

EXISTING CONDITIONS REPORT

October 2008



City of
Casa Grande







community first

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City of
Casa Grande

General Plan 2020

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executive summary

General Plan 2020



City of
Casa Grande

executive summary

This Existing Conditions Report is the first major technical product of the General Plan Update process. It describes the current conditions in the City of Casa Grande and identifies preliminary issues relevant to the update of the 2020 General Plan update. This report details conditions specific to Casa Grande in the areas of locational context, demographics, housing and economic development, land use, historic preservation, transportation, environment and water and wastewater. The information provided in this Existing Conditions Report is intended to provide a basis for community discussions that will inform the City of Casa Grande General Plan Update 2020.

Locational Context: Casa Grande is located in Pinal County, Arizona. The City is approximately one hour south of the Phoenix metropolitan area and approximately one hour north of the Tucson metropolitan area. The Nogales Port of Entry is approximately 120 miles south of Casa Grande. The Gila River Indian Community is to the immediate north and the Tohono O’odham Indian Community is to the south of Casa Grande.

Demographics: The City of Casa Grande is the most populous community in Pinal County. Since 2000, Casa Grande has grown by over 68 percent, or 17,198 people, to an estimated 42,422 residents. The median household income in Casa Grande in 2007 was \$41,100. The City has historically posted Pinal County’s strongest jobs-to-population ratio. Export-based industries in the area include agricultural production, manufacturing, and transportation-related businesses. Casa Grande’s central location between Phoenix and Tucson at the intersection of I-8 and I-10 provides an ideal location for additional value added agricultural production and transportation and logistics business.

Housing & Commercial Activity: The City of Casa Grande along with Gold Canyon and Stanfield is one of the top locations for new residential development in Pinal County. Casa Grande is home to a significant amount of retail space of varied types. Retailers that can be found within the City include Wal-Mart, Kmart, Home Depot, Lowe’s, and Staples. Grocery store retailers include Albertson’s, Food City, Fry’s and Safeway. The City is also home to the Promenade, a 900,000 square foot retail mall including J. C. Penney, Dillard’s, Best Buy and Target. The City of Casa Grande’s infrastructure, locational assets and other economic attributes will continue to support the extension of the City’s employment base.

Land Use: The City limits of Casa Grande include approximately 104¹ square miles of developed and undeveloped land. The vast majority of land within the City limits and its Planning Area is vacant or in agricultural use. Other key land uses include manufacturing, residential and commercial. As the Phoenix and Tucson metropolitan areas continue to grow, Casa Grande’s desirability as an accessible location will be further enhanced. Opportunities exist to encourage development types and patterns that are competitive with those in the Phoenix and Tucson metropolitan areas, as well as those that offer the “small town” lifestyle treasured by Casa Grande residents. The City includes commercial and employment areas that are almost built-out enough to support some bus public transit service.



1 Central Arizona Association of Governments Existing Land Use Map 2007

Historic Preservation: There have been a number of efforts to recognize and preserve the historic, architectural and cultural resources that represent Casa Grande's heritage. Various activities have been undertaken by the nine member Historic Preservation Commission (HPC) to raise awareness and appreciation for Casa Grande's historic and architectural resources. An historic plaque program was established with the HPC members undertaking fund-raising projects to provide finances to produce and install the plaques. Walking tours have been conducted. Recently, design guidelines for the Evergreen Historic District have been prepared and adopted by the HPC. Plans are underway to disseminate information about the guidelines and the City's review process to the district residents.

Transportation: In the urbanized areas of Casa Grande, the major roadways are paved and generally provide two lanes of through traffic in each direction. In the rural areas, most roadways provide one lane of through traffic in each direction and many of the roadways are unpaved. There is a significant overall funding shortfall for the improvements expected to be needed by 2030 as identified in the 2007 Small Area Transport Study. The estimated cost of all of the capacity improvements projected to be needed by 2030 is \$3.25 billion in 2006 dollars, (\$160 million/year). There is also the opportunity to expand the City's airport. Development is beginning to occur in the vicinity of the current municipal airport, and the City needs to take the necessary steps to protect the airspace around the airport from encroachment of incompatible land uses.

Environment: Maintaining air and water quality while also preserving natural resources are important aspects of the City's quality of life. The Casa Grande planning area covers a diverse geographic area which includes unique geography and natural areas. Careful attention also needs to be given to drainage issues and constraints associated with development in FEMA floodplains.

Water & Wastewater: Casa Grande's water supply is provided by private water companies. Arizona Water Company (AWC) provides water within the incorporated City limits and it is anticipated that Global Water/Palo Verde Utilities will provide service west of Montgomery Road.





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community first

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- 1.2 Existing Conditions Report
- 1.3 The General Plan & Growing Smarter Plus
- 1.4 Regional Context

General Plan 2020



City of
Casa Grande



1.1 City of Casa Grande General Plan 2010

The Casa Grande General Plan 2010 was adopted in 2002 and provides a response to population growth that had been occurring in Casa Grande and the surrounding areas in Pinal County. Since the General Plan 2010 was adopted, the pace of growth has continued to accelerate and is reflected by physical development and the expansion of the City's incorporated limits from 55.53 square miles in 2000 to 104 square miles in 2008. For the City of Casa Grande, this brings new opportunities and challenges to be met during the 2020 update of the General Plan.

1.2 Existing Conditions Report

The Existing Conditions Report is the first major technical product of the General Plan update process. It describes the current conditions in the City of Casa Grande and identifies preliminary issues relevant to the 2020 General Plan Update. This Existing Conditions Report serves as a foundation for the General Plan 2020 update and provides a context for exploring planning opportunities and challenges.

1.3 The General Plan & Growing Smarter Plus

The General Plan clarifies and articulates the City's intentions with respect to the rights and expectations of the general public, property owners, special interest groups, prospective investors, and business interests. Through the General Plan, the City Council informs the community of its goals, general policies and detailed development policies. ARS § 9.461.06, requires a General Plan for a city the size of Casa Grande to contain, at a minimum, the following ten elements:

- » Land Use
- » Housing
- » Parks, Trails & Open Space
- » Environmental & Air Quality
- » Cost of development
- » Water and Wastewater Resources
- » Transportation & Circulation
- » Economic Development
- » Growth Areas
- » Implementation & Amendment

Arizona State Statutes allow the planning agency to formulate additional elements, which, in the judgment of the planning agency relate to the physical development issues of its jurisdiction. These non- mandatory elements are as legally binding as a mandatory element, once the plan is adopted. The City of Casa Grande has chosen to include Historic Preservation and Rural Development elements in the 2020 General Plan update. These elements specifically demonstrate the City's commitment to balancing future growth and development with rural landscapes, community character and economic values. Similarly, the City recognizes that a historic preservation element will provide a framework to celebrate, integrate and preserve Casa Grande's historic and cultural heritage into future development patterns.

State law also requires the preparation of a Public Involvement Plan that provides written procedures to provide effective, early and continuous public participation in the development and major amendment processes of the General Plan (ARS § 9.461.06). The Public Engagement Plan is available from the City of Casa Grande Planning and Development Department or online at www.casagrandeaz.gov.

1.4 Regional Context

Casa Grande is located in Pinal County, Arizona (Map 1.1). The City is approximately one hour south of the Phoenix metropolitan area and approximately one hour north of the Tucson metropolitan area. The Nogales Port of Entry is approximately 120 miles south of Casa Grande. Much of the land surrounding Casa Grande consists of the Gila River Indian Community to the immediate north and the Tohono O’odham Indian Community to the south. Casa Grande has benefitted greatly from its location as a mid-point between these thriving and growing metropolitan areas.

In addition to being almost equidistant from Phoenix and Tucson, the City is also at the nexus of two key Interstates, I-8 and I-10. Interstate 8 provides through access to the west to San Diego, California and bypasses the Phoenix and Tucson metropolitan areas. Interstate 10 provides through access to Los Angeles, California. While I-8 terminates in Casa Grande at its intersection with I-10, I-10 continues east to provide regional connections to Tucson and Mexico via I-19, and also continues east through El Paso, Texas. In addition to national and international roadway connections, the Union Pacific Railroad passes through the City and is an active line that connects the major ports and transfer points in Los Angeles and El Paso. State Route 347 provides a link to I-10 through the City of Maricopa, to the northwest. Planned improvements to this road, where it crosses the railroad tracks in Maricopa, will enhance its role as a regional connector.

To the west of Casa Grande’s municipal boundaries is unincorporated Pinal County land and the unincorporated community of Stanfield. Stanfield is within the City of Casa Grande’s Planning Area, which extends one mile west of Stanfield Road. Between the Casa Grande’s Planning Area boundary and the City of Maricopa, to the northwest, is the Pleasant Valley area, which includes the 22,000-acre (34 square miles) Ak Chin Indian Community, the Maricopa Mountains and a mix of mostly undeveloped private, Federal (Bureau of Land Management) and State land.

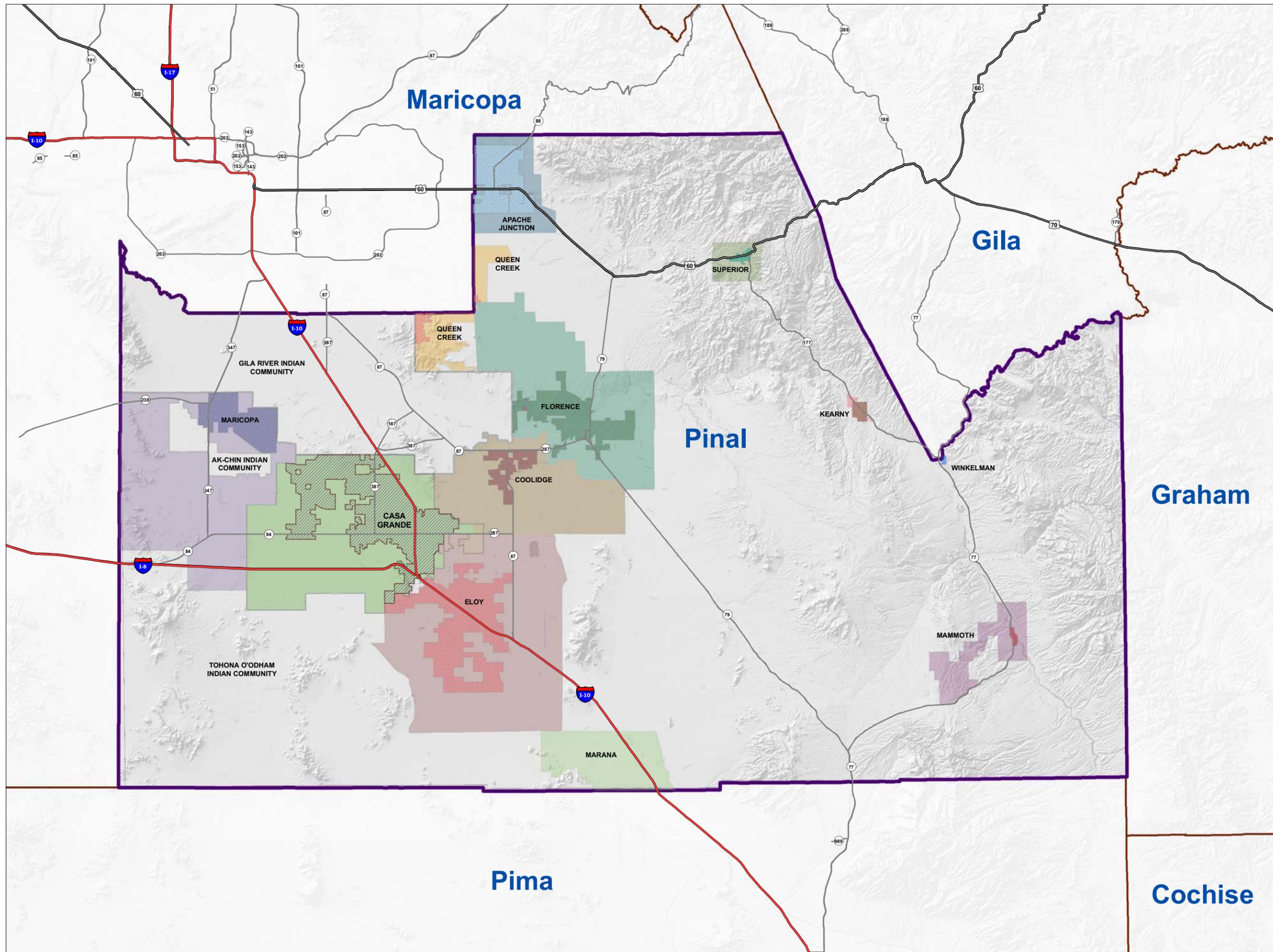


New homes in the City of Casa Grande

The City of Maricopa, located between Casa Grande and the Phoenix metropolitan area is a rapidly growing residential suburb. While Maricopa is slightly closer to the Phoenix metropolitan area than Casa Grande, Maricopa does not benefit from I-10 access. Consequently, the drive time between Maricopa and the Phoenix metropolitan area is longer than between Casa Grande and the Phoenix metropolitan area. New transportation connections are planned, and improvements to SR 347 (N John Wayne Parkway) will decrease commute times for Maricopa residents.

To the southeast of Casa Grande is the City of Eloy, a growing community along I-10. The City of Casa Grande’s Planning Area borders the planning boundary of Eloy east of I-10 and south of





LEGEND

- US Highway
- Interstates
- State Highways
- Incorporated Jurisdictional Limits
- Casa Grande Planning Area Boundary
- Neighboring Counties



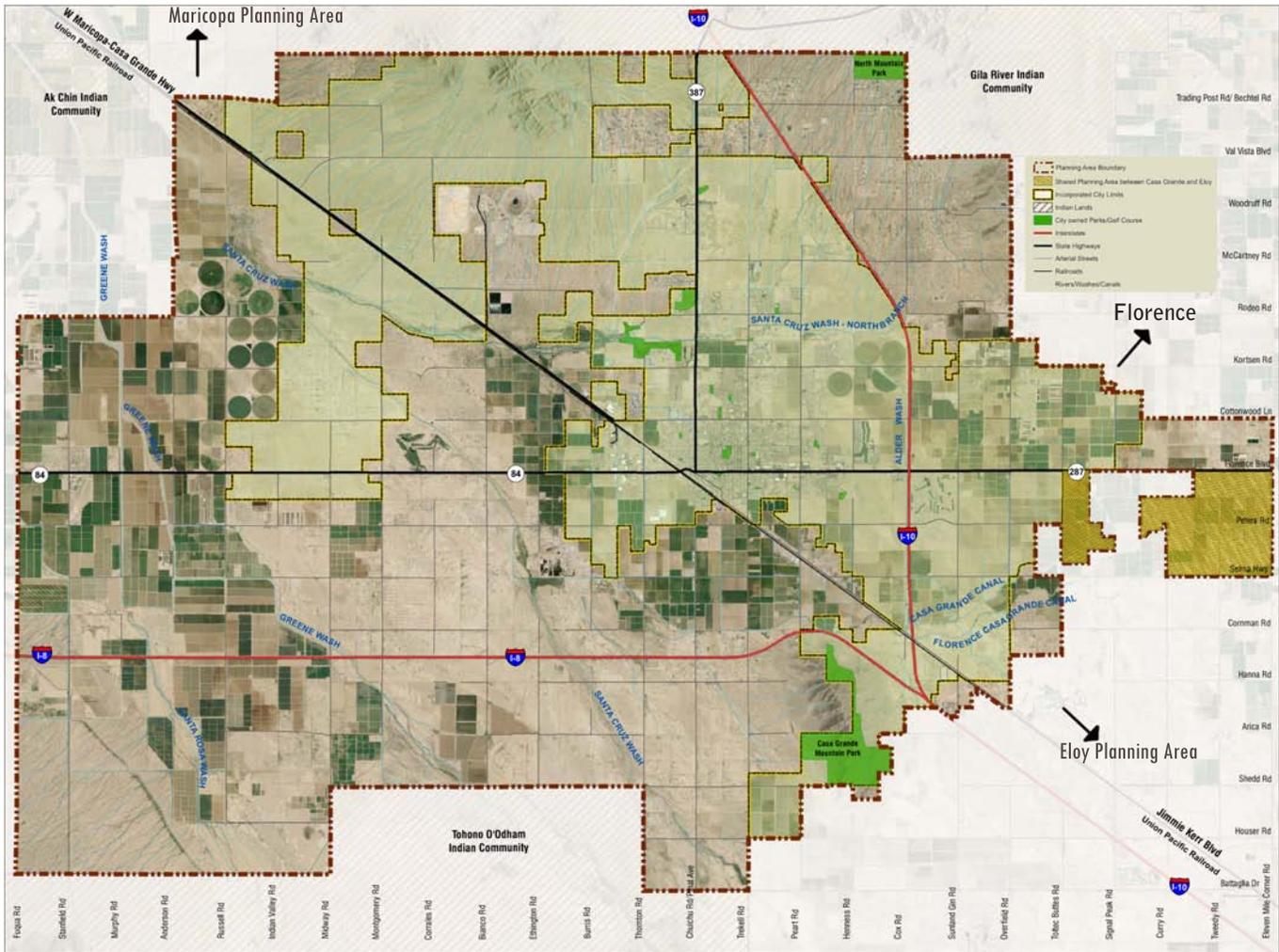
**MAP 1.1
REGIONAL CONTEXT**

September 2008
 0 2.5 5 10 Miles

SOURCE:
 This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.



Figure 1.1:
Casa Grande-Eloy Shared Planning Area
Source: City of Casa Grande



Florence Boulevard. The City of Casa Grande and the City of Eloy have designated a Shared Planning Area, located to the east of I-10 and south of Florence Boulevard (Figure 1.1).

Approximately ten miles to the east of Casa Grande, lies the City of Coolidge. Coolidge is another rapidly growing city with a planning area that extends east to Overfield Road, and abuts the City of Casa Grande’s Planning Area on its north and east side. The cities of Casa Grande, Maricopa, Eloy, Florence and Coolidge (Map 1.1) form the heart of economic activity in Pinal County and the Central Arizona region. Upon reaching build-out, their borders will abut one another, potentially creating a metropolitan area of over one million people. Currently, the City of Casa Grande is the most populous, accessible (in terms of time and infrastructure) and economically diverse of all these cities. In the future, planned and current transportation improvements may begin to equalize travel times between the Phoenix and Tucson metropolitan areas and other central Pinal County cities. Additionally, continued growth and development in the southeastern portion of Maricopa County may balance many of the strategic assets now enjoyed by Casa Grande, enabling more choices for business and industry seeking to locate in this central Arizona region.





2.1 Facts

2.1.1 Demographic Profile

2.1.2 Pinal County Overview

2.1.3 Casa Grande

2.1.4 Employment Activity

2.1.5 Housing Activity

2.1.6 Commercial Activity

2.1.7 Sales Tax Revenue

2.2 Challenges

2.2.1 Short-term Challenges

2.2.2 Long-term Challenges

2.3 Going Forward





2.1 Facts

2.1.1 Demographic Profile

The population of Pinal County has grown by an estimated 63 percent since the 2000 Census. Several companies, such as ESRI, produce interim estimates and projections that are helpful in capturing trends. According to ESRI, the median age estimates for residents in most of the major communities within Pinal County show very little change over recent years. It is expected that the median age within Pinal County will become similar to that of Maricopa County over time as the area continues to develop and take on similar economic characteristics. Estimates of distribution of age by community, including the Pinal County total, are displayed in Table 2.1.

Table 2.1:
Population Age Distribution

Population Age Distribution 2007								
Age Range	Casa Grande	Coolidge	Eloy	Florence	Maricopa	Pinal County [^]	Maricopa County [^]	State of Arizona
Total Population	42,422	11,721	13,953	21,913	32,157	32,7670	3,907492	6,500,194
0 - 4	8.5%	9.5%	8.9%	3.5%	9.8%	7.7%	8.1%	7.8%
5 - 9	7.3%	8.0%	7.6%	3.3%	8.7%	7.0%	7.5%	7.2%
10 - 14	7.7%	8.3%	7.9%	3.2%	7.4%	6.8%	7.1%	7.1%
15 - 19	7.5%	7.8%	8.5%	5.0%	8.6%	6.6%	6.6%	7.0%
20 - 24	7.6%	7.3%	7.3%	10.8%	8.6%	6.6%	6.6%	6.8%
25 - 34	12.7%	12.1%	14.0%	23.1%	12.5%	13.0%	15.2%	14.6%
35 - 44	12.0%	11.7%	12.8%	21.6%	12.4%	13.2%	14.6%	13.9%
45 - 54	12.7%	13.7%	11.3%	12.6%	13.5%	12.5%	12.4%	12.8%
55 - 64	10.4%	8.8%	8.9%	7.4%	9.3%	11.0%	9.6%	10 %
65 - 74	7.4%	6.4%	7.5%	5.6%	6.1%	9.3%	6.3%	6.6%
75 - 84	4.9%	4.9%	4.4%	3.0%	2.4%	5.1%	4.3%	4.7%
85+	1.3%	1.5%	1.0%	1.0%	0.7%	1.3%	1.7%	1.5%
Median Age	34.0	32.0	32.1	35.5	30.6	36.8	34.3	34.6%

[^] Includes Native American communities

Source: Elliott D. Pollack & Company; ESRI

The forecasted ethnic composition of the population of Casa Grande is similar to that of other communities within the County and shows some significant trends. From 2000 to 2012, the percent of white residents in Casa Grande is expected to decrease from just over 65 percent to 59.4 percent, while county-wide, the percentage is projected to drop from over 70 percent to 65 percent. By 2012, it is expected that the number of residents with an Hispanic background will increase from 38 percent to 42.5 percent of the population in the City, and from 29.9 percent of the population to 38 percent for the County.

02 demographics

Residents of African American, Asian, and Pacific Islander background are projected to remain unchanged from 2007 to 2012 in population percentage terms. American Indian residents are expected to increase slightly from 8.1 percent of the population in 2007 to 8.3 percent of the population by 2012 (Table 2.2). The changes forecasted for the area are due to the continued migration of population into the County as Greater Phoenix continues to grow and push development outward.

Table 2.2:
Population by Race or Ethnicity

Race or Ethnicity	Population by Race or Ethnicity					
	2000		2007		2012	
	Casa Grande	Pinal County [^]	Casa Grande	Pinal County [^]	Casa Grande	Pinal County [^]
White Alone	65.1%	70.4%	60.8%	67.4%	59.4%	65.0%
Black Alone	3.6%	2.8%	4.1%	2.8%	4.1%	2.8%
American Indian Alone	6.3%	7.8%	8.1%	7.6%	8.3%	7.5%
Asian Alone	0.9%	0.6%	1.0%	0.7%	1.0%	0.8%
Pacific Islander Alone	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Some Other Race Alone	20.7%	15.7%	22.4%	18.4%	23.7%	20.7%
Two or More Races	3.3%	2.7%	3.5%	2.9%	3.5%	3.2%
Total	100%	100%	100%	100%	100%	100%
Hispanic Origin (Any Race)	38.0%	29.9%	41.4%	34.9%	42.5%	38.0%

[^] Includes Native American communities

Source: ESRI, Elliott D. Pollack & Co.

Projections of educational attainment for the current year are not available. The 2000 U.S. Census provides the best available information, but does not reflect the characteristics of the new influx of residents. It is assumed that the distribution of persons with a college level education has risen in recent years. Table 2.3 shows that Casa Grande had the highest percentage of population earning college degrees among Pinal County jurisdictions, but still trailed Maricopa County by 11.1 percent.

Table 2.3:
Population Over 24 Years of Age by Educational Attainment

Population Over 24 by Educational Attainment Census 2000							
Highest Level of Schooling	Casa Grande	Coolidge	Eloy	Florence	Maricopa	Pinal County [^]	Maricopa County [^]
Less than 9th Grade	13.3%	18.1%	20.8%	10.4%	20.7%	10.6%	7.4%
9th - 12th Grade, No Diploma	16.3%	16.4%	19.4%	22.9%	19.0%	16.7%	10.1%
High School Graduate	29.2%	28.6%	27.4%	29.2%	30.4%	30.4%	23.1%
Some College, No Degree	21.0%	22.9%	21.2%	26.6%	19.5%	24.7%	26.6%
Associate Degree	5.8%	5.2%	3.9%	5.2%	4.3%	5.7%	7.0%
Bachelor's Degree	8.7%	5.4%	4.8%	3.6%	4.6%	7.5%	17.2%
Master's/Prof/Doctorate Degree	5.7%	3.4%	2.5%	2.0%	1.5%	4.4%	8.7%

[^] Includes Native American communities

Source: Elliott D. Pollack & Company; ESRI

02 demographics

The median household income in Casa Grande in 2007 was \$41,100, according to ESRI (Table 2.4). The Pinal County median household income was \$46,000. Median household incomes in major communities within the County were estimated to range from \$37,300 in Coolidge to nearly \$48,000 in the Town of Florence. Incomes across the county are expected to rise an additional 17 percent through 2012. The increases are due to rising incomes of existing residents and an influx of new residents with higher wages. It has been commonly observed that new residents purchasing homes in areas such as Casa Grande have higher incomes than the existing residents of a rural/semi-rural community. Higher incomes also develop within communities as their economy grows and diversifies.

Table 2.4:
Household Income Distributions

Household Income Distributions 2007							
Income Range	Casa Grande	Coolidge	Eloy	Florence	Maricopa	Pinal County [^]	Maricopa County [^]
Under \$15,000	15.8%	18.5%	18.7%	11.4%	15.7%	13.2%	8.3%
\$15,000 - \$24,999	13.0%	15.0%	13.5%	11.2%	14.5%	12.0%	8.0%
\$25,000 - \$34,999	13.0%	13.7%	12.4%	12.7%	10.7%	11.7%	9.6%
\$35,000 - \$49,999	18.0%	17.8%	18.9%	16.8%	21.5%	18.2%	14.9%
\$50,000 - \$74,999	19.4%	14.8%	20.1%	24.6%	20.0%	21.2%	20.4%
\$75,000 - \$99,999	9.7%	9.5%	7.5%	12.1%	9.3%	10.8%	14.3%
\$100,000 - \$149,999	7.8%	7.5%	6.4%	8.7%	7.1%	8.8%	14.4%
\$150,000 - \$199,999	1.7%	1.3%	1.7%	1.6%	1.2%	2.1%	5.2%
\$200,000 and Up	1.6%	1.9%	0.9%	0.9%	0.1%	1.9%	4.8%
Median Household Income	\$41,124	\$37,297	\$39,139	\$47,996	\$41,729	\$46,013	\$60,193

[^] Includes Native American communities

Source: Elliott D. Pollack & Company; ESRI

2.1.2 Pinal County Overview

Pinal County is Arizona's third largest county in terms of population, after Maricopa and Pima Counties. While the economic downturn of 2008 may result in dampened economic activity throughout all of Greater Phoenix and Pinal County, the long term outlook for the region remains very favorable. These favorable long term conditions are what one would consider when doing long range planning. In recent years, Pinal County has been the State's fastest growing in percentage terms, a trend that is expected to continue for decades into the future. Since 2001, the population of Pinal County has grown by over 75 percent. Current population estimates for Pinal County vary between sources. Table 2.5 displays population estimates for Pinal County by the Arizona Department of Commerce (ADOC; these duties were formerly completed by the Department of Economic Security), the Central Arizona Association of Governments (CAAG) planning division, and the U.S. Census. These estimates include Native Americans living on reservations that are located in Pinal County.

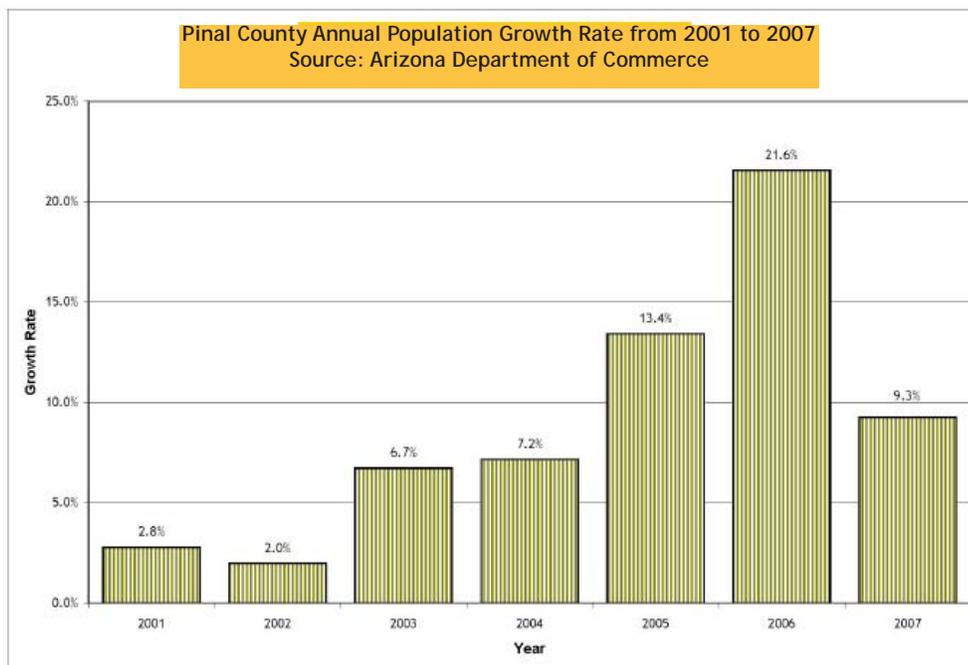


Table 2.5:
Pinal County Population Estimates

Pinal County Population Estimates [^]			
	DES	CAAG	U.S. Census
2000	181,375	185,525	179,727
2001	186,440	190,181	188,175
2002	190,140	199,687	197,243
2003	202,940	210,493	207,844
2004	217,465	230,355	219,860
2005	246,660	258,256	237,323
2006	299,875	297,310	271,059
2007	327,670	326,398	299,246

[^] Includes Native American communities
Source: DES, CAAG, U.S. Census

Chart 2.1:
Pinal County Annual Population Growth Rate



As noted in the chart above, Pinal County has grown tremendously from 2003 through 2007. This is attributed to the rapid expansion of Metro Phoenix and partly due to excellent economic development drivers. During the most recent housing boom, the growth perimeter surrounding Phoenix and its suburbs pushed into areas that had not seen any substantial development in the past. These areas included Buckeye, Surprise, North Phoenix, and Queen Creek. Dramatic growth was also seen within Pinal County in communities such as Maricopa, Casa Grande, and in the Johnson Ranch area. During the boom, Pinal County offered housing to people who wished to live close to the Southeast Valley but did not want to pay the escalating home prices in Tempe, Scottsdale, Chandler, or Gilbert. Pinal County was also attractive to investors who saw an opportunity for profits in the relatively inexpensive land and home prices.

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The Arizona Department of Commerce (ADOC), in conjunction with the Central Arizona Association of Governments (CAAG), produced long-term population projections for each of Arizona’s 15 counties. According to the long-term projections, Pinal County’s population growth rate will be more than double that of any other county in Arizona over the next fifty years. Once the current cycle abates, Pinal County will continue on a long-term high-growth trajectory. As parts of the Southeast Valley build out, Pinal County communities are poised to capture the development that spills further south and east. Excluding housing cycles, the County should capture somewhere between 25 percent and 40 percent of total Metro Phoenix housing growth over the next several decades. The rising prices of oil and gasoline present both risks and opportunities for communities in Pinal County such as Casa Grande. The risk is that, as the community is viewed as a suburb of Metro Phoenix, longer commute times detract from the areas competitiveness in attracting residents. However, the opportunity is that the rise in gasoline prices may induce residents to work closer to home and therefore provide opportunities for employment growth, especially for an economic hub like the Casa Grande-Eloy area. The long-term ADOC projections are included in Chart 2.2 and Chart 2.3.

Chart 2.2:
Pinal County Population Forecast Projections

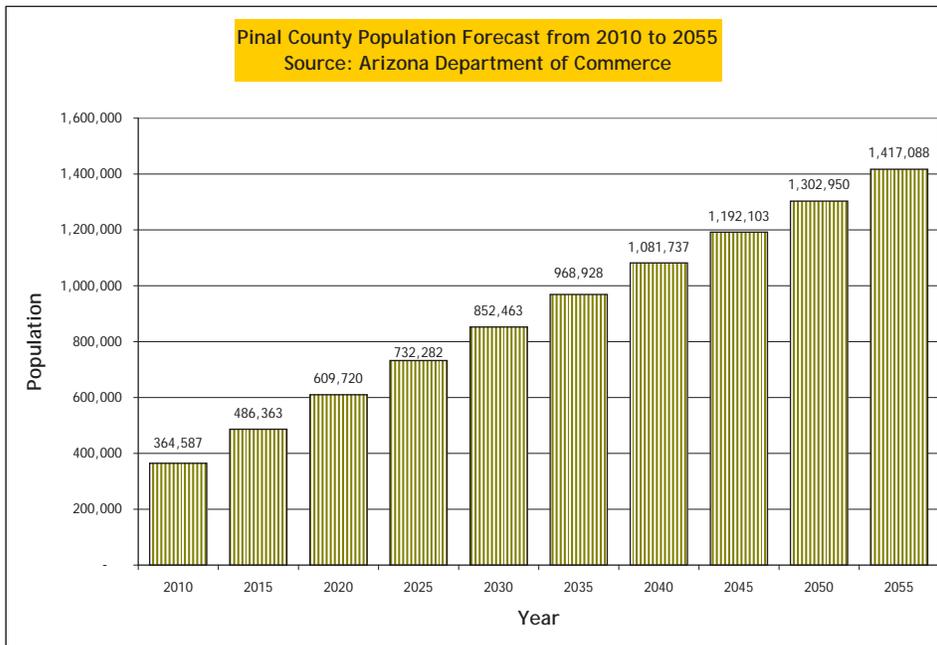
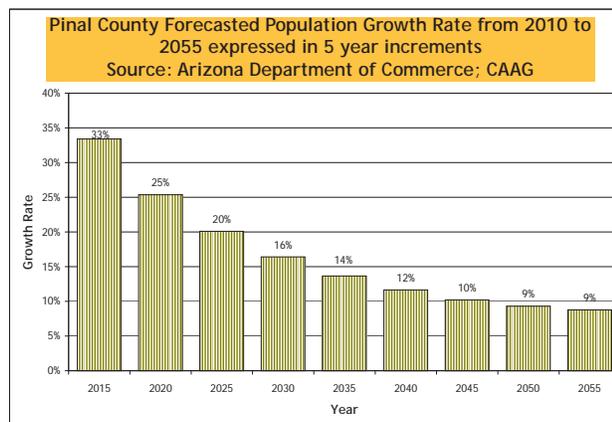


Chart 2.3:
Pinal County
Growth Rate
Forecast Projections



2.1.3 Casa Grande

The City of Casa Grande is the most populous community in Pinal County. Since 2000, Casa Grande grew by over 68 percent, or 17,198 people. While a portion of the population growth can be attributed to the recent housing boom, the area’s economic development potential also contributed to Casa Grande’s growth. Table 2.6 shows the DES and Central Arizona Association of Governments (CAAG) population estimates for the City of Casa Grande from 2000 to 2007.

Table 2.6:
Casa Grande Population Estimates

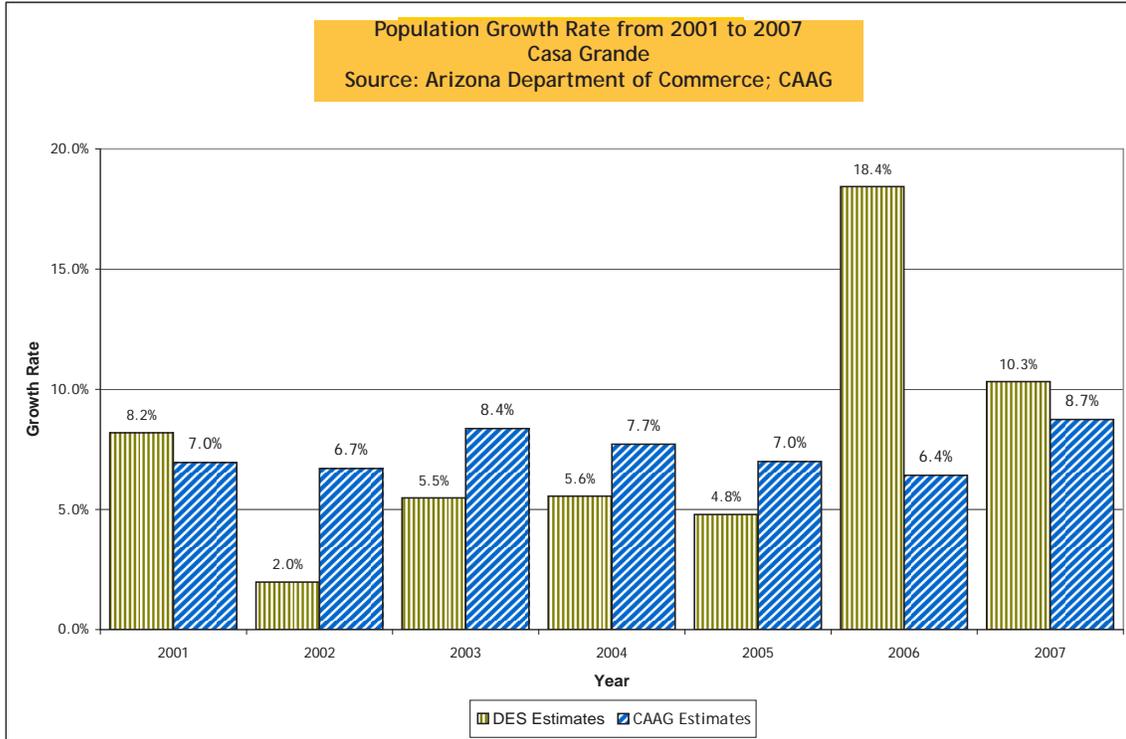
Casa Grande Population Estimates 2000 - 2007		
	DES	CAAG
2000	25,224	25,387
2001	27,290	27,152
2002	27,830	28,971
2003	29,355	31,394
2004	30,985	33,815
2005	32,470	36,179
2006	38,455	38,502
2007	42,422	41,869

Source: DES, CAAG

The two estimates show only slight variations overall. During the height of the housing boom in 2006, Casa Grande was estimated by ADOC to grow by over 18 percent. It is worthwhile to note that the population estimate for 2006 is based on building permit activity; investor purchases of housing units could skew the actual population estimate. In contrast, CAAG estimated the population to grow by approximately 6.4 percent in 2006 and 8.7 percent in 2007, though through the earlier years of the housing boom (2002-2005), CAAG had stronger growth estimates than ADOC. It is important to note also that significant foreclosure activity now being experienced could also affect population estimates, however this will only be in the short-term. Chart 2.4 shows the annual percentage growth estimates for Casa Grande for the past seven years.



Chart 2.4:
Casa Grande Annual Population Growth



The Arizona Department of Commerce, in conjunction with CAAG, has produced long-term population projections for the City of Casa Grande. These projections forecast that, with the exception of short-term market shifts, Casa Grande will continue on a long-term, high-growth trend (Chart 2.5).

Chart 2.5:
Casa Grande Population Forecast

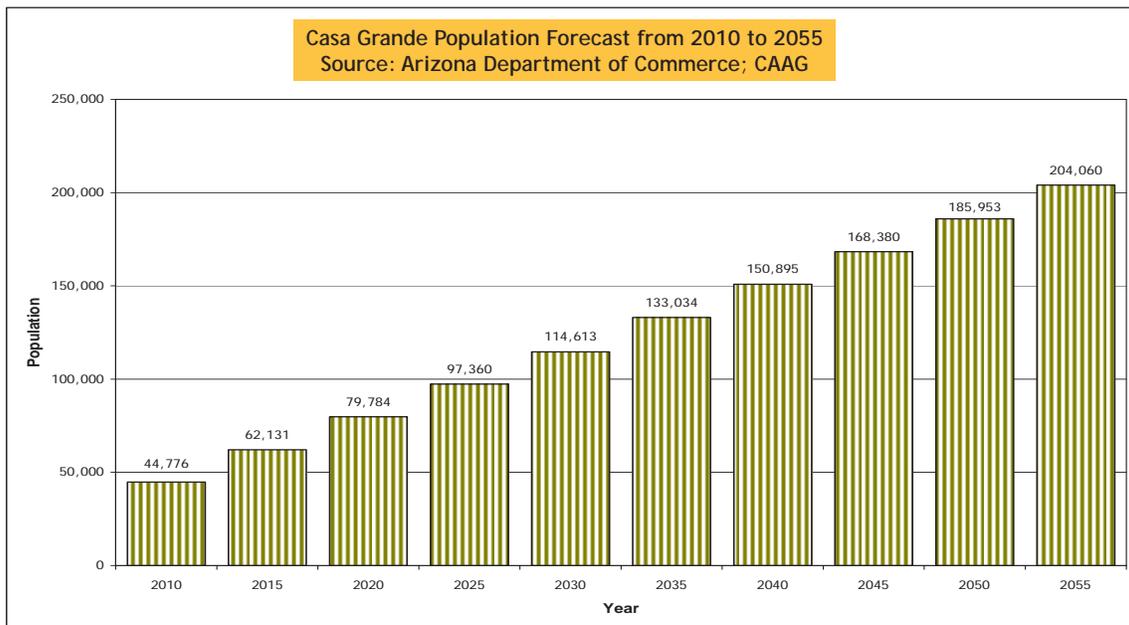
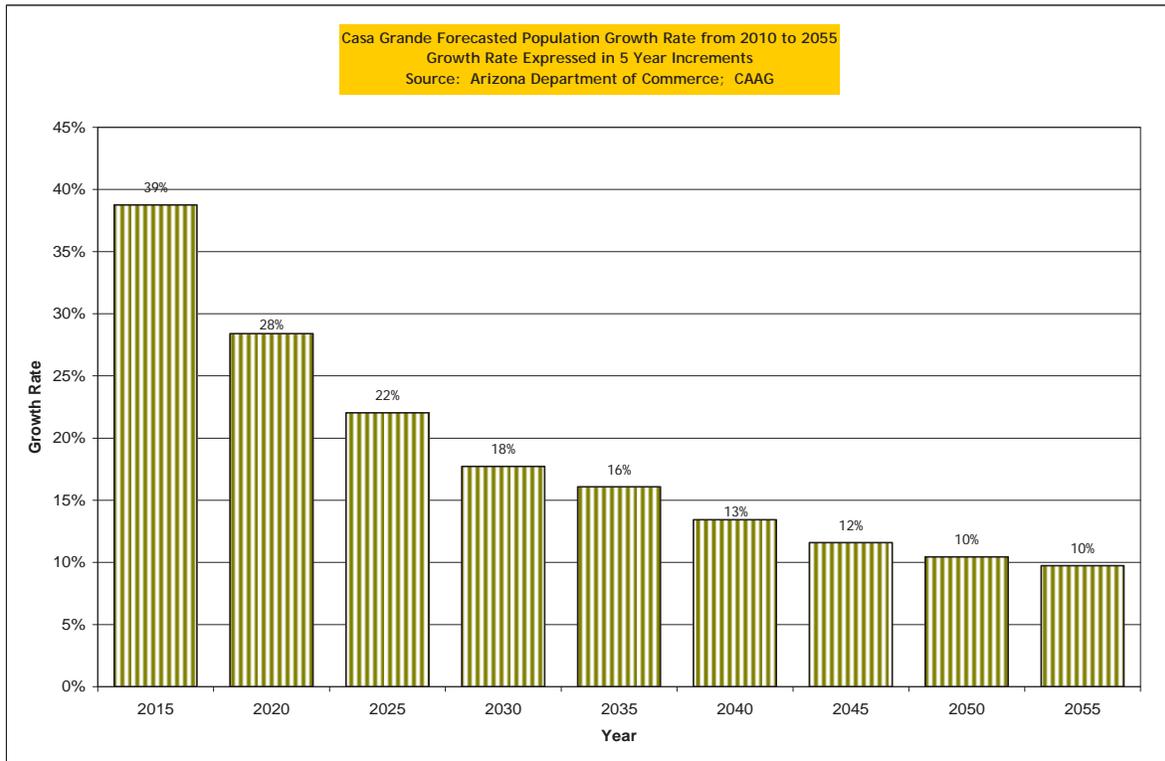


Chart 2.6:
Casa Grande Growth rate expressed in 5-year Increments



2.1.4 Employment Activity

Today, Casa Grande is the economic hub of Pinal County. The City has historically posted Pinal County’s strongest jobs-to-population ratio. Export-based industries in the area include agricultural production, manufacturing, and transportation-related businesses. Casa Grande’s central location between Phoenix and Tucson at the intersection of two interstate highways provides an ideal location for agricultural production, transportation, and logistics business.

The following provides an overview of Pinal County and Casa Grande employment by sector, according to the U.S. Census County Business Patterns and Zip Code Business Patterns. The latest data available is from 2005. It is anticipated that the growth in housing and population has brought even more jobs to the area in last three years. Zip code 85222 represents the City of Casa Grande in the following charts and data. In 2005, this zip code included the entire City.

For perspective on the relative employment strength of Casa Grande, Table 2.7 compares Casa Grande’s employment to the total employment within Pinal County by sector. For instance, Casa Grande accounts for more than 50 percent of Pinal County employment in utilities, manufacturing, wholesale trade, retail trade, transportation and warehousing, information, management of companies and businesses, educational services and health care and social assistance. In total, approximately 43.3 percent of all private, non-government jobs in Pinal County are located in Casa Grande.

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An indicator of the strength of Casa Grande's economy is demonstrated by the fact that in 2005, the City's population constituted nearly 15 percent of Pinal County's population while almost 45 percent of the County's jobs were located in the City. The estimated population of Casa Grande in 2005 and the population as a percent of total Pinal County population are also given in the following table as a percent of the total Pinal County population. In 2005, Casa Grande accounted for 13.2 percent of the County's population, and 43.3 percent of its employment. Current employment figures will differ greatly, due to the recent boom of commercial development within the City. The Promenade Mall, in particular, has greatly increased the quantity of retail jobs in the City.

Table 2.7:
Employment Base - Casa Grande Vs. Pinal County

Employment Base Casa Grande vs. Pinal County - 2005				
	Casa Grande	% of Casa Grande Jobs	Pinal County [^]	Casa Grande % of County
Forestry, fishing, hunting, and agriculture support	17	0.12%	175	10%
Mining	63	0.44%	200	31%
Utilities	148	1.03%	228	65%
Construction	813	5.65%	2,246	36%
Manufacturing	1,895	13.17%	3,320	57%
Wholesale trade	391	2.72%	905	43%
Retail trade	2,824	19.62%	6,500	43%
Transportation & warehousing	989	6.87%	1,091	91%
Information	234	1.63%	344	68%
Finance & insurance	275	1.91%	875	31%
Real estate & rental & leasing	296	2.06%	756	39%
Professional, scientific & technical services	215	1.49%	549	39%
Management of companies & enterprises	100	0.70%	130	77%
Admin, support, waste mgt, remediation services	818	5.68%	2,914	28%
Educational services	377	2.62%	701	54%
Health care and social assistance	2,393	16.62%	4,713	51%
Arts, entertainment & recreation	70	0.49%	752	9%
Accommodation & food services	1,926	13.38%	5,365	36%
Other services (except public administration)	543	3.77%	1,478	37%
Unclassified establishments	4	0.03%	14	31%
Total^{1/}	14,392		33,256	43.3%
Population	32,470		246,660	13.2%

[^] Includes Native American communities

^{1/} Total does not include government or sole proprietorship employment.

Source: U.S. Census Zip Code Business Patterns, U.S. Census County Business Patterns, DES, Elliott D. Pollack & Co.

Employment by industry for Maricopa County, Pinal County, and Casa Grande as a percent of total employment within the respective jurisdictions are displayed in Table 2.8. The table demonstrates Casa Grande's economic strength and diversity. Casa Grande includes a greater proportion of manufacturing, retail trade, health care, and accommodations jobs than Pinal County as a whole.



Table 2.8:
Employment Mix

Employment Mix Maricopa County, Pinal County, Casa Grande - 2005			
	Maricopa County [^]	Pinal County [^]	Casa Grande
Construction	10.2%	6.8%	5.7%
Manufacturing	7.9%	10.0%	13.2%
Wholesale trade	5.1%	2.7%	2.7%
Retail trade	13.3%	19.5%	19.6%
Transportation & warehousing	3.8%	3.3%	6.9%
Information	2.6%	1.0%	1.6%
Finance & insurance	7.5%	2.6%	1.9%
Real estate & rental & leasing	2.3%	2.3%	2.1%
Professional, scientific & technical services	6.1%	1.7%	1.5%
Health care and social assistance	10.6%	14.2%	16.6%
Accommodation & food services	10.1%	16.1%	13.4%

[^] Includes Native American communities
Source: U.S. Census Bureau, Elliott D. Pollack & Co.

Using the DES estimates of population and government employment, a jobs to population ratio for Casa Grande was computed. The City of Casa Grande's jobs to population ratio of .53 (i.e. slightly more than one job for every two residents) far exceeds that of Pinal County (.20¹) and exceeds the Maricopa County ratio of .50.

Table 2.9:
Estimated Jobs to Population Ratio

Estimated Jobs To Population Ratio Casa Grande and Pinal County - 2005		
	Casa Grande	Pinal County [^]
Private Sector Employment	14,392	33,256
Government Employment	2,743	16,775
Total Employment	17,135	50,031
Population Estimate	32,470	246,660
Jobs to Population Ratio	0.53	0.20

[^] Includes Native American communities
Source: AZ DES, U.S. Census Bureau, Elliott D. Pollack & Co.

2.1.5 Housing Activity

Single family home permitting in Pinal County began accelerating in 2003 and peaked at 18,191 units in 2005. There was a 41 percent year over year drop in total permits in 2006 and another 24 percent decline in 2007. Although 2007 permitting figures are down 55 percent from the 2003 peak, most economists state that the bottom of the market has not yet been reached. This is due to many factors. The recent tightening of mortgage credit will decrease the number of first-time home buyers who can qualify for a loan. With slowing demand and a large investor presence, home supply in many parts of Pinal County far exceeds demand. Table 2.10 shows single family permitting activity in Pinal County as a whole. Casa Grande single family permits are shown in Table 2.12.

Table 2.10:
Total Single Family Permits in Pinal County

Total Single Family Permits Pinal County		
	SF Permits	% Change
2000	2,175	
2001	3,273	50%
2002	4,433	35%
2003	6,730	52%
2004	11,495	71%
2005	18,191	58%
2006	10,788	-41%
2007	8,147	-24%
2008Q1	1,261	-56%

Source: Arizona State University, Elliott D. Pollack & Co.
Q1: First Quarter

The Arizona State University Real Estate Department divides Pinal County into six regions (Figure 2.1). Single family permits in Pinal County since 2000 are shown in Table 2.11. The Casa Grande region includes the entire Planning Area and additional areas in Casa Grande, as well as unincorporated Pinal County beyond the Planning Area. Table 2.11 shows the rapid acceleration of residential permits in the Casa Grande region as well as in the Stanfield, Maricopa and the Gold Canyon areas, reflective of spill-over from the southeast Phoenix metropolitan area and the rapid acceleration of residential development over the course of only a few years.

Figure 2.1:
 Pinal County Housing Regions
 Source: Arizona Real Estate Center Phoenix

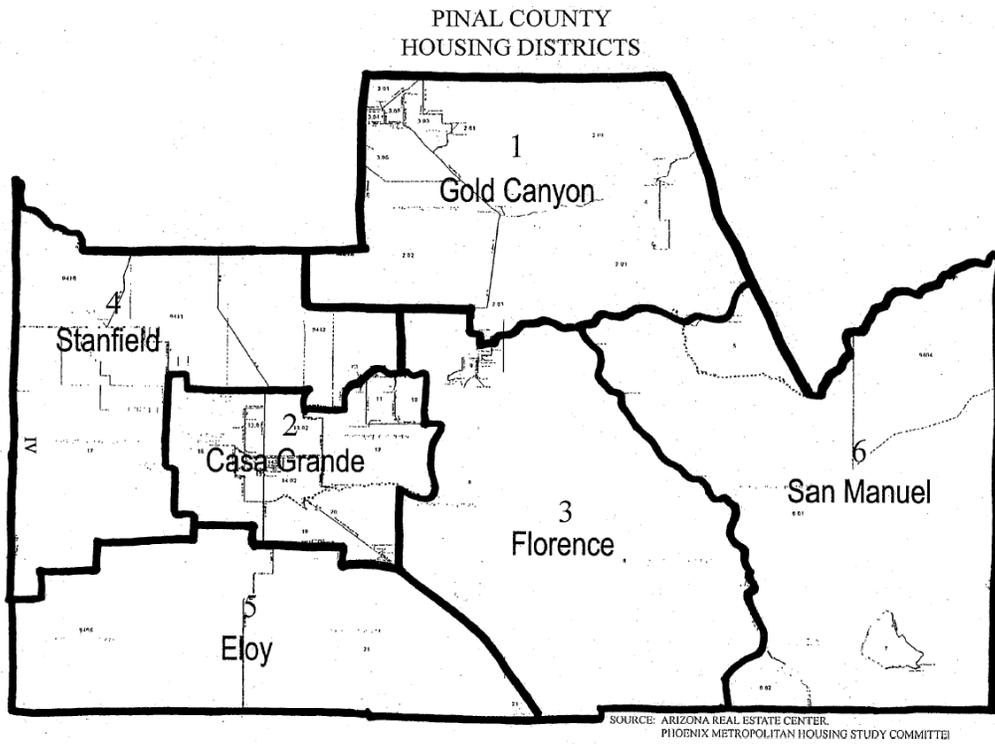


Table 2.11:
 Single Family Permits by Region in Pinal County

Single Family Permits by Region in Pinal County							
	Casa Grande	Gold Canyon	Florence	Stanfield	Eloy	San Manuel	Total
2000	404	1,180	38	9	219	325	2,175
2001	912	1,799	41	22	237	262	3,273
2002	629	2,281	73	824	260	366	4,433
2003	1,324	3,347	295	990	340	434	6,730
2004	1,183	6,504	397	2,560	367	484	11,495
2005	2,778	6,605	696	6,849	666	597	18,191
2006	2,494	3,937	1,058	2,522	497	280	10,788
2007	1,053	3,071	913	2,620	333	157	8,147
2008Q1	219	463	194	321	39	25	1,261

^ Includes Native American communities
 Source: Arizona State University, Elliott D. Pollack & Co

02 demographics

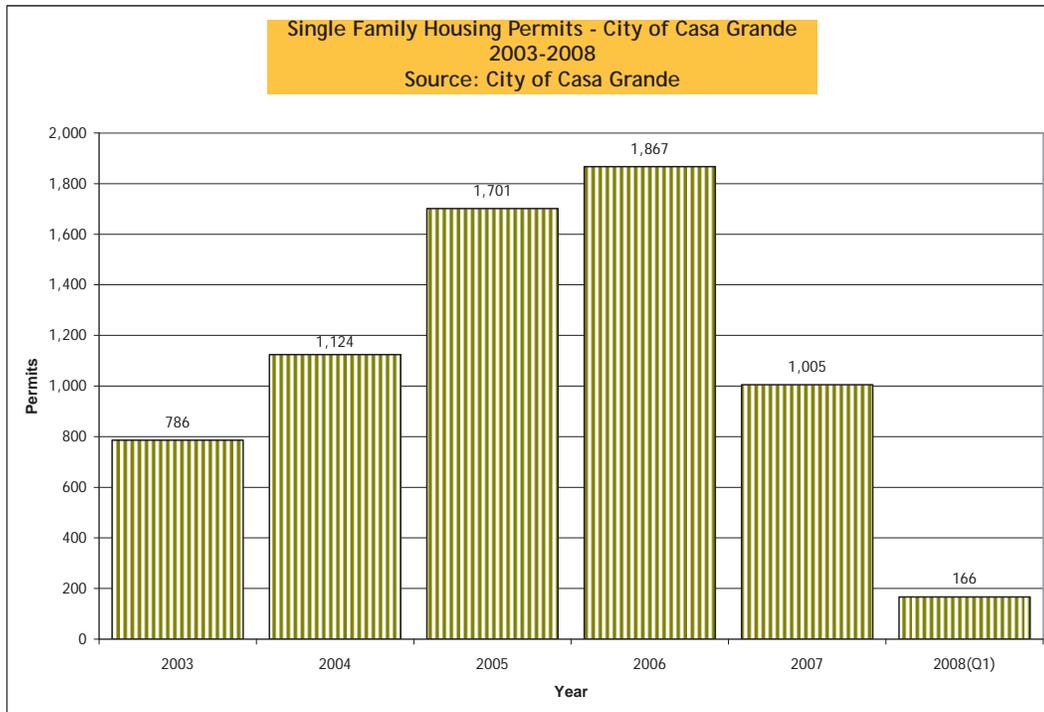
Table 2.12:
Annual Percentage of Pinal County Permits by Region

Annual Percentage of Pinal County Permits by Region							
	Casa Grande	Gold Canyon	Florence	Stanfield	Eloy	San Manuel	Total
2000	19%	54%	2%	0%	10%	15%	100%
2001	28%	55%	1%	1%	7%	8%	100%
2002	14%	51%	2%	19%	6%	8%	100%
2003	20%	50%	4%	15%	5%	6%	100%
2004	10%	57%	3%	22%	3%	4%	100%
2005	15%	36%	4%	38%	4%	3%	100%
2006	23%	36%	10%	23%	5%	3%	100%
2007	13%	38%	11%	32%	4%	2%	100%
2008 Q1	17%	37%	15%	25%	3%	2%	100%

^ Includes Native American communities
Q1 - First Quarter
Source: Arizona State University, Elliott D. Pollack & Co

Table 2.12 shows the distribution of single family building permits. The City of Casa Grande, along with Gold Canyon and Stanfield, is one of the top locations for new residential development in Pinal County. Chart 2.7 shows actual permitting activity within the Casa Grande City limits.

Chart 2.7:
Single Family Housing Permits within Casa Grande



The Arizona State University Center for Realty Studies has been reporting new single family and resale home sales in Casa Grande since 2004. Chart 2.8 illustrates the total new and resale sales volume of single family homes within the Casa Grande region (which includes the Casa Grande Area and some unincorporated land outside the Planning Area and City limits). Sales volume represents the median sales price of single family homes sold. House prices are now down substantially from their peak in 2006 (Chart 2.9).

Chart 2.8:
Single Family Homes Sold within Casa Grande

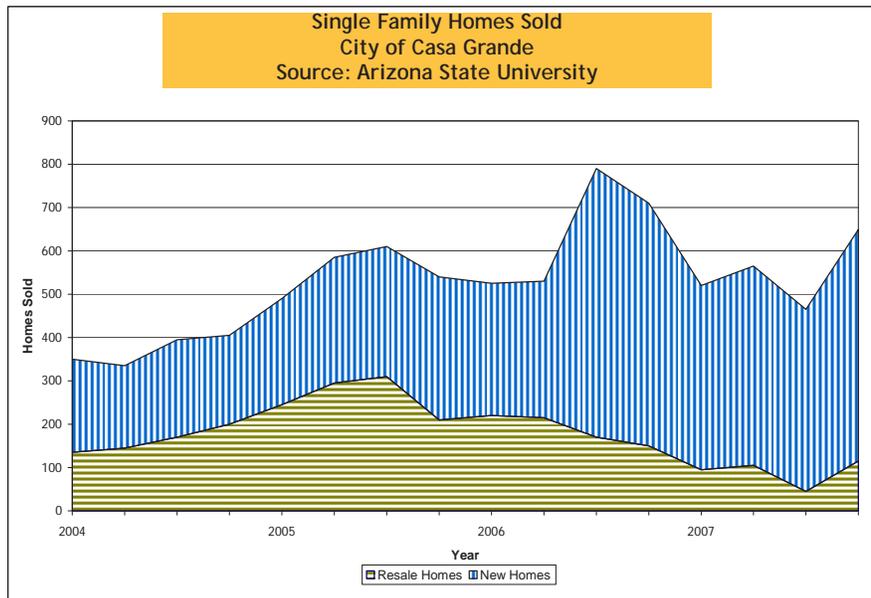
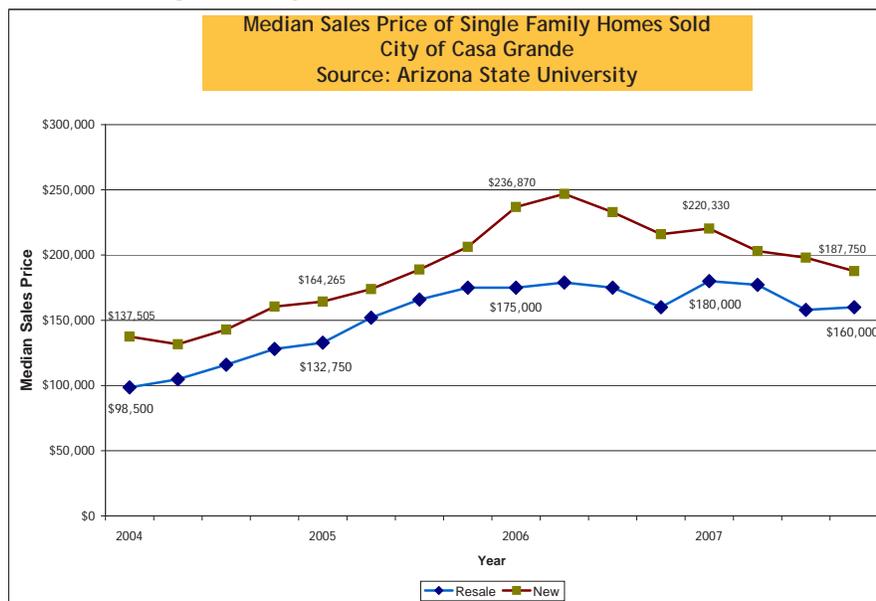


Chart 2.9:
Median Sales Price of Single Family Homes Sold within Casa Grande



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Table 2.13 displays the housing units by ownership from 2000 to 2012. The 2000 Census indicates that, among the 15,842 housing units within Casa Grande, approximately 56.3% of those units were owner occupied, 26.0% were renter occupied, and 17.7% were vacant. Forecasts provided by ESRI predict that while housing units are expected to continually increase, the distribution of owner occupied, renter occupied, and vacant units will not change much.

Table 2.13:
Housing Units by Ownership

Housing Units by Ownership ^{1/}			
	2000	2007	2012
Housing Units	15,842	20,067	28,628
Owner Occupied	56.3%	53.2%	55.4%
Renter Occupied	26.0%	27.6%	26.0%
Vacant	17.7%	19.2%	18.6%

^{1/} 2007 and 2012 are projections produced by ESRI
Source: ESRI, U.S. Census

2.1.6 Commercial Activity

Casa Grande is home to a significant amount of retail space of varied types. Retailers that can be found within the City include and are not limited to Target, Wal-Mart, Kmart, Home Depot, Lowe's, and Staples. Grocery store retailers include Albertson's, Food City, Fry's and Safeway. The City is also home to a large outlet mall.

The Promenade at Casa Grande, a 900,000 square foot regional mall, which includes restaurants and a multiplex movie theater, is the largest new development in the area. Retailers include a J C Penney, Dillard's, Best Buy and Target. Table 2.14 lists the most significant retail developments within Casa Grande.

Table 2.14:
Existing Retail Centers Over 20,000 Square Feet within Casa Grande

Existing Retail Centers Over 20,000 Square Feet Casa Grande 2007 Quarter Four						
Center Name		Location		Square Feet	Type	Anchors
Big Lots	SWC	Colorado St.	Florence Blvd	35,465	Specialty	Big Lots
Casa Grande Gateway	NEC	Arizona Rd	Florence Blvd	25,250	Specialty	
Casa Grande Town Center	NEC	Pearl Rd	Florence Blvd	252,000	Community	Home Depot
Food City Plaza	NEC	Amarillo Rd	Florence Blvd	66,925	Neighborhood	Food City
Outlets at Casa Grande	NEC	Cox Rd	Tanger Drive	186,000	Community	Sear's, Levi's
Palm Center	SWC	I-10	Florence Blvd	32,200	Specialty	
Promenade at Casa Grande	NEC	I-10	Florence Blvd	881,062	Regional	Target, J C Penney, Dillard's
Shops at TC Village	NEC	Trekell Rd.	Cottonwood Ln.	60,000	Specialty	
Tri Valley Plaza	SEC	Colorado St.	Florence Blvd	285,000	Neighborhood	Fry's, J C Penney
Villago Marketplace	NEC	Pinal Ave	McCartney Rd	45,723	Community	Fry's
Warehouse Furniture Outlet	NEC	Kadota Ave.	Florence Blvd	not available	Specialty	Warehouse Furniture Outlet
Westview Plaza	N of NEC	Pottenbaum Rd	Florence Blvd	195,296	Community	Lowe's, Office Max
Total				Over 2,064,921		

Source: Elliott D. Pollack & Company; ASU Real Estate Center, Landiscor & The City of Casa Grande

There is also a considerable amount of retail space planned within the City. Table 2.15 displays the results of the ASU Real Estate Center on planned retail development as of the fourth quarter of 2007.



Table 2.15:
Planned and Under Construction Retail Centers Over 20,000 Square Feet within Casa Grande

Planned & Under Construction Retail Centers Over 20,000 Square Feet Casa Grande 2007 Quarter Four					
Name	Address	Type	Square Feet Total	Committed*	
I-10 & Val Vista Center	SWC of I-10 & Val Vista Drive	Regional	741,983	59,437	
McCartney Center	NWC of Tucker Tr & McCartney Road	Neighborhood	50,000	0	
Casa Grande Retail Center	NEC of Pottenbaum Rd & Florence Blvd	Neighborhood	53,500	0	
Commons at Palm Creek	NEC of Henness Rd & Florence Blvd	Specialty	59,000	45,000	
The Mercado	SEC of I-10 & Florence Blvd	Specialty	50,800	0	
McCartney Ranch Crossings	NWC of Trekell & Rodeo Rd	Specialty	50,234	0	
Villago Marketplace	NEC of Pinal Ave & McCartney Rd	Community	45,723	Unknown	
Total			Over 1,051,240	104,437	

Source: Elliott D. Pollack & Company; ASU Real Estate Center & The City of Casa Grande

*Committed Development which has been approved by the City of Casa Grande

2.1.7 Sales Tax Revenue

Sales tax collections in the City of Casa Grande have benefited from the retail development in the area. As of 2005, Casa Grande accounted for approximately 43 percent of all retail employment in the County (see Table 2.7). This reflects the large retail presence in the City and the capture of retail sales from residents of nearby communities.

For the fiscal year 2007-2008, it is estimated that over 46 percent of General Fund revenues will accrue from local sales tax collections. The sales tax collections to the City of Casa Grande from fiscal year 2004-2005 to present are shown in Table 2.16. Table 2.16 also shows sales tax collections in selected jurisdictions within Pinal County and Maricopa County. Casa Grande exceeds the cities of Florence, Coolidge, Eloy and Queen Creek in terms of sales tax collections. Maricopa is comparable to the City of Casa Grande in terms of sales tax collections; however, Maricopa's sales tax collections may also reflect the extensive construction activity that has occurred in that city. As illustrated in the table below, both the City of Chandler and Town of Gilbert far exceed the sales tax collections of Casa Grande, though their rate of sales tax growth in the last three years is well below that of Casa Grande.



Table 2.16:
Regional Sales Tax Collections by Community

Regional Sales Tax Collections by Community					
	Retail Sales Tax Rate	2004-2005	2005-2006	2006-2007	2007-2008 (projected)
Casa Grande	2.0%	\$11,304,048	\$14,085,605	\$18,916,351	\$21,040,000
Maricopa	2.0%	\$7,537,161	\$25,432,463	\$22,032,882	\$25,751,500
Florence	2.0%	\$850,000	\$855,000	\$2,272,800	\$2,882,400
Coolidge	3.0%	not available	not available	\$4,908,958	\$5,100,000
Eloy	3.0%	not available	not available	\$6,820,000	\$6,400,000
Chandler	1.5%	\$75,702,332	\$82,327,461	\$95,410,460	\$96,047,000
Gilbert	1.5%	\$43,159,583	\$49,198,256	\$57,697,496	\$62,226,000
Queen Creek	2.0%	\$9,186,292	\$14,908,411	\$14,396,176	\$13,500,000

Note: The retail sales tax rates cited in the chart are for retail goods only. The dollar amounts collected also include construction sales taxes which may be charged at different rates.

Source: City of Casa Grande, City of Maricopa, Town of Florence, City of Eloy, City of Chandler, Town of Gilbert, Town of Queen Creek

2.1.8 Property Tax

Property values among the same communities were examined and compared to the City of Casa Grande (Table 2.17). Casa Grande’s total value of property far exceeds the communities of Florence, Coolidge and Eloy. Much like sales tax revenues, Casa Grande is most comparable to the City of Maricopa and the Town of Queen Creek (though Casa Grande has the highest assessed value among the three communities), which both experienced large amounts of growth in recent years. The larger communities of Chandler and Gilbert, located in the southeast portion of Maricopa County, have much higher total assessed values.

The 2007/2008 tax rates that are levied by each city and town (excluding school districts and other taxing entities) are also provided. Casa Grande’s combined primary and secondary property tax rates were found to be the lowest among any of the communities in the region. This should provide Casa Grande with a competitive advantage in attracting residents to their community.

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Table 2.17:
Property Tax Valuation by Community

Property Tax Valuation by Community Tax Year 2008					
		Total Value	Total Assessed Value	Net Assessed Value	2007 Tax Rate
Casa Grande	FCV	\$3,650,128,387	\$495,362,579	\$439,085,421	0.0000
	LPV	\$2,928,179,559	\$392,596,560	\$343,683,875	0.8774
Maricopa	FCV	\$2,996,362,721	\$331,632,156	\$327,708,993	0.0000
	LPV	\$2,248,335,818	\$244,408,743	\$241,850,537	3.7565
Florence	FCV	\$904,396,868	\$131,369,248	\$96,831,983	0.9953
	LPV	\$657,449,695	\$92,536,026	\$65,503,076	0.9134
Coolidge	FCV	\$753,434,796	\$98,046,398	\$83,011,221	0.0000
	LPV	\$543,483,023	\$69,031,497	\$59,721,160	1.3830
Eloy	FCV	\$842,248,039	\$126,970,696	\$119,026,192	0.0000
	LPV	\$530,151,332	\$76,514,804	\$70,389,857	0.9500
Chandler	FCV	\$30,523,597,506	\$3,750,122,456	\$3,455,175,278	0.8400
	LPV	\$23,616,492,245	\$2,933,997,353	\$2,704,382,646	0.3600
Gilbert	FCV	\$25,070,890,610	\$3,100,319,392	\$2,768,391,194	1.1500
	LPV	\$19,030,561,981	\$2,383,496,068	\$2,116,972,860	0.0000
Queen Creek	FCV	\$3,223,435,164	\$390,913,735	\$356,636,412	0.0000
	LPV	\$2,348,124,494	\$282,561,833	\$259,115,840	1.9500

FCV - Full Cash Value
LPV - Limited Property Value
Source: Arizona Department of Revenue; ATRA

2.2 Challenges

Today, Casa Grande is the economic hub of Pinal County by virtue of its employment base. Casa Grande has the most potential of any city in Pinal County to continue capturing a large amount of new employment. To realize that potential, the following short-term and long-term challenges should be addressed.



2.2.1 Short-term Challenges

Casa Grande has strong fundamental characteristics that position it well to be the commercial, industrial and employment hub of Pinal County. However, the City is still partly dependent on the growth of Metro Phoenix and Metro Tucson as a whole. During the past several years, Casa Grande benefited from residential and commercial development that occurred as an extension of the growth ring that surrounds Phoenix. In the past year, as that growth ring has contracted due to the overbuilding of housing and Casa Grande's growth has slowed considerably as it waits for Greater Phoenix to rebound and begin expansion again. This is a short-term issue. The area has excellent economic development fundamentals such as high quality and varied rail and road access, universities and colleges within 50 miles, competitive land values and a low cost of living (when compared to the Phoenix metropolitan area) and will be less dependent on surrounding metropolitan communities in future years. The following are some of the short-term challenges facing the community.

One of the greatest short-term challenges facing Casa Grande is geography. Central Phoenix is approximately 45 miles from Casa Grande. This distance is larger than many other peripheral communities. For perspective, the Sun Valley Parkway in Buckeye, which represents the edge of western expansion in Maricopa County, is about 35 miles from central Phoenix. Considering current concerns over gas prices and the falling home prices in peripheral suburban locations, it will be a challenge in the short-term to attract new residents to Casa Grande if these residents are dependent on employment in Phoenix or Tucson.

Casa Grande is physically separated from Maricopa County by the Gila River Indian Community. For growth to occur, residents and businesses can work with the Gila River Indian Community to maximize opportunities that support future growth.

The economy of Greater Phoenix has recently been in decline in large part due to the burst of the housing bubble. During this slowdown, the Metro Phoenix economy could possibly under-perform the national economy, something that has not been experienced in decades. As a consequence of the sudden downturn, there are numerous residential and commercial projects throughout Pinal County that have been left unfinished, waiting for the next wave of demand. The booming housing market was the main driver for expansion in communities like Casa Grande, Maricopa, and Buckeye. These communities will likely experience much slower growth until the economy and housing market recover.

When the economy does begin to expand, Casa Grande will once again face the challenges of being a peripheral community having to compete with other communities throughout Metro Phoenix. Builders and developers may be more cautious in their expansion plans given the economic toll that this downturn has caused. The community will need to place greater weight on economic development including protecting employment-based land uses and expanding its employment base into higher value added industries. Doing so will pay dividends in the longer term.

2.2.2 Long-term Challenges

However large its economy seems compared to Pinal County, Casa Grande still has the employment diversity of an emerging rural community. However, this should change dramatically in coming years with proper planning. The City does not yet have the high paying, high value-added jobs of a more urban area. Instead, Casa Grande has a high proportion of retail-type jobs and a relatively low number of high skill jobs. For perspective, according to the Census ZIP Code Business Patterns data, in 2005 'Retail Trade' and 'Accommodation and Food Services' jobs made up 33 percent of Casa Grande's employment base. In Maricopa County that figure was only 23.4 percent. The 'Finance & Insurance', 'Professional, Scientific and Technical', and 'Management of Companies and Enterprises' sectors make up a combined 16.9 percent of Maricopa County's employment and only 4.1 percent of Casa Grande's (see Table 2.8). This comparison shows the disparity between a mature economy (Maricopa County) and an emerging economy (Casa Grande).

Creating a diverse mix of high wage jobs is important for attracting residents and preserving a high quality of life. It would also help maintain fiscal stability during economic slowdowns. Communities that rely on one particular sector are vulnerable to market shifts, as seen in mining towns that collapse when mining operations cease. When the economy rebounds, Casa Grande has locational advantages that will allow it to grow and continue diversifying its employment base.

Further, the City of Casa Grande will need to establish economic development strategies that will assist in maintaining its position as the economic hub of Pinal County. As the Pinal County grows, other communities will begin to attract residential growth, commercial businesses and employers. Casa Grande has a significant head-start against the competition by virtue of its transportation assets. Until another freeway is constructed in the eastern part of the County, Casa Grande will have limited competition for economic growth except, potentially, from Eloy. Maintaining the position as the leader in Pinal County job growth will be challenging over the long term. The community will need to identify what it can provide to businesses and what features different types of businesses require. The intersection of these two areas will identify: 1) how the community should market itself, and 2) what types of businesses it should target.

2.3 Going Forward

The City of Casa Grande appears to be well positioned to take advantage of its infrastructure, locational assets and other economic attributes to expand its employment base. In addition to agriculture, current employment in Casa Grande is dominated by government. The City also has a significant presence of trade, transportation and utilities employment, with other industries lagging behind these three primary sectors.

Another way of measuring the composition of a community's employment base is to look at its location quotients. A location quotient compares the relative weight of each industry within a community to the relative weight in the state or the nation as a whole. If an industry's location quotient exceeds 1.0, then the community has a relatively higher concentration of employment in



that industry compared to other areas.

A 2004 study prepared by Arizona State University entitled “Economy of Casa Grande” states that Casa Grande has a relatively high location quotient, compared to the nation as a whole, in agriculture (2.45), utilities (1.91), retail trade (1.11), transportation and warehousing (1.54), and real estate activities (1.16). This data illustrates that Casa Grande has historically depended on agriculture production, semi-public uses (utilities), retail (by virtue of its location), transportation and warehousing (by virtue of proximity to freeways), and real estate activities due to the major growth it has been experiencing.

While the City’s manufacturing employment counts and location quotient (0.76) are more modest, this sector tends to provide above average wages and also results in demand for other ancillary businesses that provide goods and services to manufacturing companies. The industries that dominate Casa Grande are base industries that bring money into the City and result in additional employment demand. The additional employment demand in Casa Grande has contributed, in part, to the recent surge in retail development in the community. The City has a new regional mall and new retailers that will provide significant tax revenue to the community and also assist with minimizing retail sales leakage out of the community.

Future opportunities for Casa Grande include:

1. The City of Casa Grande has many attributes that employers desire. The following factors have been identified by Area Development Magazine as important to employers in the site selection process:

Top 10 Site Selection Factors - 2006

1. Highway Access
2. Labor Costs
3. Availability of Skilled Labor
4. Government Incentives
5. High Speed Internet
6. Corporate Tax Rate
7. Construction Costs
8. Tax Exemptions
9. Access to Other Markets
10. Energy Availability and Costs

Source: Area Development Magazine

2. Highway access is the most prominent economic development feature of Casa Grande. I-8 and I-10 promote excellent access to the Mexico and California markets and opportunities for extensive warehousing and distribution uses.
3. The City is located on the Union Pacific Railroad Sunset Route linking Los Angeles

02 demographics

with New Orleans, the two largest shipping ports in the nation. The rail line is very important to the warehousing and logistics industries.

4. The recent growth in residential development has improved the area's supply of labor, both skilled and lower cost. Casa Grande's labor costs are lower than in Maricopa County. In addition, Casa Grande's labor base is larger and broader than other communities within Pinal County.
5. Casa Grande serves in many respects as the gateway to Phoenix from the south.
6. The Casa Grande Municipal Airport is another important piece of the puzzle in providing a full range of transportation assets. While the airport is small and not extensively used, it represents an opportunity for future growth.
7. Casa Grande has an advantage in commercial and industrial land prices that could be attractive to major employers. A recent search of advertised commercial and industrial land for sale showed that, on average, land offered in Casa Grande is far less expensive than cities in central and southeast Maricopa County.
8. In addition, many surrounding communities within Pinal County are at competitive disadvantages to Casa Grande in terms of the following:
 - (a) Until additional transportation corridors are developed, most competing communities are in remote locations with limited transportation access.
 - (b) Most cities lack a large inventory of industrial property served by utilities.
 - (c) Most competing cities lack a large population and labor base.

While continued growth and development within the County will help other Pinal County cities to compete for employment growth in future years, the strong presence of the transportation assets will be a significant advantage for Casa Grande for the foreseeable future.





3.1 Facts

3.1.1 Planning Area

3.1.2 Existing Land Use Distribution

3.1.3 General Plan Land Use Distribution

3.1.4 Growth Areas

3.1.5 Annexation

3.1.6 Schools

3.1.7 Community Facilities

3.1.8 Utilities

3.2 Challenges

3.3 Going Forward





3.1 Facts

3.1.1 Planning Area

The City limits of Casa Grande include approximately 104¹ square miles of developed and undeveloped land. The City’s Planning Area, which extends from the Casa Grande municipality boundary west of Stanfield Road as well as northeast and northwest to the Gila River Indian Community of includes an additional 172 square miles of mostly undeveloped farmland and undeveloped desert (Map 3.1). The total incorporated and unincorporated area within the City’s planning area totals approximately 274 square miles.

3.1.2 Existing Land Use Distribution²

The vast majority of land within the City and its Planning Area is currently vacant or in agricultural use (Map 3.2). Other key land uses include manufacturing, residential and commercial. Table 3.1 shows the distribution of existing land uses within the City limits and the Planning Area. Chart 3.1 shows, by land use, the percent of total acres of land in the planning area inclusive of land within the City limits, total acres within the Planning Area exclusive of the land within the City limits and the total acres of existing land use within the City limits.

Table 3.1:
Existing Land Use in City Limits and Planning Area (by Acres)

Land Use	Total Area		Planning Area		City Limits	
	Acres	%	Acres	%	Acres	%
Developed						
Agriculture/Unclassified	71,066	76.1	44,000	17.11	27,066	76.45
Low Density Residential	7,145	7.65	6,001	6.43	1,143	3.22
Higher Density Residential	3,748	4.01	654	0.70	3,094	8.74
Commercial	3,088	3.31	1,562	1.67	1,526	4.31
Industrial	2,771	2.97	1,917	2.05	854	2.41
Other	3,979	4.26	3,304	3.54	675	1.90
Open Space	1,593	1.71	554	0.59	1,040	2.93
Total	93,390		57,991		35,399	
Vacant						
Vacant Commercial	207	0.25	0	0	207	0.69
Vacant Industrial	26	0.03	0	0	26	0.08
Vacant Office	16	0.02	0	0	16	0.05
Vacant Residential	1,989	2.42	108	0.13	1,881	6.28
Vacant Undevelopable	79,529	96.85	51,734	63	27,795	92.82
Water	346	0.42	325	40	20	0.06
Total	82,113		52,168		29,945	

Source: Central Arizona Association of Governments 2007 Existing Land Use Map

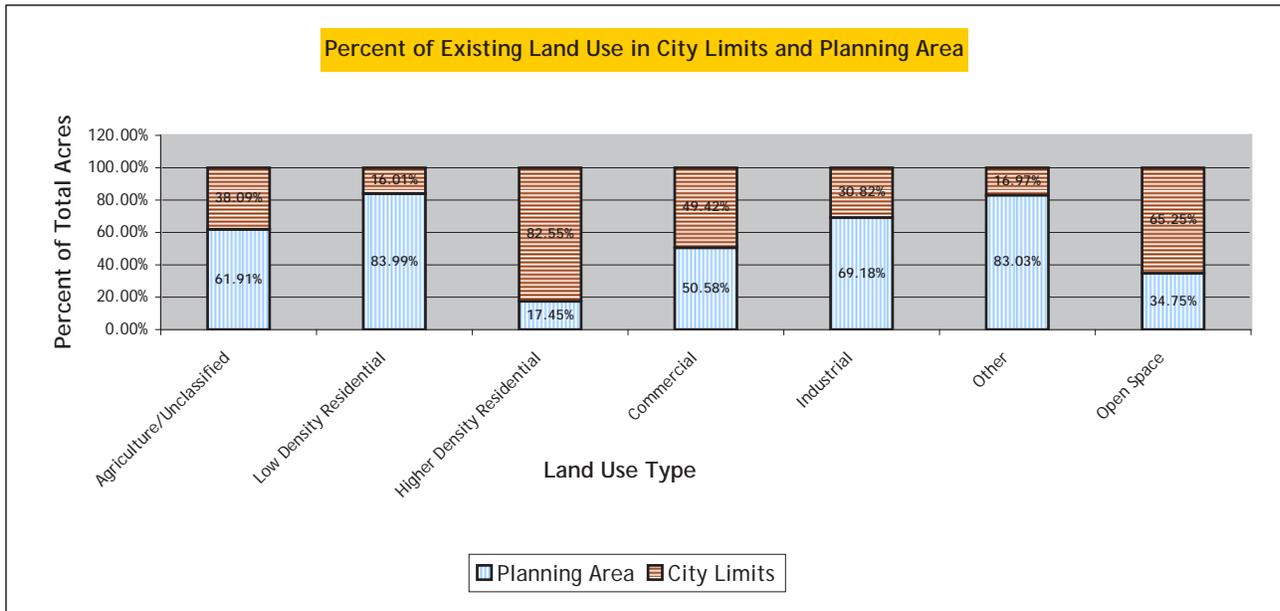
Notes: Some percentages may not add to 100 due to rounding
Planning Area in this table refers to “planning area”

1 Central Arizona Association of Governments Existing Land Use Map 2007

2 Ibid.



Chart 3.1:
Percent of Existing Land Use in City Limits and Planning Area



Source: CAAG, EDAW

Manufacturing:

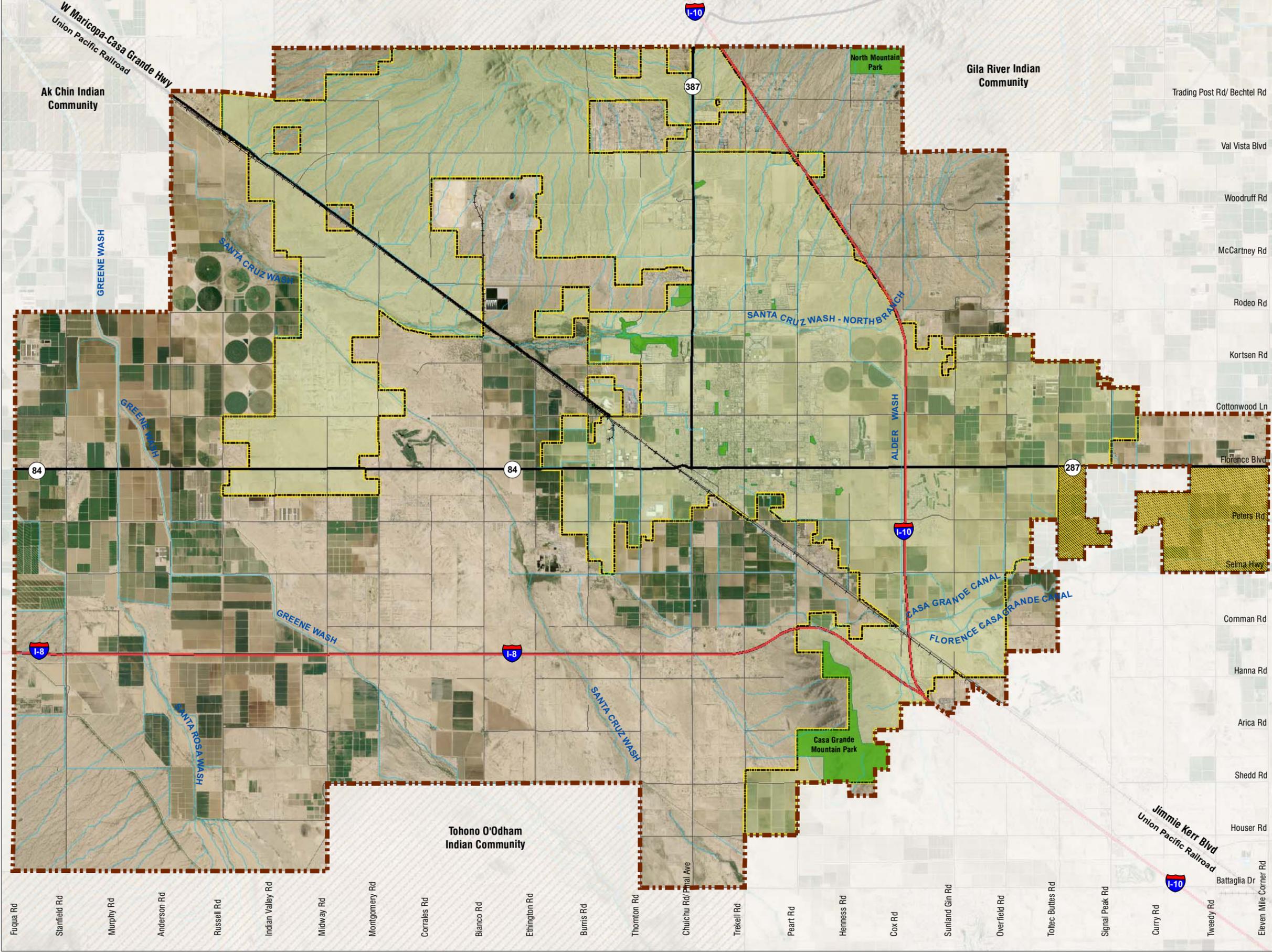
Land uses within incorporated Casa Grande are influenced by access to key transportation corridors, such as freeways and rail lines. Some examples of the City's manufacturing employment include Frito Lay, Abbot Laboratories, Westile, Hexcel Corporation, Palm Harbor Homes and a Wal-Mart distribution Center. These transportation-based land uses account for the majority of the City's manufacturing development and occupy approximately 850 acres of land. Other non-retail employment uses, not solely transportation based, such as the Casa Grande Regional Medical Center, Casa Grande Unified School District and the City of Casa Grande account for approximately 500 acres within the City.

Residential:

Overall, developed residential land uses account for 36 percent of the non-agricultural developed land uses within the City limits, and 30 percent of the total developed and undeveloped non-agricultural land uses within the Casa Grande municipal limits¹. Agricultural land uses account for 57 percent of all land uses within the City limits and 67 percent of all land uses within the Planning Area boundary. Over the long term, the majority of agricultural land uses are planned to transition to industrial or residential uses in the form of Master Planned Communities, single site industrial uses and commercial and industrial parks. Within Casa Grande there are residential areas of varying densities.

¹ Master Planned Communities are included within each existing land use category. For example vacant areas within master planned communities are considered vacant land.



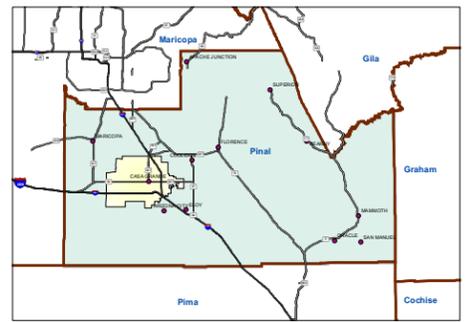


LEGEND

- Planning Area Boundary
- Shared Planning Area between Casa Grande and Eloy
- Incorporated City Limits
- Indian Lands
- City owned Parks/Golf Course
- Interstates
- State Highways
- Arterial Streets
- Railroads
- Rivers/Washes/Canals

Trading Post Rd/ Bechtel Rd
 Val Vista Blvd
 Woodruff Rd
 McCartney Rd
 Rodeo Rd
 Kortsen Rd
 Cottonwood Ln
 Florence Blvd
 Peters Rd
 Selma Hwy
 Cornman Rd
 Hanna Rd
 Arica Rd
 Shedd Rd
 Houser Rd
 Battaglia Dr
 Eleven Mile Corner Rd

Fuqua Rd
 Stanfield Rd
 Murphy Rd
 Anderson Rd
 Russell Rd
 Indian Valley Rd
 Midway Rd
 Montgomery Rd
 Corrales Rd
 Bianco Rd
 Ethington Rd
 Burris Rd
 Thornton Rd
 Chuichu Rd/ Pinal Ave
 Trekell Rd
 Peart Rd
 Henness Rd
 Cox Rd
 Sunland Gin Rd
 Overfield Rd
 Toltec Buttes Rd
 Signal Peak Rd
 Curry Rd
 Tweedy Rd

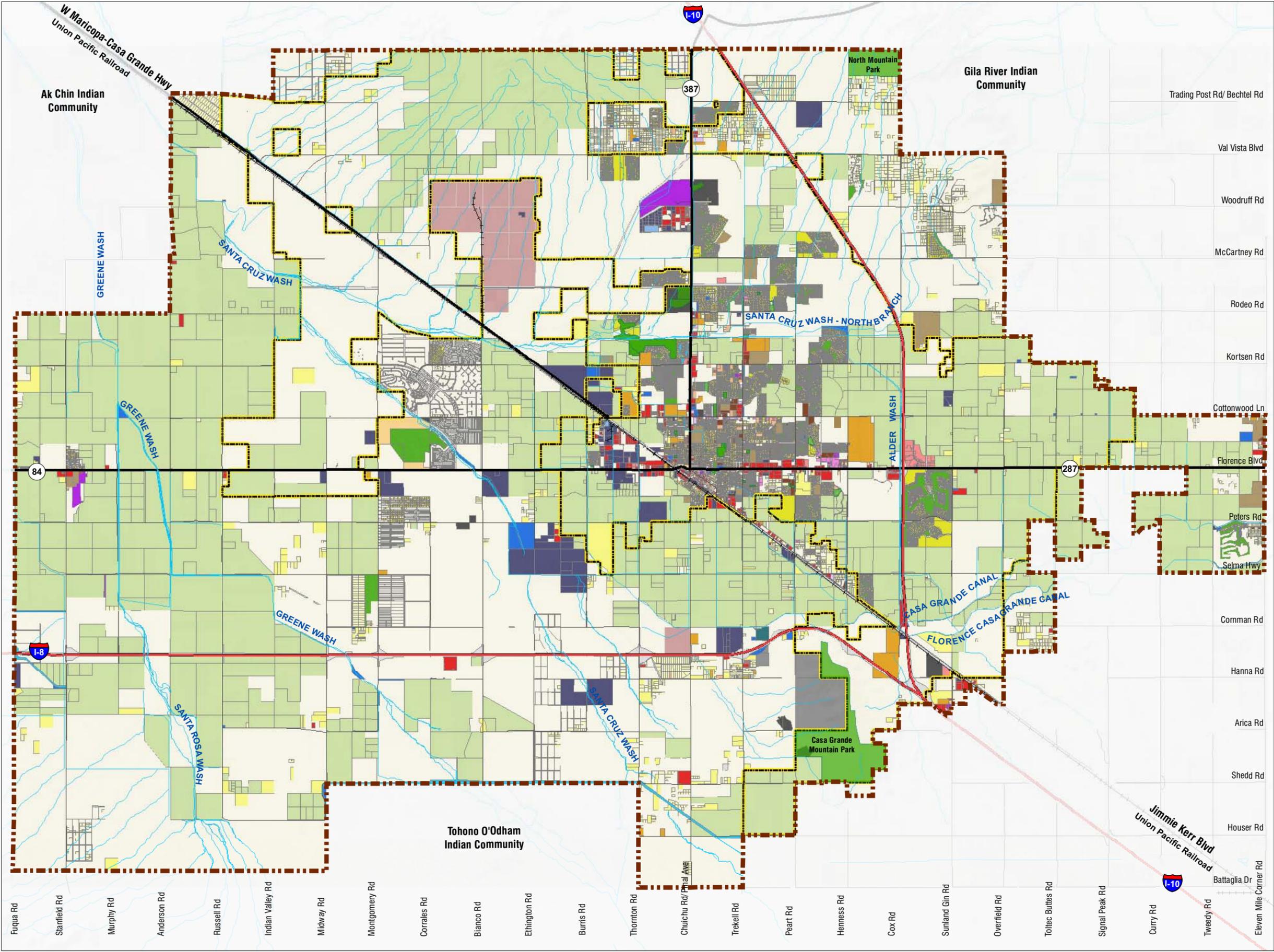


MAP 3.1
CITY LIMITS & PLANNING AREA BOUNDARIES

September 2008
 0 0.5 1 2 Miles

SOURCE:
 This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.



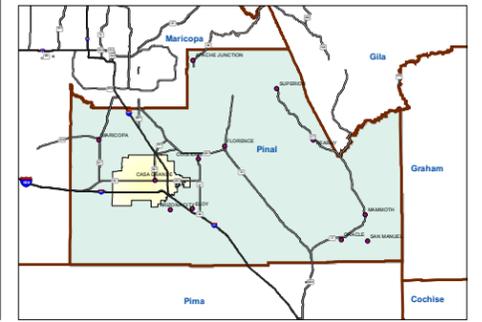


LEGEND

- Planning Area Boundary
- Incorporated City Limits
- Railroads
- Rivers/Washes/Canals
- Interstates
- State Highways
- Arterial Streets
- City owned Parks/Golf Course

Existing Land Use Designation

- Agriculture
- High Density Residential
- Multi-Family Residential
- Medium Density Residential
- Low Density Residential
- Rural Density Residential
- Mobile Home Parks
- Lodging
- Commercial
- Cemeteries
- Industrial
- Church
- Institutional
- Medical
- Military
- Mining
- Office
- Open Space
- Transportation
- Public Space
- Schools
- Water
- Vacant - Dev Commercial
- Vacant - Dev Industrial
- Vacant - Dev Office
- Vacant - Dev Residential
- Other
- Vacant
- Unclassified
- Unknown



MAP 3.2
EXISTING LAND USE

September 2008
0 0.5 1 2 Miles

SOURCE:
This map was prepared using data supplied by CAAG (Central Arizona Association of Governments) and was updated by the City of Casa Grande. Please contact the City for more information on this map.



Retail:

Retail land uses account for 6.5 percent of all non-agricultural land uses within the City. Casa Grande has more than 2 million square feet of retail space, resulting in a floor area ratio (FAR) of approximately .6, (e.g., .6 square feet of building to every one square foot of land). The majority of retail land uses are located along Florence Boulevard, with approximately 900,000 square feet in one location at the Promenade Mall, located on the east side of I-10 and Florence Boulevard. New retail along Pinal Avenue (S.R. 387), associated with Villago, and also along Cottonwood Lane contributes to the remaining approximately 1.2 million square feet of retail development outside the Promenade Mall. Including the Promenade Mall, the retail FAR results in an employee density estimate of 5.4 employees per acre, or 3,400 employees per square mile. Based on estimates provided by the Institute of Transportation Engineers (ITE), non-residential densities of 3,000 to 4,000 persons per square mile is adequate to support a minimum level of local bus service.

Commercial:

Table 3.1 highlights that existing commercial development accounts for 8 percent of the total land area within the City, exclusive of agricultural land. Within the planning area (which includes land within the City boundaries), commercial land use accounts for 5 percent of the total developed land, exclusive of agricultural land. Based on these acreages, and an estimated FAR of .2, approximately 13,500 employees work along key commercial corridors and at other commercial locations within the City.

3.1.3 General Plan Land Use Distribution

The City's General Plan describes existing and planned land use intensities and densities within the City's incorporated area and its planning area (Map 3.3). The City's General Plan 2010 Land Use Map shows anticipated development areas and therefore provides a general indication of future land use patterns within the City's planning area. The Existing Land Use Map reflects the current use of land within the planning area boundary. A General Plan Land Use Map therefore provides for less detail than the Existing Land Use Map. A second difference between the General Plan Land Use Map and the Existing Land Use Map is that the former also describes planned land uses, providing a clear vision for land that, as a result of planned infrastructure improvements, is undeveloped or has future potential for a use that may be different from its current use. Table 3.2, shows the percent of land included in each of the General Plan Land Use categories.

Table 3.2:
Percent of Land in each General Plan Land Use Category

Land Use Category	Total Acres	Percent
Commercial	5,664	3.16%
Employment	9,860	5.50%
High Density Residential	1,069	0.60%
Low Density Residential	88,709	49.51%
Medium Density Residential 1	3,255	1.82%
Medium Density Residential 2	2,241	1.25%
Natural Resource Extraction	1,009	0.56%
Office/Business Park	876	0.49%
Park/Open Space	10,594	5.91%
Public/Semi-Public	2,119	1.18%
Regional Commercial	1,061	0.59%
Revitalization Area	235	0.13%
Rural Residential	52,497	29.30%
Total	179,190	100.00
Master Planned Community ¹	26, 421	14.75
Source: General Plan Land Use Map		

Manufacturing:

The current General Plan designates 9,860 acres of land, or approximately 5.5 percent of the Planning Area, for employment development. Approximately 8.6 percent of the land designated in the General Plan for employment is developed. The majority of the land designated for employment is located along both sides of Thornton Road and along the Union Pacific Railroad (UPRR) and Casa Grande/Maricopa Highway. Over 2,000 acres of employment uses, which includes an abandoned mine, is designated north of the UPRR tracks between Bianco and Ethington Roads to a half-mile south of Val Vista Road. This area includes a rail spur that serves the mine. Another mine is located east of Pinal Avenue within the employment area to the north of I-8. A second large area of employment land use surrounds the Casa Grande Airport, located between Val Vista Boulevard and McCartney Road on the west side of Pinal Avenue (S.R. 387).

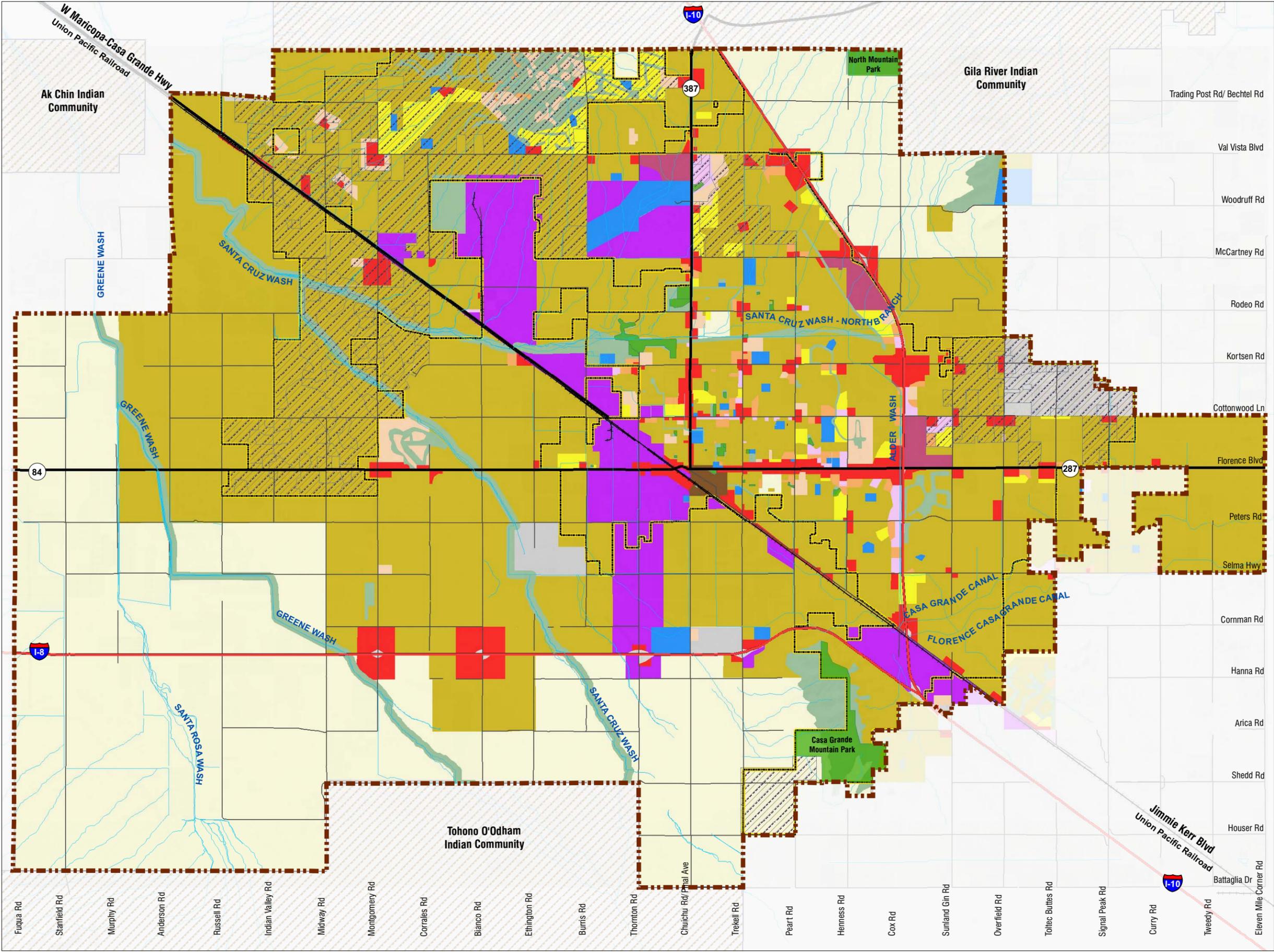
Master Planned Communities:

Master Planned Communities are designated as an overlay on the Casa Grande General Plan Land Use Map and account for 16 percent of all land uses within the Planning Area. The original land use category of Master Planned Communities would typically have been low density residential. The low density residential category allows 1-4 dwelling units to the acre (DU/AC), with a target density of 2.5 DU/AC. As the Master Planned Communities are planned, the target densities identified on the General Plan Land Use map (Map 3.3) are achieved through the zoning process.

Master Planned Communities have the potential to bring forward a variety of land use forms and densities that create a mixture of places and characters within one overall development. The City's easy access to the I-10 and its proximity to Phoenix and Tucson support ongoing residential development. Several master planned communities, including Copper Mountain Ranch, Grande

1 This Land Use Category is an Overlay Category





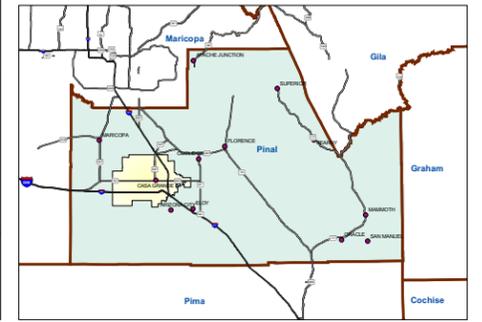
LEGEND

- Planning Area Boundary
- Master Planned Communities
- Railroads
- Rivers/Washes/Canals
- Interstates
- State Highways
- Arterial Streets
- City owned Parks/Golf Course
- Incorporated City Limits
- Indian Lands

Land Use Designation

- Incorporated City Limits
- Master Planned Communities
- Rural Residential (0-1 DU/AC*) Target .5 DU/AC
- Low Density Residential (1-4 DU/AC*) Target 2.5 DU/AC
- Medium Density Residential #1 (4-8 DU/AC*) Target 5.0 DU/AC
- Medium Density Residential #2 (8-12 DU/AC*) Target 10.0 DU/AC
- High Density Residential (12-16 DU/AC*) Target 14.0 DU/AC
- Commercial
- Regional Commercial
- Office/Business Park
- Employment
- Natural Resource Extraction
- Public/Semi-Public
- Park/Open Space
- Revitalization Area

* DU/AC: Dwelling Units per Acre



MAP 3.3
GENERAL PLAN 2010 FUTURE LAND USE (AS AMENDED)

September 2008
 0 0.5 1 2 Miles

SOURCE:
 This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.



Valley, Grande Valley North, Isom Farms, Legends, Overfield Farms, and Villago are approved within the City, and account for approximately 6 percent (26,450 acres) of planned and existing land use within the City's incorporated limits. Developments within the City's Planning Area and approved by the County include but are not limited to State Land master plans, Solana Ranch, Casa de Vista and portions of Legends. These projects total approximately 14 percent (25,620 acres) of City's Planning Area¹. Master Planned Communities within the City's incorporated limits include a mix of land uses. For example, the Villago Master Planned Community includes but is not limited to retail, a school (Villago Middle School), and a community park along Pinal Avenue. The planned Desert Colors Master Planned Community includes extensive open spaces in addition to other land uses. A retail core is featured within the Legends Master Planned Community. The planned Grande Valley North Master Planned Community includes retail, employment and other uses.

Residential:

The General Plan designates five types of residential developments. Rural Residential primarily describes existing low density residential areas north of McCartney Road and east of I-10 and the floodplains and sheet flow areas west of Green Wash. This land use accounts for 29 percent (52,500 acres) of the Planning Area. Low density residential land uses account for the majority of existing and planned land use within the City. As mentioned in the previous section this land use category has a density range of 1 to 4 dwelling units per acre and a target density of 2.5 dwelling units per acre. This land use category also underlies the majority of those areas designated as Master Planned Communities.

Residential densities above 4 units to the acre with target densities ranging from 5 to 14 dwelling units per acre are generally located along arterial streets in the area bounded by Rodeo Road, I-10, and Pinal Avenue. This area is also a designated Urban Core (Map 3.4) in the City's 2010 General Plan Growth Area element. A second cluster of higher residential densities is associated with the Villago master planned community located between Val Vista Boulevard and McCartney Road. The highest and most dense concentrations of these land uses are located between Peart Road and I-10, Florence Boulevard and Cottonwood Lane, and include manufactured housing developments, apartments and higher density housing. These uses account for slightly more than 4 percent of all residential uses and 3.5 percent of the total Planning Area.

Commercial and Office Park:

Commercial and Office Park land uses include retail and office development. These land use designations are generally located along I-10, Florence Boulevard, Pinal Avenue (SR 387) and at the intersections of Arterial Streets. Included in this land use category is the Casa Grande Medical Center, the Promenade Mall and the Outlets at Casa Grande. These land uses account for approximately 4 percent of the total Planning Area.

An important component of the City's commercial land uses is the historic downtown. This area demonstrates a significantly different development pattern from other commercial uses within the City. In general, commercial uses in the historic downtown abut the right of way and provide direct access to the sidewalk. Blocks are smaller, and buildings lie directly next to one another, which enhances the pedestrian environment. The downtown street grid is perpendicular to the railroad

¹ Based on data provided by the City of Casa Grande

tracks and at an angle to the north/south grid of the recently developed parts of the City. On-street and alley parking encourage walking. Narrow streets result in an overall reduction of vehicle speeds. On-street parking allows for traffic calming and a more pedestrian friendly environment. Another asset of the City's historic downtown is its close proximity to a range of community facilities and City administration buildings, many of which are located in the original historic Casa Grande Union High School building. Map 3.5 shows the location of community facilities.

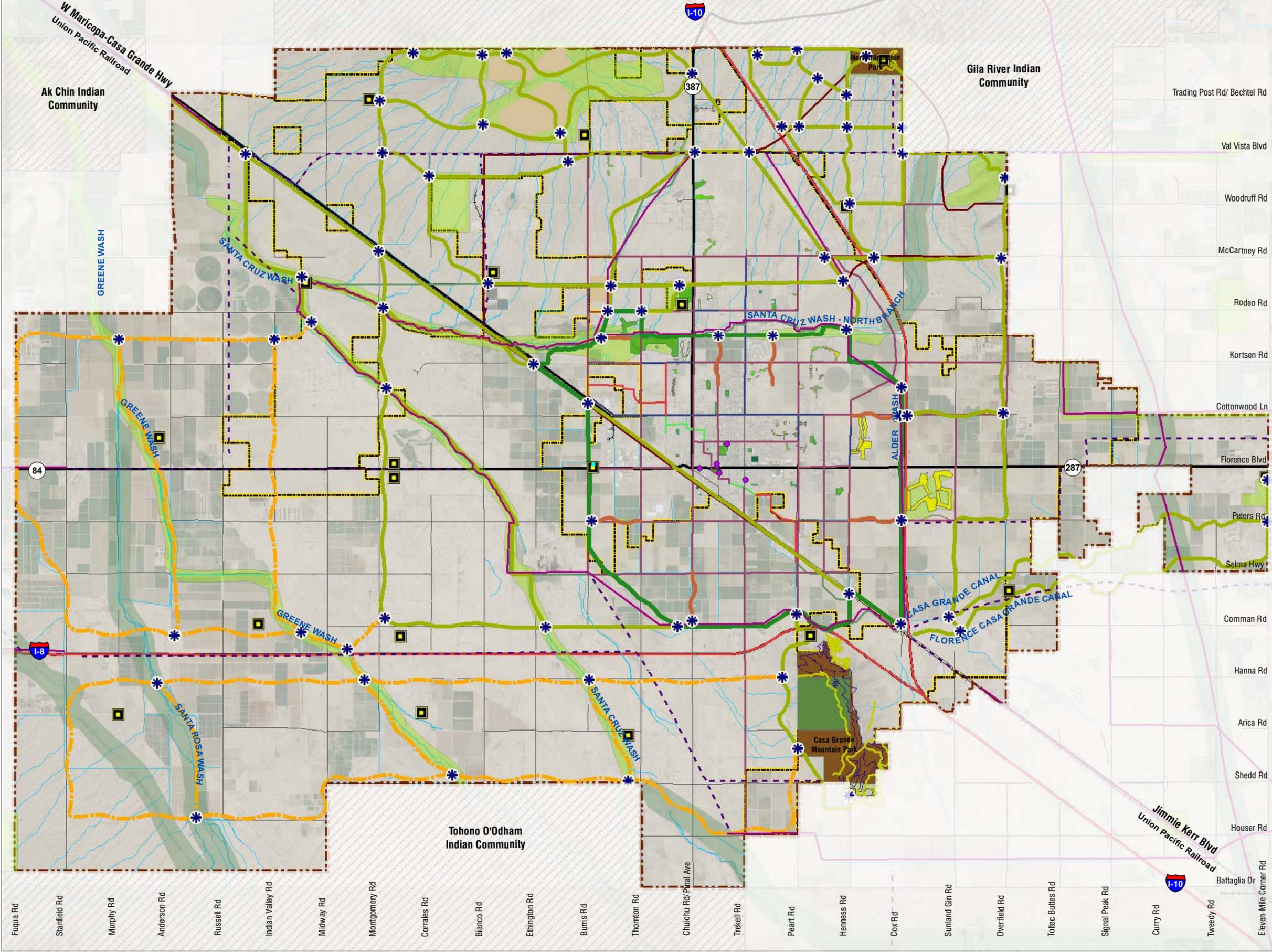
Open Space:

In 2008 the City adopted a Trails Master Plan and a Parks and Recreation Master Plan. Combined, both plans acknowledge the City's commitment to provide for and keep pace with Casa Grande's growth and demonstrate the City's dedication to maintaining a high quality of life for its residents. These well-planned programs ensure the preservation of open space, the construction of new parks, and the development of a widely accessible network of non-motorized multi-use trail systems. These plans also include new natural resource parks connected by new community trails in northern sections of the City. The City's Trails Master Plan designates a linear park, trails and trail nodes along the Santa Cruz Wash. These two plans, combined, provide connections to open spaces throughout the region. Not all of the parks and trails designated on these recently adopted plans are reflected in the 2010 General Plan. Map 3.4 shows open spaces, parks, trails and trail nodes identified in the 2008 Trails and Parks and Recreation Master Plans.

The 2010 General Plan includes almost 10,500 acres of open spaces, including the Casa Grande and North Mountain Parks, Green and Santa Cruz washes as well as developed, publicly owned active parks located within the City. 1,618 acres of open spaces identified in the General Plan are developed parks. These parks and open spaces account for five percent of the total General Plan land use in the Planning Area. The current General Plan provides slightly less than .24 acres of open space/developed park per capita.

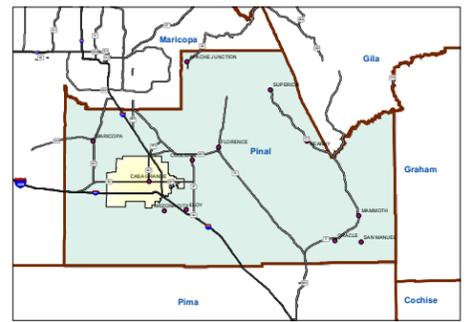
3.1.4 Growth Areas

The 2010 General Plan identified areas within the City where anticipated growth was likely to occur over the lifetime of the next 20 years. The 2010 General Plan identified four particular areas; Downtown, Urban Core, Urban Fringe and Suburban, these areas are shown on Map 3.5. Combined these Growth Areas include some 50,269 acres of land and have an expected build-out population to be 226,659. The intent of these Growth Areas was to clearly establish where the focus of future development should be directed, for example, where existing infrastructure and services are available, where there are opportunities for infill development, opportunities for mixed-use development and the ability to preserve lower density and areas of rural character. Areas that fall outside the Growth Areas would generally be in agricultural use or undeveloped land. Another key feature of the Growth Areas is that while all areas have the same density ranges of 1 to 4 dwelling units per acre there is the promotion of a range of target densities. For example, within Downtown there is no target density, whereas Urban Core as a target of 4 dwellings per acre, Urban Fringe has a target density of 3 dwellings per acre and Suburban has a target density of 2.5. These target densities encourage a greater variety of dwelling types as well as residential development mix.



LEGEND

- Planning Area Boundary
- Incorporated City Limits
- Interstates
- Arterial Streets
- State Highways
- Railroads
- Rivers/Washes/Canals
- Indian Lands
- Recreation Office, Centers and Clubs
- TRAIL NODES
- TRAILHEADS
- Pinal County Trails**
 - Existing/Planned /Adopted Trails
 - Proposed Trails
- TRAILS**
 - Future Trails
 - Linear Park Trails
 - Spur Trails
 - Community Trails
- PATHS**
 - Existing Bike Lane
 - Existing Paved Path
 - Existing Primitive Trail
 - Planned Paved Path From GP 2010
 - Planned Unpaved Path From GP2010
 - Proposed Bike Route From GP 2010
 - Recommended Multiuse Path
 - Mountain Loop Trails
- NATURAL RESOURCE PARKS**
 - Existing Natural Resource Park
 - Proposed Joint-Use Area
 - Proposed Natural Resource Park
 - Proposed Park Extension
 - City owned Parks/Golf Course
- PARKS**
 - Homeowners Association
 - Community Associations
 - Others
 - Pinal County (School)
- PINAL COUNTY OPEN SPACE**
 - Existing Open Space
 - Proposed Open Space



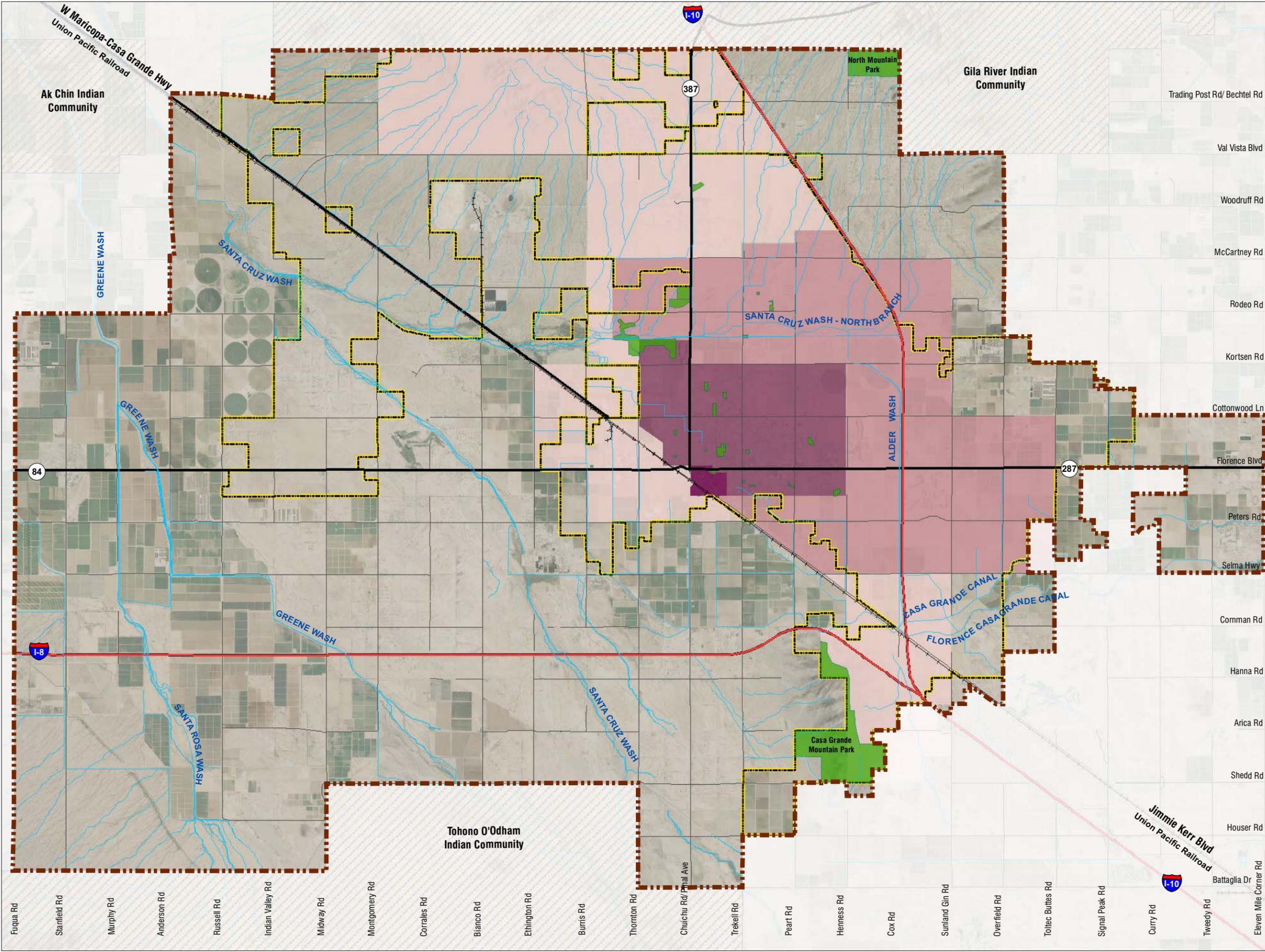
MAP 3.4
PLANNED PARKS, TRAILS & OPEN SPACE

September 2008

0 0.45 0.9 1.8 Miles

SOURCE:
This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.





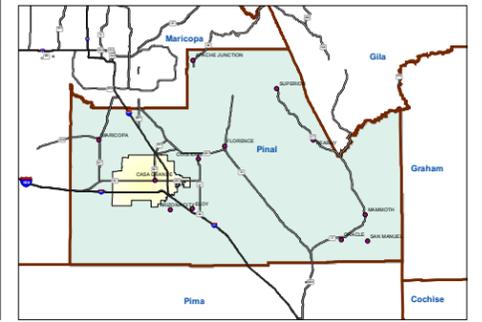
LEGEND

- Planning Area Boundary
- Incorporated City Limits
- Railroads
- Rivers/Washes/Canals
- Interstates
- State Highways
- Arterial Streets
- City owned Parks/Golf Course
- Indian Lands

Growth Areas

- Downtown
- Urban Core
- Urban Fringe
- Suburban

Trading Post Rd/ Bechtel Rd
Val Vista Blvd
Woodruff Rd
McCartney Rd
Rodeo Rd
Kortsen Rd
Cottonwood Ln
Florence Blvd
Peters Rd
Selma Hwy
Cornman Rd
Hanna Rd
Arica Rd
Shedd Rd
Houser Rd
Battaglia Dr
Eleven Mile Corner Rd



**MAP 3.5
GROWTH AREAS**

September 2008
0 0.5 1 2 Miles

SOURCE:
This map was prepared using data provided by the City of Casa Grande from the General Plan 2010. Please contact the City for more information on this map.



3.1.5 Annexation

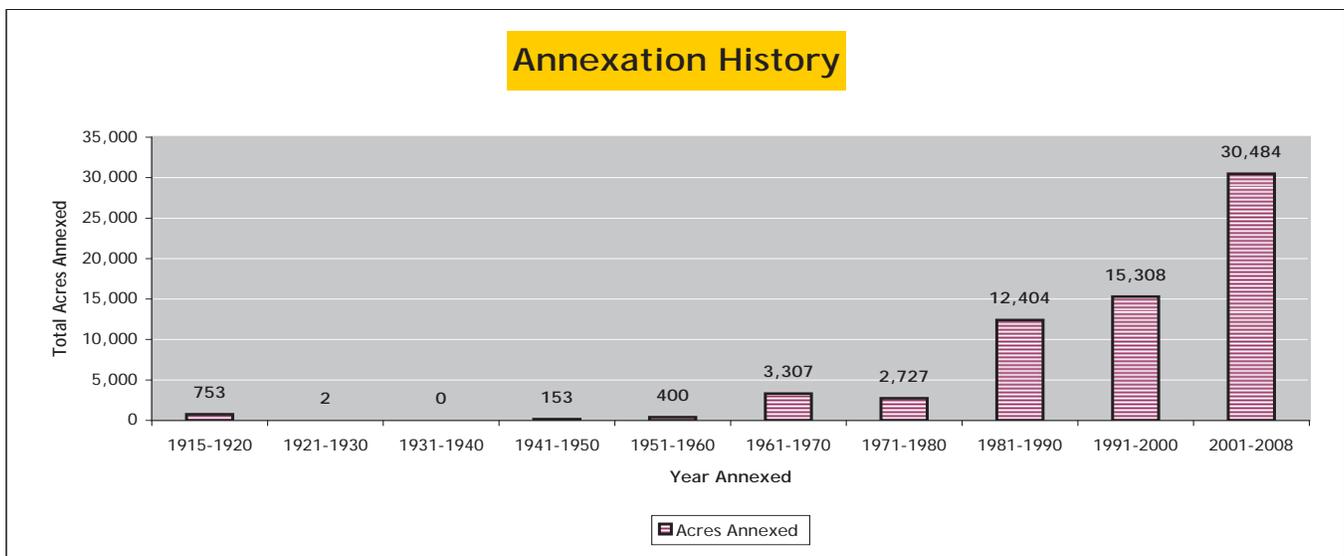
When incorporated in 1914, the City of Casa Grande included 2,000 acres (about three square miles). From 1915 until 1920, the City grew by 36 percent, annexing approximately another 755 acres. From 1920 to 1940, there was essentially no growth. From 1950 to 1960, the City annexed 550 acres. After 1960, annexations increased substantially and continued at a rapid pace. In the decades leading up to the 1980's, thousands of acres of land were annexed into the City. The City has continued to grow at an even faster pace since then, incorporating over 10,000 acres of land in subsequent decades. As Table 3.3 and Chart 3.2 show, annexations from 1950 until 1970 were in the thousands of acres and after 1970, in the tens of thousands of acres. These annexations reflect the rapid growth of the City as well as new development patterns, which include large scale, master planned communities (Map 3.7).

Table 3.3
Annexation History since Incorporation

Year	Acres
1915-1920	753
1921-1930	2
1930-1940	0
1941-1950	152
1951-1960	400
1961-1970	3,307
1971-1980	2,727
1981-1990	12,403
1991-2000	15,307
2001-2008	30,483

Source: City of Casa Grande

Chart 3.2:
Annexation History



3.1.6 Schools

The Casa Grande Unified High School District and Casa Grande Elementary School District provide primary, secondary and high school education facilities in Casa Grande. Higher education needs are currently met by Central Arizona Community College. There is no four year college in Casa Grande. The City has four high schools, with a fifth opening later in fall 2008. Four middle and twelve elementary schools which are attended by a total of 10,750 students. Table 3.4 shows the number of students in each Casa Grande public school grade¹. Table 3.5 lists public and private schools in Casa Grande. Map 3.8 shows the location of Casa Grande public and private schools.

Table 3.4:
Number of Students by Grade within Casa Grande

Grade	No. of Students
Pre-K	44
KG	782
1st Grade	676
2nd Grade	692
3rd Grade	666
4th Grade	648
5th Grade	681
6th Grade	645
7th Grade	705
8th Grade	657
9th Grade	1,733
10th Grade	1,022
11th Grade	970
12th Grade	829
Private	44



¹ <http://az.localschooldirectory.com/schools.php/Path/657> June 9, 2008.

Table 3.5:
Location of Schools within Casa Grande Planning Area

Public Schools

<u>Cactus Middle School</u> 1220 E. Kortsen Road Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Carmel School At Casa Grande</u> 15866 W. Cambridge Street Casa Grande, AZ 85222 Carmel Community, Inc. School District
<u>Casa Grande Middle School</u> 300 W McMurray Boulevard Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Casa Grande Union High School</u> 1362 Casa Grande Avenue Casa Grande, AZ 85222 Central Arizona Valley Institute Of Technology School District
<u>Casa Grande Union High School</u> 2730 N. Trekeil Road Casa Grande, AZ 85222 Casa Grande Union High School District
<u>Casa Verde High School</u> 1362 N. Casa Grande Avenue Casa Grande, AZ 85222 Casa Grande Union High School District
<u>Central Arizona Valley Institute Of Technology School</u> 1362 N. Casa Grande Avenue Casa Grande, AZ 85222 Central Arizona Valley Institute Of Technology School District
<u>Cholla Elementary School</u> 1180 E. Korsten Road Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Cottonwood Elementary School</u> 1667 N. Kadota Avenue Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Desert Winds High School</u> 1362 N. Casa Grande Avenue Casa Grande, AZ 85222 Casa Grande Union High School District
<u>Evergreen Elementary School</u> 1000 N. Amarillo Street Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Ironwood School</u> 1460 N. Pinal Avenue Casa Grande, AZ 85222 Casa Grande Elementary District School District
<u>Mesquite Elementary School</u> 129 N. Arizola Road Casa Grande, AZ 85222 Casa Grande Elementary District School District



Ocotillo Elementary School

501 S. Florence Street
Casa Grande, AZ 85222
Casa Grande Elementary District School District

Palo Verde School

40 N. Roosevelt Street
Casa Grande, AZ 85222
Casa Grande Elementary District School District

Pinal County Special Ed Program School

1400 N. 11 Mile Corner Road
Casa Grande, AZ 85222
Pinal County Special Education Program School District

Pinnacle High School - Casa Grande

409 W. McMurray Boulevard
Casa Grande, AZ 85222
Pinnacle Education-Casa Grande, Inc. School District

Ppep Tec - Alice S. Paul Learning Center School

220 E. Florence Boulevard
Casa Grande, AZ 85222
PPEP & Affiliates School District

McCartney Ranch School

2631 N. Brown Avenue
Casa Grande, AZ 85222

Desert Willow School

2172 N. Arizola Road
Casa Grande, AZ 85222

Central Arizona College - Casa Grande Center

1015 E. Florence Boulevard
Casa Grande, AZ 85222

Villago Middle School

574 E. Lakeside Parkway
Casa Grande, AZ 85222
Casa Grande Elementary District School District

Saguaro Elementary School

1501 N. Center Avenue
Casa Grande, AZ 85222
Casa Grande Elementary District School District

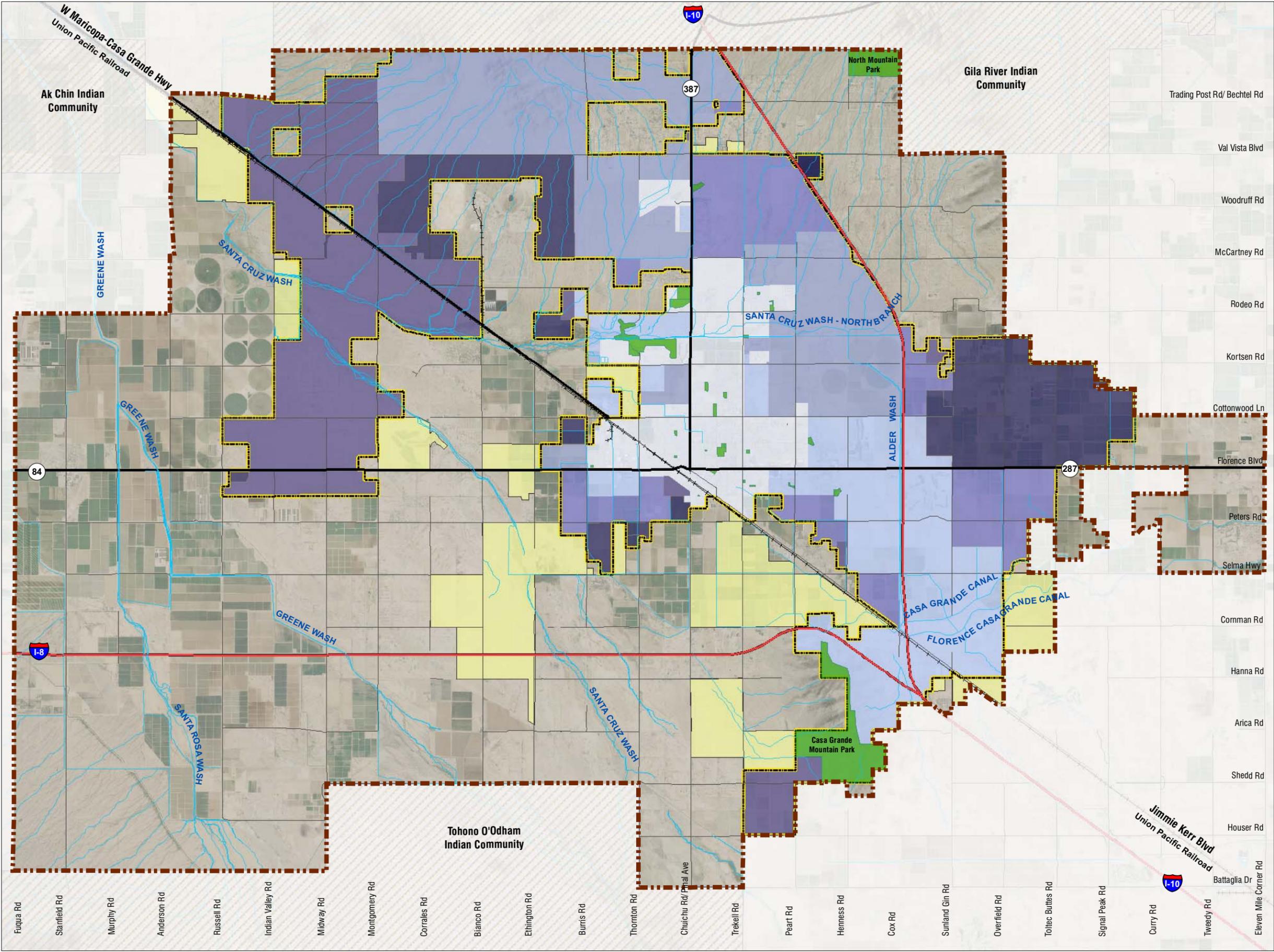
Private Schools

St. Anthony of Padua Catholic School

501 E. 2nd Street
Casa Grande, AZ 85222

3.1.7 Community Facilities

In March 2007, the City adopted the Community Services Master Plan, which provides an extensive needs assessment and service analysis of existing and future facilities and programs as they relate to Parks, Recreation and Library services. Other community facilities often referred to as public services, including fire services, police services, wastewater treatment services, post offices and medical services, also serve the residents of Casa Grande. As the City continues to grow it is important that these municipal services are coordinated to best serve the community. Map 3.8 illustrates the current level of this service provision in the City.

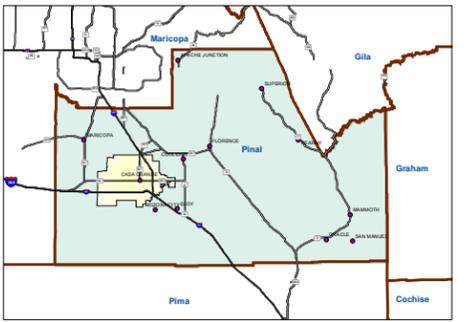


LEGEND

- Planning Area Boundary
- Incorporated City Limits
- Interstates
- State Highways
- Arterial Streets
- Railroads
- Rivers/Washes/Canals
- City owned Parks/Golf Course
- Indian Lands

Annexations

- Prior to 1980 (7343 Acres)
- 1981-1990 (12404 Acres)
- 1991-2000 (15308 Acres)
- 2001-2005 (7491 Acres)
- 2006 (14191 Acres)
- 2007 (8647 Acres)
- 2008 (155 Acres)
- Current Status



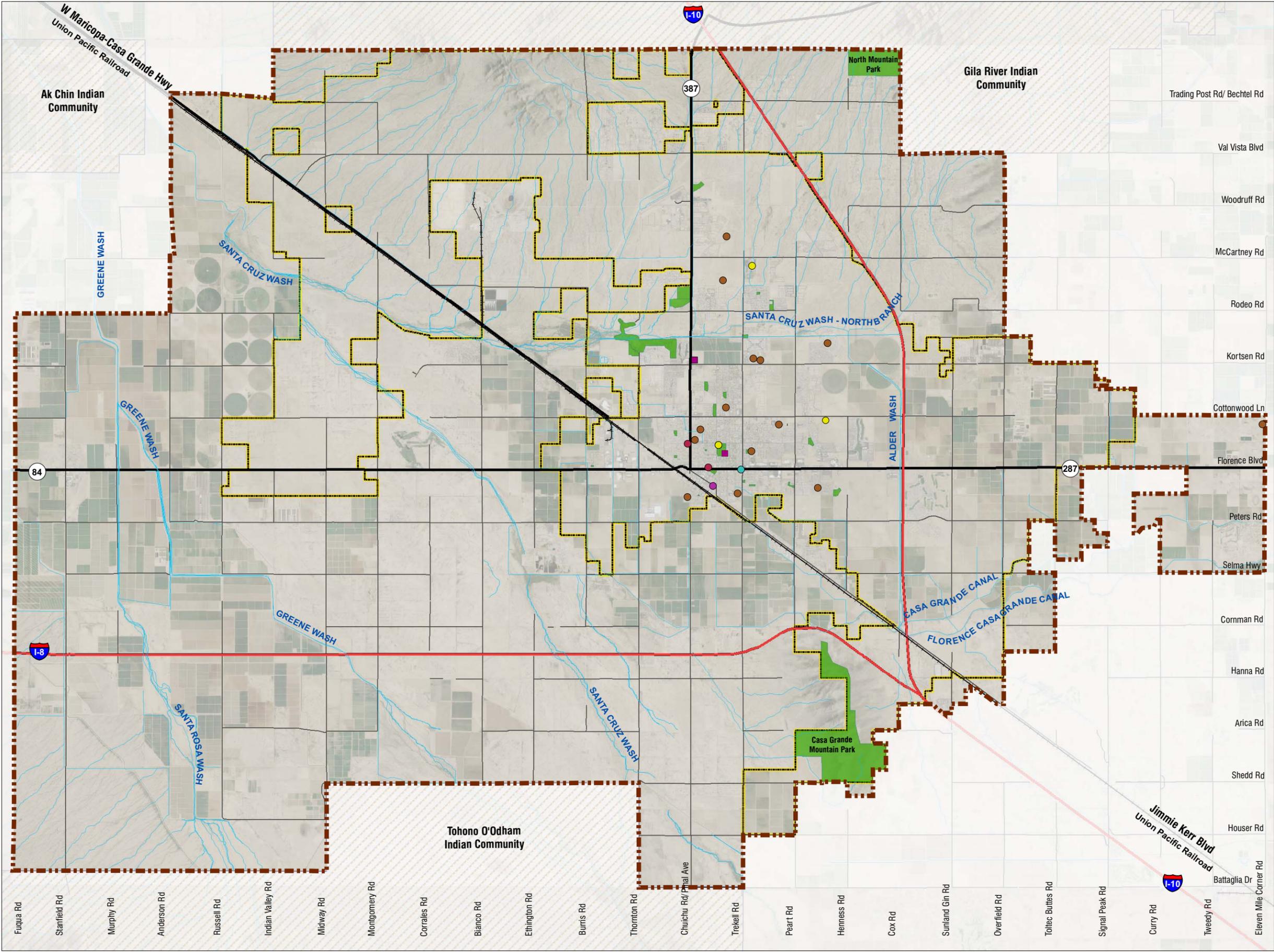
MAP 3.6
ANNEXATION HISTORY

September 2008

0 0.5 1 2 Miles

SOURCE:
This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.



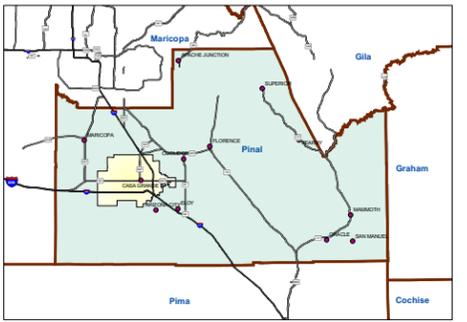


LEGEND

- Planning Area Boundary
- Incorporated City Limits
- City owned Parks/Golf Course
- Indian Lands
- Rivers/Washes/Canals
- Railroads
- Interstates
- State Highways
- Arterial Streets

Schools

- Pre, Elementary and Middle School - Private
- Pre, Elementary and Middle School - Public
- High School - Charter
- High School - Public
- 2yr College - Public

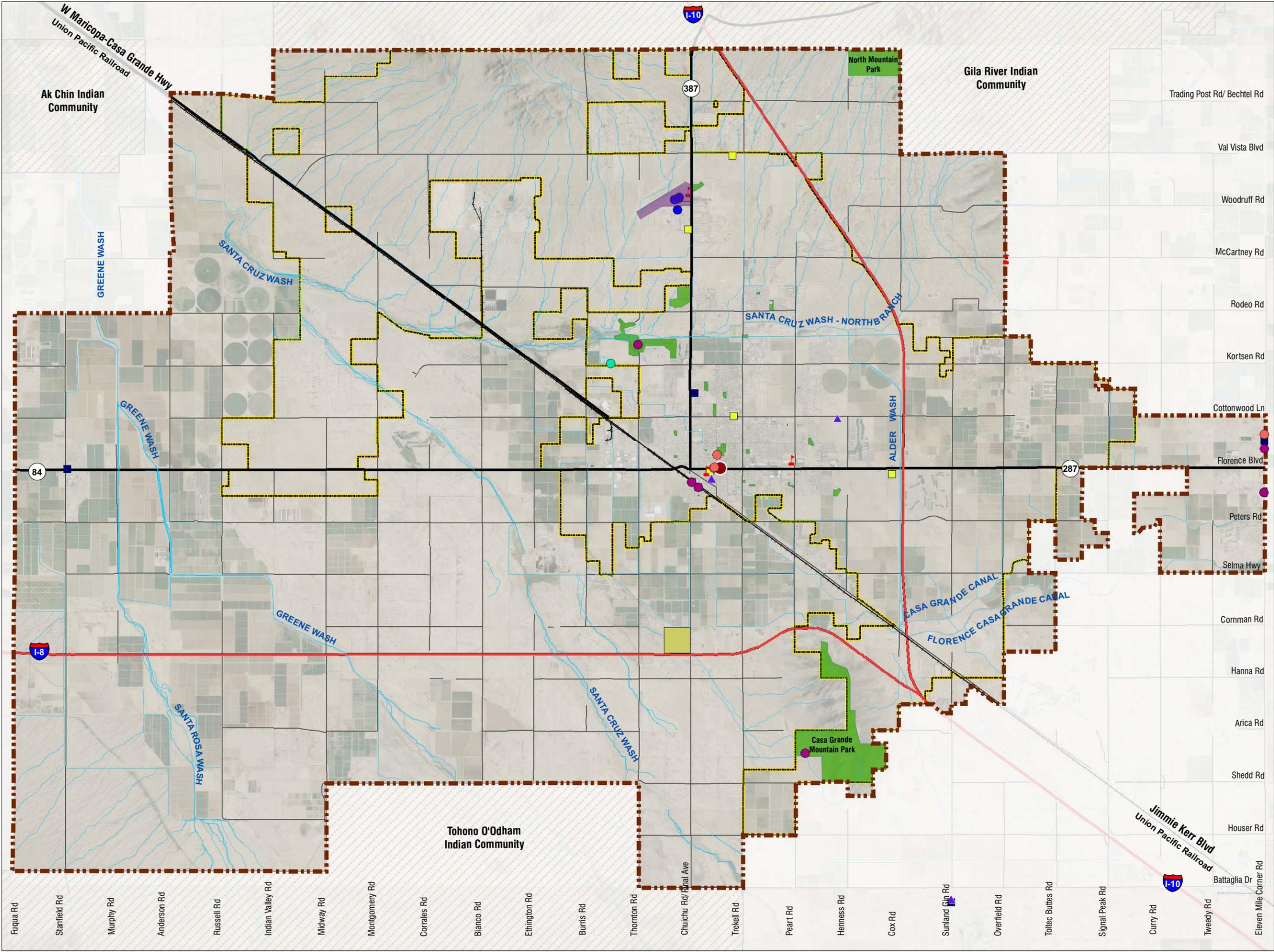


September 2008
 0 0.5 1 2 Miles

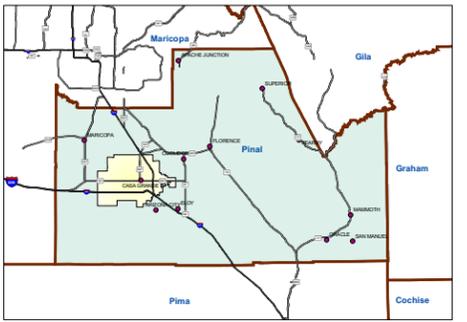
SOURCE:
 This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.

MAP 3.7
EXISTING SCHOOLS & DISTRICT OFFICES





- LEGEND**
- Planning Area Boundary
 - Incorporated City Limits
 - Interstates
 - State Highways
 - Arterial Streets
 - Railroads
 - Rivers/Washes/Canals
 - Indian Lands
 - City owned Parks/Golf Course
 - Airport
 - Landfill
 - Airport Services
 - Other Community Services
 - Other Public Services Buildings
 - Wastewater Treatment Building
 - ▲ Library
 - Post Office
 - ▲ Fire Facilities
 - Law Enforcement Facilities
 - City Hall & Other Municipal Buildings



MAP 3.8
COMMUNITY FACILITIES

September 2008
0 0.5 1 2 Miles

SOURCE:
This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.



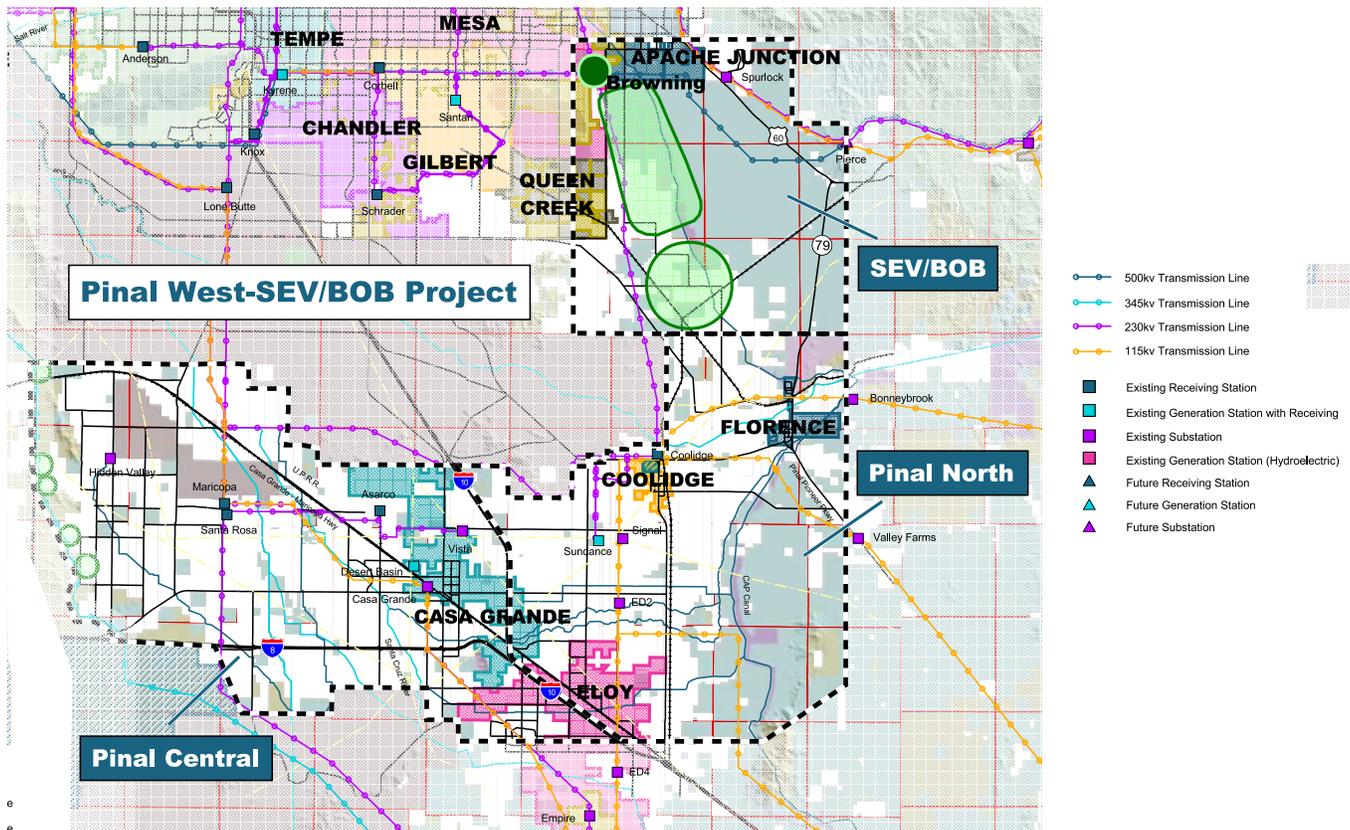
3.1.8 Utilities

Utility Corridors:

Utility corridors in the context of this section include services such as gas and electric. Water, wastewater and drainage are discussed separately in Chapter 7. The planning and construction of additional transmission sources that provide electric power and gas supplies are critical in meeting the City's energy needs.

In order to address the growing needs of expanding cities like Casa Grande in Pinal County, Pima County and Maricopa County, Salt River Project (SRP) and other utilities are developing a 500 kilovolt (kV) transmission line to transport power from the area of the Palo Verde energy hub, near Palo Verde Nuclear Generating Station, to new substations throughout Pinal County and finally to the Browning Substation in the East Valley (Map 3.9 & Figure 3.1). The transmission line will span approximately 150 miles. The portion of the line, from Pinal West to Southeast Valley, is scheduled to be energized in 2011 (500kV) with a 230kV circuit optional.

Figure 3.1:
Pinal West to Southeast Valley/Build Out Browning Transmission Siting Study
Source: www.azpower.org



The project is planned jointly by the Salt River Project Agricultural Improvement and Power District (SRP), Arizona Public Service Company (APS), Tucson Electric Power Company, the Santa Cruz Water and Power Districts Association, Electrical District Number 2, and Southwest Transmission Cooperative Inc. The project is managed by SRP.

SRP has also recently completed the process of siting a new 230 kilovolt (230kV) transmission line from the Desert Basin Generating Station to the recently permitted PW-SEV/BRG 500/230kV corridor (Figure 3.2). The 230kV line will then continue to the Pinal South substation to be located east of Casa Grande, near Eleven Mile Corner Road. SRP will begin construction in 2010 with a completion date in 2011.

The El Paso Corporation and Southwest Gas Corporation represent the major providers of natural gas to the City of Casa Grande.

Figure 3.2:
ACC Approved Alignment
Source: www.azpower.org

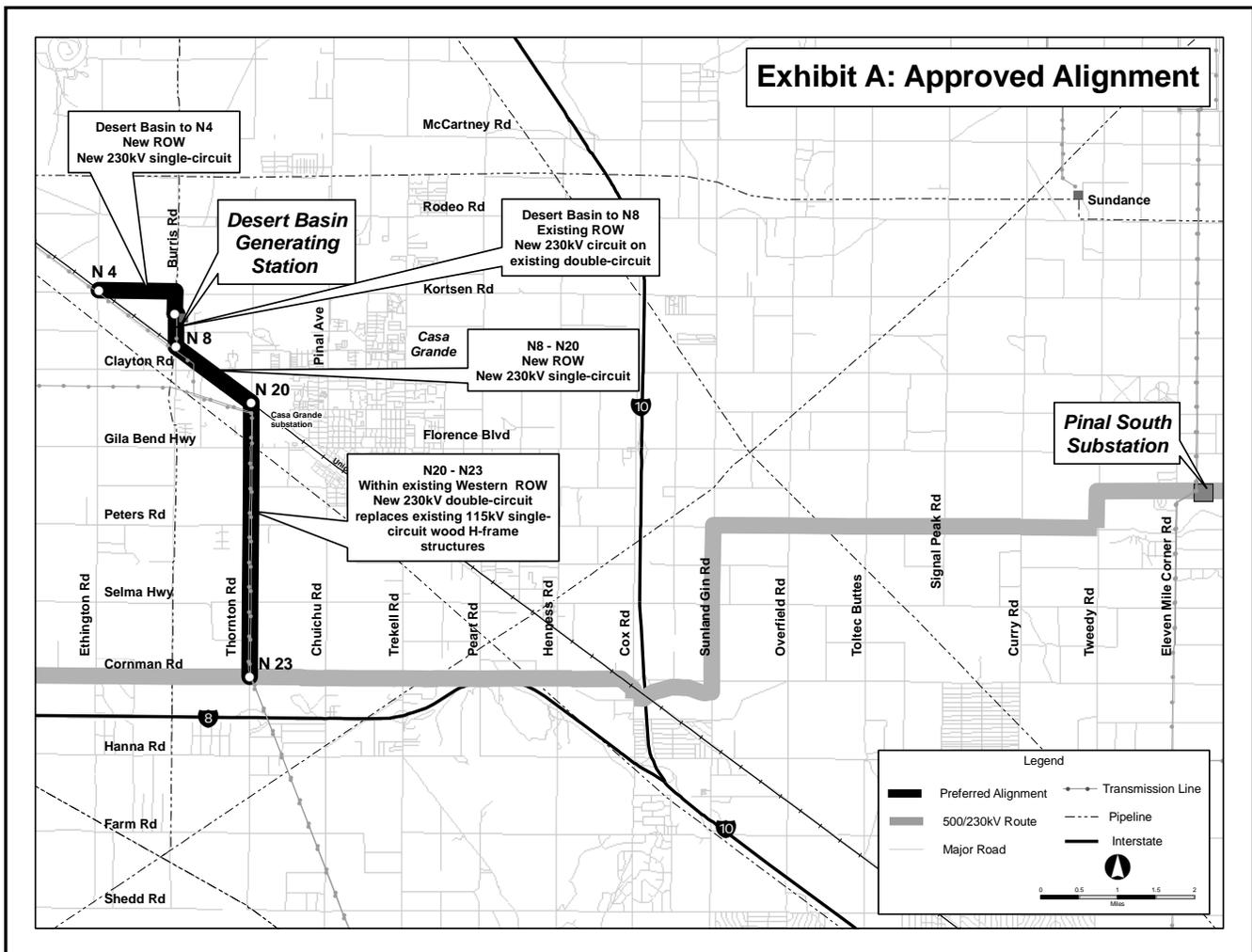
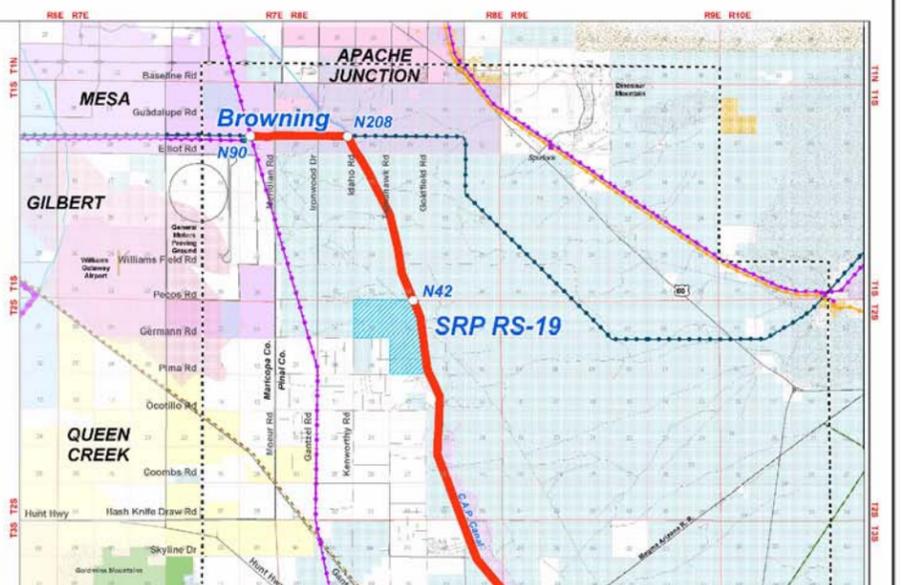
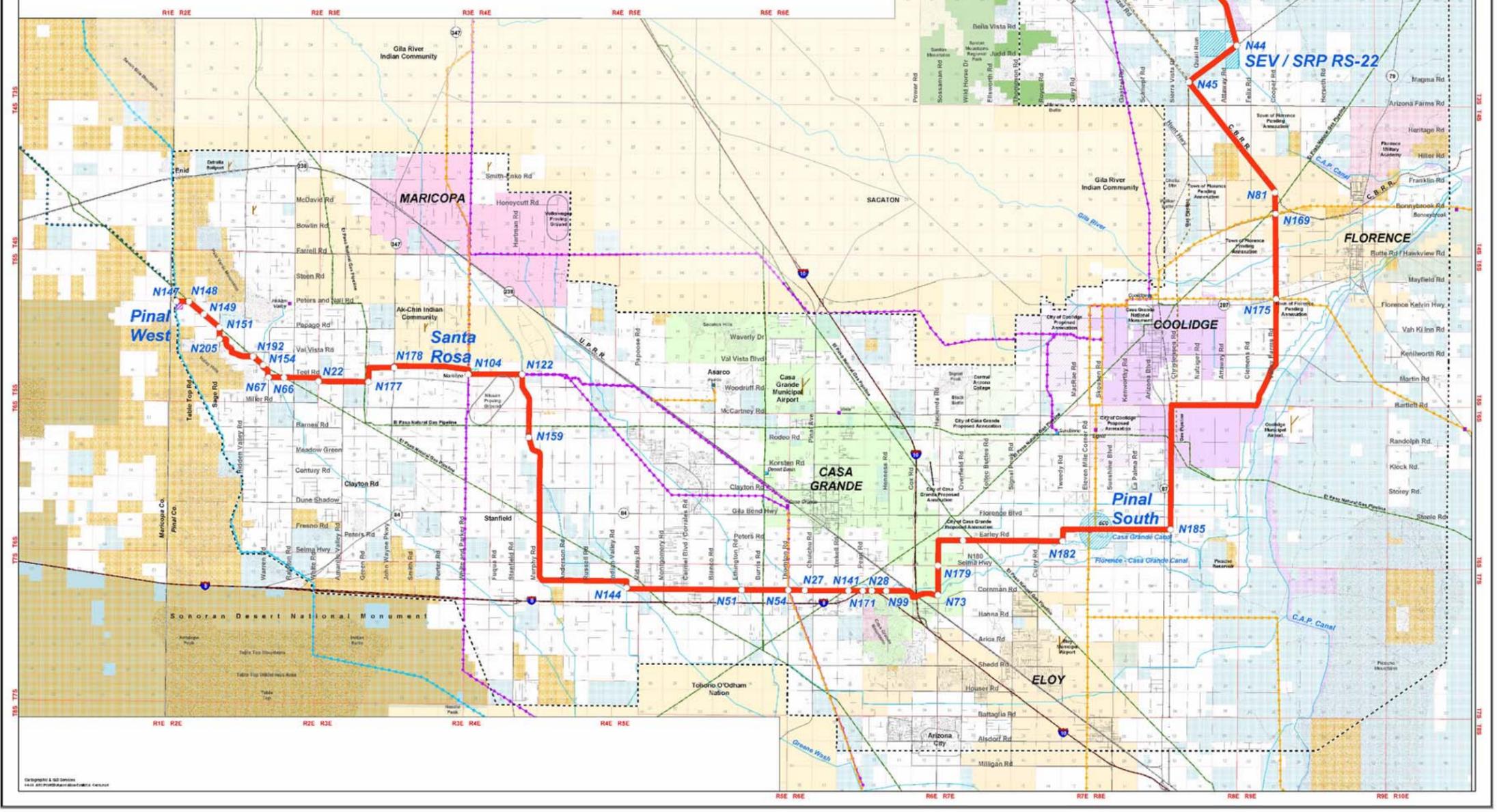


EXHIBIT A ARIZONA CORPORATION COMMISSION APPROVED ALIGNMENT

Legend

- Node (Segment Origin or Terminus)
- Approved Alignment
- Potential Substation Site
- Existing Substation Interconnection
- Permitted / Future Substation Site
- Study Area Boundary
- Existing 500 KV Transmission Line
- Existing 345 KV Transmission Line
- Existing 230 KV Transmission Line
- Existing 115 KV Transmission Line
- Certificated 500 KV Transmission Line Corridor - Case 124
- Existing Receiving Station
- Existing Generation Station with Receiving
- Existing Substation
- Pipeline
- Santa Pipeline
- Large Canal / Developed Drainage Feature
- Interstate
- Primary Road
- Railroad
- County Boundary
- Jurisdictional Land Ownership
 - Bureau of Land Management Land
 - State Land
 - Indian Land
 - Bureau of Reclamation Land
 - Department of Defense Land



**MAP 3.9
APPROVED POWER CORRIDOR ALIGNMENT**

September 2008



SOURCE:
This map was prepared using data on the www.azpower.org website.
Please contact the City of Casa Grande for more information on this map.



3.2 Challenges

Over the years, the City has established some key commercial corridors such as those along Florence Boulevard, Pinal Avenue and throughout the Downtown area. Continued approval of commercial uses outside some of these key commercial corridors will only delay redevelopment and infill opportunities in these areas.

Many of the City's existing rural and low residential areas are in locations closest to the Phoenix metropolitan area. As the Phoenix metropolitan area continues to grow and its housing prices continue to increase, people will continue to look to Casa Grande for housing alternatives closer to the metropolitan area, placing pressure on these rural areas.

Interstate 10 and Interstate 8 continue to present a tremendous opportunity for sales-tax generating uses. As the City region grows, congestion within the City and on intra-regional and interstate roads will continue to increase despite planned improvements. Transit will become increasingly that important to ensure residents of the City have mobility options. Land uses that support freeway-based public transit, such as Bus Rapid Transit, should be encouraged as a means of attracting employers that can take advantage of the employee pools in the Phoenix and Tucson metropolitan areas. Additionally, a large amount of land within the City's Planning Area includes Master Planned Communities approved by Pinal County. Many remaining areas are impacted by externalities from employment uses or are flood-prone.

Dynamic and vibrant downtowns, pedestrian friendly environments and public transit all depend on higher densities and mixed land uses. Some of these areas, especially those located along I-10, may affect the character of the less developed and more rural areas also located in these high demand locations.

Planned employment areas, located along the railroad tracks and Thornton and Burris Roads, divide the City. As new development occurs, opportunities to create integrated environments that connect downtown Casa Grande and existing residential areas with commercial centers and amenities planned on the west side of the City should be explored.

The Casa Grande Airport is located west of Pinal Avenue and detached from existing residential uses. The Desert Colors Master Planned Community is planned north of the airport and residential land uses are planned to the west. The Villago Master Planned Community is located east of Pinal Avenue, directly east of the airport. Plans are being explored to extend the airport runway to Burris Road. Should these plans be implemented, the runway would be further away from the emerging gateway and residential character of Pinal Avenue. As the City continues to develop, a clear direction for the airport should be established and reflected in the City's General Plan.

3.3 Going Forward

As the City grows, it has tremendous resources to capitalize upon. The Union Pacific Rail line, which will be double tracked, provides opportunities to continue to support basic employment that will help to diversify the City's economy. However, the City will have to work hard to ensure that the double-tracking proposals, likely to result in some roadway crossing closures, do not divide the City of Casa Grande.

As the Phoenix and Tucson metropolitan areas continue to grow, Casa Grande's desirability as an accessible location will be further enhanced. Opportunities exist to encourage development types and patterns that are competitive with those in the Phoenix and Tucson metropolitan areas, as well as those that still offer the "small town" lifestyle treasured by Casa Grande residents.

The City currently includes commercial and employment areas that are almost dense enough to support some public transit service. As opportunities to encourage infill and enhance commercial and residential densities present themselves, they should be evaluated in terms of providing mobility choices to counter the impact of automobile congestion. Populations of 3,000 to 4,000 per square mile and residential densities of 4-5 dwellings per acre may have the ability to support a minimum level of bus service, this typically represents 20 daily bus trips, with a service running every hour. Population rising to 7,000 per square mile and an average residential density of 7 dwellings per acre have the potential to support an intermediate level of service, which typically equates to 40 daily trips, or a service every half hour.¹ More established areas in and around the downtown and surrounding areas between a square mile either side of Florence Boulevard are likely to be the first to support a minimum level of bus transit service.

Growth in surrounding cities provides opportunities for attracting new employees and sales taxes. The City should consider opportunities to provide land uses that can support these resources and enhance its tax base.

Several approved, but yet to be built Master Planned Communities exist in the City's western edges. As development patterns shift, and changes are requested by these landowners, the City could also work to encourage densities and development patterns that are sustainable.

Significant areas of undeveloped land exist within the City. Opportunities exist to encourage more compact forms of development that are appropriate to the City's environment, and at the same time, conserve undeveloped areas.

The demand for a new regional airport is also present in the region. The City has large, undeveloped areas with interstate and regional road access that provide opportunities for a commercial airport location, and these should also be explored.

Casa Grande will need to plan for future utility corridors to ensure continued reliability and capacity is secured as the City continues to experience growth. Furthermore, as planned utility corridors are developed, they could be designed as non-motorized amenities to connect key destinations and provide green space.

¹ A Toolbox for Alleviating Traffic Congestion, Institute of Transport Engineers 1989





community first

historic setting 0 | 4

- 4.1 Introduction
- 4.2 History
- 4.3 Historic Resource Population
- 4.4 Historic Preservation Program
- 4.5 Challenges
- 4.6 Going Forward

General Plan 2020



City of
Casa Grande



4.1 Introduction

Casa Grande has a remarkable history of survival in the face of changing times, shifting economic forces and the vagaries of national, regional and statewide development influences. Its citizens are proud of its history and self reliance as a rural community and have made many efforts to preserve those buildings, sites and areas of the community that reflect this heritage.

4.2 History

Casa Grande was initially settled as a railroad camp for the Southern Pacific Railroad. In May of 1879 it was established as the terminus of construction for the company's Yuma to Tucson railroad line, a site to stockpile materials for fall construction. Named after the nearby prehistoric ruin, Casa Grande, some two dozen stores and saloons quickly sprang up in the camp to serve the railroad crews. Early in the 1880s a number of mines were discovered within a 100 mile radius of Casa Grande. With its advantageous location on the railroad line and proximity to Phoenix, the settlement grew to become a shipping, banking and mercantile center supplying Globe, Florence and mining districts south to Sonora. The population grew over the next decade and official town maps were recorded in 1890 and 1892. However, during this period Casa Grande was clearly a camp town with temporary buildings and no civic amenities. A fire destroyed much of the town in 1893. The opportunities for success based upon the railroad depot, nearby mining districts, and a well planned irrigation canal prompted local businessmen to immediately begin rebuilding the town. There was an optimistic outlook that Casa Grande could succeed as a community that was not just as a mining and shipping center.

The turn of the century was a difficult time for the City due to a national recession, a mining industry slump and local drought. Casa Grande diminished in size in the first decade of the twentieth century but managed to survive by reorienting its economy away from a dependence on mining and shipping and to a focus on agriculture. The Casa Grande Water Users Association was formed in 1912 and began construction of a canal to bring Gila River water to the farmers of the Casa Grande Valley Irrigation District. The Association, with the local chamber, lobbied the federal government for the construction of Coolidge Dam which would provide water and hydro-electric power for the Casa Grande Valley. A campaign was mounted to draw home seekers and farmers to the area. During the next two decades Casa Grande became a stable community with civic improvements, community services and an expanding commercial core. The town was incorporated in 1914 and declared itself a City in 1918. In the 1920s Casa Grande developed all the prerequisites for a viable community. Social, cultural, religious, entertainment and commercial elements made up the town's composition and actively contributed to a sense of community identity. In 1924, Congress authorized the San Carlos Irrigation Project providing for water for 800,000 acres in the Casa Grande Valley from the future Coolidge Dam. Small industries began locating in Casa Grande during this time including a bottling plant, fruit packing and canneries, ice and cold storage and a dairy. The Chamber promoted the community's climate and nearby prehistoric and historic attractions and tourism began to grow. This led to the development of auto courts, tourist cabins, garages and service stations along the highway leading into town.

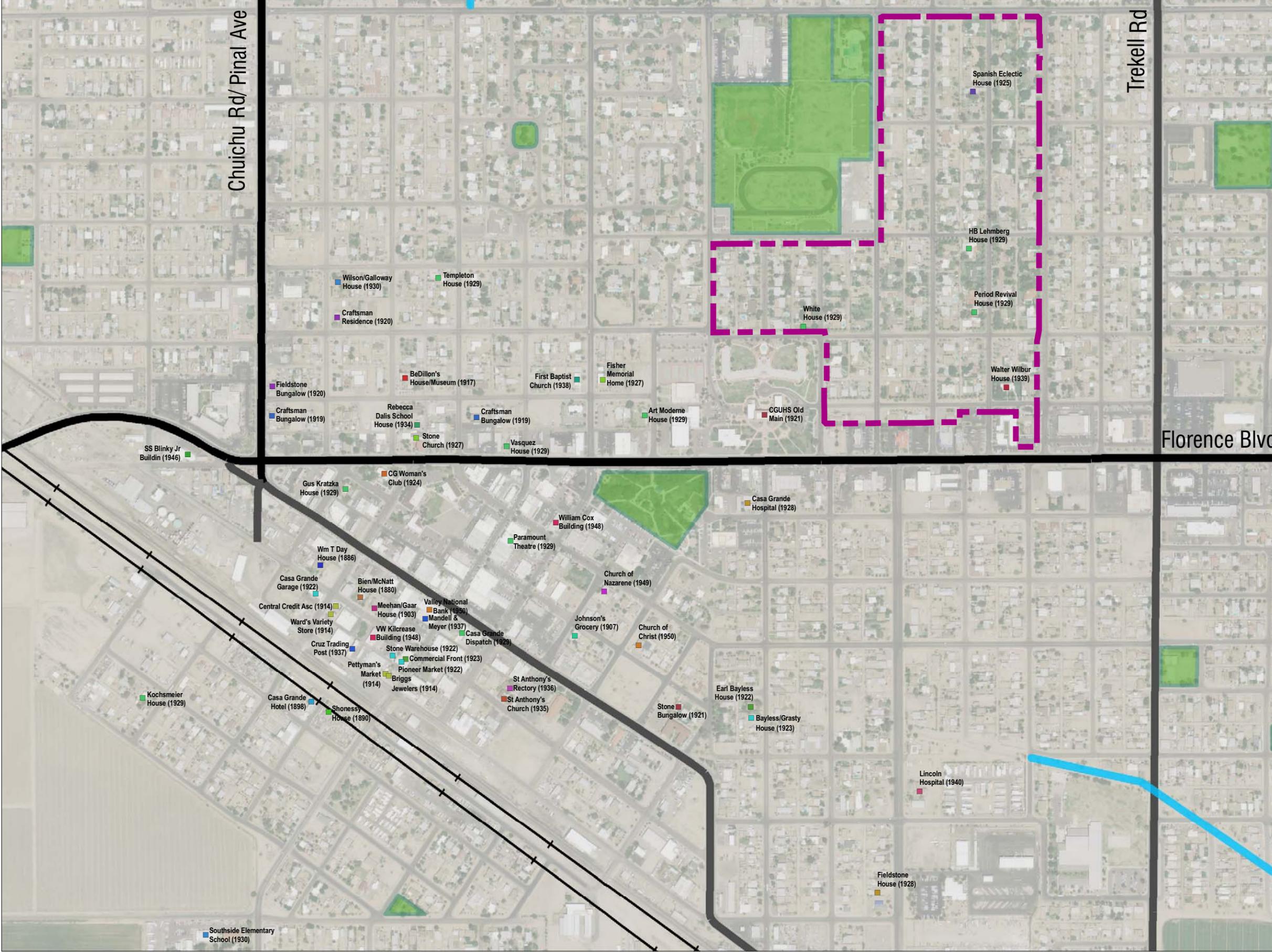
04 historic setting

The Depression brought a halt to the building boom of the late 1920s. The town's economy was hit hard as agricultural prices dropped dramatically and rail shipments declined. By 1934, however, the economy began to rally. The Federal Works Project Administration (WPA), established Welfare and Labor Departments in the town. With WPA assistance a new City Hall and high school were constructed. A cotton storage house and grain mill was built in response to raising agricultural prices. The expectation of agricultural expansion was reinforced with the completion of the Coolidge Dam. During the 1930's thousands of acres of barren desert became farmland producing a wide array of crops and supported dairying, poultry, sheep hogs, and cattle raising. By 1937, five paved highways brought tourists and winter visitors who boosted to the town's economy. A new railroad depot, replacing the original one that burned in 1934, was dedicated in 1940, and this historical landmark is now owned by the City of Casa Grande.

4.3 Historic Resource Population

There have been a number of efforts to recognize and preserve the historic, architectural and cultural resources that represent Casa Grande's heritage. Initially, designation activity focused on listing properties on the National Register of Historic Places (NRHP). Map 4.1 shows the location of Historic Buildings in Casa Grande. In 1978 the Casa Grande Presbyterian Stone Church was listed on the NRHP. The following year the Casa Grande Woman's Club Building was also listed. In January through September of 1982 a survey was conducted to identify all possible NRHP eligible properties within the City limits at that time. The survey and research for the project was completed by professional consultants including a historical architect, architectural historian and archaeologist with assistance from volunteers from the Casa Grande Valley Historic Society. Information was documented on Arizona State Historic Property Inventory Forms and the information collected was used to prepare a NRHP Multiple Resource Area (MRA) nomination for a 10 square mile area that defined the City's historic development. Twenty-six properties were listed on the NRHP in 1985-86 that were documented as part of that nomination. The MRA and the two properties individually mentioned earlier are associated with Casa Grande's late nineteenth and early twentieth century development. Fifteen are homes associated with prominent businessmen and families, and date from the 1880s, 1890s and the 1920s. Of these, some are also considered architecturally significant for their adobe or masonry construction or architectural styling popular during the time in which they were built. Other properties designated as part of the MRA include a variety of commercial buildings such as a hotel, grocery stores, a trading post, laundry and a bank. The high school, church and women's club represent the community facilities of the period. Several of the properties listed are considered significant because of their construction by Mike Sullivan, a local contractor, who specialized in stone construction. His distinctive buildings gave credence to Casa Grande's permanence as a community and distinguished the town from other settlements around the state.

In 1998, another survey of the City's historic and architectural resources was conducted. Approximately 300 buildings were evaluated and documented. Potential historic districts were also identified. From this information, a 2002 Multiple Property Submission nomination was prepared to list an additional 21 properties on the NRHP. While similar to the earlier NRHP nomination, in so much as the designation included many homes of early settlers, it also expanded the type of properties recognized as significant to include a wider array of commercial and public buildings.



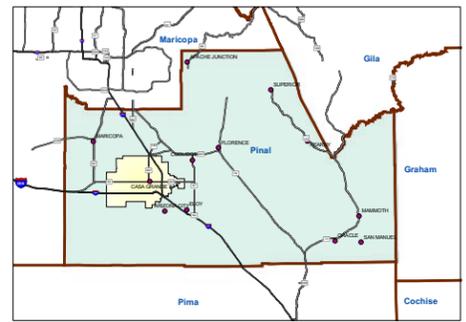
LEGEND

- Evergreen Historic District
- Arterial Streets
- Railroads
- Rivers/Washes/Canals
- City owned Parks/Golf Course

Historic Buildings

Year Built

- 1880
- 1886
- 1890
- 1898
- 1903
- 1907
- 1914
- 1917
- 1919
- 1920
- 1921
- 1922
- 1923
- 1924
- 1925
- 1927
- 1928
- 1929
- 1930
- 1934
- 1935
- 1936
- 1937
- 1938
- 1939
- 1940
- 1946
- 1948
- 1949
- 1950



**MAP 4.1
EXISTING HISTORIC BUILDINGS**



September 2008
SOURCE: This map was prepared using data provided by the City of Casa Grande. Please contact the City for more information on this map.

In 2002 a survey was completed for the Evergreen Addition to Casa Grande. The survey found the neighborhood to be significant for its association with community development in Casa Grande during the period 1928 to 1967. During this time the neighborhood's development mirrored the cycles of growth of the larger community. It is also considered significant as the home of many residents who played prominent roles in the history of Casa Grande, most notably Frank Gilbert who came to Casa Grande initially to farm the Ever Green Gardens Ranch but decided to pursue real estate speculation after delays in the provision of a stable water supply for the area. The district is also considered noteworthy for its representation of local historic architectural styles and methods of construction. The 196 properties within the district are locally designated on the Casa Grande Historic Register.

As part of the historic context developed for the 2002 survey, the growth of the community after World War II was documented. The population of Casa Grande grew steadily as those who worked in the state during the war years and military personnel who had trained here decided to make Arizona their permanent home. The post war boom resulted in an increase of home construction as Casa Grande's population grew to 4,181 in 1950 and 8311 by 1960. During the period of 1946-1955 eighteen new subdivisions were platted and annexed by the City. Construction picked up again during the period 1957 to 1964 when fourteen additional subdivisions were developed and annexed by the City. These older neighborhoods which are representative of the postwar building boom of Arizona and Casa Grande are potentially eligible for listing on the Casa Grande Historic Register as well as the National Register of Historic Places.

4.4 Historic Preservation Program

Like many communities, the impetus for the creation of a formal historic preservation program in Casa Grande was prompted by the loss of a historic building. The Central Elementary School was torn down, having been deemed unsound and unsuitable for adaptive reuse. Despite these claims the demolition proved to be a difficult task as the construction of the building was quite sturdy. Losing a building that had been an important part of many of the residents' childhood and the lack of a serious effort to seek alternatives to demolition gave rise to an effort to put in place municipal protections at the local level for the community's important historic buildings. In 1992, Resolution No. 1940 and Ordinance 1938 were approved which adopted historic preservation regulations and incorporated them into the City's municipal code. The Historic Preservation ordinance provisions were revised in 2004.

4.5 Challenges

The work of the Historic Preservation Program is overseen and directed by a volunteer, citizen body appointed by the City Council. The composition of the Commission includes: at least one member of the Casa Grande Valley Historical Society, a licensed real estate broker or contractor, an owner or resident of locally or Nationally Registered Historic Places, (NRHP) designated property, a current or former Planning Commission member and at least one member with a demonstrated interest and commitment to the field of historic preservation. There is no dedicated City staff for the Historic Preservation (HP) program although staff support is provided on a quarter-time basis by a City Planner.



04 historic setting

4.6 Going Forward

The primary work to recognize significant historic buildings and areas has been to designate, at the local level those properties that were previously listed on the NRHP. Only four properties on the Casa Grande Historic Register are not on the NRHP. The 1930 Southside Elementary School has been determined as NRHP eligible and is locally listed. The other locally designated properties include the 1934 Rebecca Dallis School House, 1917 BeDillion House and Museum, 1922 Casa Grande Garage and the Evergreen Addition Historic District. The historic district is a residential neighborhood east of the downtown with 196 dwelling units constructed during the period 1927-1967. The Casa Grande Historic Preservation Commission (HPC), is interested in establishing a Downtown Historic District but this has yet to be pursued.

Various activities have been undertaken by the nine member Historic Preservation Commission to raise awareness and appreciation for Casa Grande's historic and architectural resources. An historic plaque program was established with the Historic Preservation Commission members undertaking fund-raising projects to provide finances to produce and install the plaques. Walking tours have been conducted. Recently, design guidelines for the Evergreen Historic District have been prepared and adopted by the Historic Preservation Commission. Plans are underway to disseminate information about the guidelines and the City's review process to the district residents. An obstacle to expanded efforts by the Historic Preservation Commission is a lack of resources. There are no City funds budgeted to support the Historic Preservation program activities. Casa Grande is a "Certified Local Government" and is therefore eligible to apply for funds available through the State Historic Preservation Office to conduct surveys, prepare desired educational materials and expand outreach efforts. However, these funds must be matched with local money, which heretofore has not been available from the City.

It will be prudent to undertake an analysis of those properties within the City's older neighborhoods that are representative of the postwar building boom of Arizona and Casa Grande are potentially eligible for listing on the Casa Grande Historic Register, as well as, the National Register of Historic Places.





5.1 Facts

5.1.1 Roadway System

5.1.2 Small Area Transportation Study

5.1.3 Alternative Modes of Transportation

5.2 Challenges

5.3 Going Forward





5.1 Facts

5.1.1 Roadway Transportation

Automobile travel is by far the most commonly used mode of transportation in the City of Casa Grande. Automobiles travel on a network of freeways, arterials, collectors, and local roadways. Arterial roadways are primarily set up in a mile-section grid system. The grid system is generally oriented north-south and east-west except for the original town site, which follows a northwest-southeast orientation parallel and perpendicular to the Union Pacific Railroad tracks that cut diagonally through the City.

Located near the intersection of I-10 and I-8, the City of Casa Grande has freeway access to Phoenix and Tucson, the two major metropolitan centers in Arizona, as well as to Yuma and southern California. In addition to the junction of I-10 and I-8, several other state routes converge within the downtown area: SR 387 (Pinal Avenue), SR 84 (Gila Bend Highway) and SR 287 (Florence Boulevard). The City of Casa Grande's recently adopted Small Area Transportation Study (SATS) summarized that truck activity is quite high in the Casa Grande area, with trucks making up 35-40 percent of the total traffic on I-8 and I-10, and 10-15 percent of the total traffic on the State highways in the City.

In the urbanized areas of Casa Grande, the major roadways are paved and generally provide two lanes of through traffic in each direction. In the rural areas, most roadways provide one lane of through traffic in each direction and many of the roadways are unpaved. The major roadways were all operating at acceptable levels of service in 2005. Map 5.1 shows the existing roadways in Casa Grande.

5.1.2 Small Area Transportation Study

The City completed a Small Area Transportation Study (SATS) in 2007. The study anticipates that traffic volumes will continue to increase at the same annual average rate of seven percent that has occurred over the last five years. If this holds true, nearly 30 percent of the surface street roadway segments are expected to operate at poor levels of service by 2010. By 2020, nearly 80 percent of surface street segments are expected to operate at poor levels of service unless roadway improvements are made. By 2030, principal arterials (which are typically at two-mile spacing) and minor arterials (which are typically at one-mile spacing) are expected to be needed. Fifteen new traffic interchanges on I-10 and I-8 may be required by 2030, along with high-capacity expressways/parkways on Montgomery Road and Val Vista Boulevard (Map 5.1). There are a number of transportation studies in progress or recently completed that may affect Casa Grande. These include:

- ADOT Central Arizona Framework Study - This study is ongoing and is addressing long-range multimodal transportation needs in southern Gila County and most of Pinal County. The study is focused on regional connectivity and will address long-term improvement needs, including new construction, widening and additional interchanges on I-10, I-8, and other regionally significant

transportation corridors (such as the Val Vista Expressway in the Casa Grande area). It should be noted that while Casa Grande is outside of the Central Arizona Framework Study project area, (which runs south of Interstate 8 and east of Interstate 10), many of the roads in Casa Grande connect to the Central Arizona Framework area and roadway network, and thus the City will be impacted by the outcomes of the study.

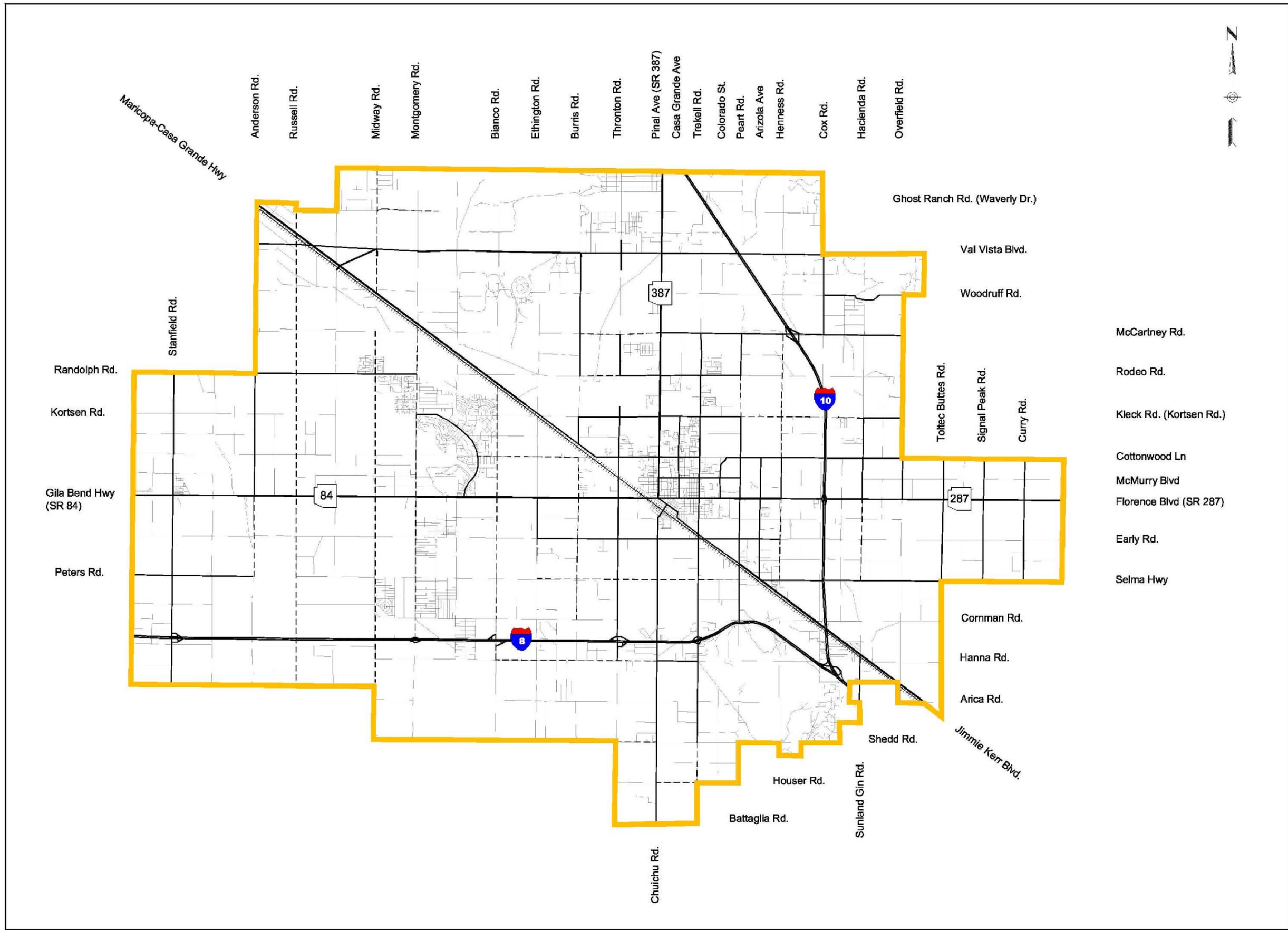
- ADOT I-10 By-Pass Study - ADOT has prepared a number of alternative alignments for I-10 from Tucson to Phoenix. None of them seem to have much support and no funding is available. Alternatives are located on all sides of Casa Grande. If any of these alternatives are implemented they could significantly modify circulation patterns and volumes along Interstate 8 and Interstate 10 near Casa Grande.
- ADOT I-10 Corridor Study: Interstate 8 to Tangerine Road - This study is ongoing to evaluate the long term needs on I-10 from I-8 to Tucson. Current proposals include widening Interstate 10 to ten lanes with two lane frontage roads and reconfiguring the I-8 / I-10 interchange. If these proposals are implemented, it would significantly increase roadway capacity in southeast Casa Grande.
- ADOT Southern Pinal/Northern Pima Corridors Definition Study - This study was completed this year and includes the southeast portion of Casa Grande near the I-10/I-8 interchange. The study identifies a potential new freeway corridor that extends south of the I-8/I-10 interchange and parallels I-10 on the west side, diverting some of the traffic along Interstate 10.
- MAG I-8 and I-10 Hidden Valley Transportation Framework Study - This study is ongoing and addresses long range multimodal transportation needs in southern Maricopa County and western Pinal County, including the Casa Grande area. Many high-capacity roadways such as freeways and parkways supported by local and regional transit services have been proposed in the Casa Grande area to accommodate projected future traffic volumes. This study may be rescoped to take a closer look at Casa Grande expressway corridors.

There are several other relevant studies that have been completed, such as the Pinal County Regionally Significant Routes for Safety and Mobility plus an upcoming Pinal County Transit Study that will cover the Casa Grande area. The transit study should start late this calendar year. The two studies which may have the most significant impact in the future are likely to be the ADOT Central Arizona Framework Study and the MAG Hidden Valley Transportation Framework Study.

5.1.3 Alternative Modes of Transportation

While automobiles are the predominant mode of transportation in Casa Grande, some accommodation for alternate modes of travel has been made. Recognizing that the current system of pedestrian and bicycle facilities is discontinuous and incomplete, the City has included pedestrian and bicycle facilities in its roadway cross-sections. The pedestrian/bicycle trail system is being improved as new arterial and collector streets are constructed. The City has also implemented some multi-use paths along canals and washes. The City's recently adopted Trails Master Plan (Map 3.6) includes paths and bike lanes (Map 5.3). Limited public transit provided by both private and public agencies is also available. It has been proposed that the current transit service provided by Pinal Gila Community Child Services, Inc. and Pinal Rides could be augmented by a starter local bus loop around the most densely developed part of Casa Grande and along the principal arterials. Park-and-ride facilities have also been proposed.





Surface Type

- Paved
- Non-paved
- Study Area

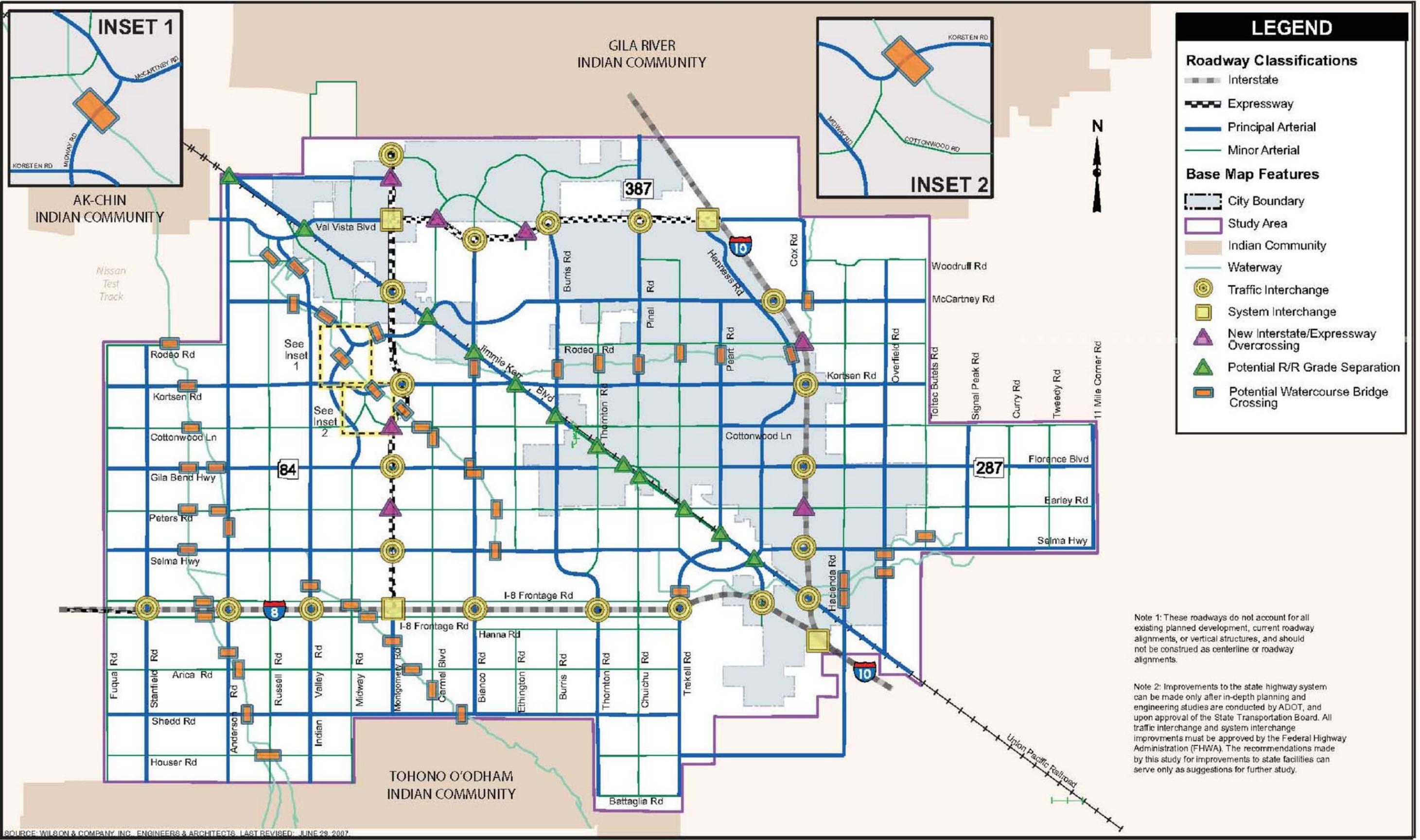
**MAP 5.1
EXISTING ROADWAYS**

September 2008



SOURCE:
This map was prepared using information in the SATS 2007 Study.
Please contact the City of Casa Grande for more information on this map.





LEGEND

- Roadway Classifications**
- Interstate
 - Expressway
 - Principal Arterial
 - Minor Arterial
- Base Map Features**
- City Boundary
 - Study Area
 - Indian Community
 - Waterway
 - Traffic Interchange
 - System Interchange
 - New Interstate/Expressway Overcrossing
 - Potential R/R Grade Separation
 - Potential Watercourse Bridge Crossing

Note 1: These roadways do not account for all existing planned development, current roadway alignments, or vertical structures, and should not be construed as centerline or roadway alignments.

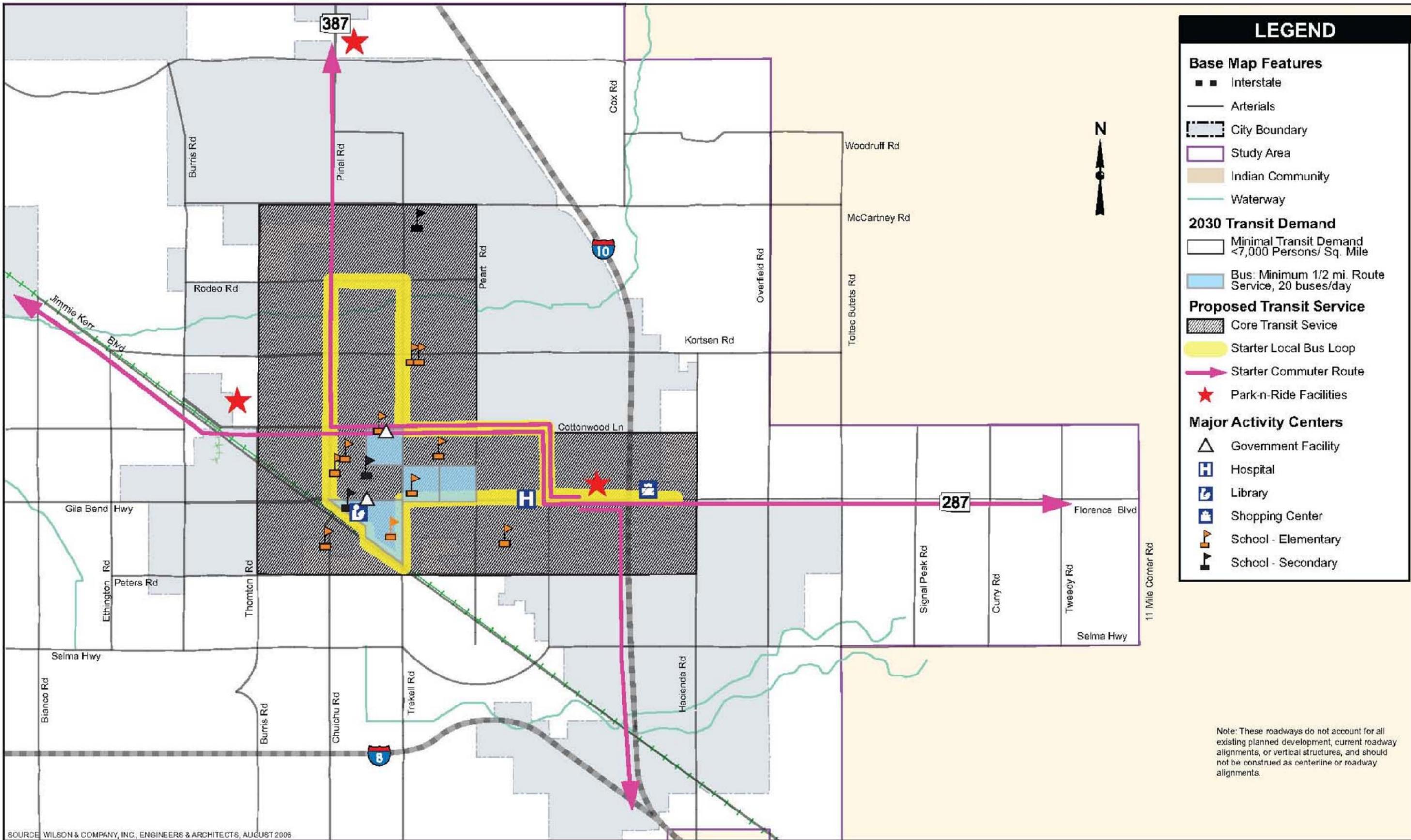
Note 2: Improvements to the state highway system can be made only after in-depth planning and engineering studies are conducted by ADOT, and upon approval of the State Transportation Board. All traffic interchange and system interchange improvements must be approved by the Federal Highway Administration (FHWA). The recommendations made by this study for improvements to state facilities can serve only as suggestions for further study.

SOURCE: WILSON & COMPANY, INC., ENGINEERS & ARCHITECTS, LAST REVISED: JUNE 29, 2007.

MAP 5.2
FUTURE ROADWAYS

September 2008

SOURCE:
This map was prepared using information in the SATS 2007 Study.
Please contact the City of Casa Grande for more information on this map.



SOURCE: WILSON & COMPANY, INC., ENGINEERS & ARCHITECTS, AUGUST 2006

MAP 5.3
PROPOSED LOCAL & COMMUTER TRANSIT ROUTE

September 2008



SOURCE:
This map was prepared using information in the SATS 2007 Study. Please contact the City of Casa Grande for more information on this map.



5.2 Challenges

There is a significant overall funding shortfall for the improvements expected to be needed by 2030 as identified in the SATS. The estimated cost of all of the capacity improvements projected to be needed by 2030 is \$3.25 billion in 2006 dollars, (\$160 million/year). Current revenue projections included in the SATS indicated that there will be approximately \$200 million available for improvements. The City needs to carefully prioritize its improvement projects to most effectively address the anticipated needs. Creative funding strategies may be needed to generate additional funding.

There is a high demand for mobility between Casa Grande and Phoenix and Tucson. And there are few roadway alternatives between Casa Grande and these two metropolitan areas. As such, the City should collaborate with surrounding agencies to promote the implementation of improvements that make the best use of the limited right-of-way and funding available.

For many of the existing major roads, access points to adjacent land were granted in the past that likely would not be given today, based on the access management guidelines recently adopted by the City. These existing access points could reduce the effectiveness of potential future access management treatments and constrain the capacity of the roadways. The City should look for opportunities to consolidate or eliminate unnecessary access points.

The railroad, which cuts diagonally through the area, limits the number of continuous roads in the City. Those roads that cross the railroad most often do so at-grade. As traffic volumes and the number of operating trains continue to grow, the at-grade crossings will become bottleneck points where traffic congestion could become quite severe. Grade separation may be needed in certain cases.

One of the obstacles to the expansion of the non-motorized trail system in the City is all of the potential railroad, principal arterial, and freeway crossings. The number of crossings should be minimized. Grade separation may be needed in certain cases.

5.3 Going Forward

The SATS assumed that the population of Casa Grande is expected to grow at approximately seven percent per year from 2005 to 2030. This high rate of growth presents the City with the opportunity to provide improved facilities for all modes of travel as the existing transportation network is expanded to reach new developments.

Many improvements have been proposed in the SATS for the City's roadway system, which are expected to improve mobility in and around the City. These include new surface streets, widening of existing streets, a new loop expressway/parkway, and the widening of the freeways. Several additional traffic interchanges have also been proposed on I-10 and I-8 which could provide better access to Casa Grande and can help distribute traffic in the City more evenly. For travelers that do not have origins or destinations in Casa Grande, the proposed loop expressway/parkway, along with the potential I-10 bypass under consideration, can provide alternative circulation routes around Casa Grande to minimize unnecessary traffic in the core

05 transportation

of the City. The long-range roadway and transit plans are shown on maps 5.2 & 5.3.

As arterial roadway improvements are made, the roadway cross-section and access management standards and guidelines presented in the City of Casa Grande Small Area Transportation Study and the Pinal County Regionally Significant Routes Study should be followed to ensure that pedestrians and bicyclists are accommodated and to promote safe, efficient traffic operations. Because there are capacity and right-of-way constraints on the proposed roadway network, especially along the I-10 corridor, local bus service and regional transit commuter bus and rail services should be promoted and funded if feasible.

The rail line that cuts across Casa Grande is one of the busiest interstate rail lines in the country, connecting the City with southern California to the west and ending in Texas to the east. The Union Pacific Railroad is in the process of double-tracking its existing rail line to increase capacity. This planned improvement provides opportunities for increased economic activity in the City associated with the railroad but also poses potential safety issues related to increased exposure at the at-grade railroad crossings. Grade-separated railroad crossings should be provided whenever possible.

In undeveloped areas, there is currently open space available for creating a trail system before development occurs. The City should look for opportunities to expand the trail system where feasible.

There is also the opportunity to expand the City's airport. Development is beginning to occur in the vicinity of the current municipal airport, and the City needs to take the necessary steps to protect the airspace around the airport from encroachment of incompatible land uses. The Airport Master Plan is being updated and the Airport is considering extending the existing runway to the west. This will change the runway protection zone areas and noise contours. New runway protection zones and noise contours will be developed as a part of the master plan effort by fall 2008. The plan calls for more than a 3,000 foot extension, but not a parallel runway. The updated Master Plan includes consideration of extending the current runway to the southwest and the potential of adding a new parallel runway.

The impact fee program, most recently updated in 2007, is a good way to require developers to more fully fund the transportation infrastructure improvements that pertain to their developments. Other ways to fund transportation improvements, such as public-private partnerships, should also be considered.





6.1 Facts

6.1.1 Environmental Data

6.1.2 Wildlife Species

6.1.3 Vehicular and Aviation Noise

6.1.4 Air Quality

6.1.5 Archaeology

6.1.6 Drainage and Hydrology

6.2 Challenges

6.3 Going Forward





6.1 Facts

Maintaining air and water quality as well as preserving natural resources are important aspects of the City's quality of life. The Casa Grande Planning Area covers a diverse geographic area which includes unique geography and natural areas.

6.1.1 Environmental Data

Climatic Data:

The City of Casa Grande experiences a range of temperatures throughout the year. The winter temperature averages from 35°F to 77°F and the summer temperature averages from 57°F to 106°F. The annual temperature average ranges from 53°F to 87°F for the high¹. The City of Casa Grande on average receives an inch or less of precipitation a month and the annual average for precipitation is 8.4 inches². However, the monsoon season can bring thunderstorms that result in moderate to high levels of precipitation causing flooding and severe erosion. The planning area rarely receives measurable amounts of snow, even in the higher mountainous areas.

Topography:

Elevations near Casa Grande range from approximately 1,200 feet to 1,800 feet above mean sea level (MSL)³. The topography ranges from flat desert floors to mountain peaks to rolling desert hills; although, the majority of the planning area consists of low topographic relief. The Planning Area has several mountain ranges within or just outside of its limits including the Casa Grande Mountains to the south. North of the planning area are the Sacaton Mountains, to the southeast are the Picacho Mountains, to the south are the Tat Momoli and Silver Reef Mountains and to the west are the Table Top Mountains. The variation of topography creates numerous ephemeral washes within the planning area. Drainage patterns within the planning area generally flow westward toward the Gila River. Figure 6.1 shows the topography of the City and with the exception of Casa Grande Mountains the City is relatively flat.

Geology:

Much of Casa Grande's desert's surface is composed of desert pavement (varnish), which is soil that is covered by a single layer of tightly packed pebbles, coated with a dark varnish. Desert pavement is the result of winds removing the dust and fine sand particles and leaving the pebbles in place. In the more arid parts of the planning area, there are areas with multiple layers of desert pavement. The numerous mountain ranges that are present within the planning area drain into the flat desert valleys creating alluvial plains that result in sedimentary deposits of granite, silt, and numerous ephemeral washes.

Soils:

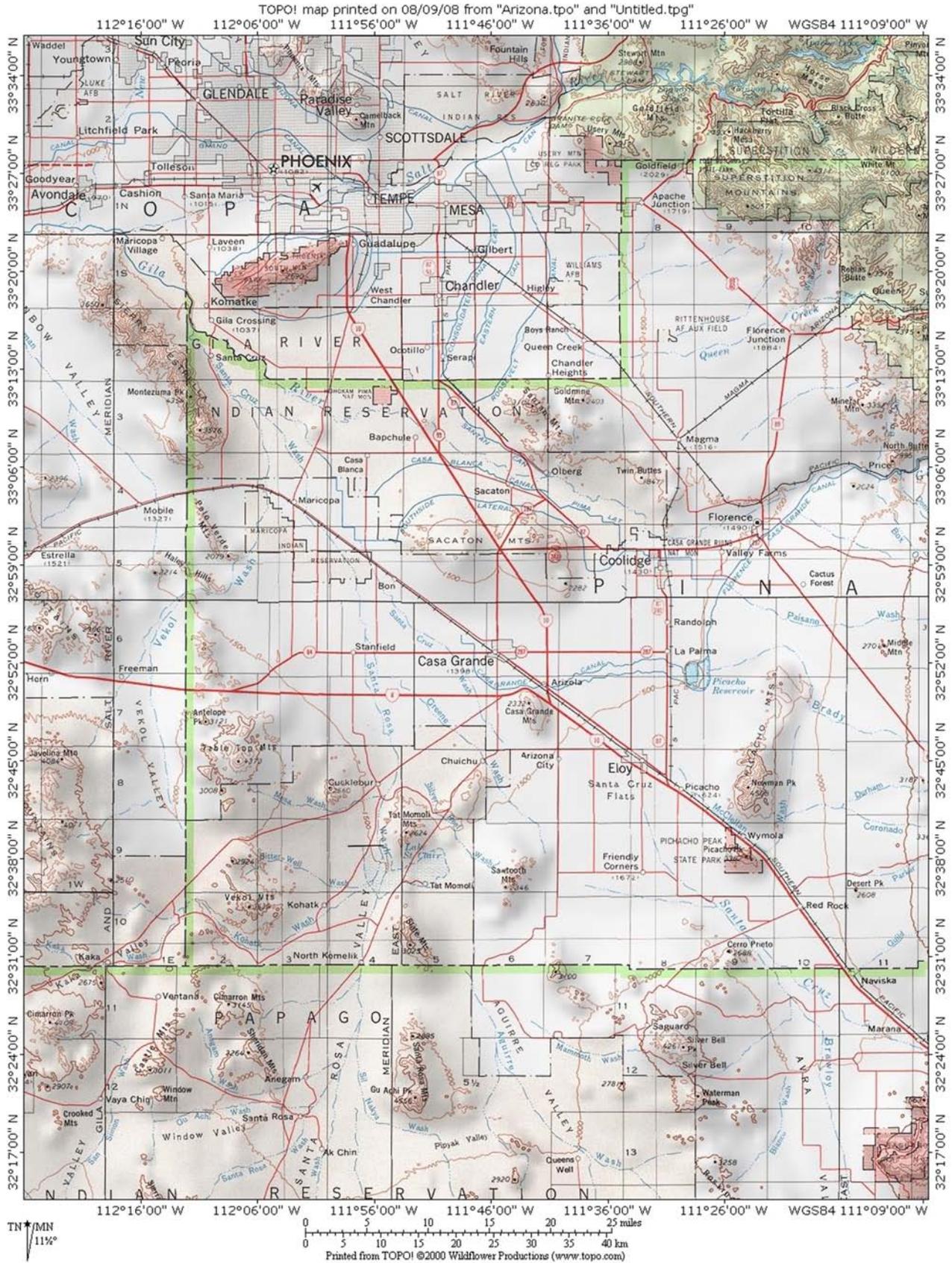
Casa Grande contains one of Arizona's richest agricultural areas and there are a wide range of soils present within the planning area. Some of the more common soils are: Casa Grande fine sandy

1 Weather Facts and Figures, <http://www.casagrandeaz.gov>.

2 Weather Facts and Figures, <http://www.casagrandeaz.gov>.

3 Arizona TOPO 2000 Version 2.5.3

Figure 6.1:
Topography



loam, Casa Grande clay loam, Mohall loam, Mohall clay loam, Trix clay loam, Vaiva-rock outcrop complex, Dups pits associations, and Denure sandy loam.

Casa Grande soils are described by the Soil Survey of Pinal County, Arizona, Western Part 1991 as:

Deep, well-drained soil found on relict basin floors. Typically, the surface layer is light brown fine sandy loam about 13 inches thick. Below to a depth of 60 inches or more is reddish brown and pinkish gray, calcareous sandy clay loam. Permeability is slow, water capacity is moderate, runoff is slow, soil blowing hazard is moderate, and the hazard of water erosion is slight. The Casa Grande soils are primarily used for irrigated crops; however, it's use is limited by the content of toxic salts, soil blowing, moderate water capacity, and slow permeability of the soil. This soil produces a fair amount of salt-tolerant desert shrubs. The potential native plant community is desert brush, salt adapted plants, and numerous winter and summer annual grasses and forbes.

Mohall loam soils are described as:

Deep well drained soils found on fan terraces and relict basin floors. The surface layer is typically light brown sandy loam about 16 inches thick. The subsoil is light brown sandy clay loam 27 inches thick. The substratum is pink sandy loam to a depth of 60 inches or more. Permeability is moderately slow, available water capacity is high, runoff is slow, the hazard of soil blowing is moderate, and the hazard of water erosion is slight. Mohall soils are primarily used for irrigated cropland, rangeland, and home site development. When used for irrigated crops the only limitation is soil blowing. The potential native plant community on this unit is desert shrubs and trees with an understory of perennial grasses.

Vegetation:

The interior of the planning area contains a mix of undeveloped areas, agricultural areas, and rural areas. The outer limits of the planning area are primarily undeveloped native desert. According to the *Biotic Communities Southwestern United States and Northern-western Mexico* (Brown 1994), there are two biotic communities within the planning area: Sonoran Desert Scrub - Lower Colorado subdivision (1,200' - 1,500' above MSL) and Sonoran Desert Scrub - Arizona Upland subdivision (1,500' - 1,750' above MSL). Native vegetation within these two biotic communities consists of diverse vegetation providing food and shelter for wildlife within the planning area.

The Lower Colorado River Subdivision has a combination of high temperatures and low precipitation, which makes it one of the driest areas in North America. The Arizona Upland subdivision often has the appearance of scrubland or low woodland species. Many of the species that occur in this series also occur in the Lower Colorado River Subdivision, although they are usually limited to washes or areas that receive significant precipitation.

Vegetation within the Lower Colorado River Subdivision and Arizona Upland division includes:

Ironwood (<i>Olneya tesota</i>)	Canyon ragweed (<i>Ambrosia ambrosioides</i>)
Desertbroom (<i>Baccharis sarothroides</i>)	Big Galleta (<i>Hilaria rigida</i>)
White bursage (<i>Ambrosia ambrosioides</i>)	Englemann hedgehog (<i>Echinocereus engelmannii</i>)
Brittlebush (<i>Encinila farinosa</i>)	Kunze cholla (<i>Opuntia stanlyi</i> var. <i>kunzei</i>)
Saltbush (<i>Atriplex canescens</i>)	Teddy bear cholla (<i>Opuntia bigelovii</i>)
Foothill paloverde (<i>Cercidium microphyllum</i>)	Cat-claw acacia (<i>Acacia greggii</i>)
Blue paloverde (<i>Cercidium floridum</i>)	Desert willow (<i>Chilopsis linearis</i>)
Western honey mesquite (<i>Prosopis glandulosa</i>)	Desert honeysuckle (<i>Anisacanthus thurberi</i>)
Smoketree (<i>Psoralea argophylla</i>)	Silver cholla (<i>Opuntia echinocarpa</i>)
Ocotillo (<i>Fouquieria splendens</i>)	Jojoba (<i>Simmondsia chinensis</i>)
Creosote (<i>Larrea tridentata</i>)	Desert agave (<i>Agave deserti</i>)
Diamond Cholla (<i>Opuntia ramosissima</i>)	Crucifixion thorn (<i>Canotia holacantha</i>)
Saguaro (<i>Carnegiea gigantea</i>)	Globe mallow (<i>Sphaeralcea coulteri</i>)
Fish-hook (<i>Mammillaria microcarpa</i>)	Staghorn cholla (<i>Opuntia versicolor</i>)

Source: Biotic Communities Southwestern United States and Northern-western Mexico (Brown 1994)

6.1.2 Wildlife Species

Wildlife:

The United States Fish and Wildlife Service (USFWS) lists 16 threatened, endangered, and candidate species as occurring within Pinal County (March 2008)¹. These species and a brief description are included in Table 6.1.



¹ U.S Fish & Wildlife Website: www.fws.gov/southwest/es/arizona/documents/countylist/pinal

Table 6.1:
Threatened, Endangered, and Candidate Species in Pinal County

Common Name	Scientific Name	*Status	Habitat
Arizona hedgehog	<i>Echinocereus triglochidiatus</i> var <i>arizonicus</i>	E	Ecotone areas between interior chaparral and madrean evergreen woodland, along open slopes, in narrow cracks between boulders and the understory of shrubs.
Bald eagle	<i>Haliaeetus leucocephalus</i>	T	Large trees or cliffs near water with abundant prey. Threatened status reinstated for Desert nesting bald eagle populations.
California brown pelican	<i>Pelecanus occidentalis californicus</i>	Proposed delisted	Coastal land and islands; found around many AZ lakes and rivers.
Desert pupfish	<i>Cyprinodon macularius</i>	E	Shallow springs, small streams, and marshes.
Gila chub	<i>Gila intermedia</i>	E	Pools springs cienegas, and streams.
Gila topminnow	<i>Poeciliopsis occidentalis occidentalis</i>	E	Small streams, springs, and cienegas, vegetated shallows.
Lesser long-nosed bat	<i>Leptonycteris curasoae yerbabuena</i>	E	Desert scrub habitat with agave and columnar cacti species present. Day roosts in caves and abandoned tunnels. Forages at night on nectar, pollen, and fruit of paniculate agaves and columnar cacti.
Loach minnow	<i>Tiaroga cobitis</i>	T	Small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrograph important.
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T	Nests in canyons and dense forests with multi-layered foliage structure. Generally found in older forests of mixed conifer or ponderosa pine/oak type canyons.
Nichol Turk's head cactus	<i>Echinocactus horizionthanlonius</i> var. <i>nicholii</i>	E	Sonoran Desertscrub, unshaded micro sites on dissected alluvial fans at the foot of limestone mountains and on inclined terraces and saddles on the limestone mountain sides.
Razorback sucker	<i>Xyrauchen texanus</i>	E	Riverine and lacustrine areas, generally not in fast moving water and may use backwaters
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.
Spikedace	<i>Meda fulgida</i>	T	Moderate to large perennial streams with gravel cobble substrates. Recurrent flooding and natural hydrograph important.
Yuma clapper rail	<i>Rallus longirostris yumanensis</i>	E	Fresh water and brackish marshes, associated with dense emergent riparian vegetation.
Acuna cactus	<i>Echinomastus erectocentrus</i> var <i>acunensis</i>	C	Well drained knolls, and gravel ridges in Sonoran Desertscrub.
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	C	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk). Higher priority listing actions prevent the USFWS from addressing the listing of the cuckoo at this time.

*E-endangered, T-threatened, C-candidate

The planning area supports a variety of wildlife species. Some of the more common species observed within the planning area include: coyote (*Canis latrans*), javelina (*Dicotyles tajacu*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus auduboni*), round-tail ground squirrel (*Spermophilus tereticaudus*), red-tailed hawk (*Buteo jamaicensis*), roadrunners (*Geococcyx californianus*), mourning dove (*Zenaida asiatica*) and Gambel's quail (*Lophortyx californicus*).

The Arizona Game and Fish Department (AGFD) website provides a list of sensitive species that are known to occur within each county in Arizona¹. The sensitive species list includes amphibians, birds, mammals, fish, reptiles, plants, critical habitat and other important biotic components, such as bat colonies. The sensitive species list covers species that are listed on the following agencies lists: USFWS Endangered Species Act (ESA), Bureau of Land Management (BLM) Sensitive Species, United States Forest Service (USFS) Sensitive Species, Navajo Nation Species, Arizona State Sensitive Species, and the Mexican Federal list. Within Pinal County there are 101 sensitive species listed and one sensitive area (bat foraging area). They are broken down into the following categories:

• 1 Bat Colony	• 9 Fish
• 1 Bat foraging area	• 17 Mammals
• 3 Amphibians	• 36 Plants
• 24 Birds	• 11 Reptiles

In the 2010 General Plan two species were listed by the AGFD as occurring within the planning area, the Great Plains narrow-mouth toad (*Gastrophryne olivacea*) and the Sonoran Desert toad (*Gopherus agassizii*). Both of these species are considered special status species, meaning that the species is or may be in jeopardy, or with known or perceived threats or population declines.

Additionally, two species were listed that occur in close proximity to the planning area. They were the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*) and the lesser long-nosed bat (*Leptonycteris yerbabuena*). The cactus ferruginous pygmy-owl was previously listed on the Endangered Species list but was removed in April of 2006, because it was not found to be a distinct species. The lesser long-nosed bat is currently listed as endangered under the Endangered Species Act.

In addition to the species listed in the 2010 General Plan, the AGFD was contacted to provide a list of sensitive species that may occur within the 2020 General Plan update planning area. These species are listed in Table 6.2.



1 <http://www.gf.state.az.us>

Table 6.2:
State Sensitive Species

Common Name	Scientific Name	*ESA	*BLM	*ST	Habitat
Western burrowing owl	Athene cunicularia hypugaea	SC	S		Found in open, well-drained grasslands, steppes, deserts, prairies, and agricultural lands, often associated with burrowing mammals. Sometimes in open areas such as vacant lots near human habitation, golf courses or airports.
Great plains narrow-mouthed toad	Gastrophryne olivacea			WSC	Found in mesquite semi-desert grassland to oak woodland, near the vicinity of streams, springs and rain pools. They are usually more terrestrial than aquatic. They can be found in deep, moist crevices or burrows, often with various rodents, and under large flat rocks, dead wood, and other debris near water.
Sonoran Desert tortoise (Sonoran Population)	Gopherus agassizii	SC		WSC	Found primarily on rocky slopes and bajadas of Mojave and Sonoran desertscrub. Caliche caves in incised, cut banks of washes (arroyos) are also used for shelter sites, especially in the Lower Colorado River Valley subdivision. Shelter sites are rarely found in shallow soils.
Western yellow bat	Lasiurus xanthinus			WSC	Habitat is not clearly understood; may be associated with Washington fan palm trees, other palms or other leafy vegetation such as sycamores, hackberries and cottonwoods which provide roost sites. Roost sites have been observed about 15 feet above the ground in a hackberry and sycamores. Woodland habitats, primarily palm tree groves, appear to play a substantial factor in determining the range of this species.
Thorner fishhook cactus	Mammillaria thornberi			SR	Found in sandy or loamy soils amongst small shrubs in Pinal and Pima Counties and into Mexico. Elevation ranges from 600 to 2,500 feet MSL.

It is important to realize that the data provided by the AGFD Heritage Data Management System (HDMS) is not intended to include potential distribution of special status species. Arizona is very large and diverse state with numerous plants, animals, and environmental conditions that are very fluid and ever changing. Therefore, many areas may contain species that biologists have not previously noted in that particular area or may be locally eliminated. Not all of Arizona has been surveyed for special status species and surveys that have been conducted have varied greatly in scope and intensity.

Wildlife Linkages:

To aid conservation and planning efforts, the AGFD in conjunction with Arizona Department of Transportation, and public and private sector organizations, identified Habitat Blocks, Fracture Zones, Potential Linkage Zones, and Riparian Habitat/Linkage Zones during a series of statewide workshops.

Habitat blocks are defined as areas of land that consist of important wildlife habitat and can reasonably be expected to remain wild for at least 50 years. Habitat blocks are primarily comprised of undeveloped lands within National Forests, National Parks, National Wildlife Refuges, large

military reservations, tribal lands and lands managed by BLM or Bureau of Reclamation. Additionally, private lands that are managed for conservation are included as habitat block areas.

Fracture zones are areas of reduced permeability between the habitat blocks. These regions are largely State Land, private holdings, and transportation corridors. These consist of roads, canals, urban areas, railroads, or border security operations which limit or prevent animal movement, or threaten to do so in the foreseeable future. Most of the identified fracture zones need significant restoration to function properly as a linkage. Although fracture zones do not provide suitable linkage areas, resource agencies and conservation groups should continue to protect and enhance washes, streams, and rivers as major wildlife corridors in all areas of the fracture zone, including culvert/bridge, and roadway improvements and fencing designs.

Potential Linkage Zones are identified as a portion or subset of the fracture zone or habitat block that is critical to wildlife movement. Threats must be managed if connectivity is to be maintained or restored. The potential linkage zones represent areas that are important to Arizona's wildlife and natural ecosystems. If integrated into regional planning frameworks, these areas have the potential to be maintained or preserved during this time of prosperity, growth and development.

Two wildlife linkages exist within ten miles of the Casa Grande Planning Area; Central Arizona Project Canal (Linkage 152) and Little Table Top - Vekol Mountains (Linkage 150) Figure 6.2.

Linkage 152 is approximately six miles east of Eleven Mile Corner Road and SR 84, which is the southeastern boundary of the Planning Area. Linkage 152 encompasses four counties, La Paz, Maricopa, Pima, and Pinal, crosses eleven different land ownership areas, and is approximately 712 square miles. Several biotic communities occur throughout Linkage 152 and include; Arizona upland Sonoran Desertscrub, Lower Colorado River Sonoran Desertscrub, and Semi-desert Grassland. There are 35 species identified within this linkage; however not all of these species will occur within the Planning Area. Some notable species within Linkage 152 that are likely to occur within the Planning Area include: Arizona chuckwalla (*Sauromalus ater*), bobcat (*Lynx rufus*) cactus ferruginous pygmy owl (*Glaucidium brasilianum cactorum*), great egret (*Ardea alba*), and Sonoran Desert tortoise (*Gopherus agassizii*).

Linkage 150 is approximately nine miles southwest of Battaglia Drive and Stanfield Road, which is the southwestern boundary of the Planning Area. Linkage 150 is approximately 15 square miles and 23 miles in length. This linkage is located in Pinal County and has only one biotic community associated with this linkage: the Arizonan Upland Sonoran Desertscrub. Land ownership of this linkage consists of BLM and Tribal Land (Tohono O'odham). There are 33 identified species within this linkage and some of the more significant species include: banded Gila monster (*Heloderma suspectum cinctum*), big horn sheep (*Ovis Canadensis*), javelina (*Tayassu tajacu*), kit fox (*Vulpes macrotis*), mountain lion (*Felis concolor*), Sonoran Desert tortoise (*Gopherus agassizii*), Sonoran pronghorn (*Antilocapra americana sonoriensis*), and western burrowing owl (*Athene cunicularia*).



6.1.3 Vehicular and Aviation Noise

The presence of noise generated by both vehicular and aviation sources are important to understand when planning the most appropriate land uses. Defining incompatible land uses around these facilities as well as implementing buffers between transportation uses and other land uses are important planning components.

The principle and major arterial roadway network generates the most common noise associated with urban and suburban living. Major roadways, indicating the most highly utilized roads within the Planning Area, are discussed in the Transportation and Circulation Section of this report.

The Casa Grande Municipal Airport is located approximately 3.5 miles south of I-10 on Pinal Avenue. The airport has a runway protection zone (RPZ) that is protected beyond airport property limits through aviation easements and agreements.

Noise conditions consisting of a low occurrence of turbine powered aircraft operations, and piston powered aircraft contributes to a small area of impact around the airport. The Federal Aviation Administration (FAA) has developed land use guidelines related to noise contour lines. The FAA indicates that land uses not suggested for noise levels greater than 65 decibel average day-night noise level are residences, schools, hospitals, and public assembly facilities. Commercial and industrial uses are generally not sensitive until levels are above 70 decibel average day-night level.

6.1.4 Air Quality

Air quality is a topic of concern for many counties in Arizona, including Pinal County. Pinal County is bordered by two counties (Maricopa and Pima) which currently have non-attainment areas for various pollutants. In particular, Maricopa County has had significant problems with Particulate Matter (PM) 10, which is primarily fugitive dust. Wind has the ability to blow pollutants across county boundaries; therefore, it is important to stay informed on bordering counties air issues and standards.

In addition to PM 10, the following air pollutants are monitored: PM 2.5 microns and smaller, Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone, and Sulfur Dioxide. Pinal County currently meets Environmental Protection Agency standards, (EPA).

According to the Pinal County Air Quality Control District, Pinal County operates air quality monitors that record ambient concentrations of several criteria pollutants, as discussed above. Areas in which monitored air quality shows that the National Ambient Air Quality Standards (NAAQS) are violated are defined as non-attainment areas for the offending pollutants. This typically requires an area-specific curative implementation plan, usually resulting in stricter air quality permitting regulations on industrial facilities, mobile source emission controls, and additional regulations on land development. The majority of Pinal County is classified as an attainment area for all pollutants. Here are three areas that are classified as non-attainment within Pinal County; they are Apache



Junction (PM10), an area east of Superior (Sulfur Dioxide & PM10), and an area around Mammoth, Oracle and San Manuel (Sulfur Dioxide).

If the Environmental Protection Agency (EPA) creates new non-attainment areas, Pinal County will be responsible for meeting the requirements of the Clean Air Act for air quality plans, transportation conformity, and new source review. Should this occur, additional ozone control measure may have to be implemented for Pinal County. Ozone control measures implemented in Maricopa County that have been effective in reducing Volatile Organic Compounds (VOC), include vapor recovery systems on gasoline pumps, reformulated fuels, controls on paint and solvents, and vehicle inspection and maintenance programs.

6.1.5 Archaeology

Casa Grande has a rich history and is dedicated to preserving its heritage. The Casa Grande Historical Society and Museum, located at 110 West Florence Boulevard, compiles and maintains records and information about rural southern Arizona in general and Casa Grande's past in particular.

An analysis of archaeological survey projects and previously recorded sites within the Casa Grande General Plan Study Area indicated that a total of 132 archaeological survey projects have been conducted within the Planning Area and 73 archaeological sites have been recorded. It should be noted that only a small percent of the total Planning Area has been intensively surveyed for archaeological resources. Most of the survey efforts to date have been completed as part of State and/or Federal agency undertakings that required compliance with historic preservation regulations.

6.1.6 Drainage and Hydrology

The major sources of flooding in the City of Casa Grande and vicinity are the North Branch Santa Cruz Wash, Santa Cruz Wash, Santa Cruz River, Greene Wash, and Santa Rosa Wash. Much of the flooding along the Santa Cruz River is due to the conveyance channel changing from a well defined channel to a wide, shallow alluvial floodplain. A levee system has been developed to control flooding problems along the river.

Construction of major infrastructure has contributed to erosion and sedimentation issues. The construction of the Arizona Southern Railroad, completed in September 1904 and operated until 1933, the Greene Canal and Reservoir used between 1909 and 1915, and the failure of the Greene Reservoir in 1910 have accelerated changes in the Santa Cruz Wash and other stream beds.

Several roadway crossings were damaged during flood events in 1993 and 2000. FEMA flood mitigation assistance was used for many of these locations. The approximate locations of the areas that received mitigation assistance in the study area are listed below.

- Montgomery Road
- Bianco Road
- Peters Road



- Selma Highway
- Russell Road
- Two locations along Hanna Road
- Two locations along Thornton Road
- Houser Road
- Battaglia Drive
- Two locations along Shedd Road

FEMA Floodplains:

The current Federal Emergency Management Agency, (FEMA) floodplains within the City of Casa Grande are shown in Map 6.1 as delineated by FEMA in December 2007. The floodplains are designated as Zone A - Approximate Study; Zone AE - Detailed Study; Zone AO - Ponding/Shallow Flooding, and Zone D - Undetermined. The zone typically with the higher flood insurance premiums is Zone A. Map 6.1 describes these floodplains.

Subsidence and Earth Fissures:

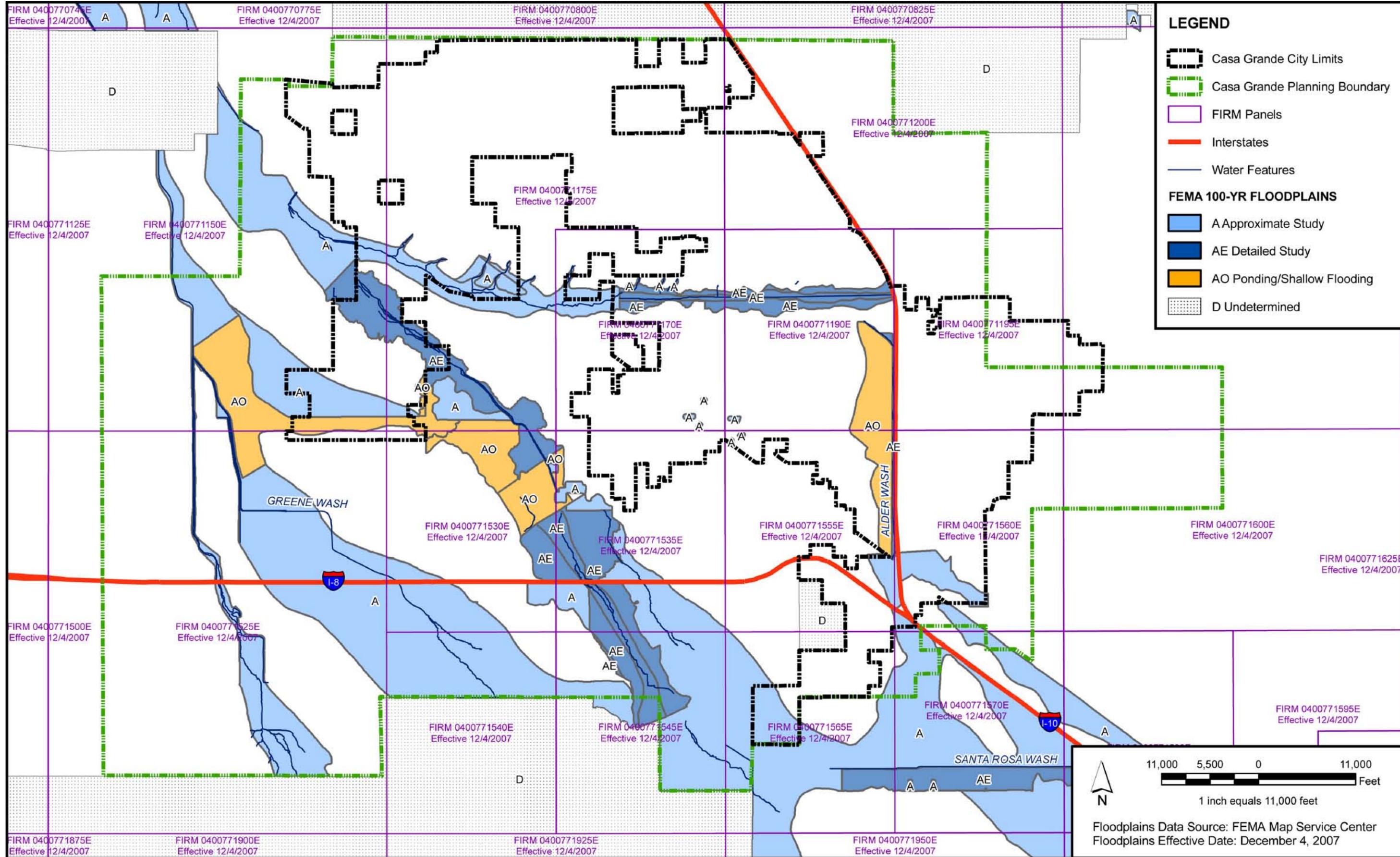
Subsidence, (a lowering of the earth's surface elevation), has been documented to occur throughout most of the Casa Grande - Eloy watershed. Subsidence is typically caused by extensive groundwater withdrawal. Decades of groundwater withdrawal, mostly for irrigation purposes, has resulted in groundwater level declines of over 350 feet in the upper aquifer near Picacho Peak and over 450 feet in the lower aquifer west of Eloy. It is also believed that drought conditions may have depleted the aquifer underlying the Casa Grande - Eloy watershed and contributed to the subsidence problems. Eloy, located to the east of Casa Grande, is noted as the "center of subsidence activity" in Arizona since it was where subsidence was first detected in the state. In 1985, over 15 feet of subsidence had been recorded in Eloy. Subsidence typically occurs as a circular depression around the areas of the greatest groundwater pumping. Map 6.2 displays the locations where subsidence and fissures have been noted.

The County recently entered into an intergovernmental agreement (IGA) with the Arizona Department of Water Resources (ADWR) to produce interferograms for Pinal County. Interferograms are a tool that can be used to measure subsidence using satellite data. Interferograms are ideal for detecting changes in surface elevation but cannot differentiate between natural subsidence and manmade disturbances (grading, plowing, building, etc). Therefore, it is better suited for undeveloped areas but can provide limited information along major roads and other areas that typically do not change.

Subsidence has serious impacts on drainage because it can change the slope of drainage channels, resulting in potential loss of conveyance and sediment deposition if the slope is reduced. Conversely, if the slope is increased, channel erosion may result. Subsidence can also impact the direction of drainage by redirecting the runoff to locations where these flows previously did not reach.

Another subsidence related impact is the generation of earth fissures. Earth fissures begin as tension cracks in the subsurface of the earth that increase and capture surface runoff, which in turn erode and widen the surface expression of the earth fissures. As fissures enlarge, fissures begin to appear on the surface as small pits and cracks. Eventually, the roof of the fissure will collapse, exposing the eroded cavity below. In general, when fissures are backfilled, the fissures become a potential drainage hazard because they tend to re-open and sometimes expand when the soil becomes saturated.





LEGEND

- Casa Grande City Limits
- Casa Grande Planning Boundary
- FIRM Panels
- Interstates
- Water Features

FEMA 100-YR FLOODPLAINS

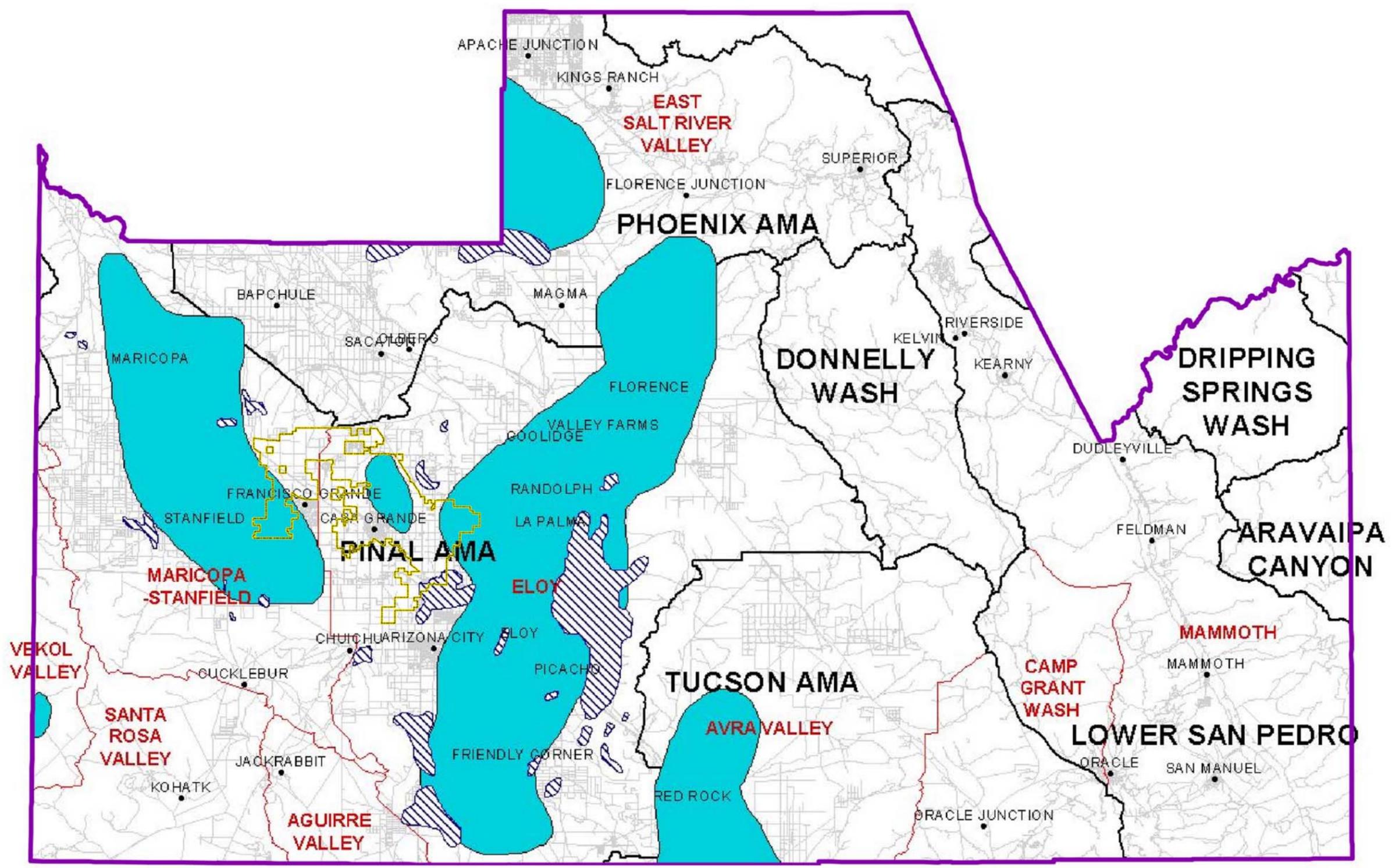
- A Approximate Study
- AE Detailed Study
- AO Ponding/Shallow Flooding
- D Undetermined

11,000 5,500 0 11,000
Feet

1 inch equals 11,000 feet

Floodplains Data Source: FEMA Map Service Center
Floodplains Effective Date: December 4, 2007

MAP 6.1
EXISTING FLOODPLAINS

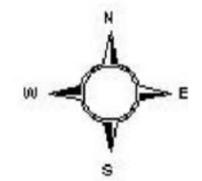


- Features**
- Groundwater Basins
 - Groundwater Subbasins
 - Fissure Zones
 - Subsidence Areas
 - Transportation
 - Incorporated City Limits
 - Planning Area Boundary



Source: 1. ADWR, Third Management Plans Pinal, Phoenix and Tucson AMA's
2. Arizona Geology, Fall 1999

10/11/2001



MAP 6.2
LAND SUBSIDENCE & EARTH FISSURES

September 2008



SOURCE:
This map was prepared using data provided by the FEMA Map Service Center.
Please contact the City of Casa Grande for more information on this map.

Based on groundwater decline, areas near Picacho Peak and west of Eloy are likely to have experienced the most subsidence in the Casa Grande - Eloy watershed. It is yet unclear what effect subsidence has had on the watershed drainage and how it may be impacted by future subsidence.

The earth fissures identified in the 2007 Pinal County, Arizona Earth Fissure Planning Map, by the Arizona Geological Survey as found in A Reconnaissance of Earth Fissures Near Stanfield, Maricopa, and Casa Grande, Western Pinal County, Arizona, 1995 prepared by the Arizona Geological Survey (AZGS) were entered into the Casa Grande - Eloy ADMP fissure hazards GIS feature class. These maps revealed several concentrations of fissures in the watershed. The area around Picacho Peak and the Picacho mountains has the greatest concentration of fissures, but a large concentration also exists near the western boundary of the watershed along the foothills of the Sawtooth Mountains and south of the Casa Grande Mountains. Several earth fissure areas exist in the Casa Grande-Eloy watershed including Toltec Buttes, Greene Wash, Friendly Corners, and Tator Hills. Figure 6.3 shows potential fissures in the Eloy-Casa Grande watershed. The Casa Grande - Eloy watershed aerial photography was also carefully reviewed for signs of earth fissures in the Pinal County study. Once the potential earth fissures were identified, a comparison was made to the AZGS data. In most cases, the aerial photo interpretation agrees with the AZGS data. Some of the AZGS data could not be verified from the aerial photography due to disturbance of the ground. The aerial photo interpretation also identified other potential fissures not included in the AZGS map. None of the potential earth fissures identified from aerial photography were field-verified, and it is possible that some of these features are not actual fissures. Further investigation outside the scope of this project is required to rule out or verify these features as earth fissures.

6.2 Challenges

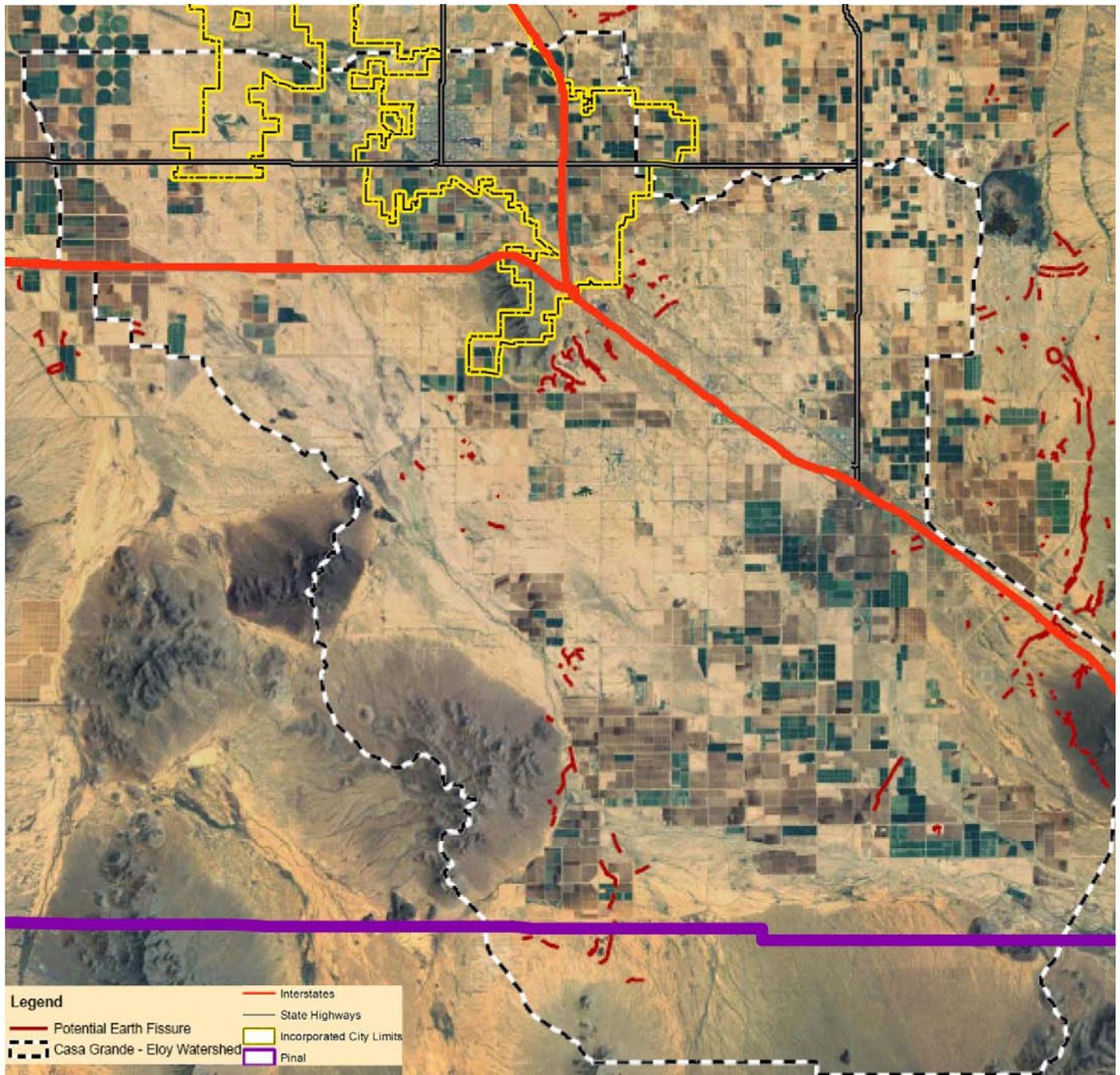
Natural Resources:

There are numerous drainages in the planning area that contain native riparian vegetation that should be preserved as much as possible. Although the Planning Area does not contain any identified major wildlife corridors (AZ Wildlife Linkage), there are several wildlife corridors identified within the greater Casa Grande area that are important. Consequently, careful consideration should be given to ensure that natural drainages within the planning area provide connectivity to these important wildlife areas and that they are maintained or enhanced as natural areas for wildlife movement.

Floodplains:

As land is developed in the Casa Grande planning area, careful attention needs to be given to drainage issues and constraints associated with developing in FEMA floodplains. The floodplains are extensive and shallow and present challenges for development. Many drainage constraints can be alleviated if the proper corrective drainage measures are designed and constructed in conjunction with land development and public works infrastructure projects. Diligent floodplain management and policies need to be promoted, implemented and enforced.

Figure 6.3:
Fissures in the Casa Grande-Eloy Watershed
Source: Pinal County, Casa Grande Area Drainage Master Plan (Draft)



Subsidence and Earth Fissures:

Groundwater as a source of water supply will continue to be developed in Casa Grande. Careful management of groundwater withdrawals may reduce the rate of land subsidence, which typically occurs due to the fact that as groundwater is removed, the soils become compressed and the ground continues to subside. Earth fissuring occurs as a result of the release of tension in the near surface materials.

Aviation Noise:

The Casa Grande Municipal Airport is a strong component to the growth of the City. Maintaining appropriate land uses within the vicinity of the airport will help ensure the viability of this transportation facility in the future. Future airport planning will need to take account of planned developments and where feasible, adjunct flight patterns to minimise the impact of noise.

Air Quality:

The majority of Pinal County is classified as an attainment area¹ for all products. Future transportation planning for the City should include multi-modal transportation options to promote alternative transportation options. In the future, the City of Casa Grande may also consider commuter services options along key corridors such as Interstate 10.

Wildlife Crossing:

Not all wildlife will cross all transportation facilities. Railroad, roadways and other transportation facilities can create a significant barrier to wildlife. Opportunities to provide enlarged drainage structures during roadway improvement projects or when new roadway projects are implemented for the use of animals as wildlife crossings should be explored.

6.3 Going Forward

Cultural Resources:

The City of Casa Grande has numerous historic and archaeological resources within the planning area. Future development will put pressure on the preservation of significant archaeological resources. These prehistoric archaeological resources must also be considered in land use & development planning of the more rural sectors of the Casa Grande planning area. Only a small fraction of the undeveloped land contained in the planning area has been surveyed for archaeological resources. State (Arizona Antiquities & Historic Preservation Act) and Federal (National Historic Preservation Act, and others) regulations outline the responsibility of State and Federal Agencies in regards to historic/archaeological resources that may be affected by their projects/activities. Many of the land development activities anticipated as part of Casa Grande's future growth will involve such State and Federal undertakings. Consequently, careful consideration should be given to ensure the accurate, complete and timely identification, evaluation and treatment of historic/archaeological resources.

Wildlife Linkages:

As development becomes more prevalent within the planning area, more detailed studies should

¹ An attainment area is a zone within which the level of a pollutant is considered to meet United States National Ambient Air Quality Standards. These standards are per pollutant, so it is possible for a zone to meet these standards for a certain substance and not for another.

be conducted to determine and mitigate the potential effects to wildlife linkages and wildlife, vegetation, habitat, and other environmental components within it.

Drainage:

Areas of potential drainage constraints within the study area were identified in the Pinal County Area Drainage Master Plan (ADMP). Potential constraints are summarized below.

Santa Rosa Canal:

Siphons under the Santa Rosa Canal have less conveyance capacity than the historic drainage paths, diverting runoff to the west. Access to the development in this area is cut off when flooding occurs.

Greene Wash:

Flooding occurs at the Midway Road crossing, north of Interstate 8. Greene Wash also causes flooding at the Russell Road and Peters Road intersection. Greene Wash is a major drainage concern for the City of Casa Grande.

Santa Cruz Wash:

Flooding occurs at the at-grade crossings of Peters Road and Bianco Road. Reinforced concrete sections are severely cracked.

Arizola Drain:

Two culverts convey stormwater across I-10 to the Arizola Drain. These culverts may not have sufficient capacity to convey runoff during large storms. Stormwater continues to one of the canals, where a spillway from the canal drains into a nearby ditch. The Arizola Drain does not have the capacity to convey all of the runoff generated by a 100-year storm, and the potential for flooding along its alignment is significant.

Peart Park:

Peart Park is located in a local depression on the south side of Highway 287 (Florence Boulevard) and east of Highway 387 (Pinal Avenue). The park drains via a large pump system. The system used to recirculate excess water; however, it now pumps runoff onto Highway 287 and continues northward along Highway 387, causing local drainage problems.

Casa Grande Avenue:

Casa Grande Avenue was constructed without a crown cross-section for draining the pavement toward the outside of the roadway. Stormwater runoff along Casa Grande Avenue has caused drainage problems in the vicinity.

Canal Infrastructure:

A concern of the irrigation districts is that the canal infrastructure has been counted on to provide stormwater storage and conveyance. The infrastructure does provide incidental storage and conveyance, but it was not designed to do so. The canal could fail at any time in unpredictable locations. Additionally, runoff ponds on the upstream side of canals and may cause unexpected flooding.



Localized Drainage Problems:

Near the north boundary of Casa Grande, tributaries of washes convey concentrated flow and are directed to several single-lot developments. Also near the northern boundary, a wash enters the ADOT drain on the west side of Highway 387 and floods surrounding areas currently outside the City Limits. On the south side of Highway 387, runoff ponds near the edge of the watershed. Flooding problems have occurred south of Earley Road between I-10 and Hacienda Road. Localized flooding has also occurred in the past near Eleven Mile Corner Road and Selma Highway.

Drainage Channel Levees:

It is unlikely that the levees along the Santa Rosa, Greene, and Santa Cruz Washes meet FEMA levee-certification criteria. Based on the 2007 FEMA levee policy, the existing floodplains may extend further than the limits currently shown on the FIRMs. This also means that the levees may fail unexpectedly or overtop during higher flow events. As the area develops, these channels are more likely to experience more frequent higher flows, and the potential for levee failures increases.

Greene Canal Diversion:

Green Canal provides a concentration of flows that may be responsible for some of the current erosion observed along Greene Canal and the Santa Cruz Wash. The conveyance capacity of Green Canal has also been increased by erosion, which results in more flows reaching Greene Wash.

Areas Downstream from Embankments:

Areas downstream from features that impound runoff may be subject to unexpected flooding if the feature is overtopped, fails, or is removed. Several levees, irrigation infrastructure, and other features were identified throughout the watershed that should be carefully considered.

Split and Sheet Flow Areas:

Almost the entire watershed is impacted by split flows originating from the Santa Cruz River, McClellan Wash, Greene Wash, Santa Rosa Wash, or other local streams. Wide, shallow sheet flow areas are also present along the Santa Cruz River floodplain and other flat areas. Special consideration must be given to these areas when evaluating drainage conditions.

Erosion and Sedimentation:

Significant erosion can be expected along larger watercourses such as the Santa Cruz Wash or other conveyances where runoff accumulates and flows. This erosion can undermine the integrity of the levees and other structures along the washes during large flow events.

Agricultural Areas:

When farmland is developed, the increase in runoff caused by the loss of incidental storage and runoff diversions provided by agricultural fields and infrastructure may not always be accounted for. Development typically addresses increase in flows associated with increase in impermeable surfaces. In the case of the Casa Grande agricultural area, increases in impervious area is not the only element contributing to increased runoff. In some areas, increased impervious area could be a minor component when compared to increases due to the elimination of incidental storage or irrigation field storage.

Interstate 8:

The Santa Cruz River is a wide swath of agricultural fields where it crosses Interstate 8, and future flooding could occur as the fields are converted to commercial and residential developments with higher, more concentrated flows. Most culverts along the Interstate appear to be free from sediment and debris. However, some culverts show signs of sedimentation that could eventually clog them. The culverts may also be undersized to handle flows from the Santa Cruz River that could become concentrated as development continues.

Maricopa-Casa Grande Highway:

The highway crosses the North Branch of the Santa Cruz Wash. The Pinal County study has designated the North Branch Santa Cruz Wash as a Category V flow hazard (100-year peak flows between 10,000 and 49,999 cubic feet per second, cfs). It appears that the 10 existing culverts may not be large enough to convey such a large magnitude of flows and roadway overtopping along with damage and local flooding should be expected. The problem is compounded by the sediment that has partially clogged several culverts at the crossing. Almost all culverts inventoried in the stretch between the watershed boundary and the transition to Jimmie Kerr Boulevard were found to be somewhat clogged with sediment.

State Route 287 (Florence Boulevard):

Agricultural fields flank both sides of the highway for almost its entire length. No functional drainage culverts were discovered that would allow runoff to cross the roadway. In the current state the lack of drainage crossings is not likely to cause any serious issues. However, as the agricultural areas are converted to residential and commercial developments, conveyance facilities will need to be considered. The most significant crossing along the highway is the crossing of the Arizola Drain, just west of the I-10 junction. As previously mentioned, flooding has occurred at this crossing and may be due to undersized and/or clogged culverts.

Highway 84 (Gila Bend Highway):

The Gila Bend Highway passes through the Santa Cruz River floodplain into the agricultural areas west of the City of Casa Grande. The highway crosses the Santa Cruz Wash channel via a bridge that appears to be in good condition. However, the channel banks are badly eroded near the bridge, which could indicate that erosion may be threatening the bridge integrity. West of the Santa Cruz Wash channel, three of the six culvert crossings identified were partially or completely clogged with sediment. East of the Santa Cruz Wash channel, runoff is channelized along the south side of the highway to a culvert crossing near Thornton Road. The facilities inventory revealed that these culverts are completely clogged. Significant storms could produce roadway overtopping and localized flooding at several locations along Highway 84.

State Route 387 (Pinal Avenue):

State Route 387 through the City of Casa Grande has no drainage crossings. Instead, runoff is channelized north along the roadway toward the North Branch of the Santa Cruz Wash. The roadway could be overtopped or damaged if these diversion channels are not maintained or if they lack the capacity to convey runoff that reaches the highway. An approximately 150 foot long bridge spans the North Branch of the Santa Cruz Wash. At the time of the Pinal County ADMP, the wash was showing some signs of degradation and bank scour near the bridge. This may indicate that erosion could be a threat to the bridge, especially during larger flow events.



7.1 Facts

7.1.1 Water

7.1.2 Challenges

7.1.3 Going Forward

7.2 Facts

7.2.1 Wastewater

7.2.2 Challenges

7.2.3 Going Forward





7.1 Facts

7.1.1 Water

Water in the City of Casa Grande is provided by private water companies. Arizona Water Company (AWC) provides water within the incorporated City limits and it is anticipated that Global Water/Palo Verde Utilities will provide service west of Montgomery Road. Private water companies are regulated by the Arizona Corporation Commission (ACC) which also regulates the water rates the private utilities can charge. Private utilities in the area primarily use groundwater to service customers and the amount of groundwater withdrawn is monitored and regulated by the Arizona Department of Water Resources (ADWR). Water Quality is monitored and regulated by the Arizona Department of Environmental Quality and the United State Environmental Protection Agency (USEPA).

Water availability, quality, and water rates are heavily regulated and restricted by each of the agencies mentioned above ensuring the residents of Casa Grande are provided a safe and continuous supply of water. The City of Casa Grande reviews water improvements for fire protection only, and provides verification that its residents are adequately protected from fire. Otherwise, each private utility reviews and approves plans related to proposed infrastructure within their service area.

The City of Casa Grande is located within the Pinal County Active Management Area (AMA) as shown in Figure 7.1. The Pinal AMA covers approximately 4,000 square miles in central Arizona. The topography consists of gently sloping alluvial basins separated by north to northwest trending fault-block mountains. Land surface elevations range from 1,000 to 4,000 feet above sea level.

The AMA consists of five sub-basins with unique groundwater underflow, storage, and surface water characteristics as shown in Figure 7.2. These sub-basins are: Maricopa-Stanfield, Eloy, Vekol Valley, Santa Rosa Valley, and Aguirre Valley. The boundaries of the sub-basins follow the highest elevation of topographic divides separating areas from where surface water runoff emanates. The boundaries that separate the Eloy and Maricopa-Stanfield sub-basins also signify the presence of groundwater divides that define the extent of groundwater underflow. Migration of groundwater underflow between these sub-basins is limited or non-existent.

Because private water companies are regulated by the Arizona Corporation Commission (ACC), any changes to the rate schedule must be first approved by the ACC. These rates, however, cannot be used for expansion and any expansion of private utility's system must be funded by the private utility and/or private development.

It is anticipated that Global Water/Palo Verde Utilities will provide service west of Montgomery Road adding another entity related to potential local water issues. The service areas for both AWC and Global are regulated by the ACC and to expand into new areas the water company must establish an area of Certificate of Convenience and Necessity (CC&N) with the AAC. Both of these companies have legally established CC&Ns in the area; however, any service area expansion will require further expansion to the CC&N.

water and 07 wastewater

Figure 7.1:
Pinal County Active Management Area
Source: Arizona Department of Water Resources

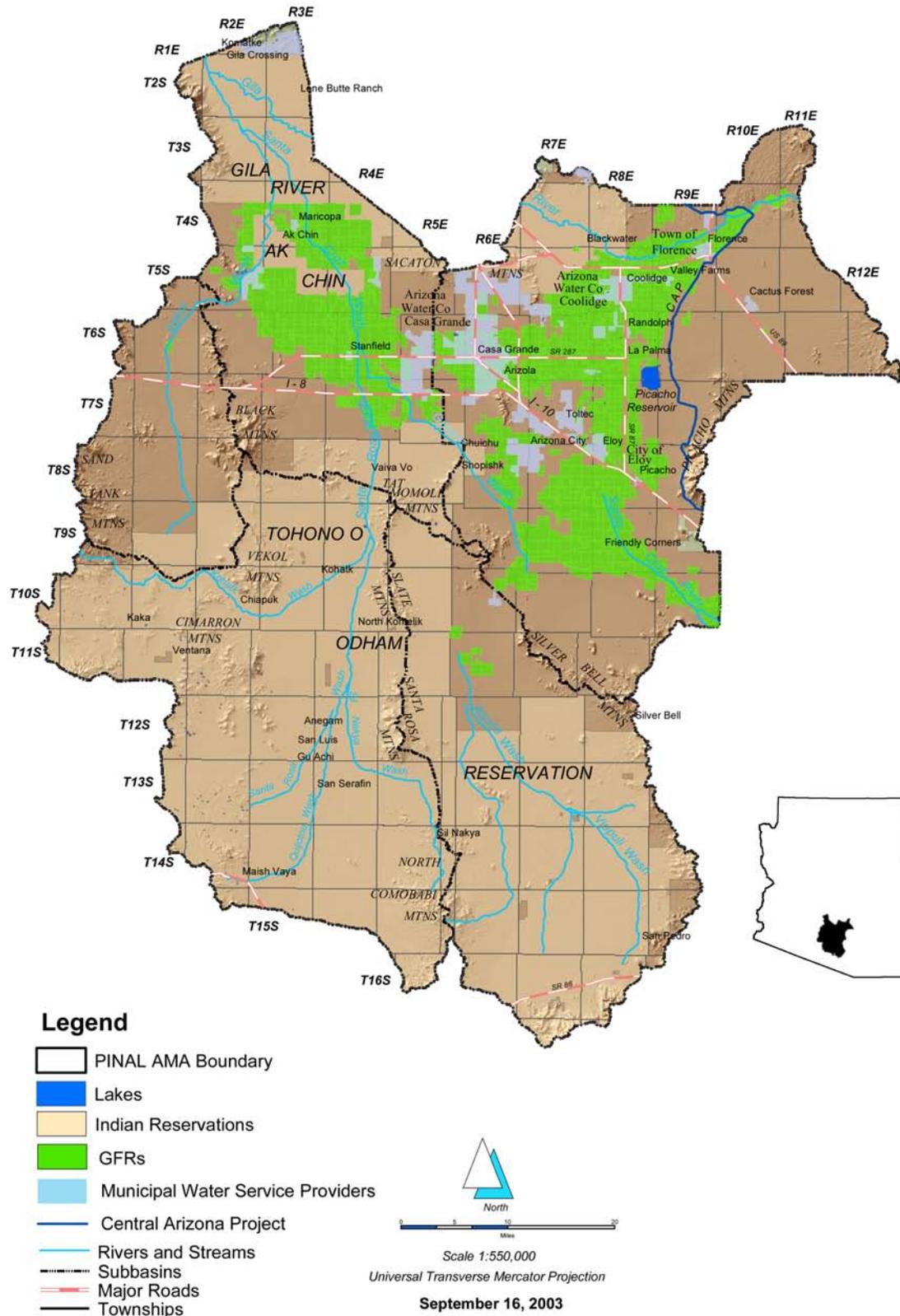
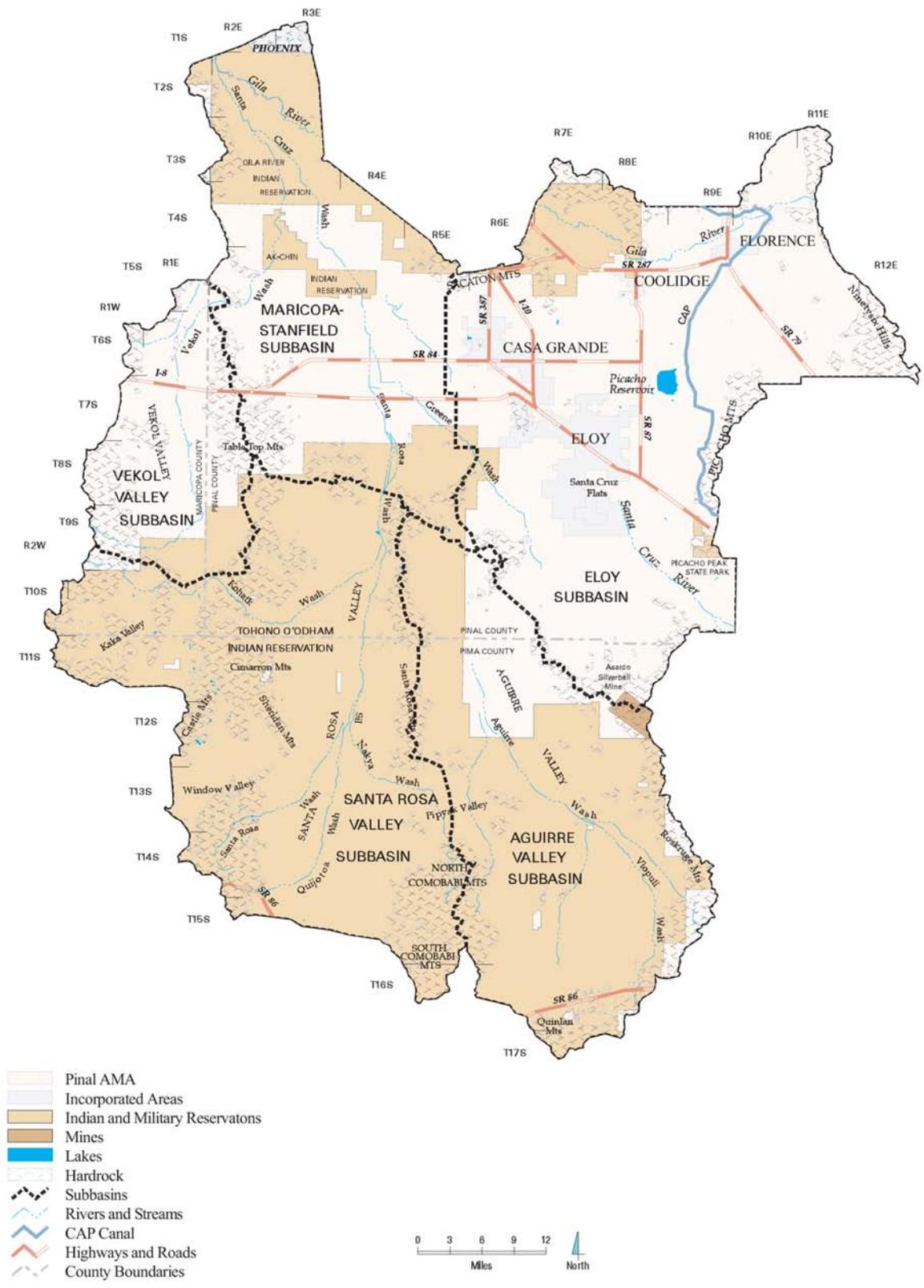


Figure 7.2:
 Pinal County Active Management Area Water Basins
 Source: Arizona Department of Water Resources



The Arizona Maximum Containment Level , (MCL) Drinking Water Standards for compounds commonly found in drinking water are as follows:

- Nitrate (NO₃) 10.0 mg/l
- Fluoride (F) 4.0 mg/l
- Total Dissolved Solids (TDS) 500 mg/l
- Chromium 0.10 mg/l
- Arsenic 0.010 mg/l

The standards for nitrate, fluoride, chromium and arsenic are considered primary drinking water standards enforceable by federal regulatory agencies. The standard for total dissolved solids is a secondary, nonenforceable guideline.

Nitrates in groundwater can be produced naturally at low levels, but higher concentrations are usually linked to industrial and agricultural sources. Fluoride is a naturally occurring element found in soil and groundwater. Concentrations of fluoride in groundwater vary significantly from region to region. High concentrations have been shown to provide health concerns where low concentrations may be added to water to aid the deterrence of tooth decay. Total Dissolved Solids, (TDS) is a measure of the inorganic compounds (i.e., calcium, sodium, chloride, etc.) in groundwater which provide a general indication of water quality. TDS above the secondary MCL is very common in Arizona and is typically not considered a health issue but an aesthetic issues affecting taste and odor resulting in complaints from service customers. Concentration of TDS greater than 700 TDS typically means that the water has a salty taste. Chromium is an essential dietary trace element in small concentrations. Exposure to concentrations of chromium greater than the MCL may result in reactions ranging from skin rashes to kidney failure. Arsenic as discussed above is also an essential trace element in human diets, however prolonged exposure to high concentrations may cause skin or lung cancer.

7.1.2 Challenges

The City has established good working relationships with the private water companies serving its residents. The addition of Global Water/Palo Verde Utilities to the area may provide a choice for the residents of Casa Grande. Opportunities to use Central Arizona Project (CAP) water for purposes other than agricultural uses exist and may be explored further in the future.

7.1.3 Going Forward

Private development typically pays for expansions to the water system as it requires. In the past expansions of the system have been developer-driven. This has presented problems when looking to get proposed lines oversized for future growth and development. Private development is often unwilling to pay the additional cost associated with oversizing water and sewer infrastructure to benefit the City's long-range planning efforts.



The physical availability of water is also a concern in this area. The Pinal County AMA has historically experienced a reduction in groundwater levels due to the pumping of water for municipal, agricultural and industrial uses. This is in part why the AMA was created; to restrict and limit groundwater withdrawn in the area to prevent excessive aquifer depletion and lowering the groundwater table. In recent years the area has seen some success with water restrictions and regulations and has seen some localized rebounding of the water table. However, the reliance on groundwater will continue to be an issue in the area. The use of the CAP water for potable use is a potential secondary water source but will require a very costly water treatment facility and would likely result in higher water rates for those residents.

Groundwater in the area will also need treatment in some instances. In 2006 the United States Environmental Protection Agency, (USEPA) changed the Maximum Contaminate Level (MCL) for Arsenic from 0.050 milligrams per liter (mg/l) to 0.010 mg/l. The new regulation impacts many wells in Arizona including those in Casa Grande. Arsenic is a naturally occurring semi-metal element present throughout much of the groundwater in Arizona. Wells sampled in 2007 for the AWC reported Arsenic levels ranging from non-detectable to 0.036 mg/l. Any wells with Arsenic levels greater than 0.010 mg/l are either not utilized, blended with other water sources or treated to remove the arsenic in order to deliver water that meets the required water quality standards.

The 2007 Annual Water Quality Report prepared by Arizona Water Company (AWC) stated that AWC water meets all state and federal safe drinking water standards. It is likely that some future wells constructed to provide potable water will encounter water quality issues and therefore need treatment of some kind. This may lead to higher water rates.

7.2 Facts

7.2.1 Wastewater

The City's wastewater collection system is roughly bound by I-10 to the east and the Maricopa Casa Grande Highway (MCGH) to the south and west and Kortsen Road on the north. This area has been defined as the City center. The collection system has begun to expand beyond the MCGH to the south, to the east of I-10, and to the north of the City's central core. It is anticipated that Global Water/Palo Verde Utilities will provide service west of Montgomery Road. The existing wastewater service area and planned expansion areas are shown on Map 7.1.

Currently the Casa Grande Wastewater Reclamation Facility (CGWRF) capacity is 6.0 million gallons per day (MGD), with a planned expansion to increase the capacity to 12.0 MGD. The existing 6.0 MGD capacity is anticipated to be exceeded in 2009. The design for a 6.0 MGD expansion has been completed with options to have an interim capacity of 9.0 MGD and City is currently evaluating the system to determine if the current expansion should be 3.0 MGD or 6.0 MGD. Construction of the next expansion is anticipated to begin in May 2008. This will bring the total capacity to either 9.0 MGD or 12.0 MGD. The projected full build-out of the facility is 50 MGD in 2050.

The expansion of the collection system is outlined within a Wastewater Feasibility Study, dated January 2007, and prepared by Carollo Engineers. This study includes locations of the existing and proposed sewer lines. Two major improvements are outlined in the study. One is a developer driven 24" gravity sewer line along Kortsen Road to provide an interim solution for the connection and service of a development east of 1-10. The design of this line began in late 2007. The City has participated in this design and has up-sized the line to 36" .

Concurrently, a second line from the CGWRF to Peters Road along the Burris Road alignment is being designed by the City. This line will service sewage flows from the industrial area near Peters Road.

An additional project of note outlined in the Carollo study will provide a long term solution for growth east of 1-10. This solution will carry sewage in a line along the North Branch of the Santa Cruz Wash.

The City has produced a Wastewater Feasibility Study that outlines the requirements for the wastewater system. This document outlines major infrastructure required to service future development including recommendations related to the expansion of the regional reclamation facility and sewer line connection to the eastern city collection system.

To allow for additional growth in an attempt to stay ahead of the development providing service for its residents, the City has begun design on major wastewater collection system expansions at the Casa Grande water reclamation facility.

7.2.2 Challenges

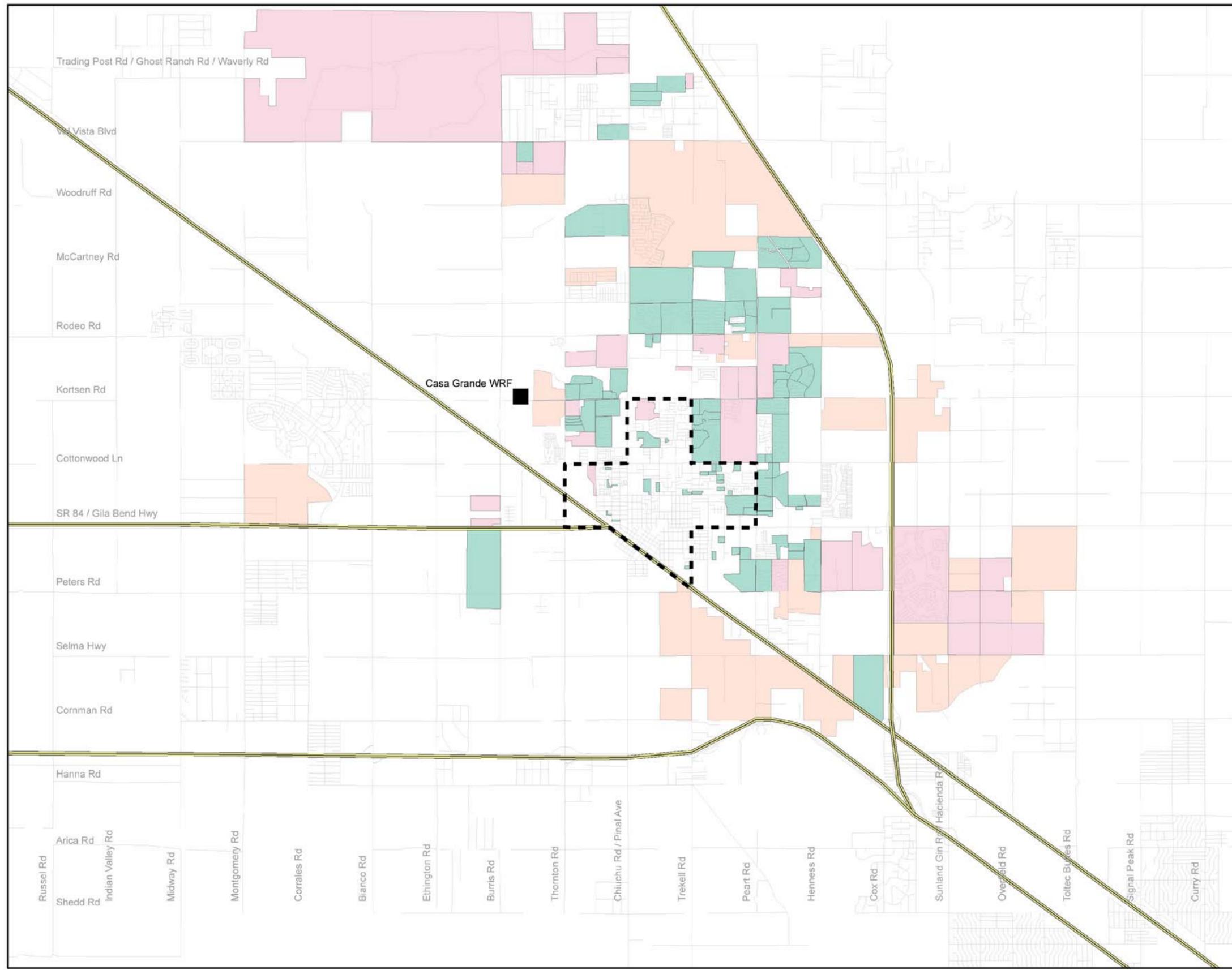
Reclaimed water is becoming increasingly valuable as a commodity. This water can be used for a variety of purposes. These uses include irrigation, industrial processes, and aquifer recharge. The City should plan and develop a system for reuse of reclaimed water as development continues to occur.

7.2.3 Going Forward

Like many of the cities in Arizona that have experienced tremendous growth in the last 10 years, expansion of the wastewater system in Casa Grande has been driven by development. This can present problems in getting lines oversized for future growth and development. In addition to developer resistance to provide full build-out sizing, a high growth rate in recent years has taxed the system. Without the planned treatment plant expansion capacity, the City is expected to reach maximum system capacity in 2009. With the slowdown in development, the City must be proactive in completing the planned expansions so that required infrastructure is in place and allow for future development to continue.

Since it is anticipated that Global Water/Palo Verde Utilities will provide service west of Montgomery Road, this will add another entity on wastewater issues and will relieve the City of control over sewer utilities within a portion of the City.





Legend

- 0 - 2 Years
- 2 - 5 Years
- 5+ Years
- Planning Boundary
- Existing City Core

- Notes:**
1. The Transportation layers are GIS data from ESRI Data & Maps (2004).
 2. The planning boundary and developments are based on information obtained from the City of Casa Grande and CAAG.
 3. This GIS map is a limited representation of facilities, intended for planning purposes only. It is not intended for construction or other purposes requiring greater positional accuracy.
 4. The dotted black line represents a general area served by the existing collection system.
 5. Timing for non-designated areas is not known at this time and is assume to be beyond the timeframe used in development of wastewater flow projections.

MAP 7.1
EXISTING SERVICE & PLANNED EXPANSION WASTEWATER AREAS

September 2008



SOURCE:
 This map was prepared using information from the City of Casa Grande Wastewater Master Plan conducted in 2006 and Feasibility Studies on the www.azpower.org website. Please contact the City of Casa Grande for more information on this map.





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General Plan 2020



City of Casa Grande



8-hour Ozone Standard:

On July 18, 1997, the United States Environmental Protection Agency (EPA) revised the National Ambient Air Quality Standard for ground-level ozone from 0.12 parts per million (ppm) 1-hour “peak” standard to 0.08 ppm 8-hour “average” standard. This new standard is commonly referred to as the 8-hour ozone standard.

ADOT:

Arizona Department of Transportation, the State of Arizona agency responsible for planning, engineering, improving and maintaining major transportation facilities, particularly highways.

AGFD:

Arizona Game and Fish Department is tasked with conserving, enhancing, and restoring Arizona's diverse wildlife resources and habitats through aggressive protection and management programs. It also provides wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment of, appreciation by, and use by present and future generations.

Annexed/Annexation:

The legal process by which a city incorporates a land area into its existing municipality with a resulting change in the boundaries of the annexing jurisdiction.

BLM:

The Bureau of Land Management (BLM) is an agency within the United States Department of the Interior which administers America's public lands, with a mission to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations.

Build-out:

When a jurisdiction's developable land is built.

Carbon Monoxide:

Carbon monoxide (CO) is a colorless, practically odorless, and tasteless gas or liquid. It results from incomplete oxidation of carbon in combustion. At lower levels of exposure, CO causes harmful health effects and the effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

CFS:

A cubic foot per second is a unit which is equivalent to a volume of 1 cubic foot of matter flowing every second. It is popularly used for pipeline transport rates, water flow in rivers, and for HVAC measurements of air flow.

City:

City with a capital “C” refers to the government or administration of the City of Casa Grande. City with a lower case “c” may mean any city.

City limits:

Area of land encompassed incorporated within the City's municipality and administration.



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Decibels:

A unit of measurement of the loudness or strength of a signal. One deciBel is considered the smallest difference in sound level that the human ear can discern.

DU/AC:

It is a measurement of density and is the number of dwelling units allowed or built per acre of land.

Employment Quotient:

Typically equals salary/turnover.

EPA:

Environmental Protection Agency, which is the US federal agency responsible for regulating environmental hazards.

Erode/Erosion:

Erosion is the carrying away or displacement of solids (sediment, soil, rock and other particles) usually by the agents of currents such as, wind, water, or ice by downward or down-slope movement in response to gravity or by living organisms (in the case of bioerosion).

ESA:

The Endangered Species Act provides a program to protect endangered and threatened plant and animal species and the habitats in which they are found from extinction as a "consequence of economic growth and development untended by adequate concern and conservation."

ESRI:

ESRI designs and develops the world's leading geographic information system (GIS) technology. GIS also has some access to data and information.

FAR:

Floor Area Ratio is the sum of the area of all floors of buildings or structures compared to the total area of the site or parcel on which the building lies. FAR is expressed as a percent or decimal.

FEMA:

Federal Emergency Management Agency, an independent agency of the United States government that provides a single point of accountability for all federal emergency preparedness and mitigation and response activities

Fissures:

A narrow opening or crack on the ground of considerable length and depth usually occurring from some breaking or parting. Typically, earth fissures are associated with basin subsidence that accompanies extensive ground water mining.

Floodplain:

The relatively flat area adjoining the channel of a watercourse, or areas where drainage is or may be restricted by natural or man-made structures, which may have been or may be covered partially or wholly by floodwater from a base flood.



Full Cash Value:

Full Cash Value (FCV) is used to compute secondary taxes, which may consist of bonds, budget overrides, and special districts such as fire, flood control, and other limited purpose districts. FCV is a reflection of the market value of your property and consists of land and improvements.

Historic Preservation Program:

Historic Preservation Program is an endeavor that seeks to protect, enhance, and/or preserve properties and areas of historic, cultural, archaeological and aesthetic significance history and heritage.

Incorporated Area:

Area of land within the planning area (as defined) that is not within the City limits.

Infill:

It is the development of vacant or underutilized land within areas that are already largely developed.

Limited Property Value:

Limited Property Value (LPV) is used to compute primary taxes for the maintenance and operation of school districts, cities, community college districts and counties. The LPV is calculated according to a statutory formula mandated by the Arizona State Legislature and cannot exceed Full Cash Value.

Master Planned Community:

A planned large scale development controlled by a single development entity. Typically, a Master Planned Community consists of a full range of residential and non-residential land uses and development densities and may also include open spaces, public services and facilities.

Maximum Contaminant Level:

Maximum Contaminant Levels are standards Environmental Protection Agency (EPA) for drinking water quality. A Maximum Contaminant Level (MCL) is the legal threshold limit on the amount of a hazardous substance that is allowed in drinking water under the Safe Drinking Water Act. The limit is usually expressed as a concentration in milligrams or micrograms per liter of water.

Median:

The middle value in a set of numbers arranged in increasing order. If there is an even number of values, then median is the average of the middle two values.

MGD:

Million gallons per day

mg/l:

Milligrams per litre

Mixed-use development:

Properties which allow for a mix of various residential and non-residential (office, commercial, etc.) uses to be combined in a single building or on a single site in an integrated development project with significant functional relationships, coherent architectural design and other components of the development.

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Multi-modal transportation:

A Multi-modal transportation is a system designed to provide for several transportation uses and users. Various options and modes of transportation including personal vehicles, mass transit, walking, bicycling are accommodated.

Overlay category:

A land use designation on a land use map or a Zoning designation on a Zoning Map that modifies the original designation in some specific manner.

Ozone:

Ozone is a gas composed of three atoms of oxygen. Ozone occurs both in the Earth's upper atmosphere and at ground level. Ozone can be good or bad, depending on where it is found.

Particulate Matter:

Particulates, alternatively referred to as particulate matter (PM) or fine particles, are tiny particles of solid or liquid suspended in a gas. The notation PM10 is used to describe particles of 10 micrometers or less and PM2.5 represents particles less than 2.5 micrometers.

Planning Area:

When capitalized with "P" and "A", it means the area of land within the City of Casa Grande's planning area excluding the City itself and when used in lower case with "p" and "a", it means the entire area of land encompassed within the City's planning area including the area of land within the City limits.

SATS:

The Casa Grande Small Area Transportation Study (SATS) was initiated by the City of Casa Grande in conjunction with the Arizona Department of Transportation (ADOT) to develop a comprehensive regional transportation plan for the City of Casa Grande.

Subsidence:

The settling or lowering of the surface of land which results from the withdrawal of groundwater.

Target Density:

Number of dwelling units to be planned per acre to achieve the desired density or target density.

TDS:

Total Dissolved Solids (TDS) is an expression for the combined content of all inorganic and organic substances contained in a liquid which are present in a molecular, ionized or micro-granular suspended form.

Unincorporated Area:

Area of land that is within the Planning Area (as defined) but is not within the City limits.

USFS:

The USDA Forest Service is an agency of the United States Department of Agriculture that administers the nation's national forests and national grasslands.





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