

6 Public Facilities and Services

6.1 PARKS, RECREATION, AND OPEN SPACE

The City of Turlock owns and operates numerous parks and recreation facilities through its Public Facilities and Recreation Divisions, which are part of the City’s Municipal Services Department.

Inventory

Parks Inventory

Turlock has 25 dedicated municipal parks, 20 of which are neighborhood-serving city parks and five of which are larger community parks. Neighborhood parks are generally 15 acres or less, with the majority around five acres. They are usually oriented towards children’s recreation, but may also include volleyball courts, picnic areas, and other facilities that serve all age groups. The service area for neighborhood parks is approximately 3/8 of a mile, or 2,000 feet.

In addition to the neighborhood parks, Turlock has four community parks. These are intended to serve all ages and have a variety of recreational facilities, including passive picnic areas and benches as well as more active uses such as lighted courts and ball fields, swimming pools, and buildings for community events. Unlike neighborhood parks, community parks usually provide on-site restrooms and some off-street parking. Three of the four community parks are 25 acres or larger; Crane Park is only seven acres, but is still considered a community park given its central location and its extensive facilities. Turlock has a designated site for what is planned to be a fifth community park, west of Highway 99. According to the existing General Plan, the service area for community parks is up to a five mile radius.

The City’s Public Facilities Division has a shared facility use agreement with the Turlock Unified School District; therefore, the recreational grounds of Turlock’s public schools are also included in the parks and open space inventory. Turlock has 12 school parks, the majority of which are four- to six-acre elementary school sites. Turlock Junior High has eight acres, Turlock High has 10 acres, and Pitman

High has 20 acres. Table 6-1 summarizes Turlock’s park facilities, and Figure 6-1 shows the location of Turlock’s parks and school grounds.

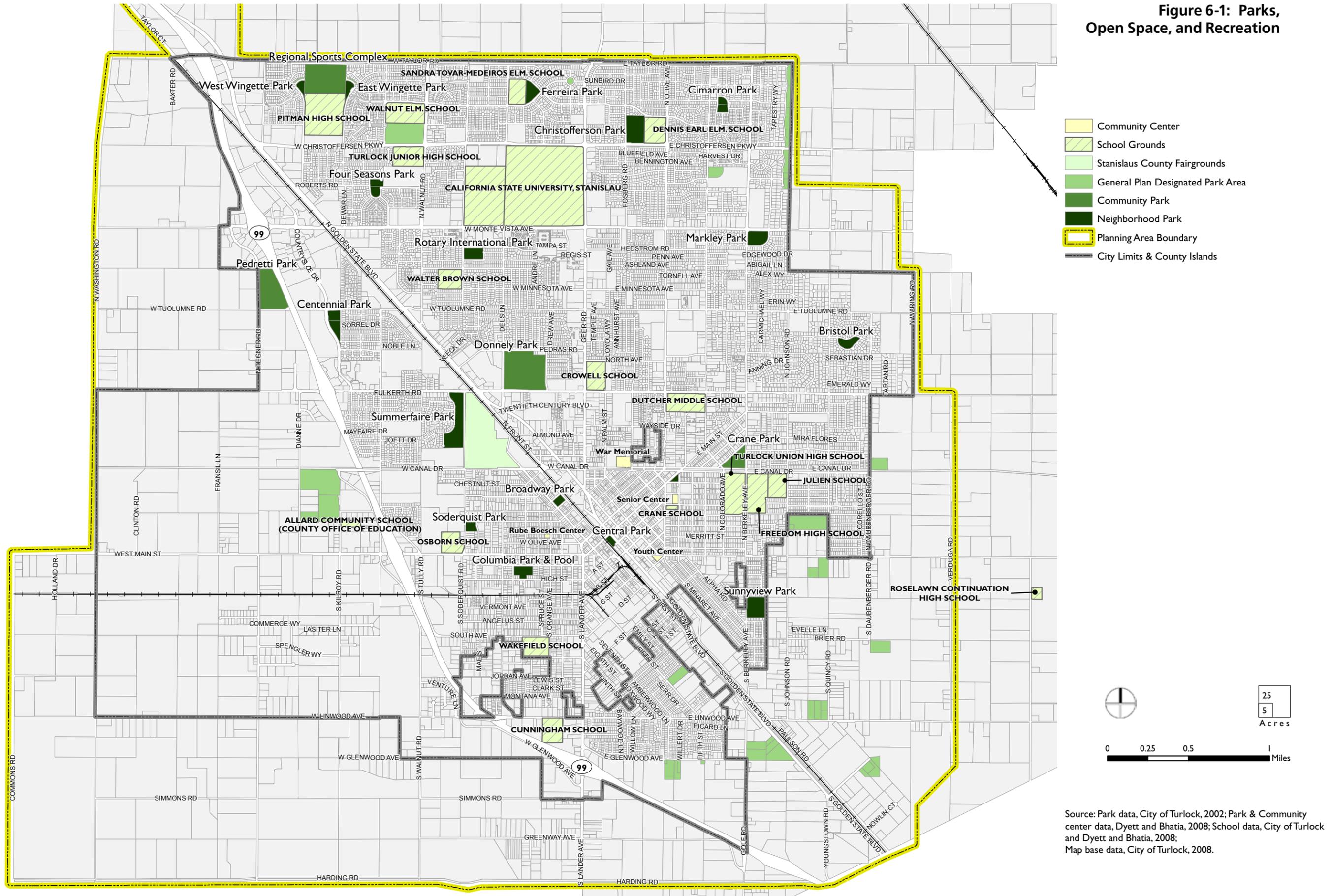
Table 6-1 Park Facilities Summary

Facility Type	Number	Acreage
Neighborhood Parks	20	87.4
Community Parks	5	136.5
School Parks	12	82.0
Total Open Space	37	305.9

Source: 1995 Parks Master Plan; 2002 General Plan Update; City of Turlock Municipal Services Department

Many parks serve an additional function as stormwater detention basins. Table 6-2 details the city’s park facilities and indicates whether they include storm basins.

Figure 6-1: Parks, Open Space, and Recreation



Source: Park data, City of Turlock, 2002; Park & Community center data, Dyett and Bhatia, 2008; School data, City of Turlock and Dyett and Bhatia, 2008; Map base data, City of Turlock, 2008.

Table 6-2 Park Facility Details

No.	Park or Recreation Facility Name	Net Acreage	Storm Basin?
Neighborhood Parks			
1	Bristol Park	4.0	No
2	Broadway Park	1.8	No
3	Centennial Park	3.5	No
4	Christofferson Park	12.7	Yes
5	Cimarron Park	3.25	No
6	Columbia Park	4.6	No
7	Denair Park	0.8	No
8	East Wingette Park	2.5	No
9	Ferreira Ranch Park	5.2	No
10	Four Seasons Park	4.3	No
11	GAR Park	0.2	No
12	Markley Park	6.5	Yes
13	Rotary International Park	5.0	Yes
14	Skate Park	1.25	No
15	Soderquist Ballfield	2.4	No
16	Summerfaire Park	16.6	Yes
17	Sunnyview Park	9.8	Yes
18	Tot Lot	0.5	No
19	West Wingette	2.0	No
20	Central Park	0.5	No
Community Parks			
21	Crane Park	7.0	No
22	Donnelly Park	37.6	Yes
23	Pedretti Sports Complex	25.4	No
24	Gemperle Fields Regional Sports Complex	31.8	No
25	Diane (unimproved)	34.7	No
School Parks			
26	Wakefield Elementary	4.0	No
27	Osborn Elementary	5.0	No
28	Cunningham Elementary	4.0	No
29	Brown Elementary	5.0	No
30	Crowell Elementary	6.0	No
31	Julien Elementary	5.0	No
32	Dutcher Middle	6.0	No
33	Turlock High	10.0	No
34	CSU-Stanislaus	5.0	No
35	Dennis Earl Elementary	4.0	No

No.	Park or Recreation Facility Name	Net Acreage	Storm Basin?
36	Turlock Junior High	8.0	No
36	Pitman High	20.0	No

Source: 1995 Parks Master Plan; 2002 General Plan Update; City of Turlock Municipal Services Department

Recreation and Arts Facilities Inventory

The Recreation Division conducts numerous classes and activities, including art classes, sports leagues for youth and adults, dance and exercise programs, aquatics classes, and after school activities, and youth and teen programs. The Division operates four community centers: the War Memorial, the Senior Center, the Youth Center, and the Rube Boesch Center. Most arts and recreation activities are hosted at the community centers, and the buildings are also available to be rented for special events. Organized sports are hosted at various community parks.

The Carnegie Arts Center, which was destroyed in an arson fire five years ago, is planned to undergo rebuilding and expansion. Once completed, the 18,000 square foot facility will serve as Turlock’s community art center as well as a venue for special events, arts and cultural classes, private rentals, and small theatrical productions.

Park Standards and Dedication

Existing Standards

The existing General Plan established a baseline standard of 4.2 acres of park per 1,000 residents. In 2002, the parkland dedication standard was changed to 4.5 acres per 1,000 residents, based on the results of the 2000 Census and the parkland inventory completed as part of the General Plan update process taking place at that time. Turlock’s Subdivision Regulations (Turlock Municipal Code Sections 11-7-201 et seq.) stipulate that new residential subdivisions must dedicate parkland at a ratio equal to that specified in the latest adopted General Plan, or pay an in-lieu fee.

As shown in Table 6-3, as of 2008, the actual parkland ratio is 4.3 acres per 1,000 residents. While the city has added over 120 acres of parks since the adoption of the current General Plan, keeping up with population growth, it still falls short of the established 4.5 acres per 1,000 residents standard.

Table 6-3 Actual Park Acreage and Ratios, 1992 and 2008

Park Type	1992 Acres	2008 Acres	Acres Added
Community	67.1	136.5	69.4
Neighborhood	19.5	87.4	67.4
School	50.0	82.0	32.0
Acres/1,000 pop.	4.2	4.3	
TOTAL	183.6	305.9	121.8

Source: 1992 General Plan, 1995 Parks Master Plan, 2002 General Plan Update, 2008 General Plan Implementation Report

Recent Improvements and Dedications

According to the May 2008 General Plan Implementation Report, notable parkland additions and improvements over the last six years include:

- Installation and improvements of play areas and equipment at Christofferson, Four Seasons, Ferreira Ranch, and Sunnyview Parks (2002)
- Construction of Turlock Regional Sports Complex (2002)
- Skate Park constructed (2004)
- Regional Sports Complex Amphitheater constructed (2005)
- Installation and improvement of equipment at Broadway and Markley Parks (2006)
- Landscaping of the two Wingette Parks and installation of bleachers at the Regional Sports Complex (2006)
- Renovation of playground, improvements of other facilities, and redevelopment of picnic areas at Crane Park (2007)
- New playground equipment and other facilities installed at Wingette Parks (2007)
- Portion of Sunnyview Park designated as an off-leash dog park (2007)

Adequacy of Existing Facilities

Staff from the Public Facilities and Recreation Divisions report that Turlock’s existing parks and recreation facilities are not adequate to maintain a sufficient level of services for future population growth in the city. In particular, they emphasized an existing deficiency in indoor recreation facilities to meet the needs of the current population, and as the city grows, the need will increase. The Parks and Recreation Commission, the Mayor’s Youth Gang Task Force, city

recreation staff, and recreation program participants have engaged in numerous recent discussions on this matter, emphasizing its importance.

Staff specifically highlighted the need for the following indoor and outdoor facilities:

- Little League baseball complex (minimum four fields in one location)
- Community Park (minimum 30-35 acres) that includes horseshoes, skating, a dog park, sand volleyball, tennis courts (minimum six), two playgrounds, parking, open space, and a large (200-person capacity) covered picnic area
- Aquatic Center
- Indoor facilities in several existing parks for recreation programs
- Teen Center
- Public indoor recreational venue to support volleyball, indoor soccer, basketball, fitness and wellness programs, and enrichment classes
- Increased walking and biking trails accessible to a wide range of people, including seniors, the disabled, families, and active adults (ages 55-75)

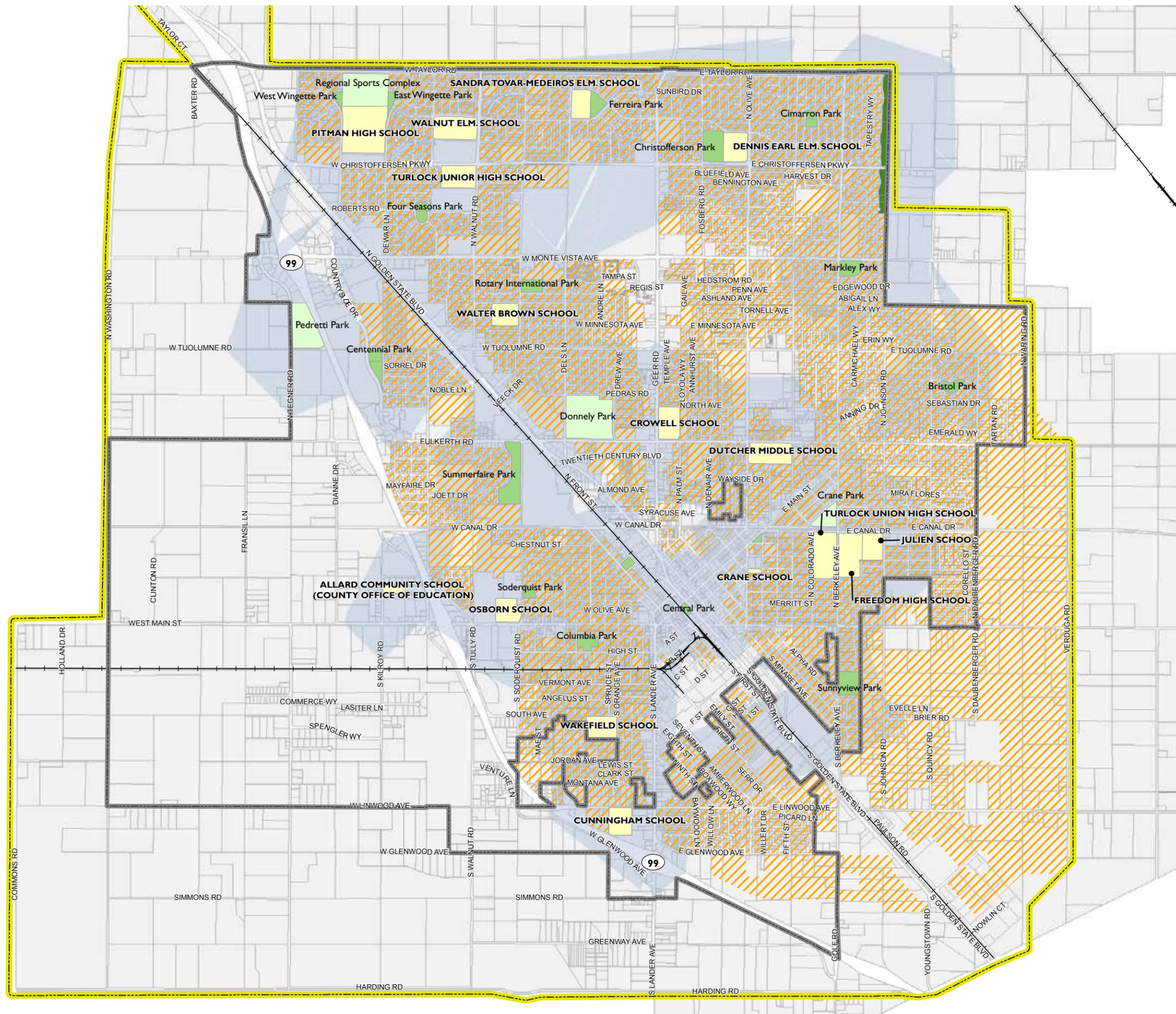
Additionally, a walking distance analysis from existing parks and school grounds highlighted areas that are potentially underserved. The analysis showed areas that were within a 3/8 mile walk of parks and schools, which is the current distance standard for neighborhood parks. Figure 4-2 shows the results of the walking distance analysis overlaid with areas designated for residential use in the current General Plan, and indicates that the neighborhoods just north, east, and west of Emanuel Medical Center do not have a neighborhood park located within adequate walking distance.

Budget and Operations

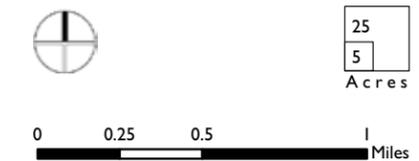
Municipal Funding

Facility construction is funded primarily through park development fees from new developments. Grants, including those from Proposition 12, Proposition 40, UPARR, and CDBG, and service club donations supplement the City’s funding for new facilities. The Park Improvement Fee, established in 1999, increased park fees to cover park improvements. Most of the maintenance of existing facilities is funded by the General Fund; a small portion is funded from the Mello-Roos established in 2004 for the Northeast Turlock Master Plan area, though this represents a very small percentage and is prorated as development is completed in that area. There is concern that a new funding mechanism must be created to

Figure 6-2: Parks Walkability Analysis



- 3/8 Mile Walkability
- Community Park
- Neighborhood Park
- General Plan Designated Park
- School
- General Plan Residential
- Planning Area Boundary
- City Limits & County Islands



Source: Walkability data, Dyett and Bhatia, 2009; Park data, City of Turlock, 2002; Park data, Dyett and Bhatia, 2008; School data, City of Turlock and Dyett and Bhatia, 2008; Map base data, City of Turlock, 2008.

finance the construction of some of the much-needed capital projects, such as the Little League complex, the Aquatic Center, and other desired indoor facilities.

Corporate Sponsorships and Contributions

The Recreation Division implemented a sponsorship program entitled “People, Places, and Partnerships.” In 2007, total contributions to the program totaled approximately \$38,000.

At the Pedretti Sports Complex, two local companies pay a small sponsorship fee to advertise at the park.

Schools Joint Use Agreement

In addition to the joint use agreement that allows the schools’ grounds to be used as public park facilities, the City and the Turlock Unified School District have a “Memorandum of Understanding” regarding after-school programs taking place at various elementary schools. Funding for these programs is derived from enrollment fees, participation fees, and the After-School Safety and Education (ASES) grant. Only some schools receive this grant funding; the rest operate a pay-as-you-go, fee-based after-school program.

Carnegie Arts Center

Funding for the reconstruction of the Carnegie Arts Center derives from a variety of sources, including community donations, Redevelopment funds, capital facilities fees, and insurance money. Funds for ongoing maintenance and staffing will come from program revenue, the city’s General Fund, the Arts Endowment Foundation, arts-related organizations, private rental fees, volunteers, community donations, and grants.

Staffing

Turlock has separate staffs for its parks and recreation facilities. Each division has eight full-time employees, who are assisted by additional employees on an as-needed basis, as well as numerous volunteers for the Recreation Division. Table 6-4 shows current staffing for the Parks and Recreation Divisions.

Table 6-4 Parks and Recreation Staffing

<i>Employee/Volunteers</i>	<i>Number</i>
Parks	
Parks Full-Time Employees	8
Parks As-Needed Employees	4
Recreation and Arts	
Recreation Full-Time Employees	8
Recreation As-Needed Employees	50-75
Recreation Volunteers	25-50
Arts Facilitator	1
Arts Part-Time	1
Arts Volunteers	20-30

Source: City of Turlock Municipal Services Department

Additionally, the Parks, Recreation, and Community Commission promotes and monitors activities and programs pertaining to parks and recreation. The Commission is comprised of seven members appointed by the Mayor.

Planning Issues and Implications

While new parkland dedication has kept pace with population growth in recent years, Turlock has still not met its policy goal of 4.5 acres per 1,000 residents. Identifying and dedicating a sufficient quantity and quality of park and recreation land will be a high priority as the General Plan update progresses. Both community members and city staff have cited the need for numerous new facilities, particular indoor recreation centers and a trail system.

6.2 PUBLIC EDUCATION

Pre-kindergarten through 12th grade public education for most of the Planning Area is provided by the Turlock Unified School District (USD). A small portion of the Planning Area, in the northeast, is served by the Denair Unified School District. Children in portions of the planning area in the southwest and northwest attend elementary and middle school in the Chatom and Keyes Union School Districts, but go on to Turlock and Pitman High Schools, respectively. Currently, the portions of the planning area in the Chatom and Keyes districts are mainly rural, and have few school-aged children. Figure 6-3 shows the schools and school districts in the Planning Area.

Schools and Enrollment

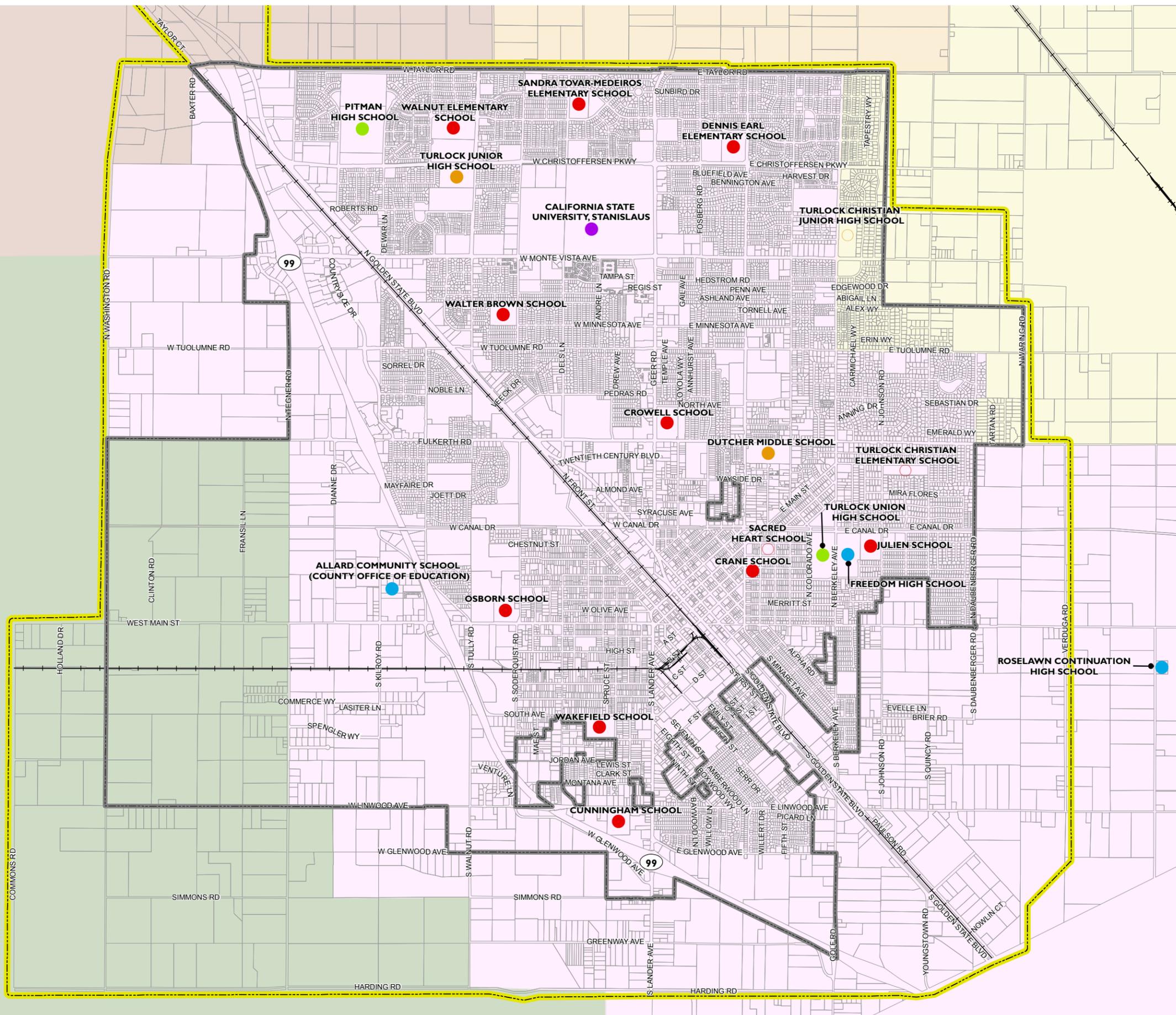
The planning area is served by 13 elementary schools (ten in the Turlock USD, one each in Denair, Chatom, and Keyes), five junior high schools, and three comprehensive high schools. There are also four small alternative programs, two pre-schools, and a K-12 charter school. All the schools operated by the Turlock, Denair, Chatom, and Keyes school districts serve students from within the planning area, as well as students from surrounding rural areas. Table 6-5 lists 2008-2009 enrollment for all schools in the relevant districts.

Table 6-5 Turlock and Denair Public School Enrollment

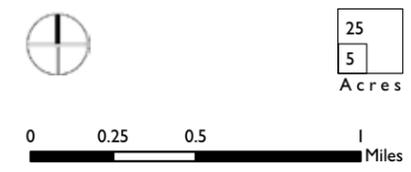
<i>School</i>	<i>2008-2009 Enrollment</i>
Turlock Unified School District	
Crane Early Learning Center (PK-K)	100
Brown (K-6)	648
Crowell (K-6)	767
Cunningham (K-6)	715
Dennis Earl (K-6)	808
Julien (K-6)	818
Medeiros (K-6)	766
Osborn (K-6)	906
Wakefield (K-6)	689
Walnut Education Center (K-6)	759
Dutcher (7-8)	681
Turlock Junior High (7-8)	1,364
Pitman (9-12)	2,178
Turlock (9-12)	2,258
Freedom Alternative High (9-12)	123
Roselawn Continuation High (10-12)	248
<i>Subtotal</i>	<i>13,828</i>
Denair Unified School District	
Denair Elementary (K-5)	640
Denair Middle (6-8)	341
Denair Community Day (7-8)	6
Denair High (9-12)	373
Oasis Community Day (9-12)	4
Denair Charter Academy (K-12)	235
<i>Subtotal</i>	<i>1,599</i>
Chatom Union School District	
Chatom Preschool (Pre-K)	40
Chatom (K-5)	451
Mountain View (6-8)	224
<i>Subtotal</i>	<i>715</i>
Keyes Union School District	
Keyes (K-5)	580
Spratling (6-8)	250
<i>Subtotal</i>	<i>830</i>
Total	16,972

Source: Turlock Unified School District, Denair Unified School District, Chatom Union School District, Keyes Union School District

Figure 6-3: Schools and School Districts



- Public Schools**
- Elementary
 - Junior High School
 - High School
 - Alternative
 - University
- Private Schools**
- Elementary
 - Junior High School
- Elementary School Districts**
- Chatom Union
 - Denair Unified
 - Hughson Union
 - Keyes Union
 - Turlock Joint Union
 - Planning Area Boundary
 - City Limits & County Islands



Source: School data, City of Turlock, 2008; School data, Dyett and Bhatia, 2009; Map base data, City of Turlock, 2008.

In the 2008-09 academic year, Turlock Unified School District counted 13,828 enrolled students. The Denair school district has a total enrollment of 1,599, and grew by 4.2 percent between 2004 and 2007, largely owing to residential development in the Northeast Turlock specific plan area. In the Chatom and Keyes districts, 715 and 830 students are enrolled, respectively.

The Turlock Unified School District has added significant capacity in recent years, with the opening of its second high school, John Pitman, in 2001, followed by Medeiros Elementary and Walnut Education Center in 2006 and 2007. All are in the growing northern part of the city. Turlock USD's 2008 School Facilities Needs Analysis determines that when state guidelines for counting relocatable classrooms and for classroom loading are considered, the District's facilities have the capacity to serve only 12,313 students. Current enrollment is 13,828, and capacity would be further strained by projected enrollment growth of some 1,784 students to 15,608 by 2012-13. (A more conservative estimate based on the slowed housing market forecasts approximately 950 new students over the same period.) Like Turlock USD, Denair Unified School District is currently over-capacity based on state standards, and enrollment is projected to grow by 117 students over the 2007-2012 period. Table 6-6 compares current to projected enrollment and capacity in Turlock and Denair USDs.

School Facilities Plans

Both Denair and Turlock Unified School Districts have plans to renovate existing schools and build new ones in the coming years. The Denair district intends to modernize all its schools, as funds are available. A new middle school is scheduled to open in 2009-10; this will replace rather than augment the current school.

Turlock USD conducted a School Facilities Needs Analysis and Capital Facilities Financing Plan in 2008, and laid out a five-year program of modernization and new construction, at a total estimated cost of between \$223 million and \$287 million (some included projects were already underway or completed, but not fully funded). The program for 2007-08 and 2008-09 includes the acquisition of six relocatable classrooms; modernization projects at ten schools; and planning, site acquisition, design, and state approval for Freedom High School, for a new alternative high school, and for a new elementary school. In the longer term, the plan also includes new junior high and high schools, and fully renovated stadiums for both existing high schools. Table 6-7 lists the estimated costs for all of the planned improvements within the Turlock USD.

Table 6-7 Turlock USD Estimated Budget for Capital Facilities Plan

Project	Estimated Cost (\$)
Modernizations	
Crane Early Learning Center (PK-K)	868,300
Brown (K-6)	4,067,000
Crowell (K-6)	4,341,300
Cunningham (K-6)	2,894,200
Dennis Earl (K-6)	-
Julien (K-6)	4,341,300
Medeiros (K-6)	-
Osborn (K-6)	1,736,500
Wakefield (K-6)	868,300
Walnut Education Center (K-6)	-
Dutcher (7-8)	1,699,600
Turlock Junior High (7-8)	-
Pitman (9-12)	-
Turlock (9-12)	15,764,300
Freedom Alternative High (9-12)	-
Roselawn Continuation High (10-12)	1,287,100
Subtotal	37,867,900
Growth Relocatables and Restrooms	931,700
Alternative Education High School	5,466,300
Freedom High School	2,752,900
New Elementary School	37,134,700
New Junior High School	68,466,300
New High School	117,282,100
Colorado Service Facility	129,800
Joe Debely Stadium Renovation	3,911,100
Pitman High School Stadium	13,997,000
Total	\$287,939,800

Source: Turlock USD

Table 6-6 Enrollment and Capacity in the Turlock and Denair Unified School Districts

	2007-08			2012-13			
	CBEDS Enrollment	Existing Total Capacity	Inadequately Housed Students	Projected Enrollment	Projected Enrollment Growth	Inadequately Housed Students If No Capacity Added	Additional Capacity of Proposed Facilities
Turlock USD							
K-6	6,938	5,725	1,213	7,939	1,001	2,214	880
7-8	2,101	1,674	427	2,383	282	709	1,555
9-12	4,785	4,914	(129)	5,286	501	372	2,840
Total	13,824	12,313	1,511	15,608	1,784	3,295	5,275
Denair USD							
K-6	783	477	333	703	(80)	253	0
7-8	260	324	(64)	318	58	(6)	0
9-12	556	459	97	695	139	236	0
Total	1,599	1,260	366	1,716	117	483	0

Sources: Turlock USD School Facilities Fee Review (Apr. 2008), Justification Report for the Denair Unified School District (February 2008).

School Facilities Funding

School facilities in Turlock are funded with a combination of General Obligation Bonds, a Special Reserve in the City's General Fund, fees from the Mello-Roos and Redevelopment districts, the State Facility Fund, and development fees.

The California Educational Code gives school districts authority to assess development fees on new residential and commercial construction, for the purpose of funding capital needs induced by growth. In order to assess development fees, school districts must demonstrate that they have "inadequately housed students" according to California Basic Educational Data System (CBEDS) standards.

Level 1 development fees, as these are called, are subject to statewide caps, adjusted every two years to account for changes in the construction costs. The state Legislature has more recently enabled districts to assess unlimited development fees on residential construction, under certain circumstances. These fees, called Level 2 and 3 fees, are meant to cover half or all of a school district's funding gap, with the state covering half in the case of Level 2 fees. In order to assess Level 2 or 3 fees, school districts must demonstrate need (a high proportion of students in schools on multi-track calendars, a high proportion of portable classrooms) and local funding efforts (an indebtedness threshold, an attempt to secure General Obligation bonds.)

Turlock USD's 2008 School Facilities Needs Analysis concludes that Turlock meets the requirements for assessing both Level 1 and Level 2 or 3 development fees. Currently, residential development fees are \$4.56 per square foot in Turlock Unified School District, \$3.69 in the Chatom and Keyes elementary school districts (including a portion going to the Turlock high school district), and \$2.97 in the Denair USD. Development fees for commercial and industrial development are set at the statewide cap of \$0.47 per square foot.

As of April 2008, Turlock USD estimated its available resources at \$27.4 million. Despite estimated annual revenues exceeding expenses, the existing sources are not adequate to cover the capital facilities program outlined above. The Financing Plan recommends that the District begin by using existing revenues and fund balance, and return to the School Board for a discussion of debt strategies when necessary.

Public Post-Secondary Education

Turlock is home to California State University, Stanislaus (CSUS), one of the 23 campuses in the CSU system. CSUS counted 6,713 full-time equivalent (FTE) students in 2008, up from 6,277 in 2005. Enrollment is projected to grow 3.0% annually in the coming years, and to reach its designated capacity of 12,000 FTE students within the next 20 years. However, enrollment is currently frozen due to state budget constraints.

The university has occupied its 228-acre campus on the north side of Turlock since 1965. Incremental growth has taken place in the context of the original master plan, which established a core academic area, a perimeter ring road, and gracious landscaping. These characteristics and others are reaffirmed in the university's 2009 master plan update. The new master plan determines that the current campus has more than enough space to accommodate projected growth. It emphasizes that four- and five-story buildings should become the norm for new development of academic space and student housing, and proposes that additional parking be provided in garages rather than surface lots, in order to preserve the campus's park-like setting.

Local students seeking post-secondary education are also served by Modesto Junior College, in Modesto; many students begin their academic career in Modesto and transfer to CSUS later.

Planning Issues and Implications

The quality of public schools is an important aspect of quality of life, and will influence home values and Turlock's success in attracting businesses. Modern facilities with space to comfortably house students on a conventional school calendar will play a role in maintaining a good reputation for the school districts. Currently, Turlock Unified School District is in the early stages of a major facilities investment program, and a new middle school will soon be complete in Denair. School facilities investments both respond to and influence development patterns, and the city will be best served by a coordinated approach to schools and land use.

New schools will require land for public use, and will provide public open space and recreation opportunities. Turlock has an established shared use agreement covering school grounds, and other partnership opportunities may be identified through the planning process. Creating a new alternative high school may provide the school district with a chance to develop an innovative program with support from the City, the University, and employers.

CSU, Stanislaus is a tremendous resource with the potential to be more integrated in the life of the community as well as a driver of economic development.

6.3 COMMUNITY AND SOCIAL SERVICES

Turlock is home to numerous community centers and facilities for both the enjoyment and safety of its residents. This chapter discusses both recreation and community centers as well as social and emergency services. Figure 6-4 maps the locations of both types of facilities.

Library

Citizens of Turlock are served by one municipal library, centrally located downtown at 550 North Minaret Avenue. The library is part of the Stanislaus County Library system, which has 13 branches. It is closed Tuesdays and Sundays, and open Monday, Wednesday, and Thursday from 10am to 9pm and Friday and Saturday from 10am to 5pm. The library offers occasional computer classes, as well as programs for children, teens, and the elderly.

A larger library has become necessary to support Turlock's growing population. The City of Turlock has been working with Stanislaus County, which funds the library system, to identify space for a larger facility and commit funding for its construction.

Other Recreation and Community Centers

Turlock's four community centers are discussed in the Parks, Recreation, and Open Space section of this chapter. They include the War Memorial building, the Youth Center, the Senior Center, and the Rube Boesch Center. Each of these centers, administered by the Recreation Division, hosts classes and events and is available for private event rental.

The Turlock Community Theater, which is housed at Turlock High School and operates on a long-term lease from the school, is a 1,000-seat performing arts space. It hosts a range of acts, from local performers to national touring artists. Opened in 1925, the facility suffered fire damage in 1979 and was shuttered for nearly 20 years. Its reopening in 1999 was the result of volunteer work and fund-raising for its restoration.

The current General Plan does not define a ratio of community space per population, but the City of Turlock recognizes the need for more community facilities. The designs for the rebuilding of the Carnegie Arts Center include a community meeting space, and the new Public Safety building is planned to include a training and education center, but currently, the city experiences a shortage of these types of facilities.

Emergency and Social Services

Turlock's social services needs are primarily served by two Stanislaus County agencies that have offices in the city: the Stanislaus County Community Services Agency and the Stanislaus County Behavioral Health and Recovery Services. The Community Services Agency is the city's source for employment programs, food stamps, Medi-Cal, childcare, and other types of social assistance. It also has offers counseling and homeless assistance programs. Behavioral Health and Recovery Services provides mental health and drug and alcohol abuse services.

In addition to government agencies, numerous nonprofit organizations provide social services in Turlock. They include the Salvation Army and the United Samaritans Foundation, both of which deal extensively with Turlock's homeless population, Aspira Foster and Family services has a partnership with Turlock's Family Resource Center to provide services to foster families and children. Westside Ministries and Turlock Gospel Mission are two faith-based organizations that work with the local community and provide a range of services, from emergency food and clothing to after school programs.

The city's Housing Program Services Division also publishes a Community Resource Handbook, available in hard copy and on the city's website, which provides information on:

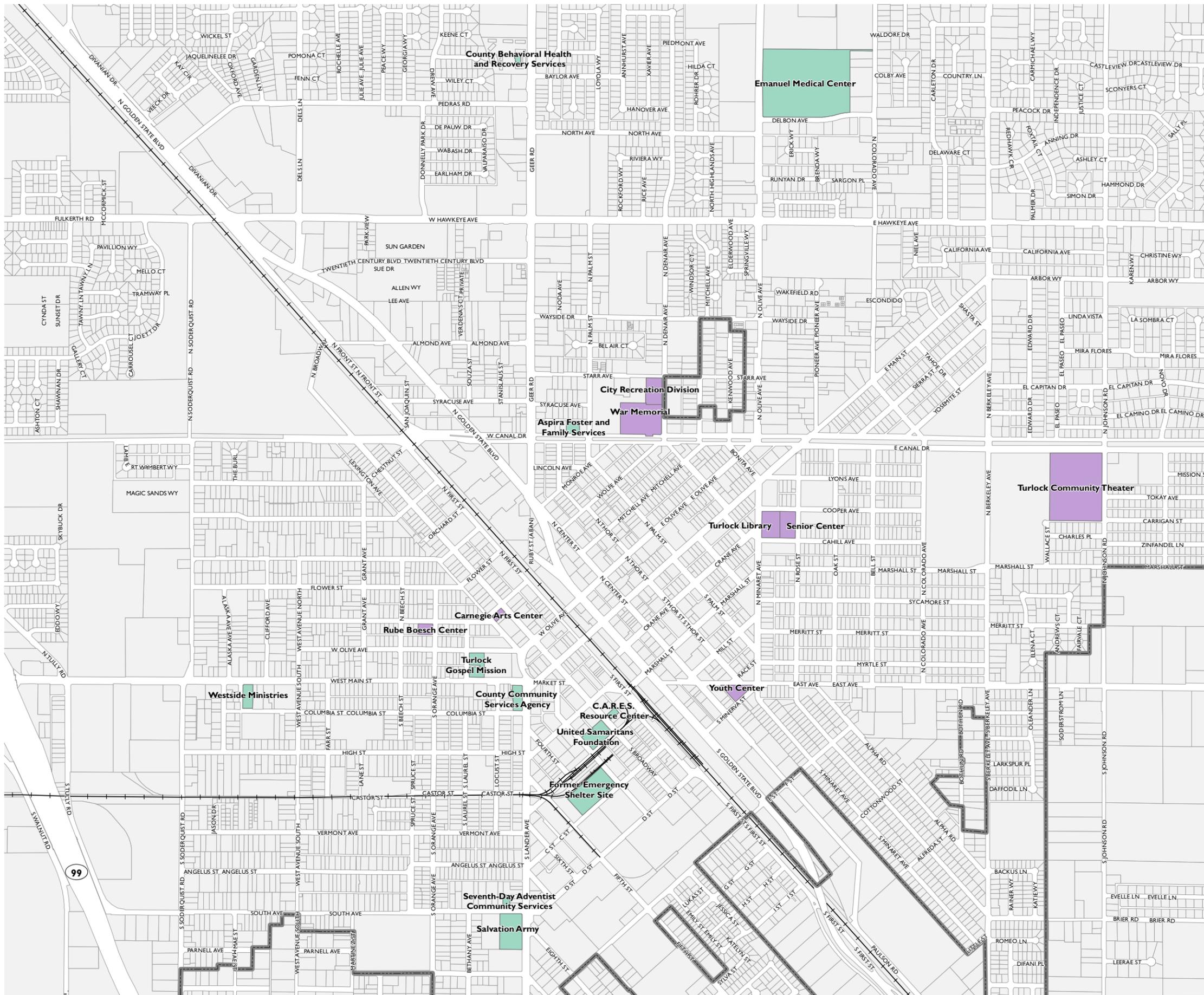
- Housing, Food, and Shelter
- Children, Youth, and Senior Services
- City and Government Agencies
- Consumer Resources and Information
- Disasters and Preparedness
- Volunteering

The Handbook lists resources available both in the city of Turlock and elsewhere in Stanislaus and Merced counties, when resources in Turlock do not exist, as well as national hotline phone numbers for various crisis needs.

Planning Issues and Implications

While County agencies and local organizations fill an important role of serving many Turlock residents in need, the issue of homelessness remains a persistent concern. The City Council, Turlock Housing Program Services Division, Downtown property owners, and other city staff have all identified finding a workable solution to the city's homeless problem as a high priority for the General Plan update. This issue will be most thoroughly addressed in the Housing Element.

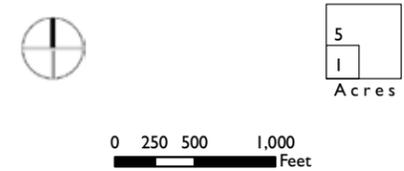
Figure 6-4: Community Center/ture and Social Service Facilities



- Community or Recreation Centers
- Emergency and Social Services Centers
- City Limits & County Islands



Area Shown at Left



Source: Community center and social service facilities data, Dyett and Bhatia, 2009; Map base data, City of Turlock, 2008.

6.4 POLICE SERVICES

Facilities and Staffing

Existing Facilities and Staffing

The City of Turlock Police Department is located at 900 North Palm Street, just north of Downtown. The Department has a staff of 125, 81 of whom are sworn patrol officers and 44 of whom are non-sworn support personnel. The Department also has 25 volunteers. Table 6-8 shows the breakdown of employees.

Table 6-8 Police Department Personnel, 2009

Personnel	Number
Paid Employees	
Sworn Patrol Officers	81*
Traffic Officers	3
Critical Response Team	12
Other Sworn Officers	66
Non-Sworn Support Personnel	44
Community Service Officers	6
Other Support Personnel	38
Total Paid Employees	125
Volunteers	
Chaplains	2
Other Volunteers	23
Total Volunteers	25

Note: There were 86 sworn patrol officer positions in FY 08-09, but five have been frozen due to budget constraints and are not likely to be reinstated.

Adequacy of Existing Facilities and Staffing

The Police Department states that existing facilities and staffing are not adequate to maintain a sufficient level of service for future population growth in the city. To address this concern, in 2007, the Turlock City Council directed staff to complete a Space Needs Assessment regarding the Police Department's staffing levels and facilities needs. The Needs Assessment resulted in the inception of a new public safety facility for police and fire administration. The new facility, currently in the design stage, is to be located at 244 North Broadway, and is projected to be a two-story, 57,000 square foot complex with a 180-foot communications tower. The building size reflects a total projected staff of 242 personnel

by 2030, as calculated in the Needs Assessment. The budget for the project is \$37 million and its anticipated completion date is November 2011.

While initially both the Police and Fire Departments will be housed in the new facility, the Needs Assessment views the Fire Department space as serving as the expansion area for the Police Department over the long term (10 to 20 years), at which point the Fire Department would move to an addition or to a new facility. In the meantime, housing the two departments together is anticipated to improve response time, increase communication and teamwork between officers and firefighters, and allow efficient sharing of space.

Strategic Plan

The Police Department has completed a three-year Strategic Plan for 2007 through 2010, which establishes an overall vision and strategy for meeting the public safety needs of the City of Turlock. The plan was last updated in December 2008. It establishes four Strategic Priorities: Plan for Organizational Structure and Growth; Enhance Internal Communications; Develop Proactive and Preventive Policing Strategies; and Development and Management of Succession Planning. Numerous objectives and strategies fall under each of the strategic priorities. The Strategic Plan outlines several strategies related to establishing adequate staffing, equipment, and facilities levels that are in progress or scheduled for the next two fiscal years. Examples include:

- Developing a standard for fleet size (one car for three officers)
- Tracking officer "available time" and detective caseloads to better determine staffing needs
- Expanding the traffic unit
- Expanding the use of non-sworn officers
- Creating a Tactical Patrol Unit to focus on street level gang and drug crimes

Service Standards

Response Time

As of 2008, the Police Department's average response time (in minutes and seconds) was 6:24 for Priority One calls; 12:20 for Priority Two; and 47:20 for Priority Three. The time measured covers the start of the call until the first unit's arrival.

The Department has standardized priority response times of approximately 6.5 minutes for a Priority One call, and it has been capable of achieving that standard.

Service Ratios

The Police Department's service ratio is currently 1.16 officers per 1,000 population. This represents an improvement over the ratio cited in the last General Plan update, of 1.09 per 1,000 in 2001. However, the current General Plan calls for a ratio of 1.5 officers per 1,000; and even this desired ratio falls short of the California average of more than two officers per 1,000 population.

Planning Issues and Implications

Through the construction of the new Public Safety Facility, the Turlock Police Department is addressing its long term space needs; increased staffing will follow. At the same time, staff has emphasized the importance of recognizing the connection between the location of new growth and policing needs. As soon as a new development project breaks ground, officers are needed for general oversight and vandalism prevention. Development areas that are noncontiguous and physically separated from the existing urbanized area can strain existing police resources, as they require additional beats and expanded radio coverage. Careful sequencing of growth areas, and avoidance of "leap-frog" development, reduces the impact on the Police Department.

6.5 FIRE SERVICES

Facilities and Staffing

Existing Facilities and Staffing

The City of Turlock Fire Department's Operations Division is staffed with 55 personnel, and is assisted by eight administrative staff. Table 6-9 shows the breakdown of personnel at the Department.

Table 6-9 Fire Department Personnel, 2009

Personnel	Number
Division Chief	1
Battalion Chiefs	3
Fire Captains	15
Fire Engineers	15
Fire Fighters	15
Reserve Fire Fighters	6
Administrative Staff	8

Source: City of Turlock Fire Department

All personnel assigned to Fire Operations are divided into three shifts: A-Shift, B-Shift, and C-Shift. Each shift works a 24 hour period from 0800 hours to 0800 hours on a rotating schedule. The department also has Administration, Training, and Prevention divisions in the Department.

Turlock City Fire Services operates a total of four fire stations, with an engine company at each one. The Department also operates a 110-foot aerial ladder truck (Truck 71) that is utilized for suppression activities, air support, technical rescue, and light support. The truck is cross-staffed by personnel at Fire Station No. 1.

Adequacy of Existing Facilities and Staffing

Fire Department staff estimate that existing facilities and staffing will not be adequate to maintain a sufficient level of service for future population growth in Turlock. The Department continually monitors current and future growth patterns in the city, as the location and amount of growth directly impacts the Department's standards of cover and response times. As growth occurs, they will analyze their response times and patterns in order to best determine new station locations.

SERVICE STANDARDS

Response Time

As of 2008, the Fire Department's average response time was five minutes. The Department has identified the five minute response time as the maximum acceptable limit, and reports that its capacity is currently at the limit of the five minute response time. Response times for the entire department, as well as for each engine company, are monitored and used to predict future response trends.

While the Department has not identified any specific point or threshold at which a change of staffing or facilities will be necessary to maintain the desired response time, staff states that monitoring growth patterns, demographics, and new development are all essential in determining staffing increases and new station locations.

A study by RRM Design Group analyzed two potential future station locations and their impact on response time and coverage. Proposed Station A would be in the northwest, at the intersection of Tuolumne and Tegner Roads, across from Pedretti Park. Proposed Station B would be in the southeast, at the intersection of East Linwood Avenue and Verduga Road, which is outside of the current city limits but inside the Planning Area. Proposed Station A would expand the five-minute response time area to cover the area between Tuolumne Road and Fulkerth Road, to the edge of the Planning Area to the west and to Golden State Boulevard to the east. Proposed Station B would improve coverage for a substantial portion of the southeast, to an area roughly bounded by Linwood Avenue, East Avenue, Roselawn Avenue, and Golden State Boulevard. Figure 6-5 shows the location of current fire and police stations as well as the fire districts in the Planning Area.

Service Ratios

The Department has not established service ratios regarding responders per population or trucks per station. However, they do refer to the National Fire Protection Agency as a resource in determining their level of service.

ISO Rating

Fire departments are rated by ISO's Public Protection Classification (PPC) Program. The program uses the Fire Suppression Rating Schedule (FSRS), which is comprised of a long list of elements a community may use to fight fires effectively. Each element is given a point score. Using the point scores and various formulas, ISO derives a PPC rating on a scale of one to 100. Class One correlates to a score of 90.0 and higher, Class Two correlates to a score of 80.0 to 89.9, Class Three correlates to a score of 70.0 to 79.9, and so on.

The Turlock Fire Department has earned a Class Three PPC rating. Staff believes that this rating may be affected by future growth in Turlock, though it is difficult to predict exactly how, as the ISO rating system is complex and involves many factors. Essentially, if growth results in negative impacts to service delivery, then the Department's ISO rating will also suffer.

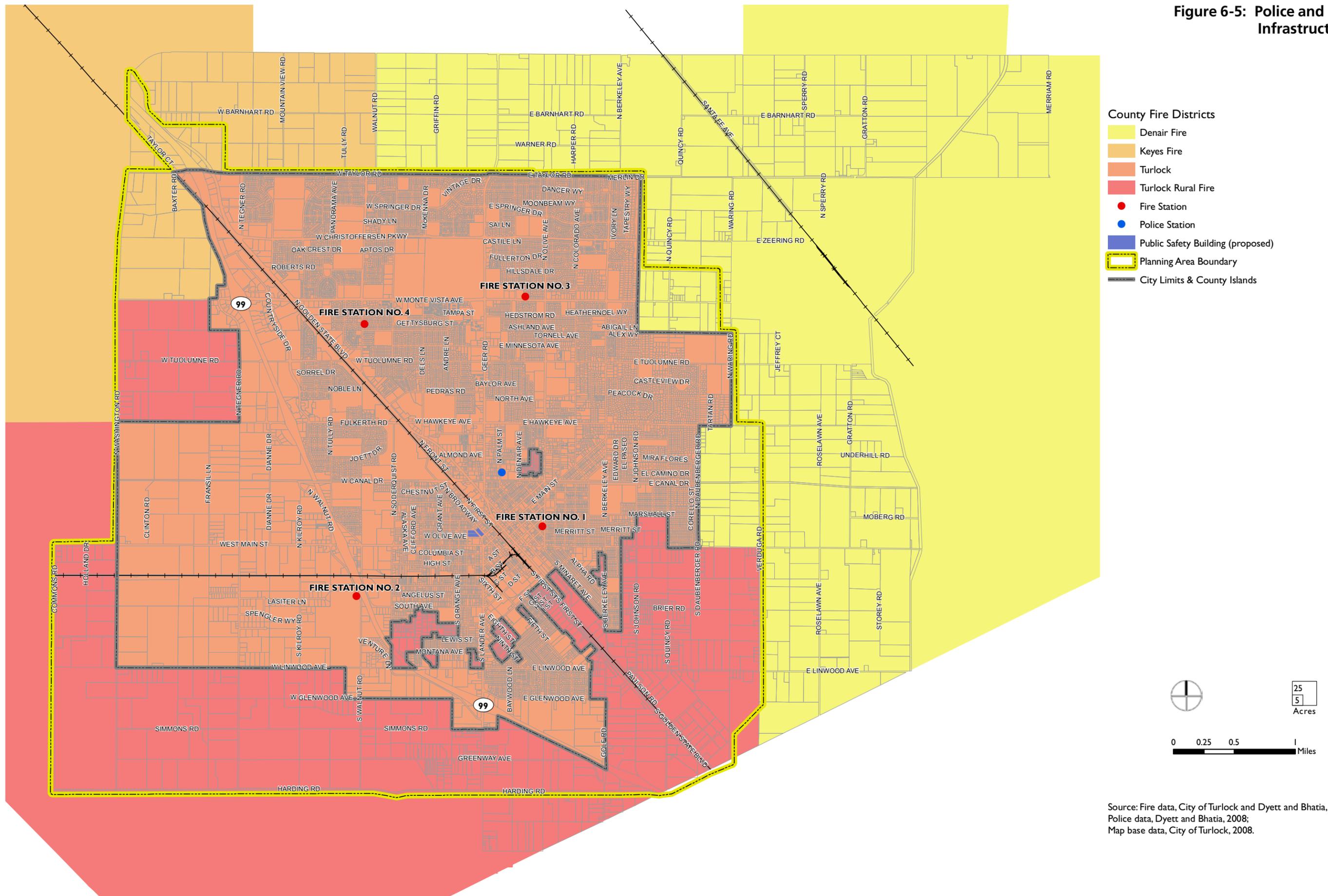
Urban Design Requirements

In order to accommodate the size and performance of its trucks, the Fire Department has specifications for turning radii, road widths and other street standards for new developments. Streets must have a minimum width of 20 feet. Cul-de-sacs must have a radius of 40 feet. "Hammerhead" road endings must be a minimum of 120 feet long and 25 feet deep, and have a 30 foot opening to the road (which may then become 20 feet wide).

Planning Issues and Implications

Fire Department staff has identified that with their existing facilities and staffing, future growth and development west of SR 99 and Monte Vista, or south around the Morgan Ranch area, would have a negative impact on the Department's service provision. Even with the construction of the new Public Safety facility, additional fire stations would need to be constructed in order to maintain the desired response times for areas on the outskirts of the city.

Figure 6-5: Police and Fire Infrastructure



Source: Fire data, City of Turlock and Dyett and Bhatia, 2008;
 Police data, Dyett and Bhatia, 2008;
 Map base data, City of Turlock, 2008.

6.6 WATER SUPPLY

Water Sources

The City of Turlock has several existing water supplies, including:

- Groundwater for potable water uses
- Groundwater for nonpotable uses
- Recycled water for nonpotable uses

Additionally, the City is evaluating the feasibility of developing a future surface water supply from the Turlock Irrigation District (TID) for potable water uses.

The City of Turlock is located within the Turlock groundwater basin. All of the City's current potable water supply comes from groundwater. The City has 24 potable water wells that produce a total water supply of about 55 mgd. These wells draw water from a deep aquifer, and have casing depths of about 200 to 580 feet. These wells have capacities of 650 to 2,800 gallons per minute (gpm). The use of groundwater by the City and for adjacent agricultural purposes has resulted in periods of lowered groundwater levels near the City. Since the mid 1990s, the groundwater levels near the City have fallen by about 15 feet.

The City also uses shallow groundwater for irrigation of some landscape areas such as the Northeast Greenbelt. This shallow groundwater is not suitable as a source of potable water, but is adequate for landscape watering. Also, dry weather run-off is collected in detention basins and reused for landscape irrigation. These landscape irrigation water systems are completely separate from the City's potable water distribution system. This matching of available water supplies to specific uses based on the water quality of the supply is a very innovative and creative approach that is not yet used by other Cities. City staff should be commended for their proactive approach to managing the City's water supply.

The City routinely monitors the quality of the water supply to ensure that the water meets all Federal and State drinking water standards. The City monitors the concentrations of arsenic, lead, copper, nitrate, and many other potential contaminants. The most recent water testing found that the City's water supply met all drinking water standards.

Surface Water Project

The City of Turlock is evaluating a Surface Water Project (SWP) that would supply treated Tuolumne River water from the Turlock Irrigation District (TID). This SWP would initially provide up to 15 million gallons per day (mgd). The SWP facilities include a surface water treatment plant and water transmission

mains. The total cost of the SWP is estimated to be about \$256 million, and the City of Turlock's share of this cost is estimated to be about \$82 million. The City would also have to construct a booster pump station and water distribution pipelines at a cost of about \$20 million. This potential water supply represents about 35 to 45 percent of the City's future water needs.

Supply and Demand

In the past, the City has pumped as much groundwater as needed by its residents and businesses; consequently the City's available supply has matched its demands. As noted above, the groundwater levels have fallen about 15 feet in the last 10 to 15 years. The decline in groundwater levels has raised concerns about the sustainability of the groundwater resource to meet future water demands. With SWP, the City will still use groundwater, but at a lower rate. Thus, the City's use of both surface and groundwater supplies will be able to meet the anticipated demands. Shown in Figure 6-6 are the City's historical and projected water supply/demands. With the SWP, the City will have a sufficient, reliable, high quality water supply that can meet its future water needs. Conversely, without the SWP, it is unclear how the City will provide water for its future growth.

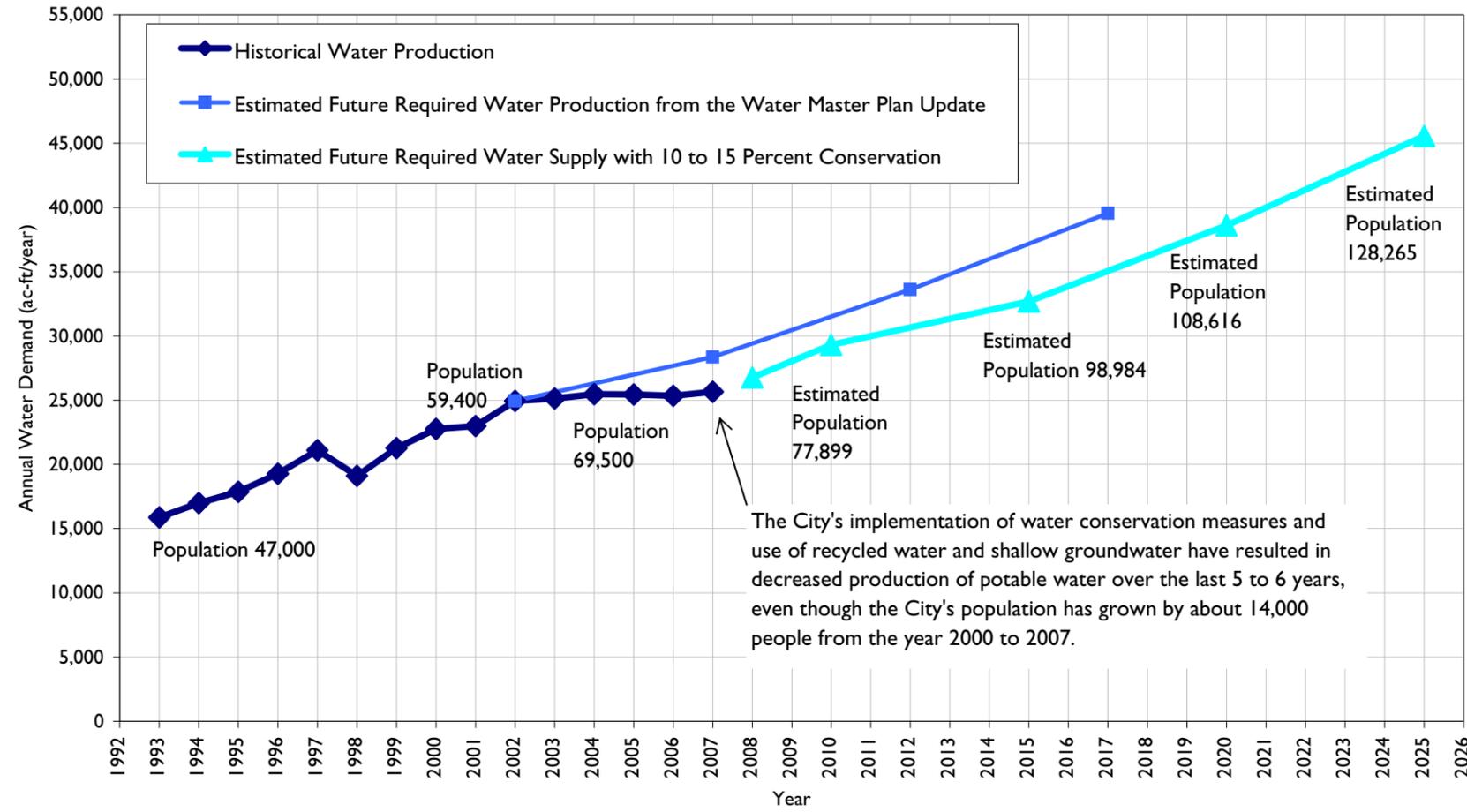
Distribution

The City's water is distributed through over 250 miles of water pipelines ranging in size from 6 to 16 inches in diameter. The City currently has plans for expansion of the distribution system for the growth of the City both with and without the SWP. Figure 6-7 shows the city's potable water infrastructure.

Planning Issues and Implications

The City's current Urban Water Management Plan is based on the assumption that the SWP would be completed, serving projected water demand through 2030. As groundwater levels have fallen by 15 feet over the last 10 to 15 years, and as the state adopts more stringent water quality standards, identifying cost-efficient water sources is critical to developing any future plans for urban growth.

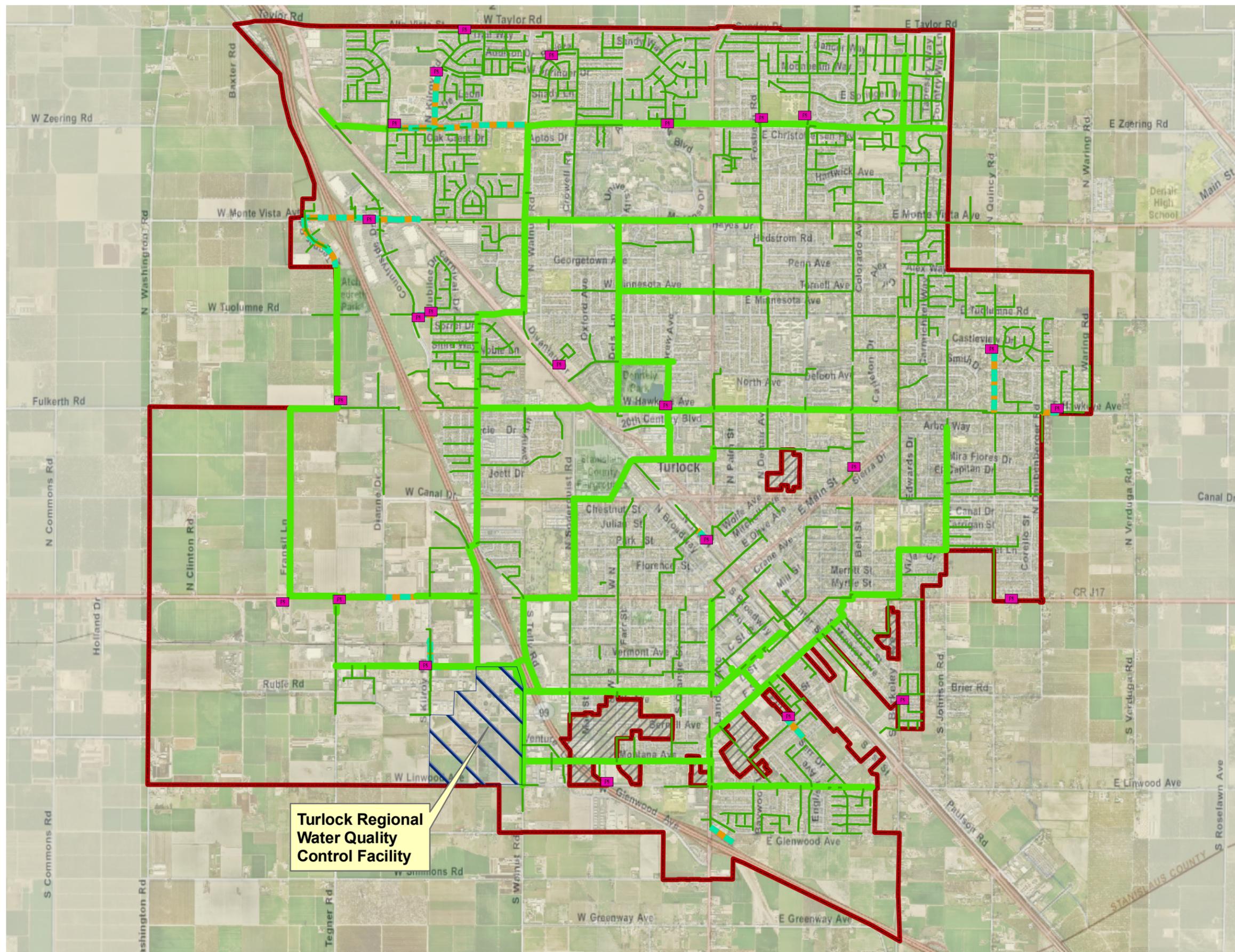
Figure 6-6: Projected Water Supply



Notes:

1. Historical Water Production data are from Water Master Plan Update (up to 2002) and from the City Municipal Services Department (2003-2007).
2. The Estimated Future Required Water Supply with 10 to 15 Percent Conservation is based on the population projection from Table 2 of the Urban Water Management Plan, with a 10 percent per capita reduction in 2010 and a 15 percent per capita reduction in 2015, 2020, and 2025.

Figure 6-7: Water Infrastructure



LEGEND

-  Sewer Pump Station
-  8" - 16" Sewer Main
-  18" - 48" Sewer Main
-  Force Main
-  TRWQCF
-  City Limits
-  County Islands

6.7 WASTEWATER COLLECTION, TREATMENT, AND DISPOSAL

The wastewater collection system generally flows from the northeast to the southwest to the Turlock Regional Water Quality Control Facility (TRWQFC), where it is treated and then discharged to the Harding Drain. The sanitary sewer collection system consists of about 220 miles of sewer pipes ranging in size from six inches to 48 inches, and 20 pump stations. Figure 6-8 shows the city's existing wastewater infrastructure system.

Current Capacity

The sanitary sewer system serving the north part of Turlock was sized for only the current area of the City and does not have capacity for any growth north of Taylor Road. City staff conducted a flow observation study in the Monte Vista Avenue trunk sewer and concluded that this sewer is flowing near its full capacity. This sewer includes the flow from Denair and will include flow from future development beyond the northeast corner of the City. To accommodate this future flow, the flow from Denair will likely be redirected south and into an existing sewer system in Hawkeye Avenue.

A study of the Monte Vista Avenue and Tully Road trunk sewer showed that many segments of the this sewer are currently flowing at or above their design capacity. To eliminate this problem, the City will construct a new 48-inch sewer for about 2,100 feet upstream of the TRWQCF and a new influent pump station to lift the wastewater from the sewers up into the TRWQCF.

It is currently unknown if there is significant unused capacity in the sewers serving the southern part of the City.

Turlock Regional Water Quality Control Facility (TRWQF)

The current average dry weather flow to the TRWQCF is about 13 mgd. This includes flow from Turlock, Keyes and Denair. The TRWQCF also treats 1 mgd of partially treated wastewater from Ceres, and the flow from Ceres is expected to increase to 2 mgd in the future. With the construction of planned improvements, the TRWQCF could treat a flow of about 20 mgd from Turlock, Keyes and Denair and about 2 mgd of partially treated flow from Ceres. Thus, the proposed improvements would provide capacity for about a 50 percent increase in the flow to the plant. The past and projected future flows to the TRWQCF are shown in Figure 6-9 (including the flow from Ceres), and the flow is expected reach 23 mgd near the year 2030.

The current and planned treatment facilities will only occupy about 60 acres of the 140 acre site. Consequently, there is room for the plant to expand well beyond a capacity of 23 mgd, thus allowing for growth of the City beyond the year 2030.

In the summer of 2006, the TRWQCF was upgraded by installation of tertiary filters to produce highly treated wastewater, termed disinfected tertiary effluent. The tertiary effluent from the TRWQCF meets the legal requirements for unrestricted reuse. However, even with this high level of treatment, the effluent can not be used for human consumption. When this highly treated water is put to use, it is called recycled water. Currently, a two mgd flow of recycled water is used for cooling water at the Walnut Energy Center Power Plant. The City Council has a goal of increasing the use of recycled water, and the City intends to irrigate the Pedretti Sports Complex with recycled water in the future.

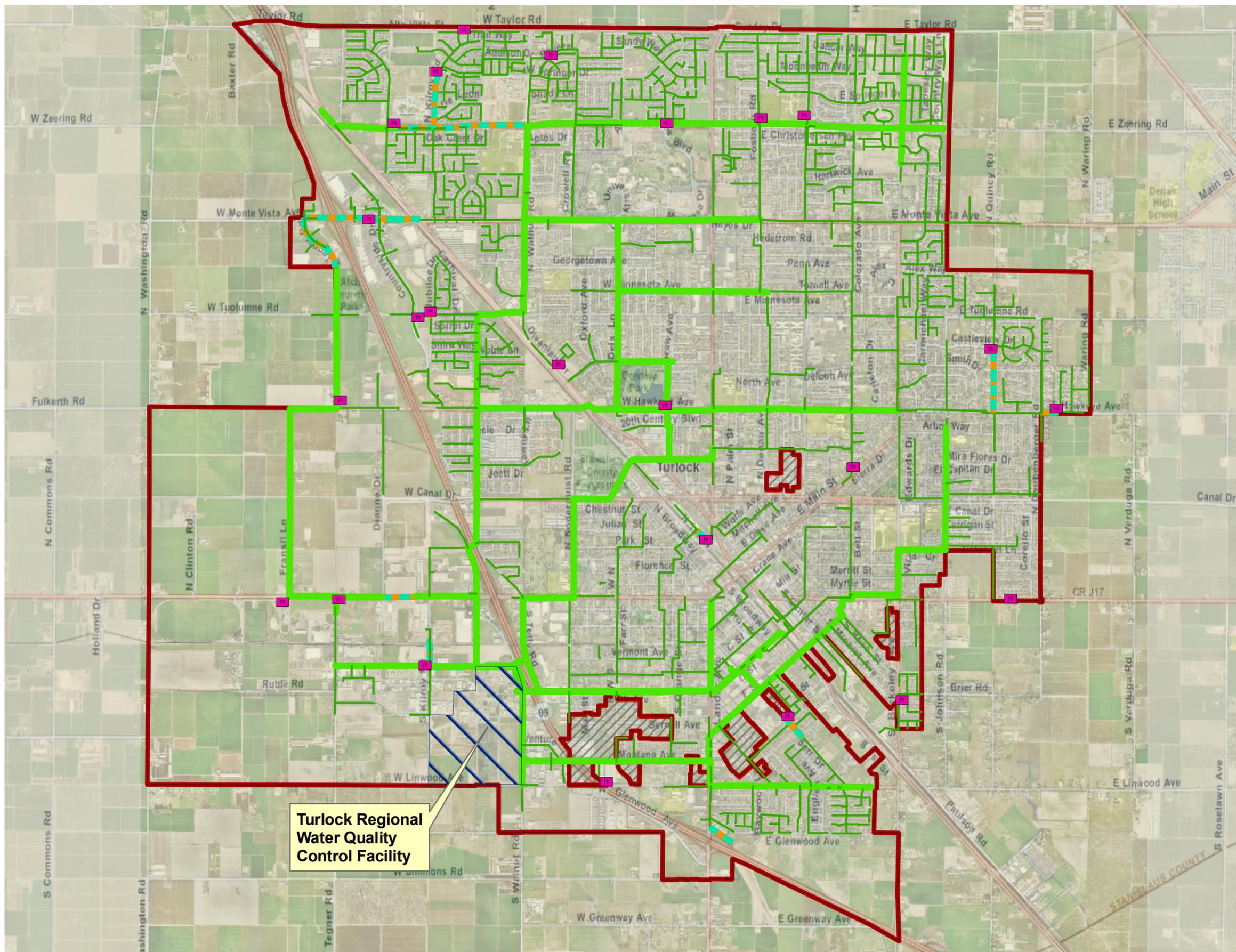
The City is currently working with the Central Valley Regional Water Quality Control Board to develop a new NPDES discharge permit for the TRWQCF (as of December 2008). The discharge requirements that will be included in the new permit are not yet fully established, but may require the removal of yet more pollutants from the wastewater. City staff are seeking to have a time schedule for compliance also included in the permit that would allow time for planning, design, and construction of any required treatment system improvements and enable the timing of those improvements to be coordinated with other future treatment plant improvements.

Planning Issues and Implications

As Turlock grows, wastewater flows will continue to increase. Through the construction of the TRWQCF, the city has ensured that it has adequate capacity to treat additional flows; the plant (with planned improvements) will be able to provide treatment through 2030.

The location of future growth will have an impact on the sewer collection system. In the northern part of the city, sewers are currently at capacity. Therefore, new development in the north would require substantial infrastructure upgrades. In the south, the current capacity of the trunk sewers is unknown; increased development in the south may also require upgrading the existing sewer collection system.

Figure 6-8: Wastewater Infrastructure



LEGEND

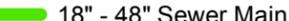
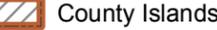
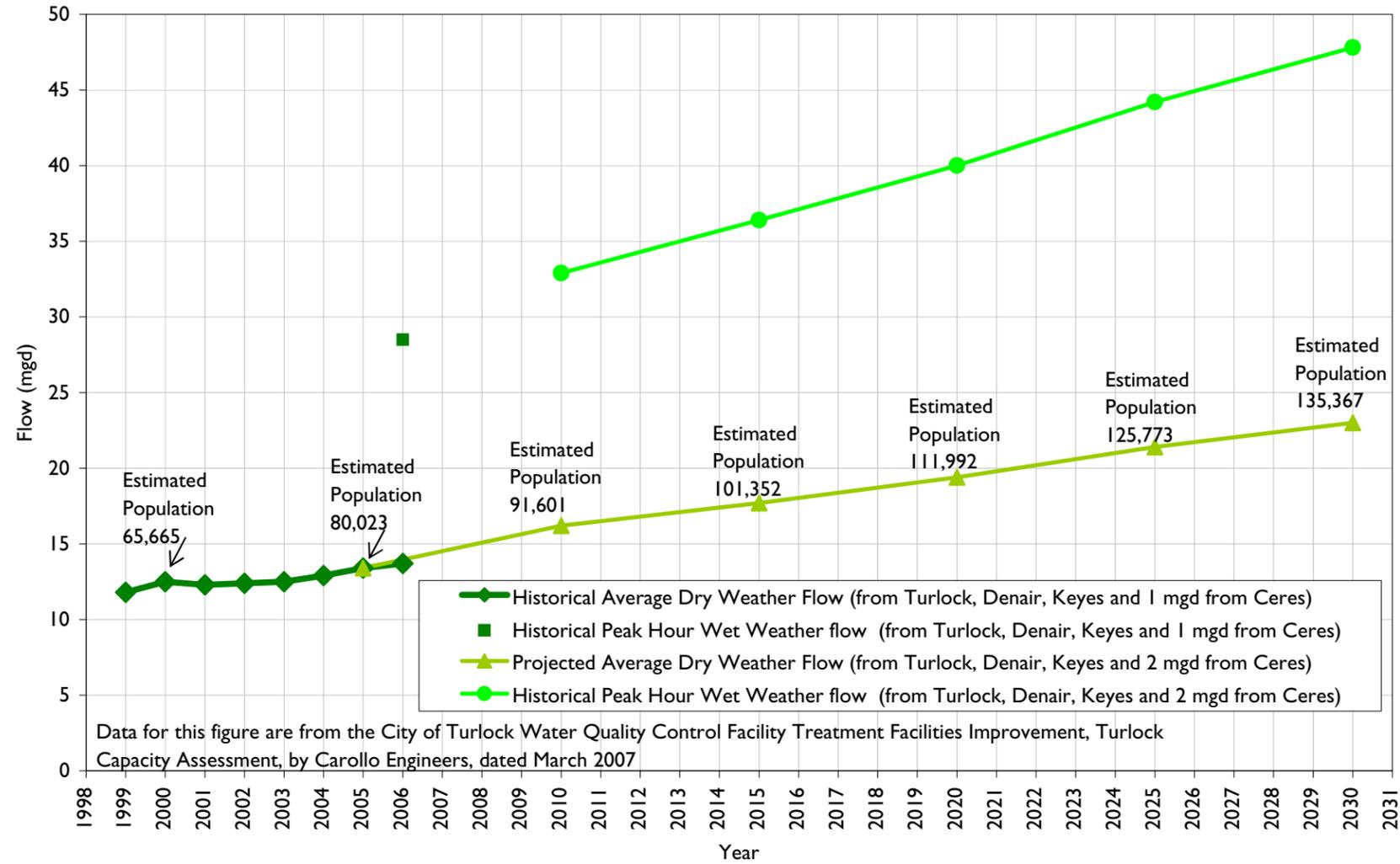
-  Sewer Pump Station
-  8" - 16" Sewer Main
-  18" - 48" Sewer Main
-  Force Main
-  TRWQCF
-  City Limits
-  County Islands

Figure 6-9: Projected Wastewater Flows



6.8 STORMWATER AND FLOOD CONTROL

The City's existing storm water system includes about 130 miles of storm drain collection/conveyance piping, with sizes ranging from 6 to 60-inches in diameter, about 49 pump stations, several detention basins, and open channels. Figure 6-10 shows the existing storm water system.

Existing Conditions

Currently, most of the City drains to detention basins located throughout the City. Because groundwater is close to the ground surface, these basins are relatively shallow and it is necessary to pump runoff into many of the basins during storm events. After the storm passes, runoff is drained or pumped back into the trunk storm drain system and flows to the southwest corner of the City to a large stormwater basin near the TRWQCF, where it is either pumped into TID Lateral 4 or the Harding Drain. Many of the City's detention basins are used for both stormwater detention and as public parks. This joint use of stormwater basins provides numerous sports and recreational facilities for the City's residents.

The stormwater system has generally protected the City from flooding. However, minor street flooding occurs in certain areas of the City approximately once per year or every couple of years. This flooding typically occurs when two large storms occur back to back, and the City's basins have not fully drained from the first storm when the second storm hits.

Part of the eastern area of the City flows directly to Lateral 4 without first being stored in detention basins. Use of the TID laterals for stormwater disposal is allowed through agreements with TID. However, this does not provide reliable disposal of the stormwater because sometimes the TID laterals are also being used for conveying irrigation water or the laterals are out of service for maintenance by TID staff.

Planned Improvements

Part of the City's long term plan for improvement of stormwater quality includes conveying all of the runoff from the City to the detention basin located near the TRWQCF. From this basin, the stormwater could be pumped to and treated by the TRWQCF. The specifics of how this system would be operated will be dependent upon future stormwater regulatory requirements. However, this approach would allow for at least the most polluted first flush of runoff and the highly polluted dry weather runoff (e.g. from car washing on driveways, etc.) to be treated, or it could allow for treatment of all storm water runoff from the City.

Flooding

The Federal Emergency Management Agency (FEMA) has published flood plain maps showing areas that would be inundated by the 100-year flood. Also, the California Department of Water Resources has developed maps showing the best available flood plain mapping for the 100-year flood (the FEMA flood plain), the 200-year flood and other available floodplain mapping. None of the City of Turlock is covered by any of these mapped floodplains. This is a rather unique situation for communities within the Central Valley of California.

Planning Issues and Implications

Turlock's existing stormwater infrastructure meets current needs and is sufficient to handle the city's current level of development. Future growth will likely require upgrades to the existing infrastructure. Risk of flooding is also not a constraint on future development.

6.9 SOLID WASTE COLLECTION AND DISPOSAL

Turlock Scavenger is the private company responsible for solid waste, recyclables, and green waste collection in the city, and Turlock Transfer Station receives and processes the waste. Turlock Scavenger’s current contract with the city is good through 2036.

Waste Collection and Processing

Turlock Transfer Station takes Turlock’s solid waste to the Stanislaus County Fink Road Landfill or the Waste to Energy Plant at Fink Road, which are operated by the Stanislaus County Department of Environmental Resources. The landfill is capable of handling 2,400 tons of waste per day, and receives volume from numerous communities in the county. The County estimates that the landfill will be sufficient for at least 15 more years; its expected expiration date is in 2023. Recycling is processed at Turlock Transfer Station; residual material is transported for more outsourced processing. Green waste is processed at Turlock Transfer Station and then outsourced for composting. Waste from construction and demolition is also processed and recycled at Turlock Transfer Station. Neither Turlock Scavenger nor Turlock Transfer Station accepts hazardous waste.

Waste, Recycling, and Compost Generation

Turlock has been able to meet State mandates (AB 939) that required 25 percent of waste to be diverted from landfills by 1995 and 50 percent diverted by 2000. It is anticipated that the standard will be increased to 75 percent by 2020. Table 6-10 shows the sources and amounts of waste, recycling, and compost generation in Turlock in 2008.

California’s Global Warming Solutions Act of 2006 (AB 32) requires the State to reduce its emissions of greenhouse gases (GHG’s) to 1990 levels by 2020 - a 25% reduction from current levels. Each of the primary sources of GHG’s will be targeted for reductions, including municipal landfills.

In 2007, a Landfill Methane Capture Strategy was approved as an “early action measure” to implement the goals of AB 32. The California Air Resources Board (CARB) and California Integrated Waste Management Board (CIWMB) are now developing a control measure which will require gas collection and control systems at landfills; establish statewide performance standards to maximize methane capture efficiencies; and explore opportunities for energy recovery.

Currently, the commercial sector is not subject to the requirements of the Integrated Waste Management Act of 1989, which sets targets for waste diversion. Increasing the recycling rate for the commercial sector, which generates more than half of the state’s solid waste, is another potential regulatory element to achieve the goals of AB 32.

Level of Service

Turlock Scavenger has a sufficient level of service to meet current needs, and it will expand its fleet and equipment as the city grows. Turlock Transfer Station must begin the permitting process within the next 12 months to expand its processing square footage as needed. It seeks to double the size of its current facility from 20,000 square feet to 40,000 square feet, primarily to address its increased load of commingled recyclables.

Turlock Transfer Station has a capacity of 1,872 tons per day. It began an update to its Master Plan in 2007, which projected out to 2025, and proposed no increase in permitted capacity. Given that average tons per day in 2008 was 507, and projected tons per day in 2025 is 1,090, it is anticipated that the 1,872 tons per day capacity will be sufficient through the remainder of the planning period for this General Plan update.

Planning Issues and Implications

Solid waste collection and disposal capabilities do not pose significant constraints on future development in Turlock.

Stanislaus County is likely to be required to make methane capture improvements to the municipal landfill (which is not in the planning area.) As Table 6-10 shows, there is also considerable improvement to be made in the commercial recycling rate, which would represent an important contribution by Turlock to reducing greenhouse gas emissions.

Table 6-10 Waste Generation in Turlock, 2008

	2008 Amounts (tons)		
	Solid Waste	Recycling	Compost
Residential	10,960	9,843	13,375
Commercial	18,948	217	
Industrial	18,956		
Turlock Recycling		31,448	
Turlock Transfer		5,116	
Total	48,594	46,624	13,375

Source: Turlock Scavenger, 2009

6.10 ELECTRICITY

Turlock receives its electricity supply from the Turlock Irrigation District (TID). Established in 1887 as the state’s first publicly-owned irrigation district, TID supplies water to farmers and retail power to homes, businesses, and farms in Turlock and the surrounding area. TID was able to offer hydroelectric power beginning in 1923 with the construction of the Don Pedro dam. Approximately 40 percent of TID’s electricity is generated at the Don Pedro Dam and Powerhouse. To supplement power generated at Don Pedro, TID built numerous small hydroelectric plants on its canals, which use the gravity-fed system to generate power during periods of peak demand.

Natural gas power plants represent approximately 19 percent of TID’s power generation capacity. The District operates three such plants: the Walnut Energy Center, the Walnut Power Plant, and the Almond Power Plant. TID also purchases power from numerous sources in northern California and the Pacific Northwest.

Infrastructure Inventory

TID’s existing facilities and staffing are adequate to maintain a sufficient level of service for future electricity demand in the Planning Area. The District develops five-year plans for their electric facilities, and staffing requirements necessary to meet these plans are reviewed annually.

The following measurements of current infrastructure were taken in January 2009:

Table 6-11 TID Infrastructure Inventory

<i>Infrastructure</i>	<i>Number</i>
Electric Meters	25,000 meters
Transmission Lines	20 miles
Fiber Optic Backbone	25 miles
Street Lights	4,000 lights
Underground Distribution Lines	160 miles
Overhead Distribution Lines	130 miles

Source: Turlock Irrigation District, 2009

Electricity Demand

Table 6-12 shows TID’s current demand for electricity by land use. Measurements were taken on November 30, 2008. As shown in Table 6-13, total peak demand was 516 MW with a system load factor of 46 percent. The load factor is equal to the average load as a percentage of its peak load and thus is an indication of how steady the load is over time.

Table 6-12 Electricity Demand by Land Use

<i>Land Use</i>	<i>Average Monthly Customer Count</i>	<i>Total kWh Sales (Monthly)</i>	<i>Share of Total</i>
Residential	70,585	59,626,399	36.20%
Commercial	6,922	10,762,103	6.53%
Industrial	791	63,119,088	38.32%
Municipal	1,183	10,201,935	6.19%
Unmetered	15,462	1,037,992	0.63%
Agricultural	3,233	19,976,754	12.13%
Total	98,176	164,724,271	100%

Source: Turlock Irrigation District, 2009

Table 6-13 Electricity Demand Characteristics (2007 Actuals)

<i>Source</i>	<i>Amount or Percent</i>
Peak Demand	516 MW
Total MWh	2,091,014
System Load Factor	46%

Source: Turlock Irrigation District, 2009

TID forecasts electricity demand using linear and exponential regressions for both number of customers and energy use. Additionally, TID has developed numerous energy efficiency and demand reduction programs for its customers.

Commercial, Industrial, and Agricultural Customer Programs:

- Meter Manager: An online energy management tool for business customers
- Comprehensive Energy Audits: Free on-site audits and makes recommendations for improving efficiency
- Custom Rebates: Rebates plus technical support promote investment in energy-efficient technology and equipment
- Lighting Rebates: Promote investment in more efficient lighting
- Refrigerator Rebates: Automatic door-closers, replacement gaskets and strip curtains are offered to commercial customers
- Demand Reduction: Informal communication with large customers creates custom solutions for large users
- Residential Customer Programs:
 - Residential Energy Audits: Free in-home audits
 - Residential Rebate Programs: Rebates for purchasing and installing energy-efficient appliances including Energy Star refrigerators, room air conditioners, and clothes washers; whole house fans, and shade screens
 - Refrigerator Recycling: Financial incentives for replacing and recycling older refrigerators
 - Shade Tree Rebate: Rebates for the purchase of up to three trees plants for shade purposes
 - CFL Rebates: Rebates for purchase and installation of CFL bulbs
 - New Construction Rebates: Rebates for home builders who exceed Title 24 requirements
 - Weatherization: Provides weatherization measures and Energy Star refrigerators to income-qualified customers
 - “Energy Wise” Education Program: Program provides energy saving education materials to 6th grade classes in the service area
 - Education Specialist: Outreach provided to community groups and schools

Electricity Supply

TID’s electricity supply is split between power that the District generates and that which is purchased from other suppliers. As shown in Table 6-14, TID generates just over half of its own supply and purchases the remainder.

Table 6-14 Energy Suppliers (2007 Actuals)

Source	Generation (GWh)	Share of Total
Turlock Irrigation District	1,749	50.6%
Purchase Contracts	1,706	49.4%
Total		100%

Source: Turlock Irrigation District, 2009

TID estimates that current electricity sources are not adequate to maintain a sufficient level of service over the next 20 years. However, the District is in the process of adding additional resources as part of its normal planning process, and it expects to be capable of maintaining sufficient service in future years.

Renewables

Currently, 6.5 percent of TID’s electricity supply comes from renewable energy sources. Seventy percent of their renewable power supply is generated from geothermal energy, and the District also owns some solar, wind, and fuel cell facilities in the Napa area. The District is also investing in a large wind power site in the Columbia River Gorge, which will allow them to meet their state renewable requirement through 2025. Current state requirements are for power suppliers to deliver at least 20 percent renewable energy by 2017 and 33 percent by 2020. TID’s goal is to increase their renewable percentage by one to two percent per year in order to meet the requirement. The District is also currently working with the City of Turlock to develop a fuel cell plant in conjunction with the City’s new wastewater treatment facility, which would utilize the facility’s methane output to create energy.

Planning Issues and Implications

While current power supply levels would not be adequate to serve future growth through 2030, TID is continually adding resources through its normal planning process and anticipates being able to meet the needs of new development. Additionally, numerous customer conservation programs are in place, and the District is on track to continue increasing its percentage of renewable power to comply with state law. Electricity provision is not expected to be a constraint on future development.