and urban design surrounding a potential station. If the BNSF alignment is chosen, the impacts on Turlock will be minimal; however, the City may wish to implement new transit connections between Turlock and the nearest station(s).

Commuter Rail

In early 2010, the City of Turlock approved a Memorandum of Understanding to work with other regional entities from Sacramento to Merced County to explore the creation of a commuter rail service for Central Valley cities. The working group is led by the San Joaquin Regional Rail Commission, which owns and operates the Altamont Commuter Express (ACE) train which links communities in San Joaquin County to the Bay Area. The proposed Valley commuter rail would link to the current ACE train. The group is working closely with the California High Speed Rail Authority, and hopes to build commuter rail tracks along the same alignment as the proposed high speed train in the near term so that regional service could commence earlier.

POLICIES

Guiding Policies

- 5.4-a Promote safe, efficient, and convenient public transportation. Promote the use of public transportation for daily trips, including to schools and workplaces, as well as other purposes.
- 5.4-b Work with multiple agencies and jurisdictions. Continue to cooperate with other agencies and jurisdictions to promote local and regional public transit serving Turlock.

Implementing Policies



Implementation of the proposed High Speed Rail project would have a large positive impact on improving connectivity between Central Valley and the rest of California.

Local Transit

- 5.4-c Improve local transit operations. Continue the present course of expanding its fixed route service and improving operations.
- 5.4-d Improvements to Demand-Responsive transit. Improve the City's dial-a-ride system. Aggressively pursue transit grant funds in order to continue funding operations.
- 5.4-e Consistency with Stanislaus Congestion Management System. Monitor the frequency, routing and coordination of local transit services for consistency with the requirements of the Stanislaus County Congestion Management Plan (CMP).

The County Congestion Management Plan includes minimum standards regarding these factors in an effort to enhance the coordination within the regional transportation system.
- 5.4-f Transit stop spacing. Transit stops should be spaced no further than 1,000 feet apart, if spaced for continuous service on city streets. Spacing may deviate from the general standard in the Westside Industrial Specific Plan area where individual businesses occupy large parcels (greater than 20 acres) and where stops should serve employee entrances directly.
- 5.4-g New transit center location. Continue to pursue the development of the city's new interim Transit Center (at Dels Lane and Golden State Boulevard) and future permanent center Downtown. Two options for the final transit center location are at Dels Lane and in Downtown. The final location of the transit center shall coincide with the location of the regional commuter rail station, be addressed in the update of the Downtown Master Plan, and be reflected in the General Plan upon its completion.
- 5.4-h Funding for transit services. Continue to pursue federal and State funds to cover capital and operating costs associated with Turlock's transit operation. (Currently, funding is sufficient to cover these costs.) If federal funds are reduced and capital needs are not being met, transit may be added to the Capital Facilities Fee (CFF) through a Nexus Study.
- 5.4-i Transit usability. Situate transit stops at locations that are convenient for transit users, and promote increased transit ridership through the provision of shelters, benches, bike racks on buses, and other amenities.
- 5.4-j Transit services marketing. Encourage ridership on public transit systems through marketing and promotional efforts. Provide information to residents and employees on transit services available for local and regional trips.

- 5.4-k Transit for seniors. Require new community care facilities and senior housing projects with over 25 beds to provide accessible transportation services for the convenience of residents.
- 5.4-l Development that supports transit. Ensure that new development is designed to make transit a viable transportation choice for residents. Design options include:
 - Have neighborhood centers or focal points with sheltered bus stops;
 - Locate medium and high density development on or near streets served by transit wherever feasible; and
 - Link neighborhoods to bus stops by continuous sidewalks or pedestrian paths.

Regional Transit and Coordination

- 5.4-m Regional transit to support SB 375 compliance. Coordinate with other relevant agencies to implement regional transit solutions as part of the SB 375 Sustainable Communities Strategy.
- 5.4-n Correspondence between local and regional transit. As Turlock’s local transit system continues to be developed, services should be oriented to link with potential future commuter and/or high-speed rail.
- 5.4-o Regional rail. Support regional efforts to provide regional passenger train services, via commuter rail and/or High Speed Rail. As necessary, engage in Station Area planning efforts to examine and coordinate land uses surrounding a future train station in Turlock.
- 5.4-p Support existing regional transit services. Continue to support the MT Stage service provided by Stanislaus County and THE BUS service provided by Merced County.
- 5.4-q Denair Amtrak Station. Continue to support the operation of the Amtrak station in Denair. Expand bus service to serve the train station.
- 5.4-r Regional Transit Agency. Support efforts to improve the coordination and efficiency of bus service on a regional level and, if appropriate, the regionalization of transit service delivery.

5.5 AVIATION, RAIL, AND GOODS MOVEMENT

AVIATION

Turlock Municipal Airport

The City of Turlock owns a municipal airfield that is located approximately 8 miles east of the City off of East Avenue and Newport Avenue. The airport is not only outside the incorporated City limits but is also situated in the adjoining Merced County, outside of the Planning Area. The airfield facility was originally constructed by the federal government as an overrun field for Castle Air Force Base, located approximately twenty miles to the south in the community of Atwater. The City acquired the 640-acre site in the late 1940s through a transfer from the federal government under the Surplus War Property Act of 1944. Since that time the City has managed and operated the Airport as a small general aviation facility.

In 1951 the City sold 307 acres that were not being utilized for airport operations to a private landowner for an agricultural operation. The proceeds from the sale were reinvested into airport operations and improvements. Approximately 250 acres of the remaining airport property are now leased to a private operator for an agricultural operation.

Historically, the Turlock Municipal Airport has been operated under an airport lease or contract management agreement. Currently, the City has a management contract with a fixed-base operator that serves as an on-site manager for purposes of aircraft maintenance and fuel sales. The City provides administrative support in the form of rental of tie-downs and hangar spaces and the collection of monthly rental/lease fees. The City has also established an Airport Advisory Committee that advises the Council on operational aspects of the airport facility.

The airport is open to the public and has repair facilities. The runway asphalt is listed as being in good condition and the markings in fair condition. Use is limited to single wheel craft under 12,000 lbs. As of 2008, 57 aircraft are based at the airfield, including 52 single-engine planes, three multi-engine planes, and two helicopters. Seventy-nine percent of traffic is local and 21 percent is itinerant.

In 1991 the City first completed and adopted an Airport Master Plan Study. The study was coordinated with the City of Turlock, the Turlock Airport Advisory Committee, County of Merced, Merced County Airport Land Use Commission, Merced and Stanislaus Associations

of Governments (COGS), Castle Air Force Base, the Federal Aviation Administration, CalTrans and other federal, State and local agencies. The Master Plan identifies future airport levels of service, future estimated general aviation demands, potential airport facility improvements, and possible management and organizational options to keep the facility active.

Historically, the City has maintained a general policy that the Turlock Municipal Airport will be a self-supporting facility. In other words, funds derived from the agricultural lease, the tie-down/hanger rentals, and a modest fuel flowage fee would be used to maintain and improve the facility. As of 2001, the Turlock Airport was running as a self-supporting facility.

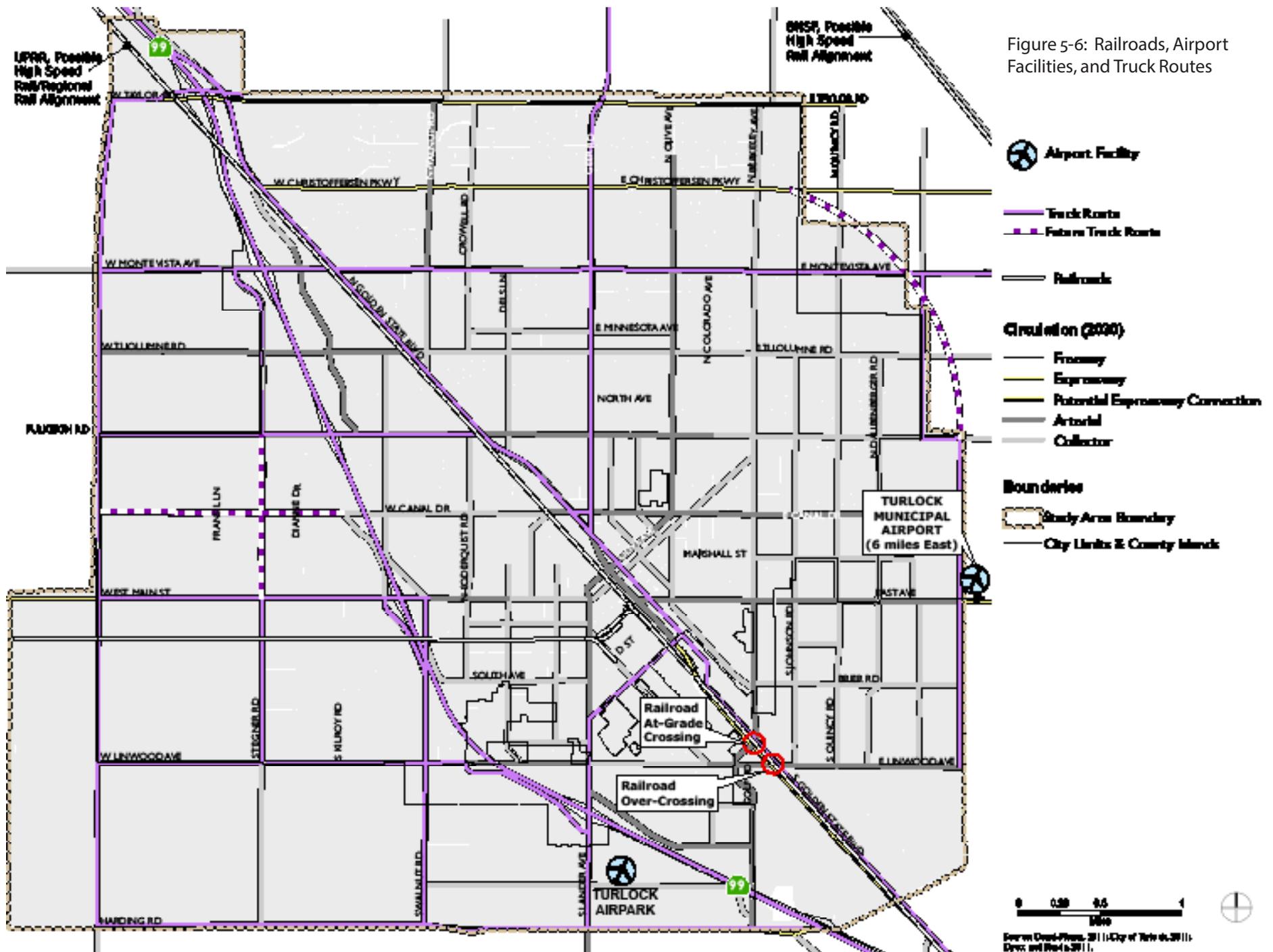
The State of California utilizes a model to assist local governments in determining the indirect economic benefits that generally result from a local airport facility. This model is based upon three general variables: the revenue derived from fixed base operation(s); the personal property taxes assessed on the private aircraft based at the facility; and the “visitor dollars” that the community received from transient aircraft frequenting the facility. In Turlock’s case, there is little to suggest a positive impact in any of these areas. First, historically very little income in excess of operational costs has been received from the fixed base operators. Second, since the facility and its fixed base aircraft are located in Merced County, the City received virtually no share of the personal property taxes paid by the aircraft owners. Third, since transient tie-down activity is virtually non-existent, there would appear to be little “secondary spin-off” revenue that could be expected from out-of-town visitors.

Turlock Airpark

Turlock Airpark is a private airstrip located just south of SR 99 within the City limits, owned by Turlock Airpark Inc. Air traffic in and out of Turlock Airpark is light, the runway asphalt and markings are listed as being in poor condition, and use is limited to single wheel craft under 4,000 lbs. 32 aircraft are based at the airfield, including 12 single-engine planes and 20 ultralight craft. Sixty percent of traffic is local and 40 percent is itinerant.

The Airpark has generated complaints from neighboring residents. As the General Plan recognizes the goal of discouraging the continuation of existing incompatible land uses throughout the planning area, the City encourages the cessation of flight operations at the facility, and its possible relocation to a more suitable site.

Figure 5-6: Railroads, Airport Facilities, and Truck Routes



RAILROAD

Union-Pacific

The railroads within the City limits are owned by the Union Pacific Railroad (UPRR). These railroads provide freight service in and out of the City, serving the industrial area west of SR 99 and the downtown area parallel to Golden State Boulevard. The main Union-Pacific line runs parallel to Golden State Boulevard and connects the City to a vast statewide and interstate rail network via the City of Modesto to the north and the City of Fresno to the south. The secondary Union-Pacific line that serves primarily rural areas west of Turlock and the west side industrial area runs a mile south of and parallel to Main Street from Golden State Boulevard out west where it meets a north-south line headed to Modesto via Ceres. Figure 5-6 shows the railroads and Amtrak station in the Turlock area.

Railroad activity includes approximately 18 freight train operations per day along the UPRR track running parallel to Golden State Boulevard passing through some residential areas. A maximum of two local freight trains operate per day on the local UPRR tracks, which run parallel to Castor Street, formerly Tidewater Southern purchased by UPRR. This is an important short line service to the TRIP.

BNSF

BNSF owns and operates a railroad line east of the City limits running through the unincorporated community of Denair. The BNSF line runs roughly parallel to the Union-Pacific line, connecting to the Cities of Stockton and Modesto to the north and the City of Fresno to the south. This railroad is about 4 miles northeast of the Union-Pacific railroad.

TRUCK MOVEMENT

Manufacturing is one of the largest single employment sectors for Turlock residents; together with other industrial activities such as food processing and wholesale trade, it represents a significant part of Turlock's expanding economic base. Efficient regional connections are prerequisite to the expansion and continued operation of these industrial activities, as well as for the provision of goods and supplies to the other sectors.



The Union Pacific Railroad follows Golden State Boulevard through central Turlock and sees some 18 freight trains per day.

In recognition of the special design consideration for truck routes, and to minimize neighborhood disruption, the City in 1984 adopted a resolution delineating special truck routes. Truck routes are developed to minimize neighborhood disturbance in the City and consist primarily of freeways, select expressways, and a few arterial and collector streets. SR 99 is a major statewide truck route. Golden State Boulevard provides truck access through the core of Turlock. The only truck routes that cross the Union-Pacific railroad tracks adjacent to Golden State Boulevard are Monte Vista Avenue and Fulkerth Road. Other peripheral truck routes include paths to and from the industrial development west of SR 99 and to regional destinations north and east of the planning area via Geer Road and Monte Vista Avenue respectively. Harding Road and Washington Road provide routes around the southern and western edges of Turlock. Walnut Road, Tegner Road, Linwood Avenue, Main Street, Fulkerth Road and Monte Vista Avenue provide routes into and out of the industrial zones west of SR 99. Figure 5-6 shows existing and proposed truck routes.

POLICIES

Guiding Policies

- 5.5-a Maintain the Turlock Municipal Airport. Maintain existing facilities and operations at the Turlock Airport and seek to improve facilities as funding appropriations permit.
- 5.5-b Ensure compatible land uses with the Turlock Municipal Airport. Maintain compatibility of Turlock Municipal Airport operations with development in the surrounding area.

Coordination with Merced County Planning Department and the Airport Land Use Commission (ALUC) is required.
- 5.5-c Promote safe and efficient goods movement. Promote the safe and efficient movement of goods via truck and rail with minimum disruptions to residential areas.
- 5.5-d Promote railroad safety. Minimize the safety problems associated with the Union Pacific Railroad and the divisive effect of the track alignment on the City.

Implementing Policies

Aviation

5.5-e Turlock Airport Master Plan. Continue to monitor and update as needed the Turlock Municipal Airport Master Plan including its implementation programs.

The Master Plan addresses issues such as maintenance and upgrading of facilities and outlines the long-term objectives for the airport.

5.5-f Financing for airport improvements. Finance improvements to the Airport through user fees and state or federal funds earmarked for general aviation facilities.

5.5-g Airport management and operation. Continue to operate the Turlock Municipal Airport through a fixed base operator and airport management agreement with the goal of continually decreasing subsidy from the City's General Fund.

5.5-h Closure and/or relocation of Turlock Airpark. Encourage cessation of flight operations at the private Turlock Airpark and assist the owners in its relocation.

A small privately owned airpark is located in the southern part of the City and is subject to various use and size restrictions due to its proximity to Highway 99. This airpark is used only infrequently, primarily by ultra-light aircraft and radio-controlled model airplanes, and has generated complaints from neighboring residents. The Plan recognizes the goal of discouraging the continuation of existing incompatible land uses throughout the planning area.

5.5-i Airpark removed from County Plan. Support the Stanislaus County Airport Land Use Commission in removing the Turlock Airpark from its Airport Land Use Commission Plan.

Truck Movement

5.5-j Truck route identification. Continue to sign truck routes. Ensure that clear signage is provided from freeways to truck routes in Turlock.

5.5-k New truck route designation. All expressways, arterials, and industrial streets shall be designated truck routes.

5.5-l Truck route design. Incorporate provisions for trucks in the design of routes depicted for truck movement in Figure 5-6. Ensure that truck routes are designed according to

Surface Transportation Assistance Act (STAA) standards for intersections and turning movements.

- 5.5-m Location of industrial development. Continue industrial expansion in the TRIP so as to minimize the neighborhood impacts of truck movements.

Areas designated for industrial expansion in the Plan are to the west of Highway 99, which will continue to serve as a buffer between residential and industrial areas.

- 5.5-n Secure truck parking. Encourage high-security off-street parking for tractor-trailer rigs in industrial designated areas.

Locate parking in areas with demonstrated need and where police patrol can be provided. High visibility, including good lighting, should be provided.

- 5.5-o Financing for truck facilities. Explore possible funding sources, including user fees, to help finance truck routes, at least in part.

Railroad

- 5.5-p Railroad crossing safety. Continue the ongoing comprehensive program to improve the condition and safety of existing railroad crossings by upgrading surface conditions and installing signs and signals where warranted.

Special consideration must be given to improving access to Downtown.

- 5.5-q New railroad crossings. Provide new grade-separated crossings across the Union Pacific Railroad (UPRR), as shown on Figure 5-6, in conjunction with the planned roadway improvements shown on Figure 5-2. New grade-separated crossings will be at Linwood Avenue and the new east side expressway.

- 5.5-r Financing for railroad crossing improvements. Establish a financing program for railroad crossing improvements through such mechanisms as a special assessment district (municipal revenue bonds) or tax-increment financing (redevelopment district).

5.6 ELECTRICITY, OIL, GAS, AND TELECOMMUNICATIONS TRANSMISSION AND DISTRIBUTION

The Circulation Element addresses not only the movement of people and goods throughout the Study Area, but also the transmission and distribution of electricity, oil, gas, and telecommunication services. Each of these services is regulated by the State, and services are provided by various utilities. The City of Turlock is not responsible for the siting, design, construction, or operation of these transmission facilities; rather, the role of the General Plan is largely to facilitate the continued safe and efficient operation of these utility providers and to prevent adverse impacts associated with transmission facilities.

Electricity service in Turlock is provided by the Turlock Irrigation District (TID). Natural gas is provided by Pacific Gas & Electric (PG&E). As of January 2009, TID operated 25,000 electric meters, 20 miles of transmission lines, 25 miles of fiber optic backbone, 160 miles of underground distribution lines, and 130 miles of overhead distribution lines in the Study Area. Several major PG&E gas transmission pipelines extend through the Turlock Study Area: roughly following Walnut Road from Bradbury Road to Golden State Boulevard; along Washington Road from Bradbury Road to West Main Street; along Golden State Boulevard from Hawkeye Avenue north; and along Geer Road from Canal Drive north. One refined oil product pipeline underlies the Study Area, roughly following the path of Highway 99.

TID maintains a five-year plan for its electric facilities, which is reviewed annually; it is in the process of adding power resources as part of its normal resource planning process, and expects to be able to maintain a sufficient level of service for the Study Area throughout the planning period. Chapter 8 provides additional information about electricity and gas usage in the Study Area.

Rising demand associated with population and employment growth will necessitate additional transmission facilities both for serving local needs for electricity, gas, oil, and telecommunications and for transporting these services through the Study Area to reach other locations. Therefore, it is important that these new facilities and services be provided in a manner that minimizes impacts on the built and natural environments and on the health and safety of Turlock residents and businesses.

POLICIES

Guiding Policies

- 5.6-a Provide safe, reliable, and efficient service. Ensure the provision of safe, reliable, efficient and economical electricity, gas, telecommunication, and similar services while minimizing potential land use conflicts, and health, safety, environmental, and aesthetic impacts of transmission facilities.
- 5.6-b Minimize impacts and hazards. Plan and design electricity, gas, oil, and telecommunication transmission facilities to minimize visual impacts, preserve existing land uses, avoid natural and cultural resources, and minimize safety risks.

Implementing Policies

- 5.6-c Coordination with providers and regulatory agencies. Continue to coordinate with electric utilities and utility regulatory agencies on transmission line routing and electromagnetic field buffers.
- 5.6-d Consolidation of transmission facilities. Encourage consolidation of multiple transmission lines into common transmission corridors wherever possible. Secondary preferred locations are adjacent to freeway and railroad corridors, when feasible. In reviewing proposals for new transmission lines and/or capacity, the City should express a preference for upgrade of existing lines and use of existing corridors where feasible.
- 5.6-e Identify corridors in master plans. New transmission corridors should be identified to the extent feasible in all master plans created for new growth areas.
- 5.6-f Visual impact of substations. To minimize visual impacts, new bulk substations should be located in industrial and non-retail commercial areas when possible.
- 5.6-g Substations for residential areas. To the maximum extent possible, locate new distribution substations serving residential areas in adjacent commercial properties. When not feasible, these facilities should be designed in a manner to harmonize visually with the surrounding development.
- 5.6-h Minimize effects on resources. Locate and design public utility transmission, distribution, and maintenance facilities to minimize adverse effects on natural and scenic resources. Siting of new

above-ground transmission lines in visually sensitive areas, or in areas that would disturb wildlife habitat, vegetation, or significant cultural or historic resources is discouraged.

- 5.6-i Transmission lines and farmland. The crossing of prime or statewide importance farmland with transmission lines should be avoided whenever possible. In those cases when crossing farmland in these categories is unavoidable routing of the lines along the periphery of the site is the preferred alternative.
- 5.6-j Bisecting parcels. Transmission rights-of-way should avoid bisecting parcels wherever possible.
- 5.6-k Coordinate gas main routing with other easements. Route new high pressure gas mains within railway and electric transmission corridors, along collector roads, and wherever possible, within existing easements. If not feasible these gas mains shall be placed as close to the easement as possible.
- 5.6-l Protection of oil and gas pipelines. Ensure that pipeline owners protect and maintain underground oil pipelines and high-pressure gas pipelines to ensure maximum safety.
- 5.6-m Bird populations and transmission towers. Protect native and non-native bird populations by incorporating electrocution prevention measures into the design of new transmission towers.
- 5.6-n New telecommunications towers. Permit new freestanding telecommunications towers only when there are no feasible alternatives.

