POLICY 5.8.2.2: Coordinate maintenance and creation of new facilities with the maintenance and construction of new road projects at the City or State level.

OBJECTIVE 5.8.3: Inform and educate the public about properly sharing the road.

POLICY 5.8.3.1: Reinforce pedestrian and cyclist safety issues at driver's education, defensive driving courses, school assemblies and community events.

POLICY 5.8.3.2: Give warnings to drivers who stop within the crosswalk at intersections in order to maintain clear pathways for pedestrians crossing the street.

ACTION STRATEGIES

Short Term (actions to be done as soon as possible)

- Teaching students safe biking skills and pedestrian safety skills is a key strategy in term of safety education. The city should provide useful information that can be distributed and taught at school by teachers or at home by families. The National Highway Traffic Safety Administration (NHTSA) requires each state enact traffic regulations and laws that contribute to the safety of pedestrian and bicyclists. There are some tips from Texas Department of Transportation for bicyclists and motorists in order to reduce bicycle injuries and fatalities on roadways. Information can be found at *http://www.dot.state.tx.us/safety/tips/pedestrians.htm*.

Medium Term (actions to take place over several years)

- Engage the public via civic meetings to increase public participation and awareness of community issues. For example, Arlington County, Virginia conducted Neighborhood Town Walks that allow residents to walk through the neighborhood and address their concerns to city officials and other residents. Gonzales could also adopt this model to engage the public, but they would need to work with the focus neighborhood to plan a walking route and to organize discussion themes as well as facilitate follow-up. Visit *http://www.arlingtonplace.us* for more information.

- The purpose of urban bikeway design standards is to provide the city with solutions that can help create complete streets that are safe and enjoyable for bicyclists. Table 5.14 illustrates the different types of bikeways that are proposed for the city to consider for future implementation. For more information about design guidelines, refer to the National Association of City Transportation Officials website (*http://nacto.org*).

PROGRAMS & FUNDING

- The National Complete Streets Coalition has been promoting the design and operation of roadways to provide safe, comfortable, and convenient access for all users, from motorists to bicyclists and pedestrians of all ages and abilities. There is not one standard for a complete street, but elements that may be included are sidewalks, bike lanes (or wide paved shoulders), frequent and safe crossing opportunities, median islands, accessible pedestrian signals, curb extensions, narrower travel lanes, and roundabouts. Almost 500 Complete Street policies are in place across the United States at all levels of government. Model Complete Streets policy language, directions for requesting a workshop, and more information is available at smartgrowthamerica.org/complete-streets.

- The Bicycle Friendly Community (BFC) Program is operated by the League of American Bicyclists. The program provides a roadmap to communities to improve conditions for bicycling and offers national recognition for communities that actively support bicycling. Information on applying to become a recognized Bicycle Friendly Community is at *http://www.bikeleague.org/programs/bicyclefriendlyamerica/communities/*.

- Walk Friendly Community (WFC) is a national program that helps to promote safe walking environments in cities. By applying for a Walk Friendly Community designation, Gonzales will receive specific suggestions and resources on how to make needed changes for pedestrian safety. Through the questions in the assessment tool, the areas of needed improvements can be identified, forming the framework for a comprehensive pedestrian improvement plan. Find further instructions at *http://www.walkfriendly.org/get_started.cfm*.

Truck, Air and Freight Mobility

There are several strengths within the city's transportation network including its minimal congestion. However, due to the current influx of workers associated with the oil industry, this strength could be threatened, hindering development. Currently the city is experiencing a trend of increased truck traffic along US 183, US 90 and FM 794 due to oil extraction. This problem will likely be compounded by the creation of I-69 to the south of the city and the expansion of the Panama Canal. In order for the city to keep its roads safe for residents and visitors, the following measures should be implemented.

GOAL 5.9: Improve the safety along truck routes for motorized and non-motorized transportation.

OBJECTIVE 5.9.1: By 2030, improve pavement conditions and signage along FM 794, US 183 and US 90-A.

POLICY 5.9.1.1: Conditions should be improved to "above average" or "best" with proper pavement marking and curb and gutter along truck routes.

POLICY 5.9.1.2: Proper signage should indicate truck routes as well as posted speeds within city limits.

OBJECTIVE 5.9.2: Reduce speed limits within city limits along these routes.

POLICY 5.9.2.1: Reduce speed limits from 55 mph to 40 mph along US 183 and US 90 and from 50 mph to 35 mph along FM 794.

OBJECTIVE 5.9.3: Increase signalization in order to deter increased speeds (potential sites include intersection of US 183 and St. Louis St., US 90 and FM 794 intersection and US 90 and St. Louis St. intersection).

POLICY 5.9.3.1: Conduct a traffic control study at these intersections to better understand the movement and speed of travelers.

OBJECTIVE 5.9.4: Require additional police officers along these routes to ensure safety and adherence of speed limits.

ACTION STRATEGIES

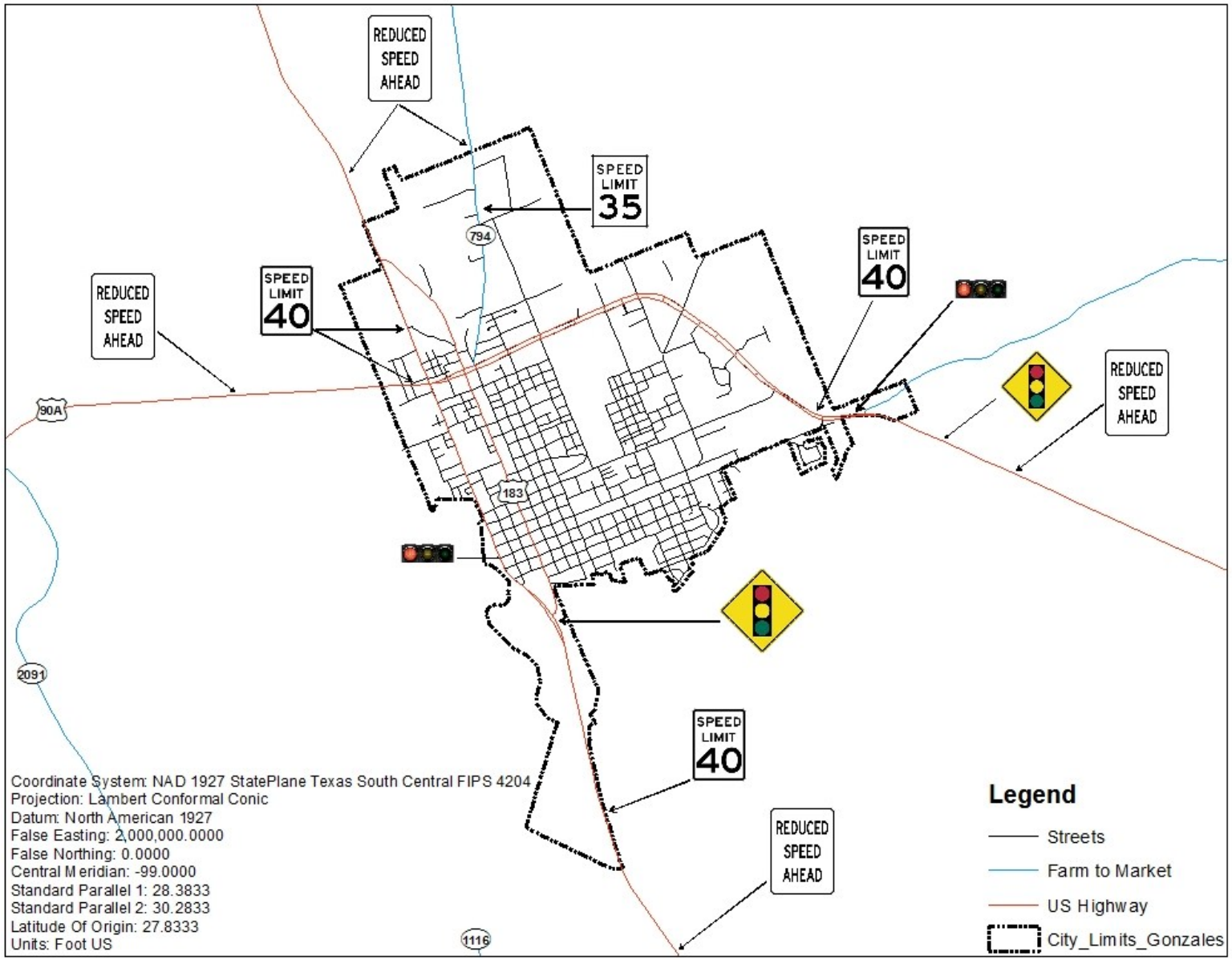
Short term (actions to be done as soon as possible)

- Change posted speed limits in city limits and install proper signs to indicate change. Map 5.14 indicates where such changes could be made.

Medium term (actions to take place over several years)

- Improve pavement conditions and markings along truck designated routes.

Map 5.14: Proposed additions to posted speed limits and signalized intersections



Long term (actions to take place over the next 10-20 years)

- Evaluate with the help of TxDOT whether intersection along US 90, US 183 and FM 794 qualify for traffic signals.

PROGRAMS/FUNDING

- The Highway Safety Improvement Program (HSIP) was established by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). This program allowed states to target funds to their critical safety needs. The HSIP requires states to develop and implement a Strategic Highway Safety Plan (SHSP). The purpose of the SHSP is to identify and analyze highway safety problems and opportunities, including projects or strategies to address them, and evaluate the accuracy of data and the priority of proposed improvements. The goal is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.

GOAL 5.10: Provide an additional safe route for heavy and hazardous vehicles passing through Gonzales.

OBJECTIVE 5.10.1: Gonzales should encourage the Texas Department of Transportation (TxDOT) to complete the proposed "South Loop" as shown in Map 5.15.

OBJECTIVE 5.10.2: If "South Loop" option is not fundable or realistic, evaluate whether Spur 146 (Saint Louis Street) could be another option.

POLICY 5.10.2.1: Create varying times in which truck traffic would be allowed along this street (before 6 am or after 7 pm).

POLICY 5.10.2.2: Perform a transportation study along this route to analyze how much truck/hazardous cargo operates along this route at specific times throughout the day.

ACTION STRATEGIES

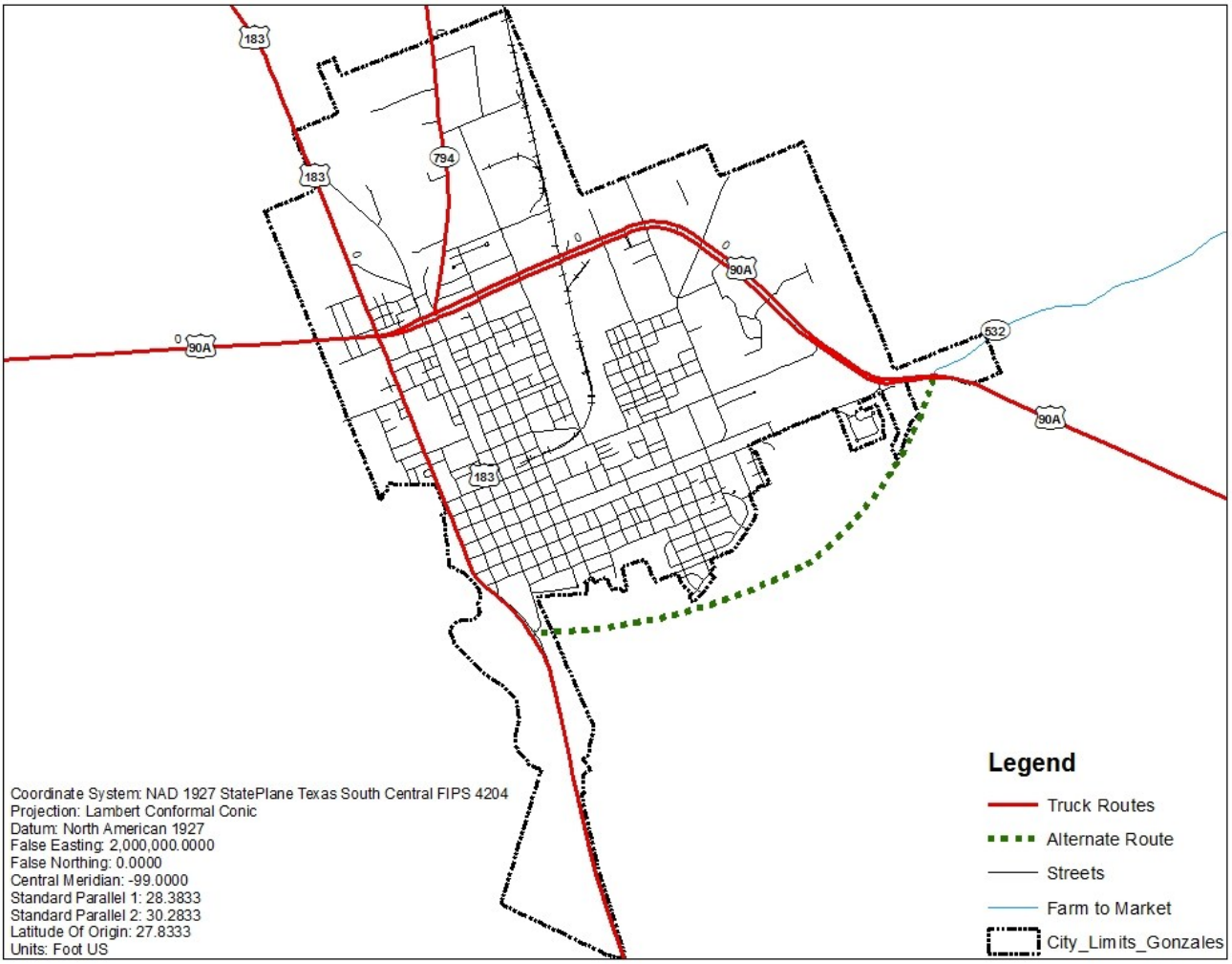
Short term (actions to be done as soon as possible)

- Perform a traffic impact analysis on the three roads for heavy truck traffic.

Medium term (actions to take place over several years)

- Determine whether "South Loop" is a viable option as an alternative route.

Map 5.15 A proposed "South Loop" allows truck traffic more direct access to Hwy 183



GOAL 5.11 Provide a safe and adequate airport that could accommodate future growth within the city and county.

OBJECTIVE 5.11.1: Expand airport to offer more business opportunities

POLICY 5.11.1.1: Increase the market area for the airport to surrounding cities by offering incentives such as tax breaks and providing advantages to being located at the airport.

OBJECTIVE 5.11.2: Increase hangar space to allow more aircrafts to be parked at facility

POLICY 5.11.2.1: Conduct a study to determine how much extra capacity would be needed if future expansion of airport occurred

OBJECTIVE 5.11.3: Increase runway and fuel storage capacity to allow for heavier aircraft to utilize runway.

POLICY 5.11.3.1: Coordinate with the Federal Aviation Administration (FAA) and TxDOT to determine proper size and length of runway to accommodate larger planes

ACTION STRATEGIES

Short term (actions to be done as soon as possible)

- Work with various agencies, including the Texas A&M Transportation Institute (TTI) and Texas Department of Transportation (TxDOT), to implement an airport development plan

Medium term (actions to take place over several years)

- After completion of renewal of airport development, offer incentives to entice businesses to operate out of Roger M. Dreyer Airport
- Create a marketing strategy to attract airplane operators to use the runway/taxi space instead of flying to nearby airports
    - Offer flying lessons and certificates that operate out of the airport
    - Offer transit services to/from airport
    - Provide hotel/housing incentives for those who stay in Gonzales

PROGRAMS/FUNDING

- The Hangar Program is a federal program operated through the 2010 Texas Airport System Plan (TASP). If all airside needs are met, an airport sponsor may pursue 80 percent grant funding for the construction of hangars if access pavement is included or 75 percent funding if pavement is in place. The sponsor must provide justification in the form of contracts, lease agreements, and show location of the hangar on the latest approved Airport Layout Plan (ALP), a copy of the airport's hangar lease and rate structure, and adopted airport minimum standards. The only funding available for the hangar construction projects are Non-Primary Entitlements.

- The Routine Airport Maintenance Program (RAMP) allows communities that do not have access to necessary resources to perform needed services. The initial RAMP program began in 1996 throughout five TxDOT districts and has expanded to allow all publicly owned/operated airports, including non-hub primary commercial service airports, in the TASP to participate in the current

program maximum of $50,000 in state funds per airport per year. Services have been expanded to include other items such as airport lighting and maintenance, airport entrance road construction, pilot lounges, environmental compliance and AWOS maintenance. Airport sponsors are now able to use the program for almost any item that will enhance and increase the functionality of the airport.

- The TxDOT Aviation Division Airport Terminal Grant Program provides 50 percent matching funds up to $500,000 to sponsors of eligible publicly owned airports for construction of new terminal buildings or remodeling existing terminal buildings, as well as up to $100,000 in matching funds for appropriate vehicle parking and entrance roads. To be eligible for consideration for a terminal grant, an airport must have a full time airport manager on site and aviation fuel available for sale to the general flying public. Number of based aircraft, transient traffic and sponsor commitment to the airport also contribute to grant eligibility.

Table 5.15: Transportation policy table

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.1.1.1	Develop catalog of road capacity and monitoring system	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.1.2.1	Promote efficient system management for congested roadways and intersections	Public Works, City Staff	Mid-Range: 3-5 years	X			X			
5.1.3.1	Make improvements to enhance the safety (i.e. adding left-turn lanes, appropriately-spaced traffic signals and "daylighting" of intersections)	Public Works, City Staff	Mid-Range: 3-5 years		X			X		
5.1.3.2	Improve pedestrian linkages between residential, commercial, and community facilities.	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.1.3.3	Develop guidelines for the use of street lighting along major streets.	Public Works, City Staff	Short Term: 1-3 years	X				X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.1.4.1	Identify environmentally sensitive areas, and avoid construction of roadways in such areas.	Public Works, City Staff , City Council	Short Term: 1-3 years	X		X				
5.1.4.2	Encourage programs that preserve sensitive environments (i.e. the Green Highways' low impact development approach).	Public Works &Parks and Recreation, City Staff	Mid-Range: 3-5 years		X				X	
5.2.1.1	Determine and attain the Level of Service (LOS) for the street system	Public Works, City Staff	Short Term: 1-3 years	X				X		
5.2.1.2	Identify major traffic generators/attractors.	Public Works, City Staff	Short Term: 1-3 years	X				X		
5.2.2.1	Establish appropriate guidelines for access management.	Public Works, City Staff	Short Term: 1-3 years	X				X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.2.3.1	Define location and configuration of street furniture, sidewalk width, terrace sizes, etc	Public Works, City Staff	Mid-Range: 3-5 years	X			X	X		
5.2.3.2	Decrease space being allocated to vehicles and increase the space for use by pedestrians and bicyclists in the downtown area.	Public Works, Main Street Administrator, City Staff	Long Term: 5-10 years	X			X	X		
5.2.4.1	Improve local and collector street connectivity to complement major streets.	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.2.4.2	Prepare street design standards for future development	Public Works, City Staff	Short Term: 1-3 years	X				X		
5.2.4.3	Consider the inclusion of alternative transportation options in future developments.	Public Works, City Staff City Council	Mid-Range: 3-5 years	X			X	X		X

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education &
5.3.1.1	Provide visible, legible, and understandable signs and pavement markings.	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.3.1.2	Develop design standards for streetscape improvements	Public Works, City Staff	Short Term: 1-3 years	X				X		
5.3.1.3	Enhance sidewalk facilities through connections with a full bike/pedestrian system.	Public Works, City Staff	Mid-Range: 3-5 years	X			X			
5.3.2.1	Develop a catalog of street maintenance within GIS.	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.4.1.1	Integrate a cost benefit analysis process into transportation investment and construction.	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.4.1.2	Establish a Traffic Impact Analysis procedure when any transportation construction begins to launch.	Public Works, City Staff	Short Term: 1-3 years	X				X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.4.2.1	Encourage transportation development that facilitates tourism and downtown businesses.	Public Works & Finance & Main Street Administrator, City staff	Short Term: 1-3 years	X	X				X	X
5.4.2.2	Implement transportation projects that contribute to the city's quality of life through recreational, historical or cultural ameni-	Public Works & Parks and Recreation, City Staff	Mid-Range: 3-5 years	X			X		X	
5.4.2.3	Discuss transportation issues and project recommendations	Public Works, City Staff	Short Term: 1-3 years	X				X		
5.4.2.4	Review the existing city, county and state level planning	Public Works, City Staff	Short Term: 1-3 years	X			X			
5.4.2.5	Develop technical tools, such as transportation demand modeling and a more thorough GIS data-base	Public Works, City Staff	Mid-Range: 3-5 years	X				X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education &
5.4.2.6	Identify and evaluate alternative transportation improvement options	Public Works, City Staff	Mid-Range: 3-5 years	X				X		X
5.4.2.7	Monitor system performance and consistently maintain roadways	Public Works, City Staff	Long Term: 5-10 years	X				X		
5.4.2.8	Coordinate transportation projects and programs and public/private investments	Public Works, City Staff	Long Term: 5-10 years	X						X
5.5.1.1	Amend parking ordinance to require 50% shade ratio	City Council, City staff,	Short Term: 1-3 years	N/A	N/A	X				
5.5.1.2	Amend parking ordinance to allow permeable parking surfaces	City Council, City staff	Short Term: 1-3 years	N/A	N/A	X				
5.5.2	Install wayfinding system in downtown	Public Works, Main Street administrator, Parks and Rec	Mid-Range: 3-5 years	X	X		X			X
5.6.1.1	Refrain from paving additional lots in downtown	Public Works	Ongoing	N/A	N/A			X	X	

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.6.2.1	Promote neighborhood-based multimodal programs	City staff	Ongoing	N/A	N/A			X		X
5.6.2.2	Support bicycling and walking programs in downtown	City staff	Ongoing	X	X			X		X
5.7.1.1	Form a Walking and Bicycling Advisory Council	City Council, City Staff	Mid-range: 3-5 years	X		X				
5.7.1.1	Develop a Walking and Bicycling Master Plan	Public Works, City Staff	Short Term: 1-3 years	X	X		X			
5.7.2.1	Develop sidewalk design guidelines	City Staff	Mid-range: 3-5 years	X				X		
5.7.4.1	Develop traffic calming guidelines for streets around schools	City Staff	Mid-range 3-5 years	X	X			X		
5.7.4.2	Develop traffic signal control strategies around schools	City Staff	Mid-range: 3-5 years	X	X			X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.8.1.1	Develop urban design standards for roadways	City Staff	Mid-range: 3-5 years	X				X		
5.8.1.2	Promote neighborhood- based multimodal strategies	Public Works, City Staff	Mid-range: 3-5 years	X				X		
5.8.3.1	Reinforce pedestrian and cyclist safety	Public Works, City Staff	Short Term: 1-3 years	X				X		X
5.9.1.1	Improve roadway conditions	Public Works, City Staff	Mid-Range: 3-5 years	X				X		
5.9.1.2	Proper signage along truck routes	Public Works, City Staff	Short Term: 1-3 years	X	X			X		
5.9.2	Reduce speed limits within city limits	City Council, City Staff, Mayor	Short Term : 1-3 years	X		X		X		
5.9.3	Increase signalization to deter speeds	City Council, City Staff	Long Term: 5-10 years	X	X		X	X		
5.10.1	Determine alternative routes for truck traffic	City Staff, Mayor	Mid-Range: 3-5 years	X			X			

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
5.11.1	Expand airport to offer more business opportunities	City Staff	Short Term: 1-3 years	X	X		X	X		
5.11.2.1	Conduct a study with TTI and TxDOT for expansion	City Staff, Mayor	Short Term: 1-3 years	X	X		X			

Appendix

Gonzales Annual Average Daily Traffic (AADT)

Street	From	To	2007	2008	2009	2010	2011	% Chg	2017	2022	2027
FM 183	Co. Road 97	St. Joseph	9,000	8,000	8,600	8,100	13,700	**52%**	20,854	31,745	48,323
FM 532	Sara Dewitt Dr. (90)	City Limit	1,500	1,550	1,600	1,650	2,700	**80%**	4,860	8,748	15,746
FM 794	Sara Dewitt Dr. (90)	Stieren Rd	2,400	2,200	2,300	2,600	3,000	**25%**	3,750	4,688	5,859
FM 794	Stieren Rd	City Limit	1,800	1,550	1,400	2,100	2,400	**33%**	3,200	4,267	5,689
Road 131	Sara Dewitt Dr. (90)	Waelder Rd (97)	1,150	1,050	1,050	1,200	1,300	**13%**	1,470	1,661	1,878
Sara Dewitt Dr. (90)	Water Street	Guadalupe River	4,600	4,200	3,800	4,300	3,500	**-24%**	2,663	2,026	1,542
Sara Dewitt Dr. (90)	St. Joseph	Road 131	16,200	15,400	13,200	14,600	16,400	**1%**	16,602	16,807	17,015
Sara Dewitt Dr. (90)	Road 131	Waelder Rd (97)	11,000	9,900		8,800	10,200	**-7%**	9,458	8,770	8,132
Sara Dewitt Dr. (90)	Waelder Rd (97)	St. Louis	5,900	4,900	5,400	5,800	6,700	**14%**	7,608	8,640	9,812
Sara Dewitt Dr. (90)	St. Louis	FM 532	7,000	6,500	5,800	6,300	7,400	**6%**	7,823	8,270	8,742
St. Joseph	Sara Dewitt Dr. (90)	Co. Road 150	3,500	3,400		2,900	2,900	**-17%**	2,403	1,991	1,650
St. Joseph	Co. Road 150	Water Street	2,300	1,950	2,000	2,100	2,100	**-9%**	1,917	1,751	1,598
St. Joseph	FM 183	St. Louis	7,000	5,580		5,600	6,000	**-14%**	5,143	4,408	3,778
St. Joseph	St. Louis	St. Andrews	7,200	5,900	5,600	5,600	6,600	**-8%**	6,050	5,546	5,084
St. Louis	Water Street	St. Joseph	2,300	2,100			2,400	**4%**	2,504	2,613	2,727
St. Louis	St. Joseph	Moore St.	3,600	3,500	3,800	3,800	3,400	**-6%**	3,211	3,033	2,864

Gonzales AADT) (continued)

Street	From	To	2007	2008	2009	2010	2011	% Chg	2017	2022	2027
St. Louis	Moore St.	St. Lawrence	3,200	2,900	3,100	3,200	3,000	**-6%**	2,813	2,637	2,472
St. Louis	St. Lawrence	Sara Dewitt Dr. (90)	1,950	1,850	1,850	2,000	2,000	**3%**	2,051	2,104	2,158
Waelder Rd. (97)	Sara Dewitt Dr. (90)	Road 131	3,300	2,800	3,100	3,600	3,300	**0%**	3,300	3,300	3,300
Water Street	St. Joseph	St. Louis	7,000	6,100	6,500	6,100	10,600	**51%**	16,051	24,306	36,807
Water Street	St. Louis	Sara Dewitt Dr. (90)	9,300	8,500		8,600	8,600	**-8%**	7,953	7,354	6,801
Water Street	Sara Dewitt Dr. (90)	Co. Road 150	5,200	5,000	4,900	4,800	4,800	**-8%**	4,431	4,090	3,775
Water Street	Co. Road 150	N St. Joseph	4,600	4,300	4,400	4,100	4,100	**-11%**	3,654	3,257	2,903
Water Street	N St. Joseph	Co. Road 241	5,500	6,000	6,300	6,400	6,400	**16%**	7,447	8,666	10,084
Total			**126,500**	**115,130**	**84,700**	**114,250**	**133,500**	**6%**	**140,887**	**148,683**	**156,911**

Community Facilities

Introduction

Community facilities are necessary to maintain the health, safety and general welfare of the city. These factors can be measured by looking at both the accessibility of these facilities and their availability of use by its citizens. Strong facilities can draw in not only multiple industries to the community but also residents looking for a high quality lifestyle. They can also promote an active lifestyle, offer high quality health services, and provide for numerous educational opportunities.

The city of Gonzales has a lot to offer with respect to its community facilities. Gonzales offers numerous parks for residents who enjoy an active lifestyle, several fire and police stations, and a large hospital. Other primary facilities include the municipal government buildings, airport, police services, and schools. Some of these services may not be under the municipal government's authority but were included in this report because they affect the city.

Municipal Government

Gonzales has many departments located within the municipal government. These include police, fire, public works/utilities (streets, electric utilities, and water and wastewater management), economic development and finance, and library personnel.

The municipal government has many amenities to offer its employees and citizens. However, with the projected influx of people due to the energy industry boom, the buildings may have to be expanded. The municipal buildings of Gonzales are listed below along with their addresses:

- City Hall/Municipal Court: 820 St. Joseph Street
- County Office/Justice of the Peace: 414 N. Saint Joseph Street
- County Commissioner: 126 Cone Street
- Library: 415 St. Matthew Street
- Police Department: 716 St. Paul Street
- Fire Department: 411 St. Lawrence Street
- Public Works: 1916 N. Street Joseph Street

Police Services

The Gonzales Police Department has 17 officers and six other employees. The department also has 12 police cars. In 2010, the number of officers per 1,000 residents was 2.01, which is just below the Texas average of 2.20. Compared to Texas in property crime index in 2010, Gonzales was lower by 2.34%. For violent crime in 2010 compared to Texas, Gonzales was considerably higher by 146.71%.

Except for 2002, Gonzales has had a higher crime rate than the U.S. average every year since 2001. Table 6.1 is a breakdown of the crime statistics by year in Gonzales:

Figure 6.1: Community Facilities Land Use Map

Table 6.1: Crime Occurrence in Gonzales, Texas

Crime in Gonzales by Year										
Type	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Murders	0	1	0	1	0	0	0	0	0	0
Rapes	3	6	1	2	4	8	8	4	5	6
Robberies	3	4	6	3	5	11	8	11	5	7
Assaults	63	35	70	76	68	86	95	88	87	70
Burglaries	55	43	41	53	54	186	118	94	76	66
Thefts	112	81	218	286	286	270	225	177	24	207
Auto Thefts	6	4	8	2	1	1	4	1	8	3
Arson	1	0	1	0	1	5	1	0	0	0

Source: Information provided by City-Data.com

Overall, since 2006 there has been a steady decrease in the amount of crime throughout the city. The crime statistics from 2012 are expected to follow this pattern and continue to decline. Most notably the number of property crimes has decreased dramatically. In 2006, burglaries were at an 11-year high totaling 186 for the year. Also in 2006, thefts were at an all-time high totaling 270 incidents. In 2011, those numbers have dramatically decreased to 66 and 207 respectively. According to the Police Chief there has been a slight increase in assaults as well as alcohol-related crimes. Other notable crimes within the city included domestic violence and drug-related incidents. Also, an important police and EMS issue is traffic accidents. Transportation infrastructure and an increase in police and fire services will be necessary once the population begins to increase due to the energy boom. (See the chapter on Transportation for more information.) The City Manager is currently working to get more officers hired, which should help with this increase in population.

Fire Services

The Gonzales Fire Department was founded on March 6, 1884. Currently, they have seven paid full-time firefighters and 35 volunteer firemen.

All firefighters are Emergency Medical Technician (EMT-B) certified as required by law. They do not perform stand-alone EMS services; Gonzales County EMS handles all medical calls.

Library Services

The library is located at 415 Saint Matthew St. and overseen by the Library Director. There is a collection of over 35,000 books. Also located in the library are newspapers, DVDs, audio books, and microfilm census records. Businesses or organizations can also rent a multimedia projector. One program sponsored by the Gonzales Public Library is a summer reading program, which is held annually for area children and young readers.

Parks and Recreation

Gonzales is unique in that it has large amounts of public spaces and park land available to the community. The Parks and Recreation Department oversees five city parks, a nine-hole golf course, three square parks, two cemeteries, and the Gonzales Memorial Museum. The Parks and Recreation Department recently hired a new director for the department who has 20 years of experience in Parks and Recreation and almost 10 years of service at his previous city. A list of the main parks and recreation centers are given below:

Independence Park: These facilities include four covered pavilions, one nine-hole golf course (described below), three little-league baseball fields, one basketball court, a four-field softball/ baseball quadraplex, one six-court volleyball complex, one 21-site R.V. park, and a 2.35 mile hike and bike trail. The park is broken down into two sections. The lower portion is known as the “brickyard”. It includes a pavilion, playground, picnic tables, BBQ pits, restrooms, a hike and bike trail, and scenic views of the Guadalupe River. The upper section includes the main rodeo arena and show barn. Also in the lower section are ball fields, a playground, two pavilions, swimming pool (described below), volleyball and basketball courts, picnic tables, BBQ pits, and restrooms.

Gonzales Municipal Swimming Pool: This pool is open from Memorial Day weekend to August. Pool hours are noon-6 p.m., Tuesday through Sunday. Swim lessons are offered to all ages throughout the summer.

Independence Golf Course: This facility is located on 22 acres along the Guadalupe River. This golf course is located within Independence Park and is the nine-hole golf course.

J.B. Wells, Jr. Park: This is a 169-acre park with a covered pavilion, multi-purpose show barn, covered arena, practice arena, a hike and bike trail, and 392 RV hook-ups. Numerous events are offered free-of-charge throughout the year. The park also hosts three youth rodeo finals including the Texas Junior

Table 6.2: Parks and Recreation Facility Checklist in Gonzales, Texas

	City Parks				Golf Course		Other	
	Independence Park	Lions Park	JB Wells Park	Kerr Creek Park	Independence Golf Course	Kerr Creek Disc Golf	Municipal Pool	Gonzales City Park
Baseball Fields	✓							
Basketball Goals	✓				?		?	
BBQ Pits	✓					?		
Disc Golf	?	✓				✓		
Driving Range				?	✓			
Golf Holes	✓			?	✓			
Pavilion	✓			✓		?		
Recreation Space	?							✓
Picnic Tables	✓				?	?		?
Playground Areas	✓						?	
Restrooms	✓	?	?			?		
Show Barn	?	?	?	✓		?		
Soccer Field	✓	?	?					
Softball Fields	✓							
Swimming Pools	✓				?		✓	
Trail	✓							?
Volleyball	✓				?			

High Rodeo State Finals. Other events hosted at the park include numerous cutting horse events, team ropings, 4-H play days, junior high and high school rodeos, mule and donkey show, stock shows, cattle sales, and goat sales. The city is hoping to expand and increase its rodeo events and will attempt to draw in some of the premier events in the future.

Kerr Creek Park: This is home to an 18-hole disc golf course and the historic Oak Forest Bridge. The Oak Forest Bridge was originally developed in 1913 over the Guadalupe River but has since been relocated as a pedestrian bridge over Kerr Creek. There are numerous summer youth programs that occur here for children of all ages.

Educational Facilities

The city of Gonzales is a part of the Gonzales Independent School District (ISD) and is considered a 3A school district. There are six schools under the ISD's jurisdiction, with an enrollment of approximately 2,800 students. According to the school superintendent, 400 new students have entered the school system in the last two years.

Table 6.3: Public School Enrollment Numbers

Type	# of Schools	Enrollment	Student/Teachers Ratio
Elementary	3	1,352	16 to 1
Middle/Jr High	1	668	14 to 1
Senior High	1	657	13 to 1
Private	1	70	17 to 1

Information provided by City-Data.com

The names and addresses for the city's six schools are listed below:

Public Elementary/Middle Schools:

- Gonzales Elementary: 1600 St. Andrew Street
- Gonzales East Avenue Primary: 1615 St. Louis Street
- Gonzales Junior High School: 426 N. College Street
- Gonzales North Avenue Intermediate: 1032 St. Joseph Street

Public High Schools:

- Gonzales High School: 1801 N. Sarah Dewitt Drive

Private Elementary/Middle School:

- Emmanuel Christian School: 1817 St. Lawrence Street

There are also numerous universities and colleges within the surrounding area. They include Austin Community College, Alamo Community College, Blinn College at Brenham, Blinn Jr. College at Schulenburg, Prairie View A&M University, Southwest Texas State University, Southwestern University, Texas Lutheran University, Trinity University, University of Texas at Austin, University of Texas at San Antonio, Victoria Community College, and Wharton County Junior College.

A plan for the future is to develop a greater network for Victoria Community College within Gonzales. A great opportunity would be to develop a vocational school to develop skilled trades that could keep the young population in the city. One example would be a welding program, which would be a very sought-after trade as the energy boom continues.

Health Services

Gonzales health care systems are made up of several entities, but the core is Memorial Hospital. Memorial Hospital is a level 4 trauma center, non-profit, general acute-care facility built in 1978.

There are a total of 42 beds. Employment information is described in the table below:

Table 6.4: Employment Equivalents in Health and Human Services

Employment Full-Time Equivalent	
Licensed Practical Or Vocational Nurses	20.18
Registered Professional Nurses	19.5
Other Salaried Personnel	71.45
Certified Registered Nurse Anesthetists (CRNA)	1
Dieticians	1
Occupational Therapists	0.5
Physical Therapists	2
Respiratory Therapists	1
Speech Pathologists Or Audiologists	1
Medical Social Workers	1
Medical Laboratory Technologists	10.21
Nuclear Medicine Technicians	1
Diagnostic Radiology Technicians	7.81

Information provided by Hospital-Data.com

There are other health facilities located within Gonzales including two clinics, four dentists, ten doctors, 24 medical staff, two nursing homes (beds: 156), and one assisted living center.

Gonzales County EMS/Rescue division has three stations located within the county, with one of those stations located in the City of Gonzales. They are staffed full-time with advanced life support personnel. The Gonzales County EMS/Rescue has six ambulances, two rescue trucks, and two wheelchair vans, as well as a Swift Water Rescue Team.

The Emergency Medical Service is provided by six full-time paid personnel, along with 21 volunteers. Within the county there are three ambulances equipped with basic life support units and medical intensive care capabilities. The Gonzales EMS unit also is the designated training center for Gonzales County, which provides public education, C.P.R., and EMS training.

Strengths, Weaknesses, Opportunities, and Threats

Strengths

- They city has a lot of land devoted to parks.
- The existing parks/recreation facilities are well-equipped with facilities for rodeos and other public events.
- The city has a large hospital and great network with the County EMS to provide support.
- The teacher-to-student ratio is lower than the national average for each type of education facility (Based on requirements by the Texas Education Agency).

Weaknesses

- There is a lack of connectivity within the park system and among streets, including bike and pedestrian lanes.
- The city's crime rate has been high than the U.S. average since 2001.
- The rate of violent crime in the city compared to the state is considerably higher.
- There has been an increase in assaults and alcohol-related crimes.

Opportunities

- More rodeos could be brought into the great park system.
- The city could bring in a technical school or expand the Victoria Community College to decrease its reliance on such facilities in surrounding areas.
- More way finding signage could be constructed for the park system.

Threats

- A large influx of people is expected to come to the city as a result of the energy boom, and the existing community facility infrastructure may not be enough to handle this.
- The young adult population is leaving due to other opportunities outside the city, especially for college or for working in technical or oil and gas work.
- The city does not have very many beds in the hospital. The number of beds in the nursing homes is more than triple the total in the hospital.

Sources

City Data. (2012). "Gonzales, Texas".
City of Gonzales Texas. (2012). "Departments".
City Rating. (2012). "Gonzales Crime Rate Report (Texas)".
Hospital Data. (2012). "Memorial Hospital – Gonzales, TX".
Texas Home Locator. (2012). "Gonzales County Texas Public Schools".

Future Community Facilities

The future Community Facilities section of the comprehensive plan builds off the findings in the 2012 State of the Community Report and creates a vision for steps to be taken in the future to enhance these facilities in Gonzales. These facilities include public utility systems for water and electricity, schools and public centers, parks and event areas, and police and fire services. The vision for improving these emphasis areas is laid out through a series of goals, objectives, and policies to be carried out by Gonzales and its stakeholders.

These goals involve many different aspects of community facilities but all with the intent of making Gonzales a better place to live and visit. If carried out along with the goals from other elements of the comprehensive plan, they can make Gonzales more than another Texas town and help it become a true jewel of the state.

Community Facilities Goals, Objectives, and Policies

The first goal is to upgrade water treatment facilities up to state standards. This will be carried out through a series of planned improvement projects for standpipes, gravity filters, and water wells. Other possibilities include looking at the way wastewater and graywater is treated as well as performing an inventory of pipe condition.

GOAL 6.1: Bring water treatment facilities up to state standards.

OBJECTIVE 6.1.1: Upgrade the existing city standpipe.

POLICY 6.1.1.1: Target completion of standpipe upgrade by 2014.

OBJECTIVE 6.1.2: Install new gravity filters at the city water plant.

POLICY 6.1.2.1: Have gravity filters in use at water plant by 2015.

OBJECTIVE 6.1.3: Upgrade the water well at Highway 97.

POLICY 6.1.3.1: Have Highway 97 well in full operation by 2014.

OBJECTIVE 6.1.4: Expand capacity for wastewater treatment in the future.

Figure 6.2: Water plant in Gonzales, Texas

Source: http://www.cityofgonzales.org/images/hydroelectricplant.jpg

OBJECTIVE 6.1.5: Improve purple pipes and graywater treatment.

OBJECTIVE 6.1.6: Create list of pipes with age and condition information in order to prioritize needed improvements.

The electrical grid in Gonzales is also due for an upgrade in several places. Through collaboration with the Gonzales GVEC to identify strengths and weaknesses in the system, the city can find methods for funding, phasing, and pursing alternative energy sources.

GOAL 6.2: Upgrade the electrical grid.

OBJECTIVE 6.2.1: Work with the current power provider (GVEC) to identify strengths and weaknesses in the current system.

OBJECTIVE 6.2.2: Research potential funding strategies for updating the electrical grid.

POLICY 6.2.2.1: Start a coalition of both city officials, community stakeholders, GVEC, and Gonzales County to research funding possibilities and potential investors for better electrical infrastructure.

Figure 6.3: Solar panels atop a library roof in Euclid, Ohio

Source: http://www.news-herald.com/content/articles/2011/11/03/news/doc4eb2942c1aa9a229873335.jpg

POLICY 6.2.2.2: Develop a Capital Improvement Plan (CIP) for funding and installing new infrastructure.

OBJECTIVE 6.2.3: Encourage the funding and retrofitting of existing buildings with alternative energy sources such as wind and solar power.

POLICY 6.2.3.1: Apply for state and federal grant programs as funding opportunities become available.

OBJECTIVE 6.2.4: Increase the number of street lights needed in yearly phases.

POLICY 6.2.4.1: Identify different geographic and/or district areas in Gonzales which currently lack adequate street lighting. Refer to Map 5.6 (p. 149) within the Transportation section of the SOC for an inventory of street lighting as of 2012.

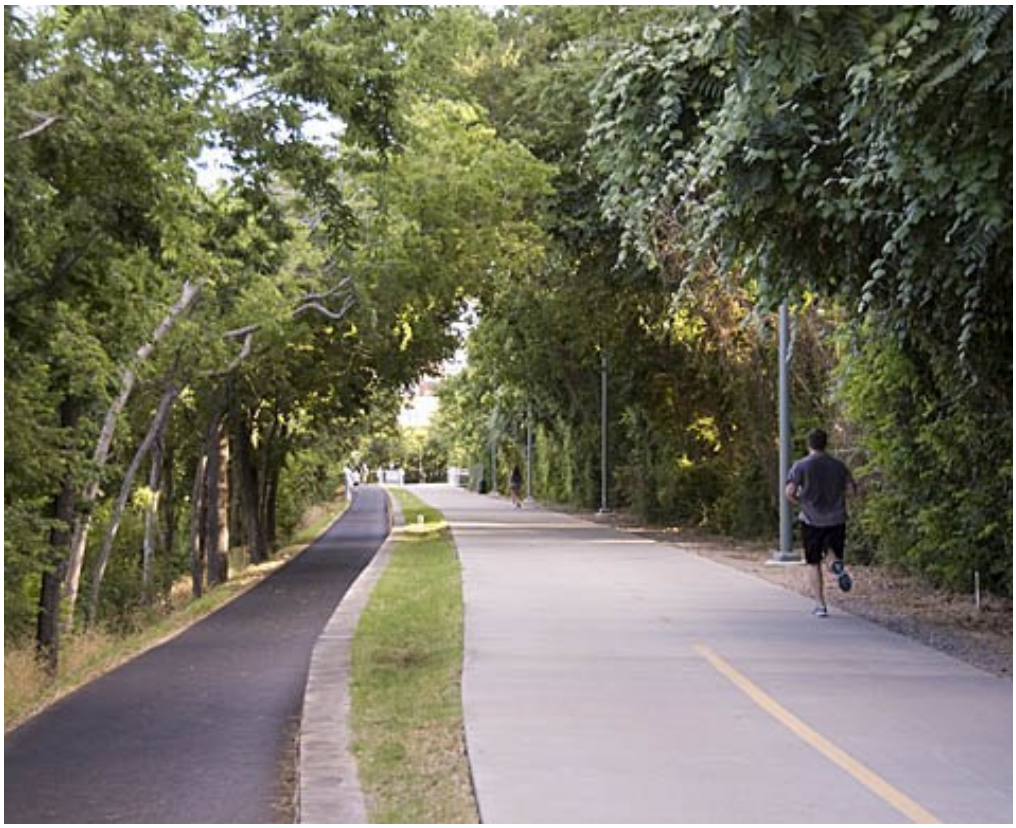
POLICY 6.2.4.2: Create a schedule with feasible installation target dates to gradually put in lighting for streets, beginning with the most needed areas, and include in CIP.

OBJECTIVE 6.2.5: Pursue the installation of a fiber internet network and use that opportunity to bury power lines.

POLICY 6.2.5.1: Write into the city zoning ordinance the requirement for new construction to have buried utility lines. Existing above-ground utilities may be grandfathered in but must be submerged when upgrades to the property are made.

Another goal to help make Gonzales more cohesive geographically is to increase connections between the city's schools, parks, and downtown squares. This will be performed through a bikeway and sidewalk plan for facilities such as that shown in Figure 6.4 below. The city should also actively seek infill opportunities for vacant properties.

Figure 6.4: Katy Trail in Dallas, Texas



Source: http://www.richpatterson.net/images/katytrailjog1.jpg

GOAL 6.3: Connect schools, parks, and downtown squares.

OBJECTIVE 6.3.1: Create bikeway and sidewalk plan by 2014. For further recommendations, please refer to 5.7.1 (p. 175) within the Transportation element.

OBJECTIVE 6.3.2: Identify opportunities to infill new facilities within network of existing places.

POLICY 6.3.2.1: Target vacant properties which can be repurposed for schools, parks, libraries, and similar uses.

POLICY 6.3.2.2: City-owned vacant properties should be integrated into the sidewalk and bikeway plan; these should be first priority. Other vacant properties should be assessed by city staff for possible utilization.

POLICY 6.3.2.3: Provide incentives to encourage infill development and redevelopment such as a fast-track application process, lowered impact fees, reduced parking requirements, and density bonuses.

POLICY 6.3.2.4: Conversion of land to other uses should be based on the city's natural and financial resources, transportation network, utilities, and services to support such development.

POLICY 6.3.2.5: Upgrade existing park facilities beyond existing open grass space to provide a more aesthetically pleasing and functional experience for all users. (See Fig. 6.5.) Gauge community interest for the construction of other facilities such as skate parks, aquatic parks, performing arts facilities, and more.

POLICY 6.3.2.6: Ensure that community facilities or neighborhood schools that are no longer utilized for their originally intended use remain an asset to the neighborhood through cooperative efforts between the facility/building owner, the city, the neighborhood, and local stakeholders.

Additionally the city should look to expand existing community facilities such as J.B. Wells Park and the existing golf course to attract more events to Gonzales such as the Junior Rodeo Finals. These goals will make the city more attractive for residents and tourists, alike.

Figure 6.5: Williamson Park in Bryan, Texas

Source: http://www.skateparkmagazine.com/cd_skate/TEXAS/bryan/henderson-skatepark1.jpg

GOAL 6.4: Expand existing community facilities to host more regional and national events.

OBJECTIVE 6.4.1: Host National Junior Rodeo Finals by 2016 (The city is host to the Texas Junior Rodeo in 2013).

POLICY 6.4.1.1: Compare existing facilities to peers who have recently hosted the rodeo.

POLICY 6.4.1.2: Study and attend Junior High Finals in Gallup, N.M. (2013) and Des Moines, Iowa (2014).

POLCY 6.4.1.3: Expand J.B. Wells Jr. Park through CIP and municipal bonds.

OBJECTIVE 6.4.2: Make parks more attractive for regional visitors.

POLICY 6.4.2.1: Solicit bids to expand current 9-hole golf course or create a new 18-hole golf course.

POLICY 6.4.2.2: Integrate waterways into park designs in order to provide additional amenities, like the examples in Fig 6.6 on the next page.

POLICY 6.4.2.3: Implement CIP to connect downtown area to the Guadalupe River and J.B. Wells.

While safety and wellbeing are components of the goals for the Gonzales water and electrical systems, police and fire services are also a part of the future vision for the city. Considering future annexation possibilities and existing crime numbers, the range of service levels of these departments should be reevaluated and projected periodically to ensure safety of residents in Gonzales.

GOAL 6.5: Improve police and fire services to increase overall resident safety.

OBJECTIVE 6.5.1: Target a continued decrease in violent crime rates.

POLICY 6.5.1.1: Create a public services expansion plan in anticipation of regular annexation.

POLICY 6.5.1.2: Review the service area of police and fire departments every three years to see if they are proportional to current population numbers.

POLICY 6.5.1.3: Develop a set of benchmarks to indicate potential need for new or relocated district stations.

POLICY 6.5.1.4: Prohibit development in areas not easily accessed by emergency and other service vehicles.

POLICY 6.5.1.5: Cooperate with Gonzales County to protect public health and safety.

POLICY 6.5.1.6: Initiate contacts with Gonzales County and adjacent communities prior to constructing new public facilities or initiating or expanding services to determine if there are opportunities for joint facilities or services.

Figure 6.6: (Top) Reed River Park in Mendon, Michigan;

(Bottom) Erie Canal Bike Path in New York

Source: (top) http://www.rivercountryjournal.com/wp-content/uploads/2008/08/reed-river-park-gazebos.jpg; (bottom) http://www.americantrails.org/i/resourceimages/Erie-Canal-bike-path01.jpg

POLICY 6.5.1.7: Use techniques of crime prevention through environmental design (CPTED) to discourage criminal activity. Principles include natural surveillance, natural access control, territorial reinforcement, and maintenance of facilities, as found by Jane Jacobs and other researchers. An overview can be found at *http://www.co.henrico.va.us/police/pdfs/cpted_guidelines.pdf*.

PROGRAMS/FUNDING

- EPA's Drinking Water State Revolving Fund: *http://water.epa.gov/grants_funding/dwsrf/index.cfm*
    - For use to upgrade water treatment facilities

- USDA Rural Development Funds: *http://www.rurdev.usda.gov/Utilities_Assistance.html*
    - For use towards water treatment, waste treatment, electric power, and telecommunications services improvements

- Outdoor Recreation Grants: *http://www.tpwd.state.Texas.us/business/grants/trpa/*
    - Provides 50% matching funds to renovate existing public recreation areas

- Indoor Recreation Grants: *http://www.tpwd.state.Texas.us/business/grants/trpa/*
    - Provides 50% matching funds or construction of recreation centers, nature centers, and related buildings
    - Currently suspended

- Recreational Trails Grants: *http://www.tpwd.state.Texas.us/business/grants/trpa/*
    - Can be up to 80% of project cost for new recreational trails, improvements, trailheads, trailside facilities, or acquiring trail corridors

- US Department of Agriculture: *http://www.usda.gov/wps/portal/usda/usdahome?navid=GRANTS_LOANS*
    - "Community Programs provide loans, grants, and loan guarantees for projects to develop essential community facilities for public use in rural areas"
    - "USDA supports deployment of reliable and affordable water, waste treatment, electric power and telecommunications services, including broadband, to help rural areas expand economic opportunities and improve the quality of life for rural residents"

- Municipal Bonds:
    - Can be used for most objectives. City issues bonds to pay for initial costs of project. Once bonds are purchased construction can begin. City pays back bonds as project brings in tax revenue over time.

- Gonzales Independent School District:
    - Connections between community facilities through bike, pedestrian connections. The school district can pitch in for part of the investment in to the trail system
    - Infill community facilities. Rather than building on new greenfield sites, the school district can use facilities of proper size which are closer to the rest of the city's land uses

- Victoria College:
    - Infill community facilities. If the college is in need of expansion, classrooms and office space can be constructed in suitable properties available for purchase

- Corporate Sponsorships:
    - Expanding community facilities. New construction of facilities such as parks could be partially financed by businesses interested in creating goodwill with the community.

- Public & Private Donations:
    - Expanding community facilities. Similar to corporate sponsorships, this funding source is a method for individuals to contribute to projects in the city.

- Community Fundraisers and Benefits
    - Can be used to raise money for community facilities expansion, improving police and fire services, and other objectives.

Figure 6.7: J.B. Wells Jr. Park, Gonzales, Texas

Source: http://stateimpact.npr.org/texas/files/2012/01/IMG_1131.jpg

Table 6.5: Community Facilities policy table

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
6.1.1.1	Target completion of standpipe upgrade by 2014	Staff	Short Term: 1-3 years	General Funds	Revolving, Rural Development Funds		X	X		
6.1.2.1	Have gravity filters in use at water plant by 2015	Staff, Public Works	Short Term: 1-3 years	General Funds	Revolving, Rural Development Funds		X	X		
6. 1.3.1	Have Highway 97 well in full operation by 2014	Staff, Public Works	Short Term: 1-3 years	General Funds	State Revolving, Rural Development Fund		X	X		
6.2.2.1	Start a coalition for electrical grid upgrade	City Officials, Community Stakeholders, GVEC, County	Mid Range: 3-5 years	N/A	N/A			X		X
6.2.2.2	Develop a CIP for installing new electrical infrastructure	Staff, City Council	Mid Range: 3-5 years	Capital improvements program	N/A		X		X	
6.2.3.1	Apply for grant programs for alternative energy infrastructure	Staff	Mid Range: 3-5 years	N/A	Rural Development Funds			X		
6.2.4.1	Identify areas of city with inadequate street lighting	Staff, Public Works, Community Stakeholders	Short Term: 1-3 years	N/A	N/A		X	X		X
6.2.4.2	Create schedule for installation of street lighting	Staff, Public Works	Short Term: 1-3 years	N/A	N/A		X	X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
6.2.5.1	Ordinance requirement to bury new utility lines	Staff	Short Term: 1-3 years	N/A	N/A	X				
6. 3.2.1	Target vacant properties for repurposing	Appraisal District, School District, City Council	Short Term: 1-3 years	N/A	N/A			X		X
6.3.2.2	Integrate vacant properties with pathways	Staff, School District	Mid Range: 3-5 years	N/A	N/A		X			X
6.3.2.3	Provide incentives to encourage infill development	City Council	Mid Range: 3-5 years	Capital improvements program	N/A	X			X	
6.3.2.4	Convert land uses based on current city development		Mid Range: 3-5 years	N/A	N/A			X		
6.3.2.5	Upgrade existing park facilities to other possible uses	Community stakeholders, City Council	Short Term: 1-3 years	Park funds	Recreation Grants			X		
6.3.2.6	Ensure facilities not in use remain community assets	Staff, Community Stakeholders, City Council	Long Term: 5-10 years	N/A	N/A		X	X		X
6.4.1.1	Compare existing facilities to rodeo peers	Public Works Director	Short Term: 1-3 years	N/A	N/A		X			

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
6.4.1.2	Study and attend upcoming rodeo finals	Staff, Mayor	Short Term: 1-3 years	N/A	N/A		X	X		
6.4.1.3	Expand J.B. Wells through CIP and bonds	Staff, City Council, Community Stakeholders	Long Term: 5-10 years	Municipal bonds, capital improvements program	Sponsorships and donations	X			X	
6.4.2.1	Solicit bids to expand golf course	City Council	Mid Range: 3-5 years	N/A	Sponsorships				X	
6.4.2.2	Integrate waterways into park design	Staff, Public Works Director	Mid Range: 3-5 years	N/A	Recreational Trails Grants		X			
6.4.2.3	Implement CIP to connect downtown to river and J.B. Wells	Staff, City Council, Mayor	Long Term: 5-10 years	Capital improvements program	Outdoor Recreation Grants	X			X	
6.5.1.1	Create public services expansion plan	Staff, City Council, Mayor, Police and Fire	Short Term: 1-3 years	N/A	N/A		X	X		
6.5.1.2	Review police and fire service areas	Staff, Police and Fire	Mid Range: 3-5 years	N/A	N/A			X		
6.5.1.3	Develop benchmarks for future station need	Staff, Police and Fire	Short Term: 1-3 years	N/A	N/A			X		

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
6. 5.1.4	Prohibit development in non-accessible service areas	Staff, City Council	Short Term: 1-3 years	N/A	N/A	X				
6.5.1.5	Cooperate with Gonzales County on public health issues	Staff, County Office	Mid Range: 3-5 years	N/A	N/A			X		X
6.5.1.6	Initiate contact with neighbors for joint facilities or services	Staff, County Office, Neighboring cities	Mid Range: 3-5 years	N/A	N/A			X		
6.5.1.7	Use CPTED techniques to discourage crime	Police and Fire, City Council	Long Term: 5-10 years	N/A	Recreational Trails Grants	X	X	X		X

Future Parks and Recreation

The Community Facilities section of the 2012 State of the Community Report described the large amounts of public space and park land available to residents and visitors within Gonzales. In fact, 11% of the city is comprised of open space, including parks and other recreational spaces. This is a considerably larger percentage than other cities in the state, including Plano, Garland, Irving, and San Antonio, have within their communities (The Trust for Public Land, 2013).

During the community assessment, however, it was noted that over 40% of land use was classified as vacant or undeveloped property. Much of this is located near residential areas in the city. This leads to an opportunity to increase the open space throughout the city by developing parks and recreational facilities in areas around residential housing. Children and adults can become more active throughout the year, especially if indoor or shaded areas are provided. The northeast portion of the city, where the amount of open space is more limited, could especially benefit from park and recreational development.

Figure 6.10 show specific target areas where this plan recommends improvements in the city's park infrastructure. The areas identified were in an unimproved area in the northeast corner of the city as well as Gonzales City Park and JB Wells Park. The primary focus will be the addition of shaded areas, trees, and lighting fixtures. This will allow expanded park usage during hot Texas summers and during the evenings. As there are a few areas within the city that are underserved, many of the goals, objectives, and policies that follow focus on redevelopment and improvement as opposed to development. As Gonzales continues to grow in population, so will the need to improve its park infrastructure .

The following is a list of park and recreational needs developed from meetings with the city as well as observational assessments:

- Update the existing sport stadium at JB Wells Park in order to serve multiple functions. Improvements include new cutting arena and additional buildings to make it a multi-use facility.
    - Add shading to the viewing areas and parking areas.
    - Add BBQs near those areas.
- Add shading to Gonzales City Park. This includes addition of a pavilion or shading over playground areas.
    - Also add additional picnic tables, BBQ pits, playground areas, and restrooms. Lighting fixtures can be added to the trail throughout the park. Mileage markers along the path with physical activity stops (see Figure 6.8) should be considered.

- Add mile markers to the trail within Independence Park.
- Construct a greenhouse or large community garden to help with the Community Health Centers of South Central Texas (CHCSCT). Currently CHCSCT provides nutrition counseling to low-income mothers eligible for the Women, Infants, and Children Program. This could be expanded to include students (especially low-income students), parents, and community members.
- Construct a park in the Northeast portion of the city south of E. Sarah Dewitt Dr. Recommendations for park facilities include a soccer field, walking trail, BBQ pits, playground area, shaded areas, picnic tables, and basketball goals. Not only will this be located near single-family residential housing, it will also be located in close proximity to Gonzales High School, adding additional physical activity areas for those who cannot utilize the facilities or for families with children who may be active in after-school programs. Currently, this land is classified as unimproved.

Figure 6.8 Example of a physical activity stop on a walking trail

Source: *http://sajaifoundation.org/wp-content/uploads/ldra-log.jpg*

Additional goals from the city include cleaning and improving the river and river banks and completing the paddling trail. The paddling trail is scheduled to open May 2013. The city will have to install the kiosks provided by Texas Parks and Wildlife. After completion, a full media push should take place announcing the paddling trail's opening, including a ribbon cutting ceremony with paddling kick-off event.

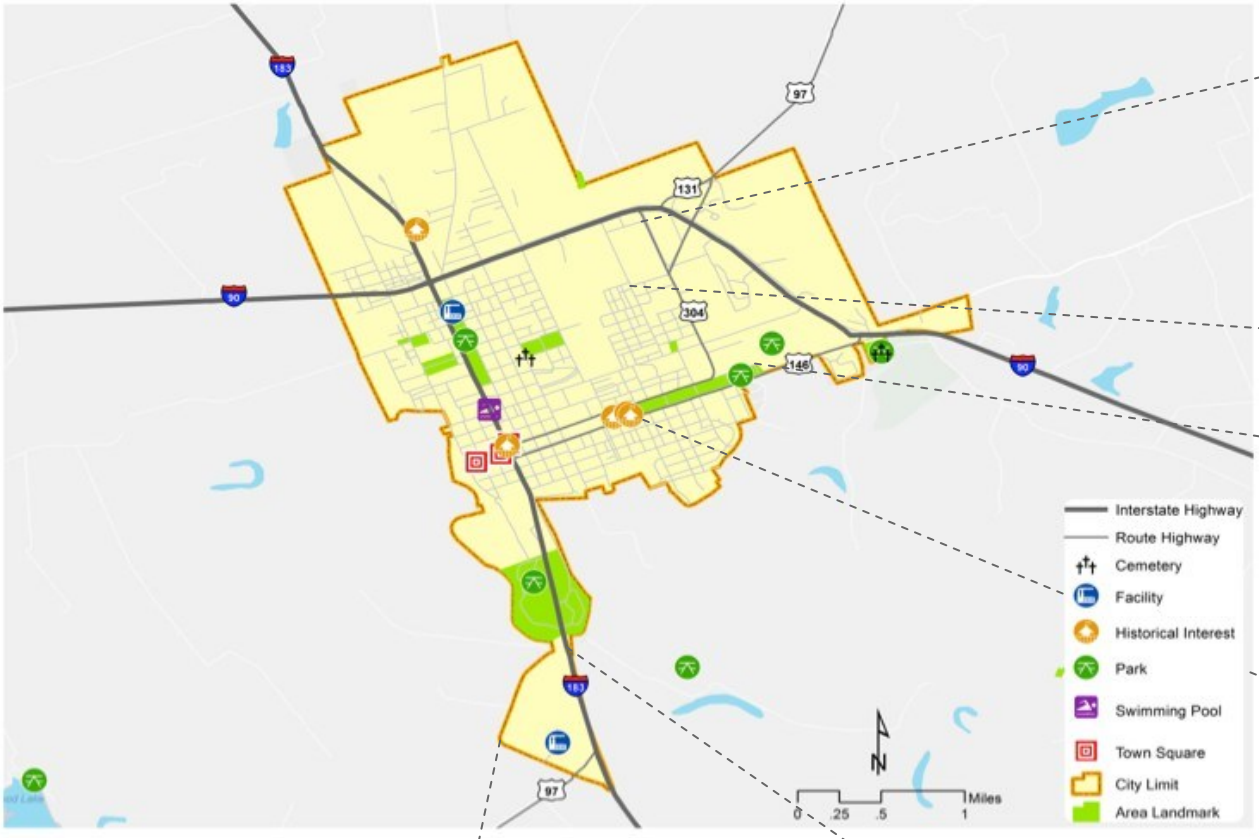
To improve the river banks, the city should develop a river improvement plan, identifying areas of highest need. In those areas, the city should erect signage enforcing a "no littering" policy, such as shown in Figure 6.9. Early enforcement of these new policies could help combat littering behavior.

Figure 6.9 Early enforcement of littering is important

Source: *puckettpages.com*

In the future, community volunteers should be recruited to help with river bank clean-up in a program similar to Gonzales' annual Jim Price

Figure 6.10: Areas selected for park and recreational development or redevelopment



Source: Developed originally for the 2012 State of the Community Report

Proposed changes to JB Wells Park

- New cutting arena
- New parking area to host National Rodeo Event audience
- Shading to outdoor viewing areas and BBQ pits and picnic tables
- Additional buildings to make it a multi-use facility

Proposed park in NE corner

- Soccer field
- Walking trail
- BBQ pits
- Playground area
- Lighting around proposed track

Proposed changes to Gonzales City Park

- Picnic tables
- Trees
- Retention Pond
- BBQ pits

Community-Wide Cleanup. The city could also consider allowing residents of the Intermediate Sanction Facility to conduct community service hours along the river banks.

Parks and Recreation Goals, Objectives, and Policies

GOAL 6.6: Clean up and improve the river and river banks.

OBJECTIVE 6.6.1: Determine areas in greatest need and develop a plan for their clean-up and improvement.

OBJECTIVE 6.6.2: Garner community engagement and participation to organize clean-up days focusing on areas where the greatest public use occurs.

POLICY 6.6.2.1: Poll the community (using free software such as Doodle or Survey Monkey) and determine which areas are most utilized and need improvement.

OBJECTIVE 6.6.3: By 2015, have a community clean-up plan in place where different individuals, groups, or organizations are responsible for river bank maintenance on a monthly basis.

POLICY 6.6.3.1: Make requests to community groups to register on the clean-up schedule and post schedules on social media sites such as Facebook and in City Hall to publicize the groups and their clean-up activities.

OBJECTIVE 6.6.4: Develop and enforce a city policy against littering.

ACTION STRATEGIES

Short Term (actions to be done as soon as possible)

- Make a site visit to the river (documenting with photos) to determine which areas are in the greatest need of maintenance. Attempt to understand what causes have led to the existing situation in order to prevent debris and destruction from occurring in the future.
- Develop a community clean-up profile to be posted on the Gonzales website as well as social media. Get groups and organizations interested in helping out.

Medium Term (actions to take place over several years)

- Create and implement a river improvement plan to secure funding for projects that will improve the river and river banks.
- Develop a city policy against littering and enforce it strictly. Erect signage publicizing the policy and fee (i.e. "Keep our River Clean. Litterers will be $200"). Issue warnings and citations to those who do not follow the policy. Fees collected could be allocated toward river improvement.

Long Term (actions to take in the next 10-20 years)

- Follow the river development and improvement plan to make sure project funding is sustained and projects are getting completed.
- Try to sustain outside city funding for improvement projects

PROGRAMS/FUNDING

- Improvement Funds: The Hudson River Improvement Fund, a $1.5 million grant from the State of New York, supported projects that would promote the "enhancement of public use and enjoyment of the natural, scenic, and cultural resources of the Hudson River and its shores." More information can be found at *http://www.hudsonriver.org/hrif/*.

- The city can also request funding similar to that provided by Bexar County for the Mission Reach Ecosystem Restoration and Recreation Project (*http://www.sanantonioriver.org/mission_reach/mission_reach.php*). The project is transforming an eight-mile stretch of the San Antonio River into a quality riparian ecosystem. Other funding partners included the City of San Antonio, the U.S. Army Corps of Engineers, San Antonio Water Systems, private donations, and federal funding reimbursed by the Omnibus Appropriations Act, 2009, Public Law 111-8 Section 115. This law states that a city may carry out design and construction work on the project and can be reimbursed by the federal government in order to encourage quick completion of the project.

GOAL 6.7: Finish the paddling trail.

OBJECTIVE 6.7.1: By May 2013, complete the paddling trail including launch and recovery areas, boundaries, and access points.

POLICY 6.7.1.1: Install the maps for the kiosks and frames provided by the Guadalupe-Blanco River Authority.

OBJECTIVE 6.7.2: Upon completion, increase visibility of the paddling trail.

POLICY 6.7.2.1: Host a ribbon cutting ceremony to launch the paddling trail.

POLICY 6.7.2.2: Promote the paddling trail on social media outlets, such as Facebook and Twitter, and on the Gonzales iPhone app.

ACTION STRATEGIES

Short Term (actions to be done as soon as possible)

- Complete the paddling trail.
- Announce the new paddling trail and advertise on social media as well as the TPWD website. Utilize the TPWD resources for advertising on the city website. Such resources include the videos "Enjoy Public Paddling Trails" and "How to Paddle a Canoe". Create videos specific to Gonzales to promote the trail as well as other activities and sites of interest.
- Host a ribbon cutting for the trail. Invite TPWD and local groups to participate.

Medium Term (actions to take place over several years)

- Install kiosks and frames with trail maps along river following the TPWD standards.

- Continue to review safety and usage, monitoring if any site development can occur to change paths.
- Maintain and expand camping within the city of Gonzales, specifically in Independence Park.

PROGRAMS/FUNDING

- The Texas Parks and Wildlife program, Texas Paddling Trails (TBT), was designed to promote the development of paddling trails throughout the state. It provides assistance to community partners, promotes the trails on the TPWD website, and provides TPT kiosk design options, trail maps, and official marker signs for put-in and take-out locations.

GOAL 6.8: Redevelop existing parks through the addition of new facilities.

OBJECTIVE 6.8.1: Determine funding for projects that encourage park redevelopment through the addition of such facilities as:

- Active recreation, such as field games, court games, and/or play equipment , in neighborhood parks ,
- Playscapes and/or shading,
- Lighting for evening usage of parks and recreational sites,
- Signage or mile markers to give distances around tracks and parks, and
- Community gardens supported by nearby neighborhoods

POLICY 6.8.1.1: Prioritize projects based on a citizen input survey.

POLICY 6.8.1.2: Work with Gonzales ISD to form Joint Use Agreements in order to utilize such facilities to the maximum. Gonzales High School is a great potential location for these facilities as it is located in the northeast region of the city where the population has less access to parks and recreation.

POLICY: 6.8.1.3: If any parks do not comply with ADA standards, begin to bring those parks up to code.

OBJECTIVE 6.8.2: Host a National Rodeo event at JB Wells Park.

POLICY 6.8.2.1: Build a new cutting arena and additional buildings to make the park a multi-purpose event center.

OBJECTIVE 6.8.3: Develop a half marathon/marathon that will attract

OBJECTIVE 6.8.4: As new areas of the city are annexed, develop new parks.

ACTION STRATEGIES

Short Term (actions to be done as soon as possible)

- Perform a citizen input survey regarding preferences about park usage, changes and improvements desired, and ratings of the current city park structure.
- Begin to find funding for projects identified in this document or the citizen input survey.
- Construct the cutting arena and additional buildings to make JB Wells Park a multi-purpose event center.

Medium Term (actions to take place over several years)

- Develop a half marathon/marathon race within the city of Gonzales. There are no such races currently registered for 2013, but these offer a great opportunity to show the history of the city to visitors.
    - The 2nd Annual Old Jail Run for It 5k and Kids K provides a good example.
    - Gonzales did host the opening of the Texas Independence Relay, which began on March 23, 2013. The race began at 6 am, which gave Gonzales the opportunity to host a number of runners for the evening beforehand. Participants noted, however, that they did not have time to visit Gonzales' historic sites but would have enjoyed doing so. A larger half-marathon/marathon race would keep more people within the city for the entire weekend.
- Develop a non-motorized trail network. There is minimal to no connection between the parks or from parks to the downtown area. Refer to Objective 5.7.2 for more details.
- Improve safety within parks and at recreational facilities by emphasizing positive usage. This can be achieved by installing theft-resistant facilities, improving traffic flow around park areas, increasing lighting, and adding signage.

Long Term (actions to take in the next 10-20 years)

- Host a National Rodeo event.
- Work with the Texas A&M AgriLife Extension Service and Master Gardeners to develop an outdoor learning center and community gardens. The goals of outdoor learning centers are to help students and adults understand science and math principles through hands-on projects such as growing fruits and vegetables and garden development. This not only improves citizens' knowledge of healthy foods but also encourages families to create gardens themselves, increasing

their physical activity and fruit and vegetable intake. Figures 6.11 depict a project in Starr County, Texas, where a local producer has volunteered his time to teach educational classes in conjunction with Texas A&M AgriLife staff.

- Develop new parks or maintain areas of open space in future annexed areas.

Figure 6.11: An outdoor learning center project in Starr County, Texas



Source: *http://www.lewistonpublicschools.org/~geigerweb/S012360C4.3/3162010_114408_0.jpg*

and Texas A&M AgriLife Extension Service

PROGRAMS/FUNDING

- The Lorrie Otto Seeds for Education Grant Program gives small monetary grants to schools, nature centers, and other non-profit organizations of learning in the U.S. Successful applicants often have partnerships with a youth group such as Boy Scout and Girl Scout troops or a 4-H group. An example project in partnership with the Texas A&M AgriLife Extension Service is: "Design, establishment, and maintenance of a native-plant community such as prairie, woodland, wetland, etc., in an educational setting such as an outdoor classroom."

- The National Trails Training Partnership offers workshops and webinars on successful trail development and implementation. Other resources include access to articles and papers on key trail topics.

- Wildlife viewing is the second most popular outdoor activity in the United States, and the Bureau of Land Management's Watchable Wildlife for Youth and Families is a grant opportunity to help sustain wildlife viewing programs and wildlife areas.

- The National Recreation and Park Association continuously updates their website: *www.nrpa.org/fundraising-resources .*

- The Texas Parks and Wildlife Department (TPWD) also provides an extensive database of grant opportunities for outdoor recreation, indoor recreation, small communities, outdoor outreach programs, and recreational trails. More information can be found at *http://www.tpwd.state.tx.us/business/grants/*.

Table 6.6: Parks and Recreation policy table

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education &
6.6.1	Determine which river areas are in the most need	City staff	Short Term: 1-3 years				X			X
6.6.2	Develop community clean up profile	City staff	Short Term: 1-3 years							X
6.6.3	Develop River Improvement Plan	City staff	Mid-Range: 3-5 years		X River Improvement Funds		X			X
6.6.4	Develop signage and city policies for enforcement	City staff	Mid-Range: 3-5 years	X		X				X
6.7.1	Complete the paddling trail	City staff	Short Term: 1-3 years						X	
6.7.1.1	Install all kiosks and trail standards	City staff	Mid-Range: 3-5 years		X TPWD			X		
6.7.2.1	Host a ribbon cutting for trail	City staff	Short Term: 1-3 years							X
6.7.2.2	Promote paddling trail on city website and social media	City staff	Mid-Range: 3-5 years							X

#	Action	Lead Contact	Timing	City Resources	Outside Funding	Official Ordinance or Official Act	Study or Plan	Guidelines, Standards, or Monitoring	Developmental Incentives	Ongoing Public Education & Outreach
6.8.1.3	Conduct citizen input survey	City staff	Short Term: 1-3 years							x
6.8.1.3	Bring any non-compliance parks to compliance with ADA	City staff	Mid-Range: 3-5 years						X	
6.8.2	Host National Rodeo Event	City staff	Long Term: 5-10 years							X
6.8.2.1	Finish cutting arena	City staff	Mid-Range: 3-5 years	X					X	
6.8.3	Develop a marathon within the city	City staff	Mid-Range: 3-5 years							X
6.8.4	Develop new parks in annexed areas	City staff	Long Term: 5-10		X				X	

Environment

Introduction

The city of Gonzales benefits from the confluence of two great rivers, the Guadalupe and the San Marcos. The city also enjoys mostly well-draining soils that could be used to mitigate flooding events if future development is planned appropriately. Air quality is not a concern. Gonzales relies heavily on their surface water as their primary public water source. At this time, Gonzales' water bodies are not placed on the state's impaired water bodies list. This implies that the water quality of the water bodies in Gonzales meets state standards. In accordance with the dependence on the water quality of surface water, there should be a continued commitment to maintaining good water quality. Gonzales dependence on groundwater is not as strong as surface water, with 40% directly being used for irrigation purposes and 15% for the public water source. Consideration should be given to the placement of future groundwater wells to the proximity of hydraulic fracturing wells to avoid potential contamination of the groundwater supply. The floodplain corridors along the Guadalupe and San Marcos River provide excellent habitat for the areas wildlife. Preservation of this prime habitat should be considered in future land use plans in terms of flood resiliency, recreational opportunities and environmental protection.

Climate

Gonzales sits in a relatively flat area with relatively well draining soils. Gonzales sees a comparatively high amount of rain annually with an average of 37 inches. The highest month for precipitation is typically May. The drainage class for soils in the area is generally very good. The implications of this are, as the city continues to expand, flooding issues may arise as these permeable surfaces are paved over unless specific policies and programs are created to minimize impermeable surfaces in the area.

Gonzales sits in a relatively warm location with average maximum temperatures of around 80 degrees and a maximum recorded temperature of 111. As the city expands, Gonzales should take care to maintain greening efforts to minimize urban heat island effects. Water supply issues will also need to be addressed as the city expands and the effects of climate change are felt.

While the precipitation values for Gonzales are rather high, they were severely impacted by the recent drought of 2011. Water management strategies should be investigated to mitigate the effects of drought in the future. Water management practices should be researched and implemented to ensure that the region can continue to grow in the future.

Precipitation

Gonzales averages around 37 inches of rain a year with most of the rainfall occurring in the fall months. Gonzales has been through a severe drought in recent years and has seen a significant drop off in precipitation values. This lack of precipitation has various consequences, including dust, a reduction in agricultural production and water issues. As Table 7.1 and Figure 7.1 show, Gonzales receives most of its precipitation around May and in the fall. As evidenced in Figure 7.2, precipitation values have been varying on a cyclical bases of an up year followed by a down year with an overall trend of decreasing precipitation. This will have significant impacts in the amount of water available in the future should this trend continue.

Table7.1: Gonzales Monthly Average Annual Precipitation Rates

Annual	**37**
January	2.5
February	2.5
March	2.5
April	3
May	5.5
June	4.5
July	1.5
August	2.5
September	3.5
October	3.5
November	2.5
December	2.5

Figure 7.1: Average Monthly Precipitation (monthlyprecip. gonzales)

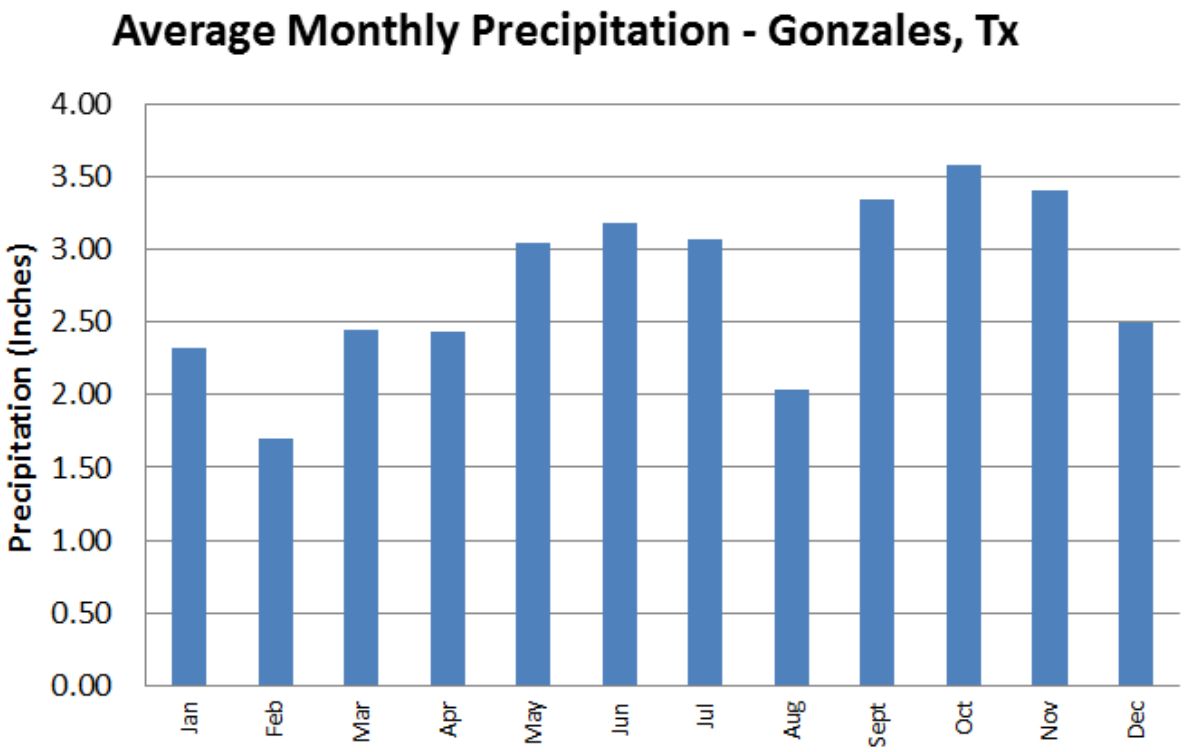
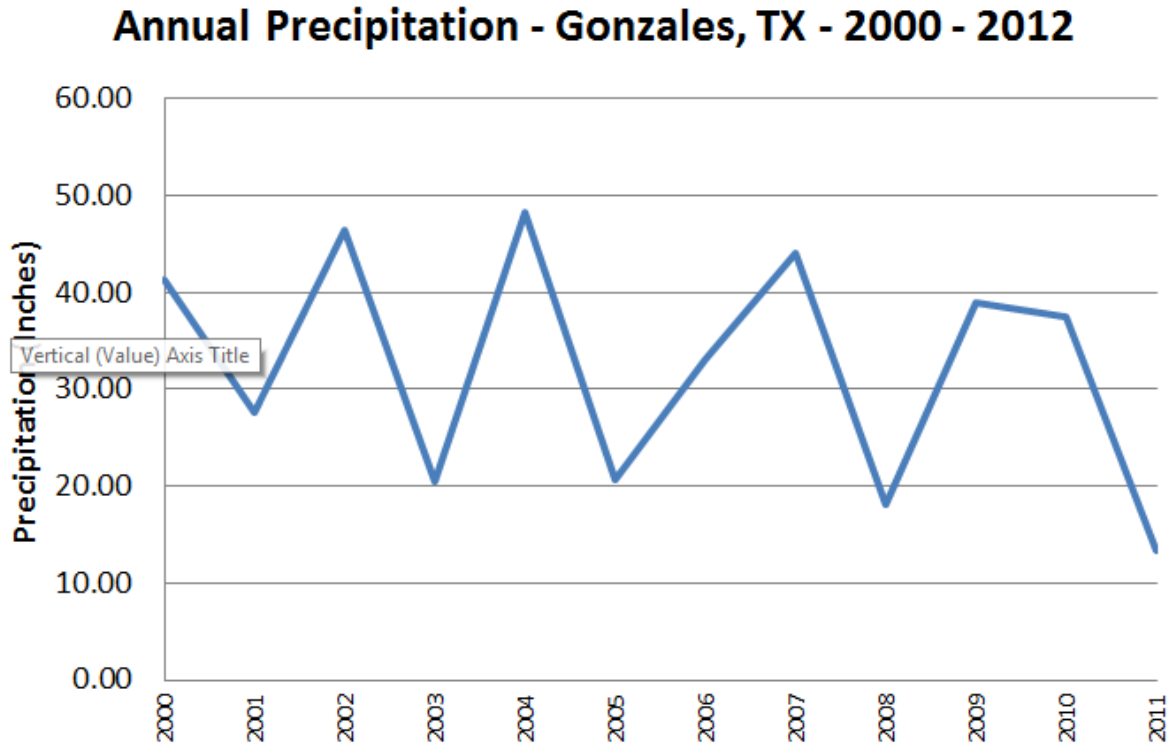


Figure 7.2: Annual Precipitation - Gonzales, TX - 2000 - 2012 (annualprecip.gonzales)



Temperature

Table 7.2: Gonzales Historical Temperature Information (tables)

Maximum Recorded	111 (September 2000)
Minimum Recorded	4 (December 1989)
Warmest Month	August
Coolest Month	January
Annual Average Minimum	57.50
Annual Average Maximum	79.58

Source: The Weather Channel

Air Quality

Gonzales' air quality has consistently been under 50 on the Air Quality Index, a "good" classification, and has fallen in recent years.

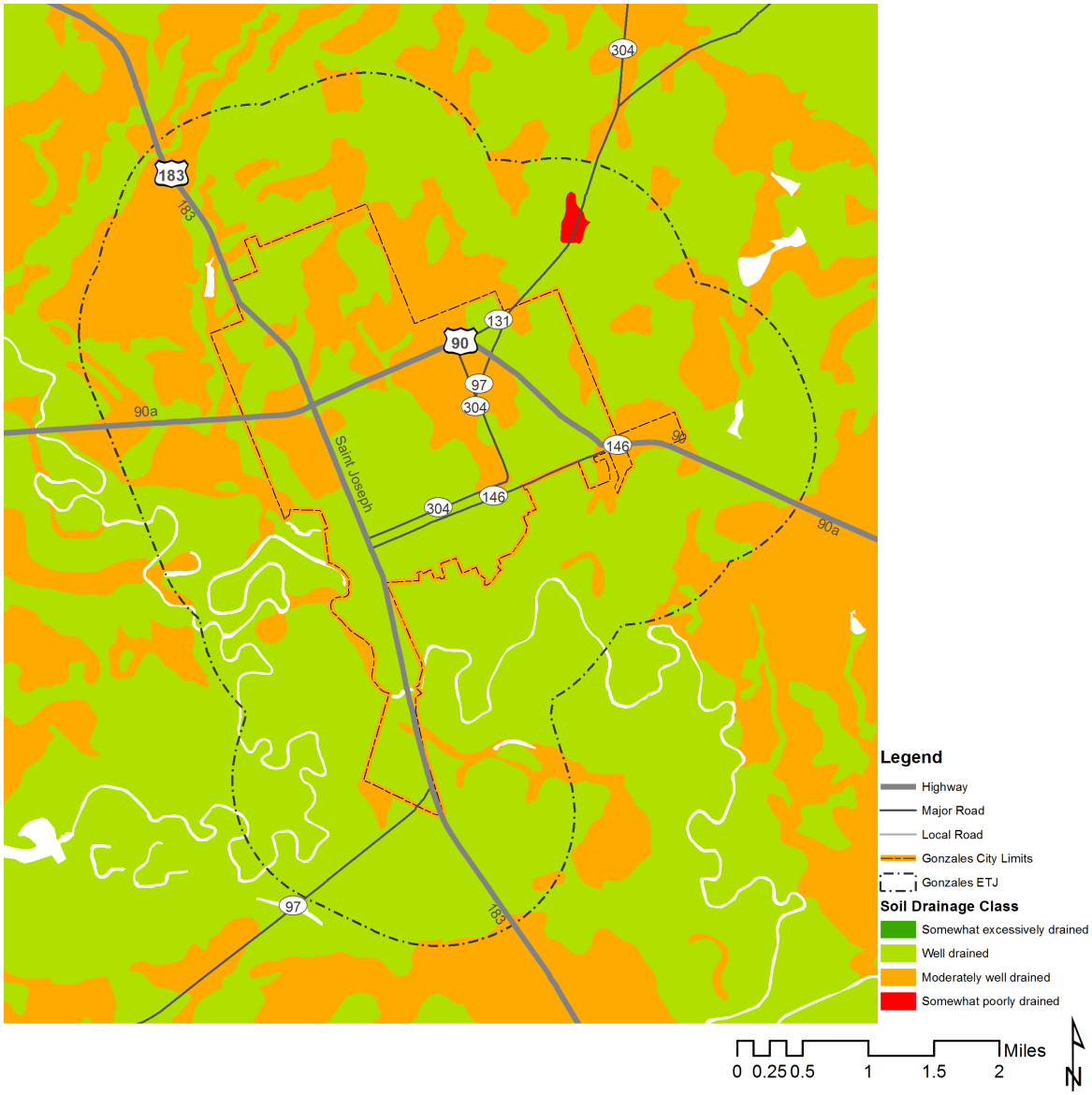
The EPA Air Quality Index is based on 5 major air pollutants: ozone, particles, carbon monoxide, sulfur dioxide, and nitrogen dioxide. The scale ranges from 0 to 500 with 0 to 50 being considered "good" air quality.

Features

Soils/Mineralogy

Gonzales sits on clay or mud to the north and sand to the south, with mostly sandstone bedrock. Most of the city sits on soils that are considered to be well draining, which if used responsibly, can help to mitigate flooding issues in the future.

Map 7.1: Gonzales Soil Drainage



Hydrology

Surface Water

Gonzales is located in the Middle Guadalupe watershed. The Blanco-Guadalupe River Authority is active in this area. This organization conducts river cleanups, water quality monitoring and works in conjunction with the Texas Stream Team. The Texas Stream Team is a network of trained volunteers and supportive organizations that collect water quality data from Texas streams. They can be a valuable resource in establishing a water quality monitoring program for the water bodies in Gonzales. The Guadalupe River and the San Marcos River are the major water bodies that run through the city (Map 7.2). There is a large 100-year floodplain surrounding the rivers in the most southern part of the city.

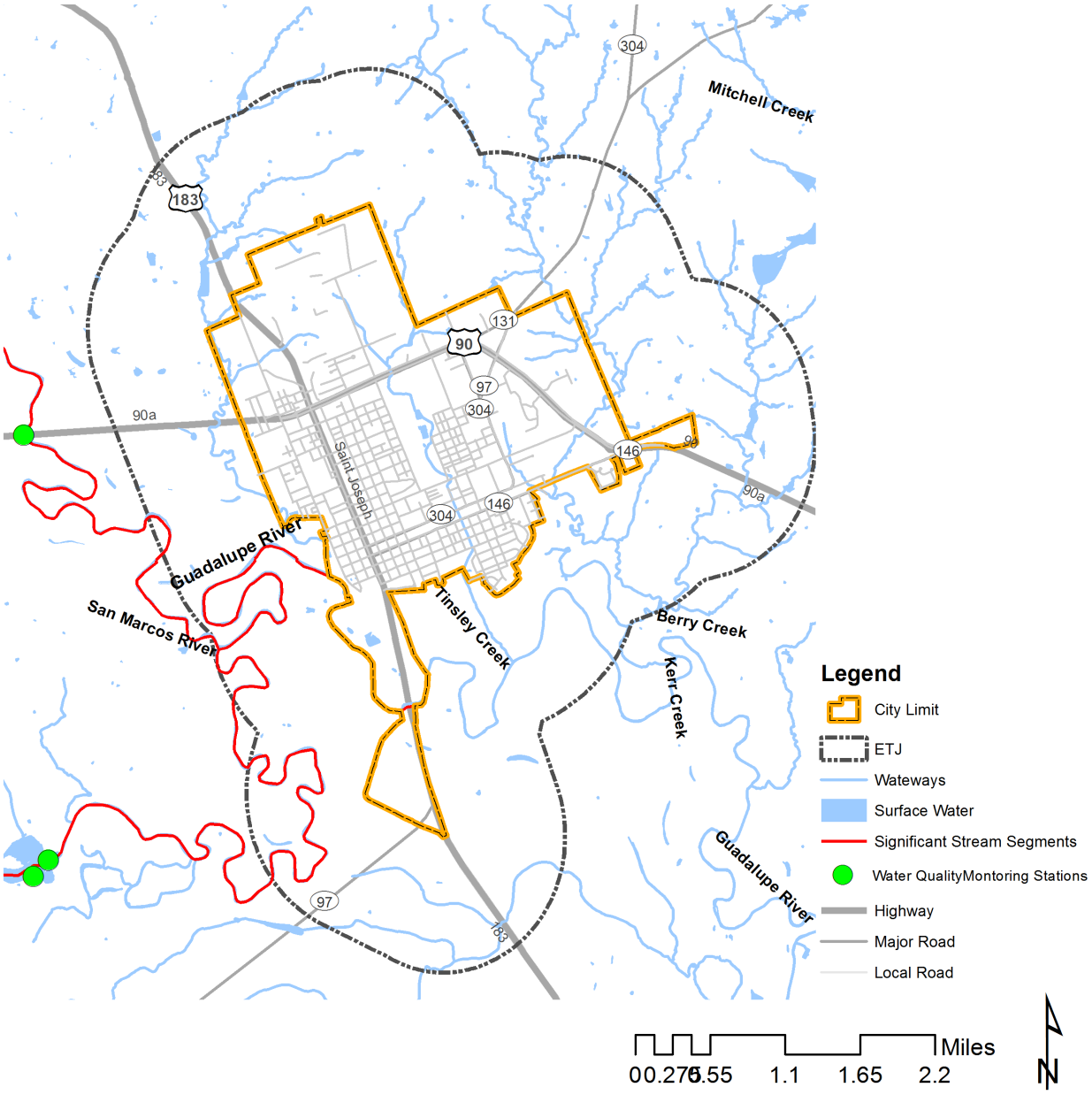
Large areas of the 100-year floodplain are within the extraterritorial jurisdiction. Other water bodies include Tinsley Creek and Kerr Creek. Tinsley Creek runs through the middle of the city and will be the city's major concern in a flooding event. Kerr Creek runs along the eastern city border.

The San Marcos River segment that runs next to San Marcos has been designated as an ecologically significant stream segment by the Texas Parks and Wildlife Department (TPWD) (Map 7.2). Although it is not a legal designation, the TPWD has identified the San Marcos to be ecologically important due the riparian conservation area, Palmetto State Park and the occurrence of one of only four known populations of the threatened Golden orb freshwater mussel. The main purpose for the listing is to inform cities and developers of the reasons for designation and to encourage them to avoid impacting the features that make this segment of the San Marcos River ecologically unique.

Currently, none of the creeks or rivers in the Gonzales area are listed as impaired under the 2010 Texas Clean Water Act section 303 (d) list for impaired waters. The 303 (d) list is an inventory of waters in Texas that do not meet water quality standards. Under the Clean Water Act the EPA requires all states to submit a 303 (d) list for approval (EPA). Although it is a good sign that the water bodies in Gonzales are not listed, it may also be an indication that there has not been enough water testing conducted. According to the TCEQ, there are no water quality sampling stations located within the city limits or the Gonzales extraterritorial jurisdiction. The closest station is located upstream from the city on the San Marcos River (Map 7.2). The public water supply of the city is made up of 85% surface water. Therefore, maintaining good water quality should be a high priority for the city of Gonzales.

There are a number of sources that could potentially degrade the quality of water in the stream segments of Gonzales. Non-point sources like organic matter from agricultural operations, excess herbicides and insecticides from agricultural lands and residential areas, sediment from improperly managed construction sites, crop and forest land, and eroded stream banks, overflow of wastewater treatment facilities, septic system failures, pet waste and oils, grease and chemicals from urban runoff have been reported by states to be the leading cause of water quality problems (EPA). Non-point sources are difficult to address because they do not have a "discernible, confined and discrete conveyance" as opposed to point sources that can be easily identified and must be permitted. Currently, no permits for industrial discharge (point source) have been approved within the city limits. The city should focus its attention on addressing non-point sources of pollution to prevent contaminating the clean, healthy rivers that exist in Gonzales today.

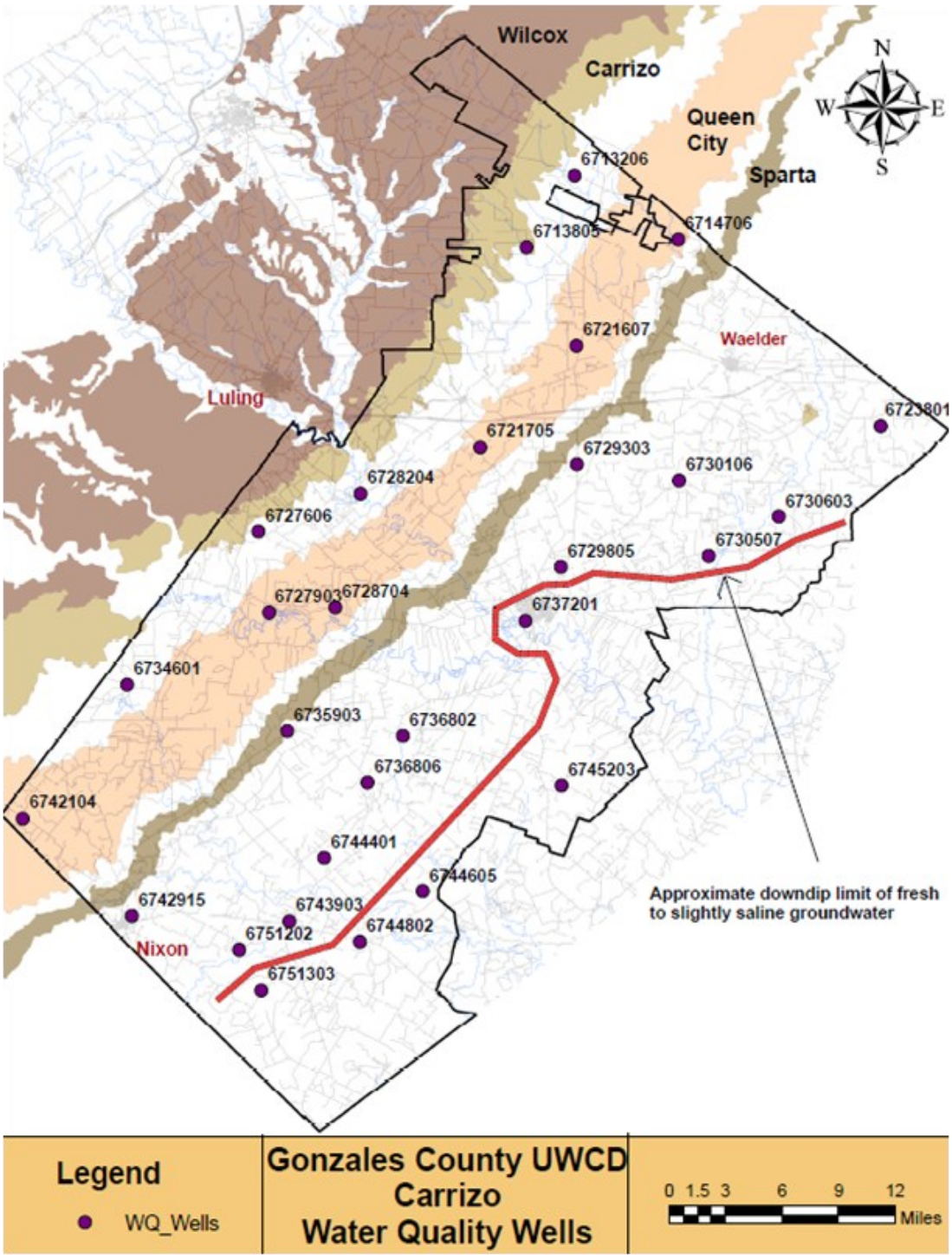
Map7.2: Gonzales Surface Water



Groundwater

The city of Gonzales uses water from wells completed in the Carrizo Aquifer. The thickness of the Carrizo in the subsurface ranges from about 385 to 950 feet. The water harvested from this aquifer is fresh to slightly saline water. The city of Gonzales is a part of the Gonzales County Underground Water Conservation District (UWCD). The district was created to conserve, preserve, protect and prevent waste of groundwater resources. The board's responsibility is also to find the most efficient use of groundwater in the district, to provide for the needs of the citizens and ensure growth for future generations.

Map 7.3: Gonzales County Underground Water Conservation District

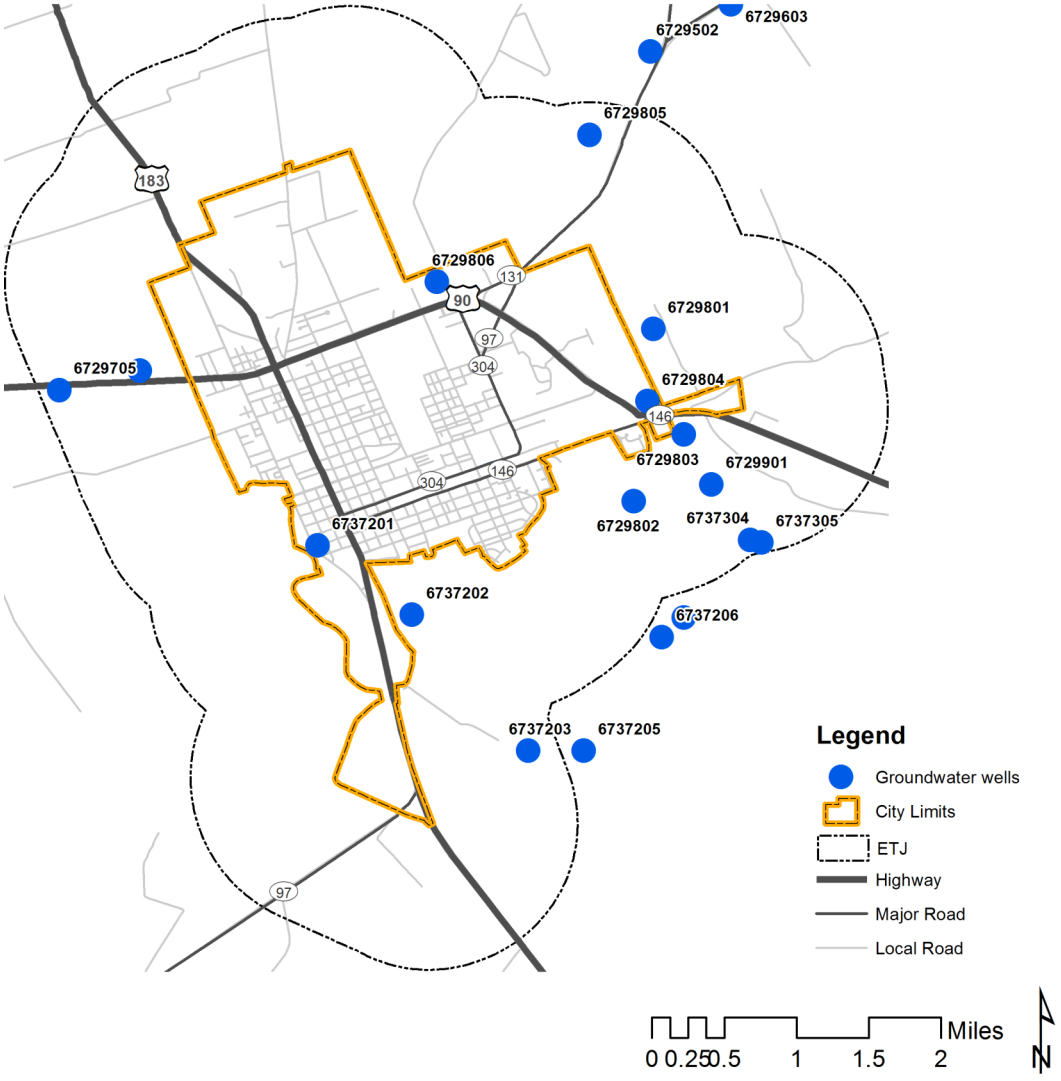


Source: Gonzales County UWCD

There are three groundwater wells within the city limits, and 13 within the ETJ. The Gonzales County UWCD has water quality data for two wells within the ETJ. Well 6737201 is located within the city limits and owned by the City of Gonzales. The well withdraws its water from the Carrizo-Wilcox aquifer. The well is used for withdrawal of water but also used as an observation well to test water quality

(Map 7.4). Well 6737201 was last tested in 2012 and was found to have water quality good enough for irrigation purposes; that is, having 1000-3000 mg/L total dissolved solids (TDS). This well had a TDS of 2861 mg/L. Well 6729804 and 6729806 are the other two wells within the city limits and tap into the Yegua-Jackson and Sparta aquifers, respectively. They are privately owned and used to withdraw water. The UCWD did not have water quality data for these wells. Well 6729805 is within the ETJ but not the city limits. The well is privately owned and was last tested in 2009. It was found to be of drinking water quality; that is <1000 TDS. This well has a TDS of 617 (Map 7.4).

Map 7.4: Gonzales Groundwater Wells



In 2008, the groundwater conservation district developed a groundwater management plan. The plan used groundwater availability models to determine the following:

1. the annual amount of recharge from precipitation, if any, to the groundwater resources within the district
2. for each aquifer within the district, the annual volume of water that discharges from the aquifer to springs and any surface water bodies, including lakes, streams, and rivers; and
3. the annual volume of flow into and out of the district within each aquifer and between aquifers in the district (Gonzales County UWCD).

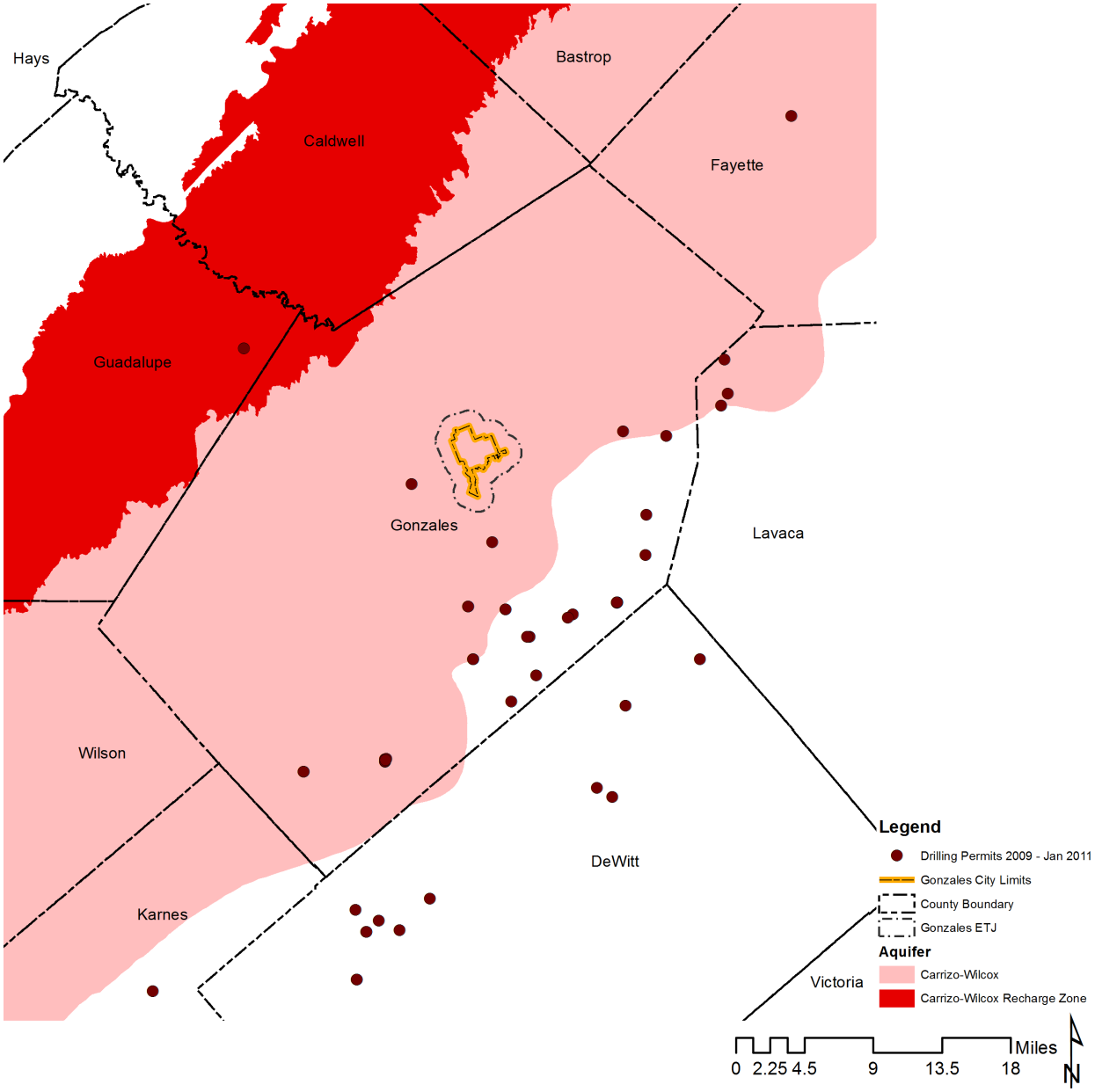
The results of the study calculated an estimated 6,927 acre feet/year recharge from precipitation in the Carrizo aquifer and 6,896 acre feet/year of water that discharges from the aquifer to springs and any surface water body. The study also estimated the amount of lateral flow within the aquifer between the district and adjacent counties. For the Carrizo confining unit, they calculated the flow to be 8,897 acre feet/year. Finally, they estimated the in/out flow of water between aquifers and confining units. The Carrizo confining unit was estimated at 5,732 acre feet/year.

In 2011, the Bureau of Economic Geology released a study on the characteristics and impacts of groundwater planning in the Carrizo-Wilcox Aquifer. The study also looked at human impacts on groundwater quality. They did not find widespread violations of the 17 primary and 11 secondary inorganic and radioactive constituents tested for. However, the most significant violation is for nitrate. According to the Bureau of Economic Geology, "these nitrate exceedances are found largely in domestic and irrigation wells and are most likely related to septic tank and fertilizer applications." To maintain good groundwater quality in Gonzales it is important to focus on public education of fertilizer application and failing septic systems.

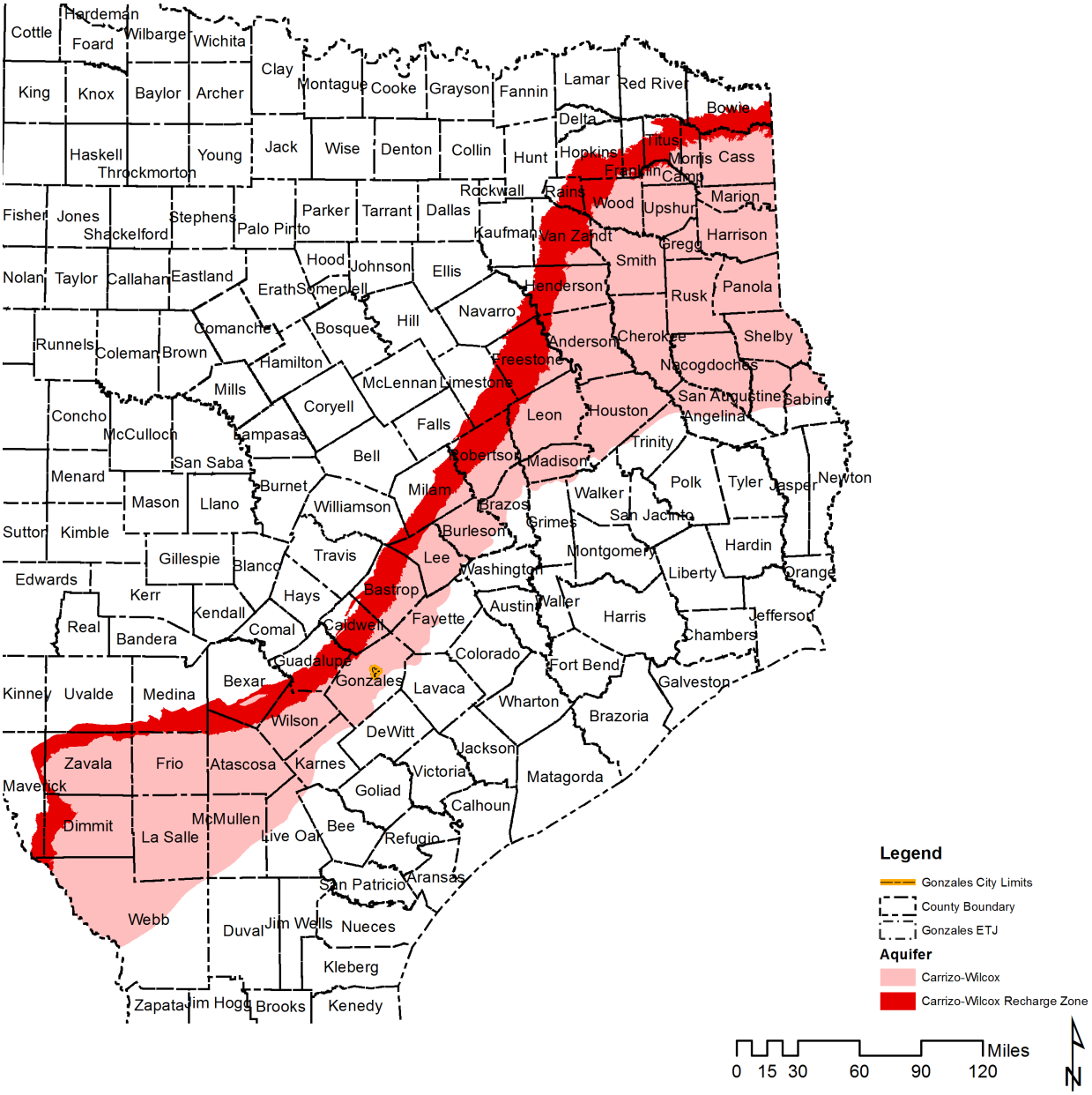
The recharge zone for the Carrizo Aquifer lies primarily outside of the county boundaries with a very small portion dipping into the northern boundary of the county. About 40% of the water that is pumped from the aquifer is used for irrigation purposes. Currently, the city only uses 15% of groundwater to supply water to its residents. The negative impact that hydraulic fracturing (fracking) may have on water quality has become a concern in some parts of the country that have seen an increase in fracking wells. Although the city of Gonzales has seen a rise in fracking, the lack of groundwater wells for the public water supply reduces the concern of water contamination. However, the consumption of crops that have been irrigated with contaminated groundwater is unknown and should be considered as a potential hazard. If the city of Gonzales plans to use more groundwater in the future, the placement of fracking operations should be considered to avoid contaminating the aquifer. The Eagle-Ford

Shale lies at a depth that varies from 4,000 to 14,000 feet. The Carizo-Wilcox aquifer lies far above the shale deposits so care must be taken when drilling in order to avoid contamination of the aquifer. Figures 9 and 10 show the location of drilling permits from 2009 to 2011 in the Gonzales area and the boundaries of the Carrizo-wilcox aquifer. [2]

Map 7.5: Drilling Permits and the Carrizo-Wilcox Aquifer 2009 - 2011



Map 7.6: Carrizo-Wilcox Aquifer



Ecosystem

Endangered Species

There are a number of federally listed and state listed species in the Grimes County Area. In addition to endangered or threatened species, there are also species that are considered rare because they are rarely found throughout their natural range. The Texas Parks and Wildlife Department maintains a list of Rare, Threatened, and Endangered Species of Texas and their habitat needs. The species that are of greatest concern are listed as federally endangered and also considered endangered in the state. They

include the Red Wolf, Whooping Crane, and the Interior Least Tern and are depicted with an asterisk (*) in Table 7.3.

Table 7.3: Endangered Species of Gonzales County

Birds	Mollusks	Plants	Mammals	Reptiles	Fish
Henslow's Sparrow	Palmetto pill snail	Elmendorf's onion	*Red wolf	Cagle's map turtle	Blue sucker
Sprague's Pipit	Texas fatmucket	Sandhill wholly-white	Cave myotis bat	Texas tortoise	Guadalupe bass
Peregrine Falcon	Texas pimpleback	Green beebalm	Plains spotted skunk	Timber/ Canebrake	Guadalupe darter
American Peregrine Falcon	Golden orb	Bristle nailwort			
Arctic Peregrine Falcon	False spike mussel	Buckley's spiderwort			
*Whooping Crane	Creeper (squawfoot)				
Bald Eagle					
Wood Stork					
Western burrowing owl					
Mountain plover					
*Interior Least Tern					

Invasive Species

It is important to be aware of the invasive species in the natural areas of Gonzales for a number of reasons. For example, invasive plants compete with native wildflowers for resources. Native wildflowers of Texas are a tourist attraction during the spring months in Gonzales. Not addressing the invasive species issue can kill off many native wildflowers and impact the visitation rate to the area. The following plants have been identified as the major, most threatening invasive species for the Post Oak Savannah ecoregion in which Gonzales is located:

Table 7.4: Invasive Species of the Post Oak Savannah Region

Invasive Species	Latin Name
Giant reed	*Arundo donax*
Chinaberry tree	*Melia azedarach*
Chinese tallow tree	*Triadica sebifera*
Bermuda grass	*Cynodon dactylon*
Johnson grass	*Sorghum halepense*
Japanese honeysuckle	*Lonicera japonica*
Chinese privet	*Ligustrum sinense*
Glossy privet	*Ligustrum lucidum*
Japanese privet	*Ligustrum japonicum*
Giant salvinia	*Salvinia molesta*
King Ranch bluestem	*Bothriochloa ischaemum var. songarica*
Heavenly bamboo	*Nandina domestica*

An invasive animal that is causing a large amount of damage in the state of Texas is the feral pig. They are distributed throughout much of Texas and generally inhabit the same range as white-tailed deer. They negatively affect water quality, other wildlife communities, plant communities and domestic crops and livestock operations. If residents notice an increasing numbers of feral pigs in the area, different strategies to remove them or reduce their numbers are strongly advised.

Eco-regions:

Gonzales belongs to the Southern Post Oak Savanna, which is comprised of mostly hardwoods. The region generally receives 35 to 45 inches of precipitation per year. The Post Oak Savannah is punctuated by scattered oaks amid grasslands. Historically, wide vistas of tall-grass – little bluestem, Indiangrass, switchgrass and a myriad of wildflowers were broken only by the occasional motte of trees, giving the landscape a park-like atmosphere. Peat bogs mingled amongst stands of flowering dogwood, sassafras, brumelia and yaupon are also found in this region. Today the region is mostly improved pasture with vast acreages seeded to Bahia Grass and Bermuda Grass. (TPWD)

The Post Oak Savannah is a transition zone between the Blackland Prairies to the west and the Piney Woods to the east. This ecosystem is part of a historic oak belt, which travels south from Canada towards Central America. Few true examples of old-growth Post Oak Savannah in Texas still exist today.

The Post Oak Savannah is dominated by native bunch grasses and forbs with scattered post oaks and some plateau live oak, black hickory, and blackjack oak. In recent times this historical vegetation has been replaced by species such as yaupon holly, cedar elm, sugarberry, and eastern red cedar. Upland areas are typically where bunch grasses are concentrated. Recurrent fires and large herds of buffalo were major forces that molded this eco-region. Fires were typically very large and would burn until weather conditions or landforms would contain them. (Texasinvasives.org)

Prime Wildlife Habitat

Gonzales has a Wildlife Management Area located close by. The M.O. Neasloney WMA has 100 acres located in Gonzales County, south of Luling, midway between Luling and Gonzales. Mr. M.O. Neasloney donated the property to the Wildlife Division to be developed as a wildlife education center. It is also Mr. Neasloney's burial place. The WMA is used primarily for wildlife ecology field tours by public school groups. Outdoor recreational opportunities include wildlife viewing, hiking and an interpretive nature trail. Palmetto State Park is also located nearby and offers numerous recreation opportunities including camping, hiking, fishing, and canoeing.

Hazards

Introduction

The Guadalupe-Blanco River Authority (GBRA) developed a Hazard Mitigation Plan (2011-2016) for the following counties: Kendall, Caldwell, Gonzales, DeWitt, Victoria, Refugio, and Calhoun. The goal of the plan is "to minimize or eliminate long-term risks to human life and property from known hazards by identifying and implementing cost-effective mitigation actions" (p. 5). The following are the mitigation goals as outlined in the hazard mitigation plan:

1. "Protect public health and safety;
2. Increase coordination and cooperation among intergovernmental entities;
3. Building capability for carrying out hazard mitigation activities;
4. Heighten public awareness and support for public awareness;
5. Protecting existing and new properties; and,
6. Promote growth in a sustainable manner" (p. 19-.1-19.4)

All goals incorporated in the hazard mitigation plan can be directly related to efforts that can be addressed within the comprehensive plan. Land use planning should be guided by past, current, and future hazards.

Historical Review

There have been 120 natural disasters in Gonzales County between 1960 and 2010 (SHELDUS). Since 1960, more than 33% of all hazards have been flood events (Figure 7,3). Flooding is more of a problem in Gonzales County as compared to the state of Texas (Figure 7.2). More than 14% of all hazards have been due to wind related to severe storms or thunderstorms.

Figure 7.3: Gonzales County Percentage of Hazard Types from 1960-2010

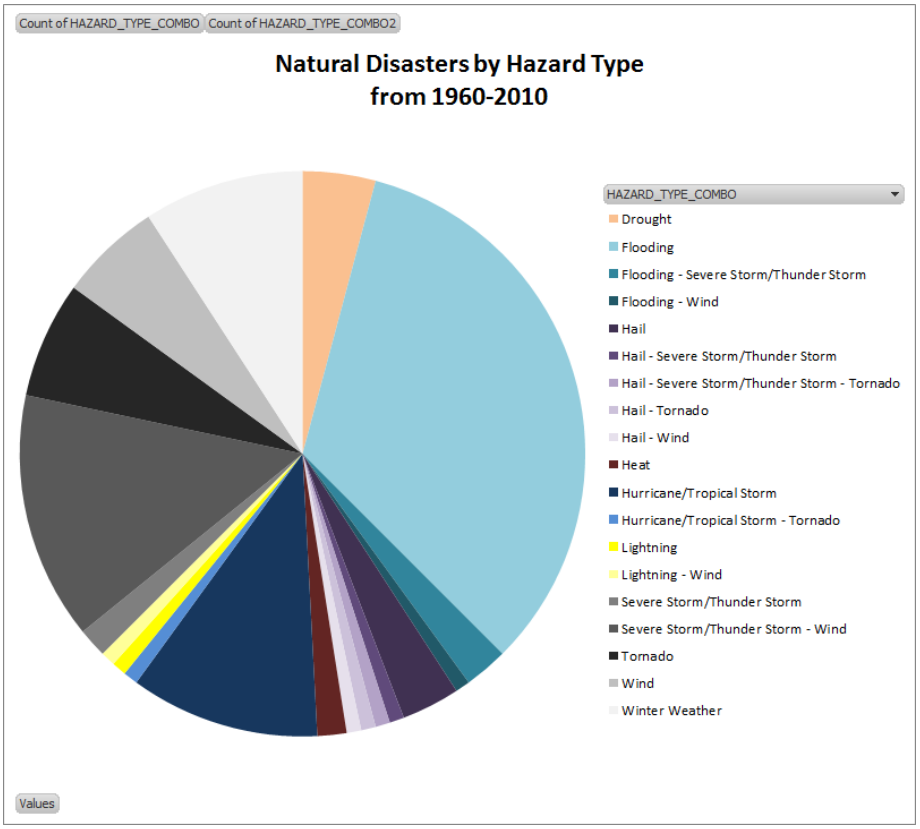
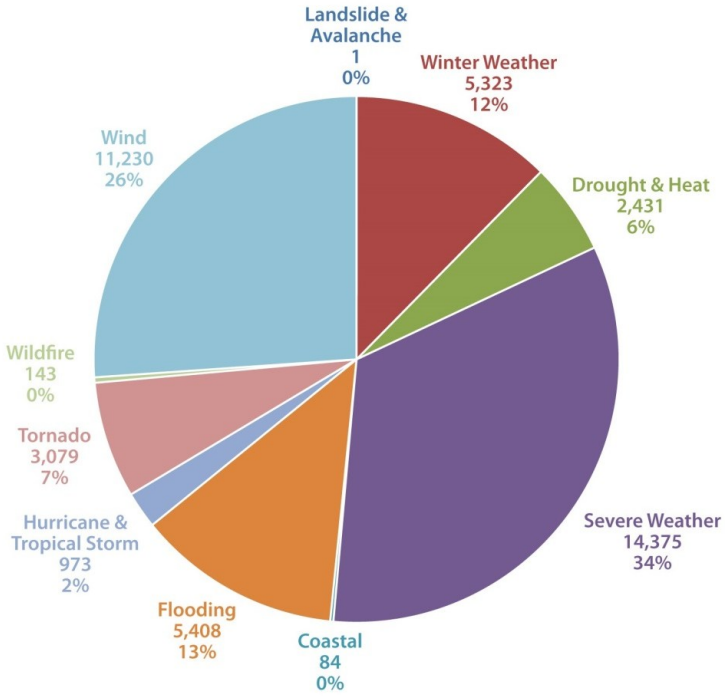
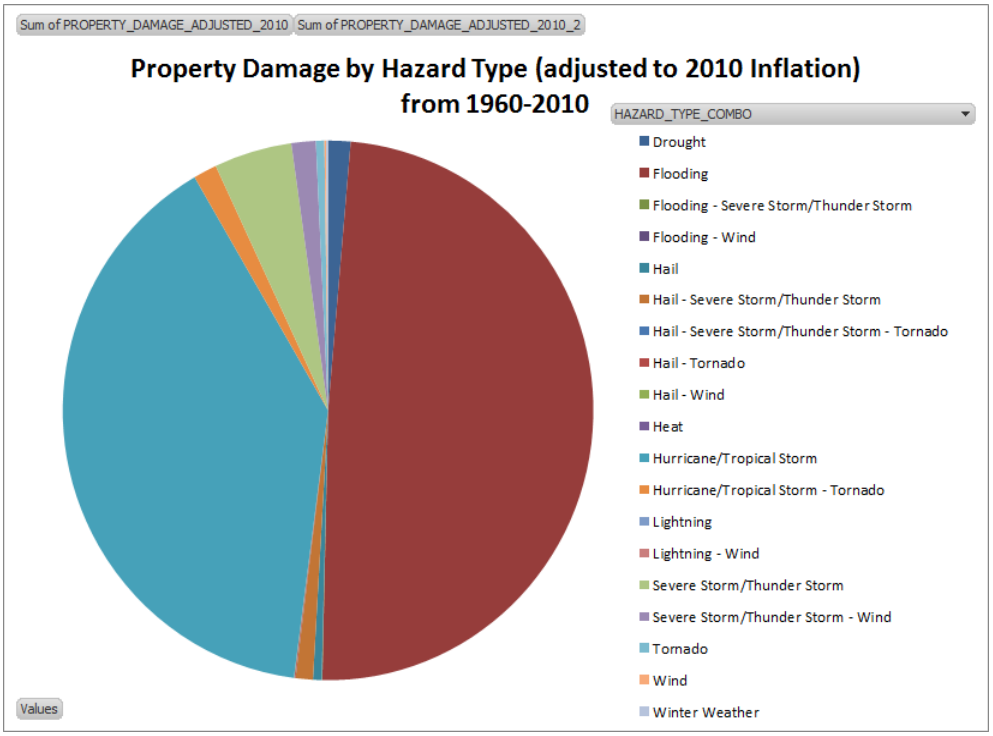


Figure 7.4: Frequency of Hazards in Texas from 1960-2009

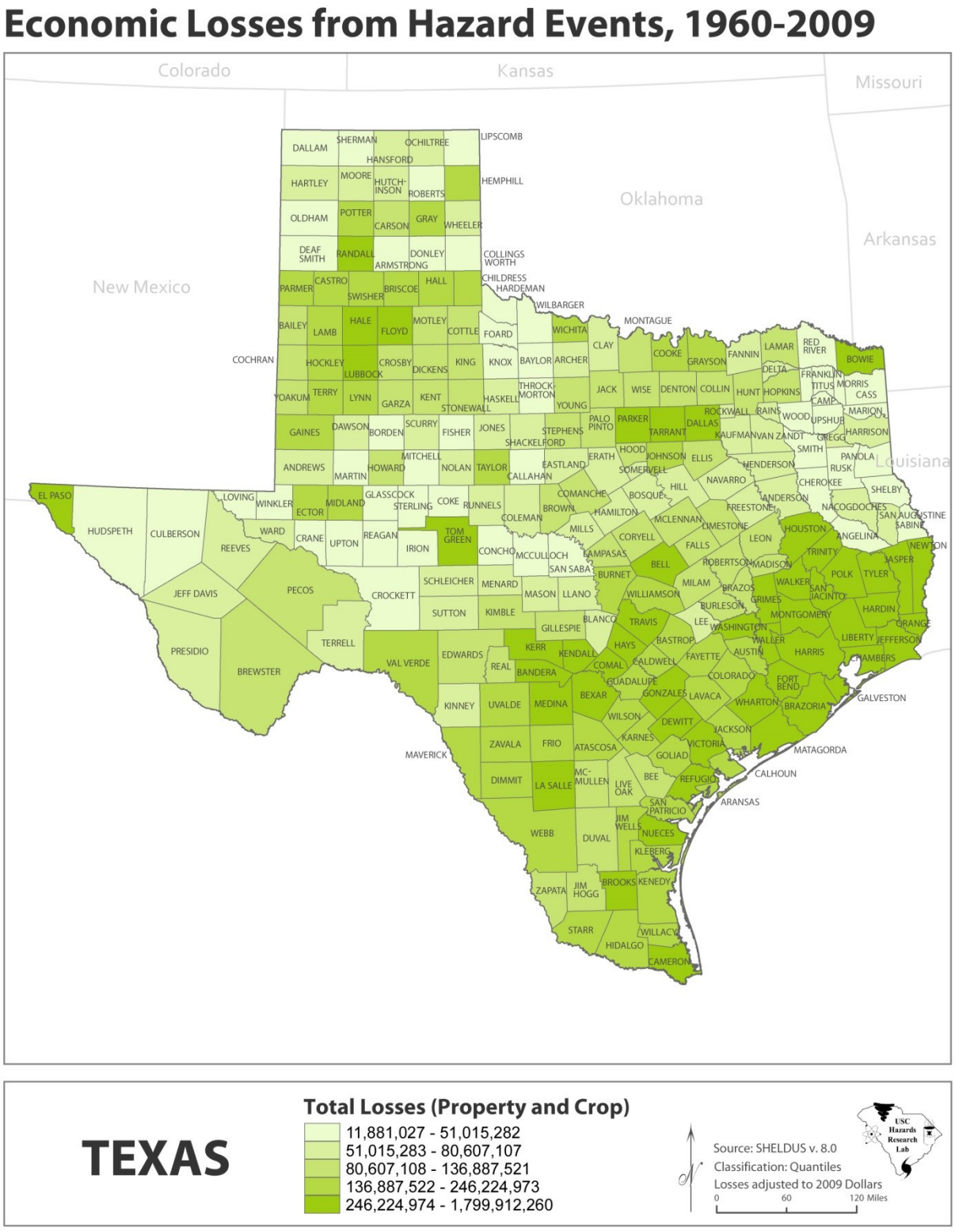


Hazards pose a threat to economic progress. Gonzales County has suffered some of the greatest property and crop loss compared to other counties in the state (Map 7.7). Flooding made up 49% of the property damage in the county between 1960 and 2010, worth more than $123 million, while hurricanes and tropical storms made up 40% of all property damage (Figure 7.5; Appendix, Table 7.13). The 71% of crop damage has come from hurricane and tropical storm hazards in the county between 1960 and 2010 with more than $57.8 million in damage (Appendix, Table 7.14).

Figure 7.5: Gonzales County Property Damage by Hazard Type from 1960-2010



Map 7.7: Economic Losses in the state of Texas {SHELDUS Economic Loss Texas}



These hazards have also posed a threat to loss of life. Flooding has caused more than 750 injuries in the county between 1960 and 2010 (Appendix, Table 7.5). Fortunately there have been very little deaths from any hazard type.

The GBRA Hazard Mitigation Plan has classified the risks associated with the various hazards:

Tornadoes- Very Low
Winter Storm- Very Low
Hail- Very Low
Hazardous Materials- Low
Thunderstorms- Low
Inland Flooding- Low
Oil and Gas pipelines- Moderate
Dam failure- Low
Hurricane- Moderate
Wildfire- High

Social Vulnerability

It is important to understand that not all people within the county or within Gonzales are affected the same way by hazards. Certain populations are more vulnerable than others. Socially vulnerable populations have a more difficult time coping with, resisting and absorbing impacts, and recovering from disasters. Socially vulnerable populations typically have limited access to resources. Some vulnerable groups have socially-constructed limitations to the access of resources, such as new residents to the country and community, females, and racial minority groups. Other vulnerable populations may be physically limited to the access of resources, such as low income earners, children, and elderly. Great attention must be paid to populations which have multiple social vulnerability characteristics. These groups are generally disadvantaged, marginalized, and underserved within communities and the onset of disaster impact only exacerbates social struggles (Fothergill 2004). Disasters do not uniformly impact a community. Communities must understand the spatial distribution of socially vulnerable populations, not to discourage or continue to marginalize these populations, but to inject appropriate resources and services to more rapidly recover from disaster impacts.

Census Tracts 3 and 4, which lie within central Gonzales, have several indicators which point to socially vulnerable areas (Appendix, Table 7.6). They are both much more vulnerable compared to the State of Texas average. Census Tract 3 has high rates of female-headed households and individuals living alone 65 years and over and is significantly higher than the state average in those who have attained only a high school diploma, those who have not attained a high school diploma and those who have not completed 9th grade. This low educational attainment is throughout this tract and may point to limited physical and financial resources to recover from disasters. Census Tract 4 is particularly high

in grandparents who are responsible for their grandchildren and the same categories of low educational attainment. Special preparedness and response efforts will need to be made for this area.

Critical facilities

Critical facilities are an important component for emergency response and disaster recovery. These essential facilities should not be placed in hazardous areas. These facilities are mapped in relation to the floodplain and hazardous materials (see Floods and Hazardous Materials Sections). The GBRA Hazard Mitigation Plan 2011-2016 has defined critical and essential facilities as:

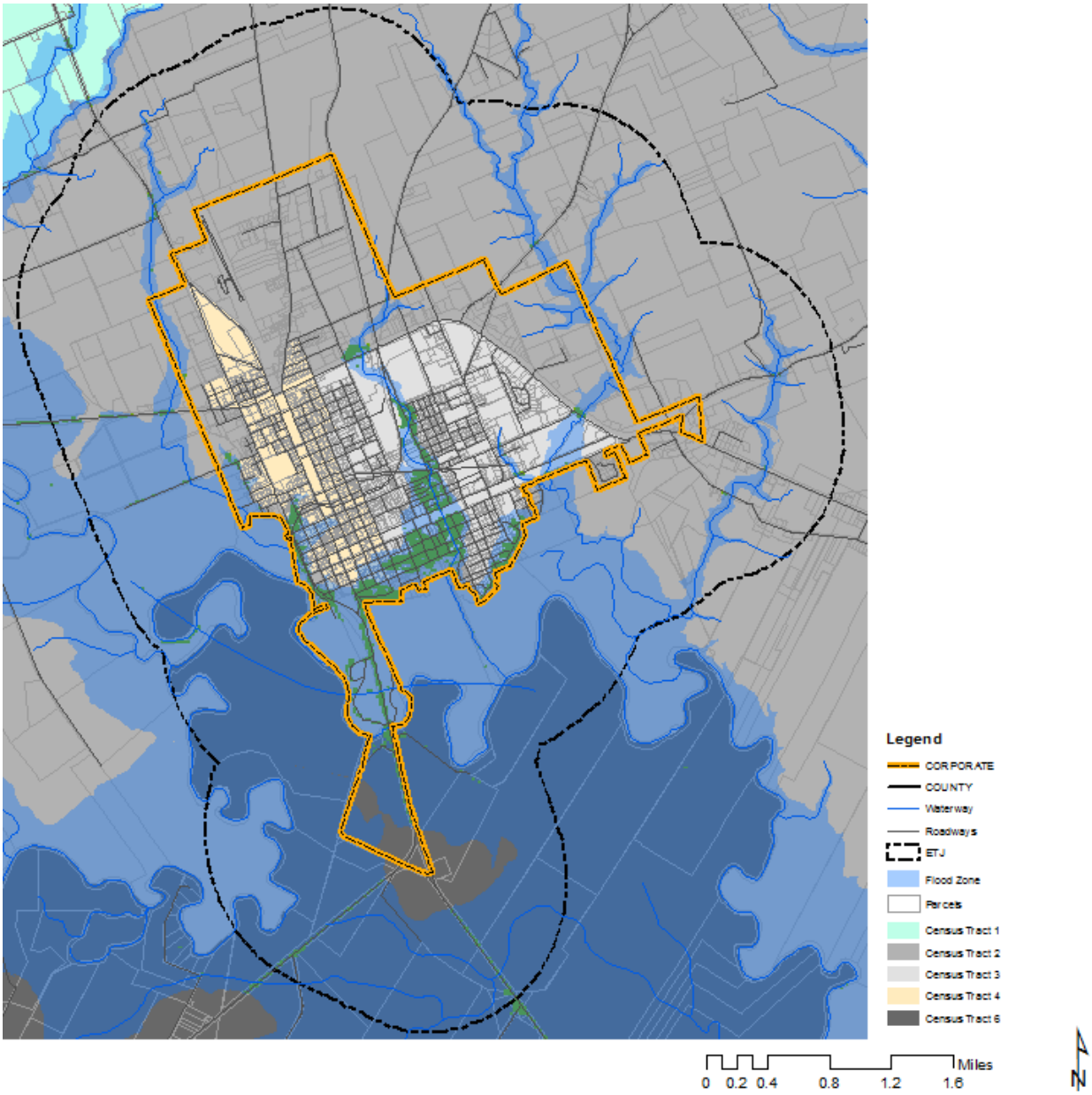
- "Facilities critical to normal and emergency response operations in the area (fire stations, police stations, and the EOC),
- Infrastructure and facilities critical to community survivability or continuity of community services (transportation facilities; post offices; radio station and other communication facilities; electrical transmission and distribution; water and wastewater treatment),
- Facilities needed to assist vulnerable populations during and after a disaster (schools, hospitals, residential care facilities), and
- Facilities in which key government functions take place (sheriff's office, county courthouse, town halls)" (p. 30).

Floods

As previously mentioned, flooding makes up 33% of all hazards in Gonzales County. There have been 43 flood events within Gonzales County from 1960-2010. Flooding is ranked the highest in terms of economic loss for Gonzales County. Gonzales County is ranked 5th of the Top 20 Texas counties in flood casualties, 1997-2001 (see Appendix, Table 7.8) (Brody et al. 2008). This is surprising, as the GBRA hazard mitigation plan has classified flooding as only a "low" hazard risk in the City of Gonzales, even though from 1993-2009 there were eight flood events in the city (GBRA Hazard Mitigation Plan, 2011-2016). Because of this, flooding will be analyzed to determine guiding principles for future land use.

Portions of the City of Gonzales have been built within the Federal Emergency Management Administration (FEMA) 100-year designated floodplain. By definition, areas within a 100-year floodplain respectively have a 1% chance in a given year of being inundated (Zone A and AE). The flood zones make up most of the southern part of the city and run through the central city, with large swaths within Census Tracts 3 and 4 (Map 7.8). Again, these tracts have populations which may need more assistance before and after a flood event. The flood zones also create a boundary on the west and east side along the city limits. Development should be guided to the north, out of the flood zones.

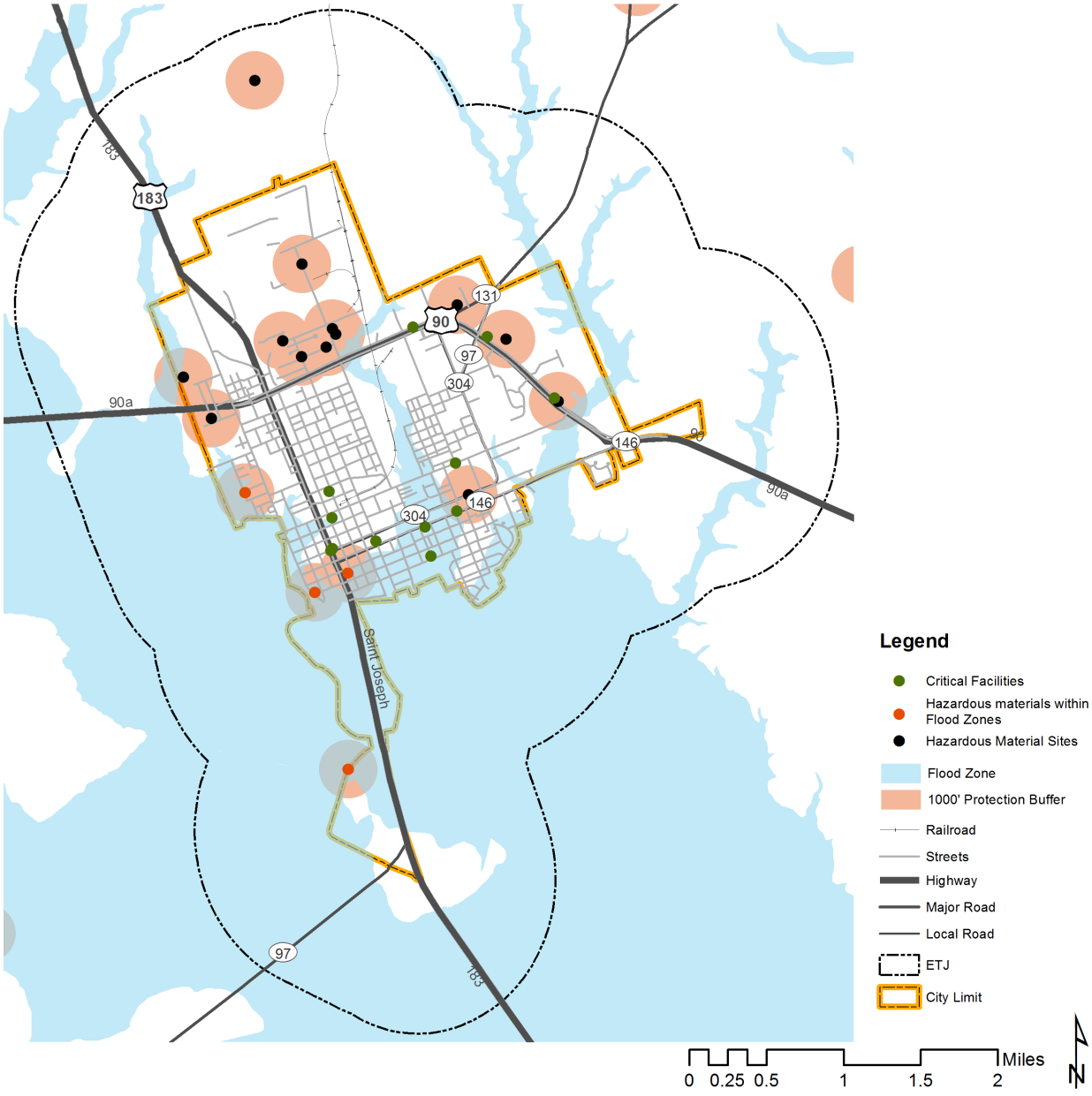
Map 7.8: Socially Vulnerable Tracts in Relation to Flood Zones



As depicted in Map 7.8 above, there is significant development within flood zones. The city of Gonzales has 311 structures exposed to floods, totaling more than $400 million in building value (Appendix, Table 7.5). The city of Gonzales makes up a significant amount of building value in the county, even though there are 3,463 structures exposed in the county (Appendix, Table 7.5). The county is more vulnerable to building loss than the city of Gonzales (Appendix, Table 7.5). Some of the structures that are exposed to flood loss in the city are critical facilities. The following map displays the critical facilities that lie within flood zones. These facilities include East Avenue Primary School, Christian Kids on 146, Mother Goose Group, and the Police Department, which lie very near the flood zone and should

take concerted efforts to mitigate hazards. Response and recovery plans should be generated to reduce the impact of flooding.

Map 7.9: Critical Facilities within Floodplains and 1000 ft Protection Buffer of Hazardous Material Sites



The City of Gonzales is a participating community in the National Flood Insurance Program and the Community Rating System (CRS). This allows the community's property owners to purchase flood insurance at reduced rates. There are 43 policies in effect, totaling nearly $4.5 million in coverage (GBRA Hazard Mitigation Plan, 2011-2016). NFIP will not insure structures which have undergone

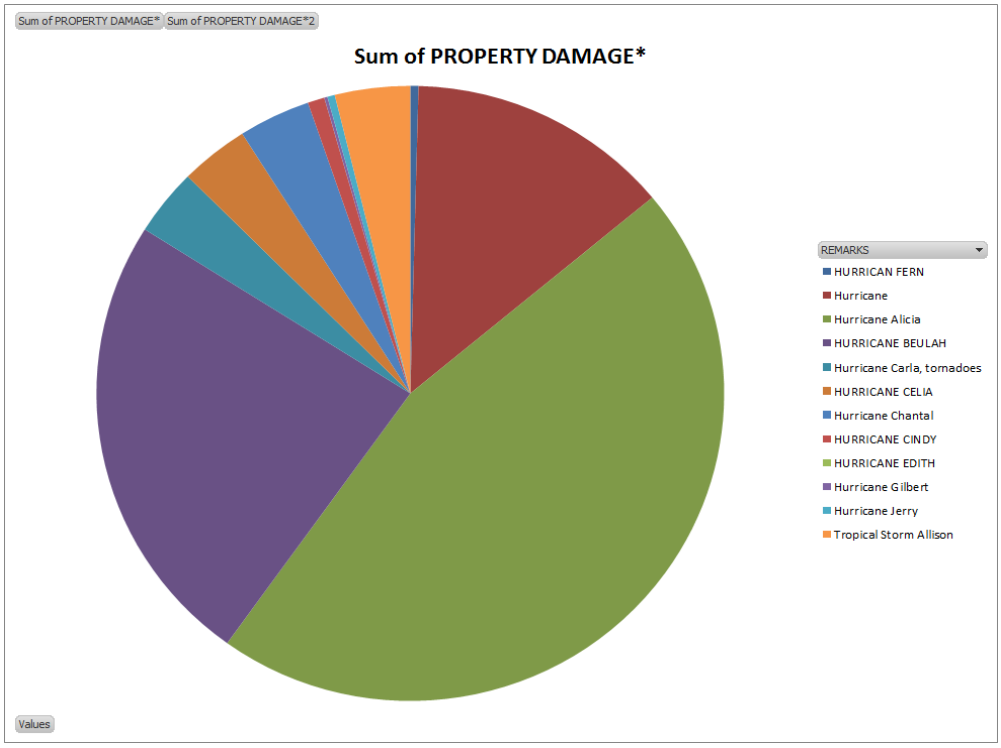
several flood events. The city of Gonzales has four Repetitive Loss Structures and zero Severe Repetitive Loss structures, having claimed more than $280,000 in insurance (Appendix, Table 7.9). These structures are at risk to losing flood insurance policies because of the frequency of flooding. Such a designation is an indicator of flood risk in the community.

The GBRA designates dam failure as a moderate risk to the community. There are a total of 28 dams in Gonzales County. The Gonzales Lake Dam is the only dam in the county that is considered significant or high hazard. It is used for hydroelectric power. It is approximately 10 miles west of Gonzales and if breached would infiltrate the city of Gonzales, where 2,534 people are at risk as well as 1,397 structures, totaling $119,302,000 in value. On the whole, the City of Gonzales is subject to risks of life and property from flood events.

Hurricanes and Tropical Storms

Tropical storm force winds are strong enough to tip over a bus. Emergency personnel should take great care in preparation for tropical storms and hurricanes. Hurricanes and tropical storms caused 40% of the property damage in Gonzales County from 1960-2010 (Figure 7.5). Specifically, the hurricane or tropical storm that caused the most property damage was Hurricane Alicia in 1983 (Figure 7.6). High winds and heavy rainfall from hurricanes pose a significant threat to the community.

Figure 7.6: Hurricane/Tropical Storm Property Damage



Hazardous Materials

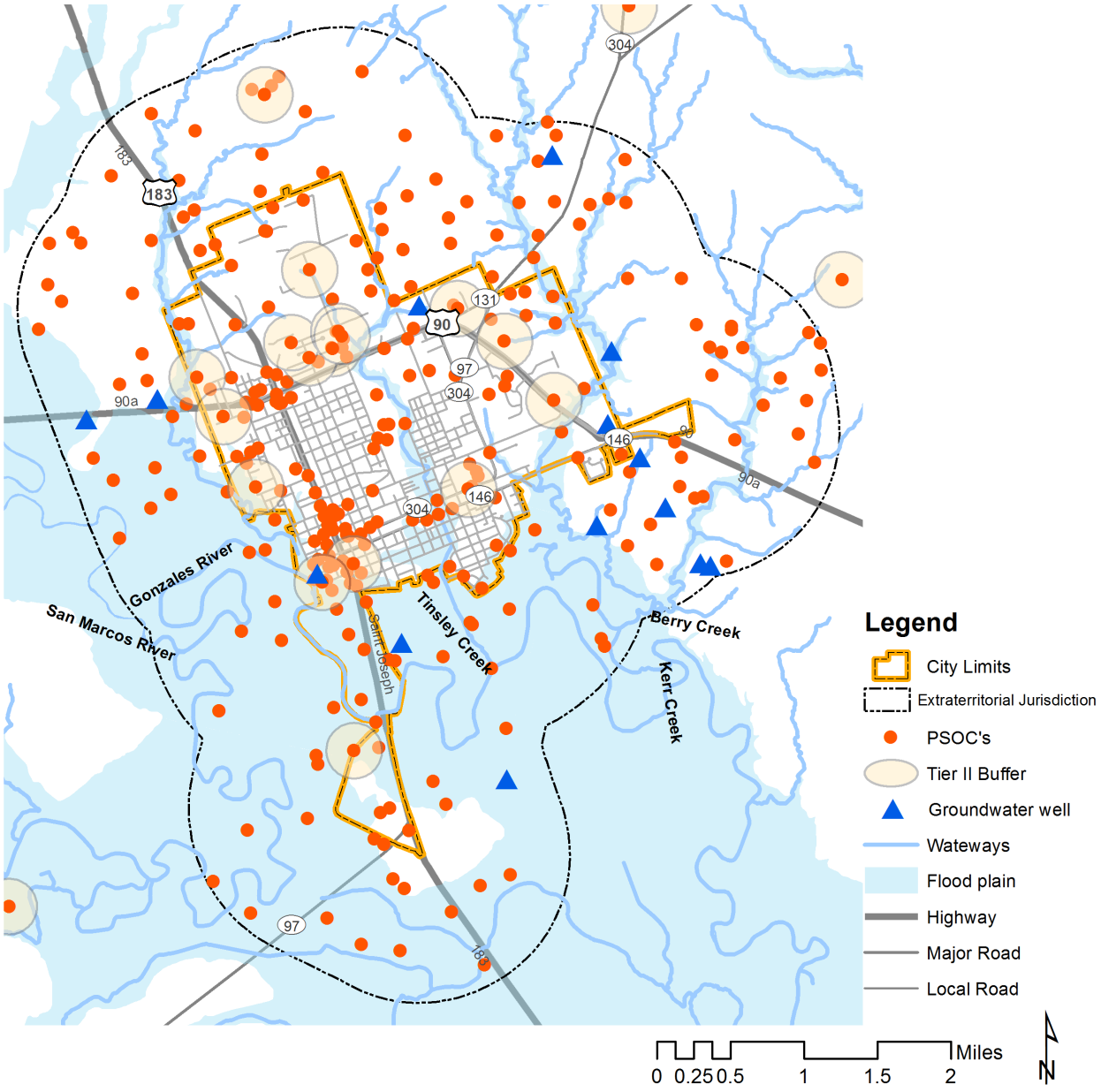
Hazardous materials also pose a significant threat to the community. There are 17 Tier II, hazardous material sites within the ETJ, as of 2011 (Map 7.10, and Appendix, Table 7.10, 7.11). Tier II sites have 10,000 lbs. or more of hazardous materials on site, or 500 lbs. of extremely hazardous materials on site. These sites pose a threat to people and property. According to the fire chief, a 1000-ft protection buffer is recommended around these sites. In planning for future land use growth, it is prudent to discourage development within 1000 feet of such hazardous sites. It is necessary to address the characteristics and level of danger for each chemical as part of a risk awareness process.

There are 127 other hazardous material sites within the city, indicated in Map 7.10 as potential sources of contamination (PSOC). There are another 134 PSOC within the ETJ. The PSOC within the city and ETJ are important to identify because they affect people, property, and quality of life. These PSOC include landfills, brownfields, permitted industrial and hazardous waste sites, oil wells, and waste water outfalls. In Map 7.10, all hazardous material sites in relation to homes, water wells, and the floodplain are depicted. There are four Tier II sites which lie within the flood zone and include Alamo Concrete Products Company, Gonzales Surface Water Treatment Plant, HEB Grocery Company, LP, and Webberville Propane, Inc. (Map 7.9). Extra preparedness and response efforts should be taken with these hazardous sites. Although some sites pose a greater threat to public safety, it is important

to know the exact location of all of the potential sources of contamination with an appropriate action plan to address spills, leaks and other forms of contamination from these sources.

There are 76 PSOC within the floodplain and four Tier II hazardous facilities within or near flood zones (Map 7.10). There are five critical facilities within the 1000-ft protection buffer, which include the Sheriff's Office, Memorial Hospital, East Avenue Primary School, Gonzales North Avenue Intermediate School and the Fire Department (see Map 7.9). There are approximately 660 parcels that exist within the 1000-ft protection buffer. Groundwater wells are in close proximity to PSOC. One public well site is located within 1000 feet of Tier II hazardous material sites. Five plugged wells and one active oil well are located within 1000 feet of an ecologically significant stream segment along the San Marcos River (Map 7.10). The location of the PSOC in relation to residential uses, water supplies, ecologically-sensitive areas, and flood prone areas should be considered more thoroughly for future development planning. The future development or redevelopment plans must include this information to avoid future hazard impacts.

Map 7.10: Potential Sources of Contamination and Water Quality



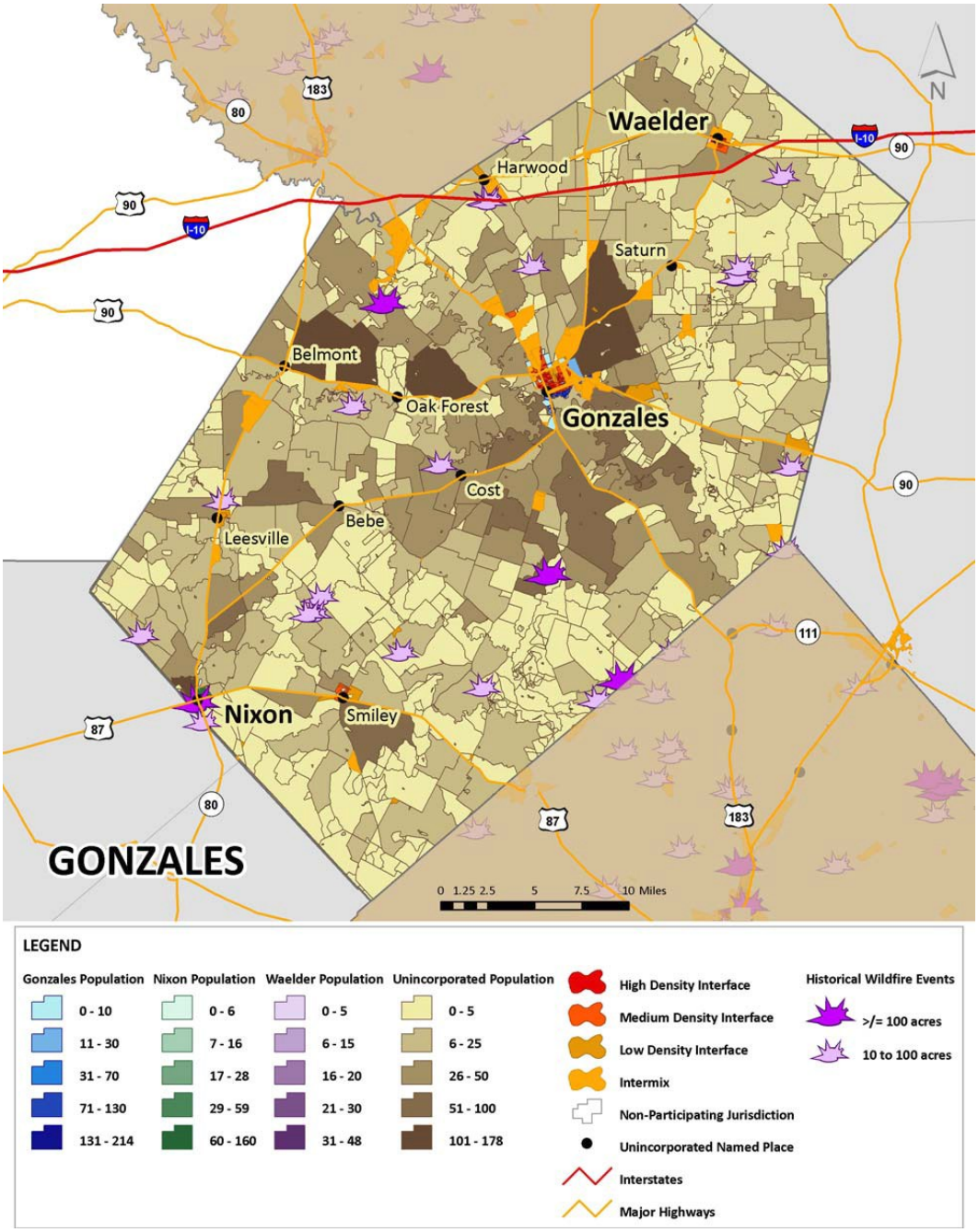
Other Hazards

Other significant hazards that Gonzales is exposed to include: severe storms and winter weather; these are explained in the historical review of hazards of the county, earlier in the chapter. Building codes and ordinances may be a viable way to protect against these hazards.

The GBRA has designated that wildfire poses a significant threat to the city of Gonzales. The Texas Forest Service has designated Gonzales County as low risk to wildfire. Gonzales County "fires more readily burn and will carry across an area with no gaps. Heavier fuels will still not readily ignite and

burn. Expect smoldering and the resulting smoke to carry into and possibly through the night" (Texas Forest Service, Keetch-Byram Drought Index (KBDI)). Map 7.11 shows the historical review of wildfires in the county (GBRA Hazard Mitigation Plan). More recently, on March 14, 2008, the President declared an emergency disaster for Texas, of which Gonzales County was an affected jurisdiction. FEMA provided needed disaster relief and assistance to Gonzales County.

Map 7.11: Historical Wildfires in Gonzales County



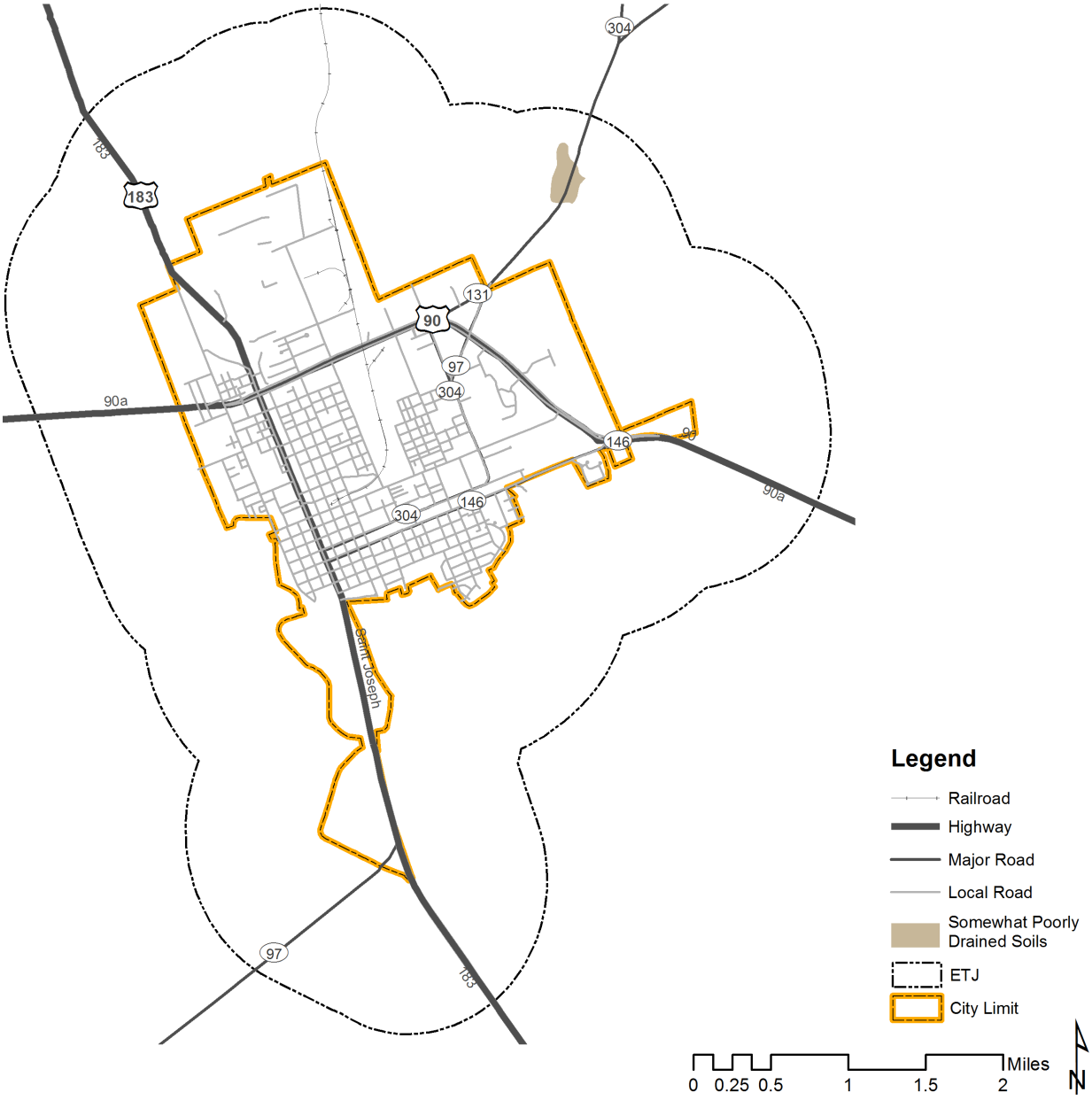
Drought is a related concern as there have been periods of drought which have had a significant impact on the local economy, in 1977 and 1996 (Appendix, Table 7.12). The data collected is only through 2010 and therefore does not include the impact of the 2011 drought. Drought will pose a future concern to the city due to environmental changes and limits on access to water. Water policies and strategies should be in place to address this future vulnerability.

Land Suitability Overlay

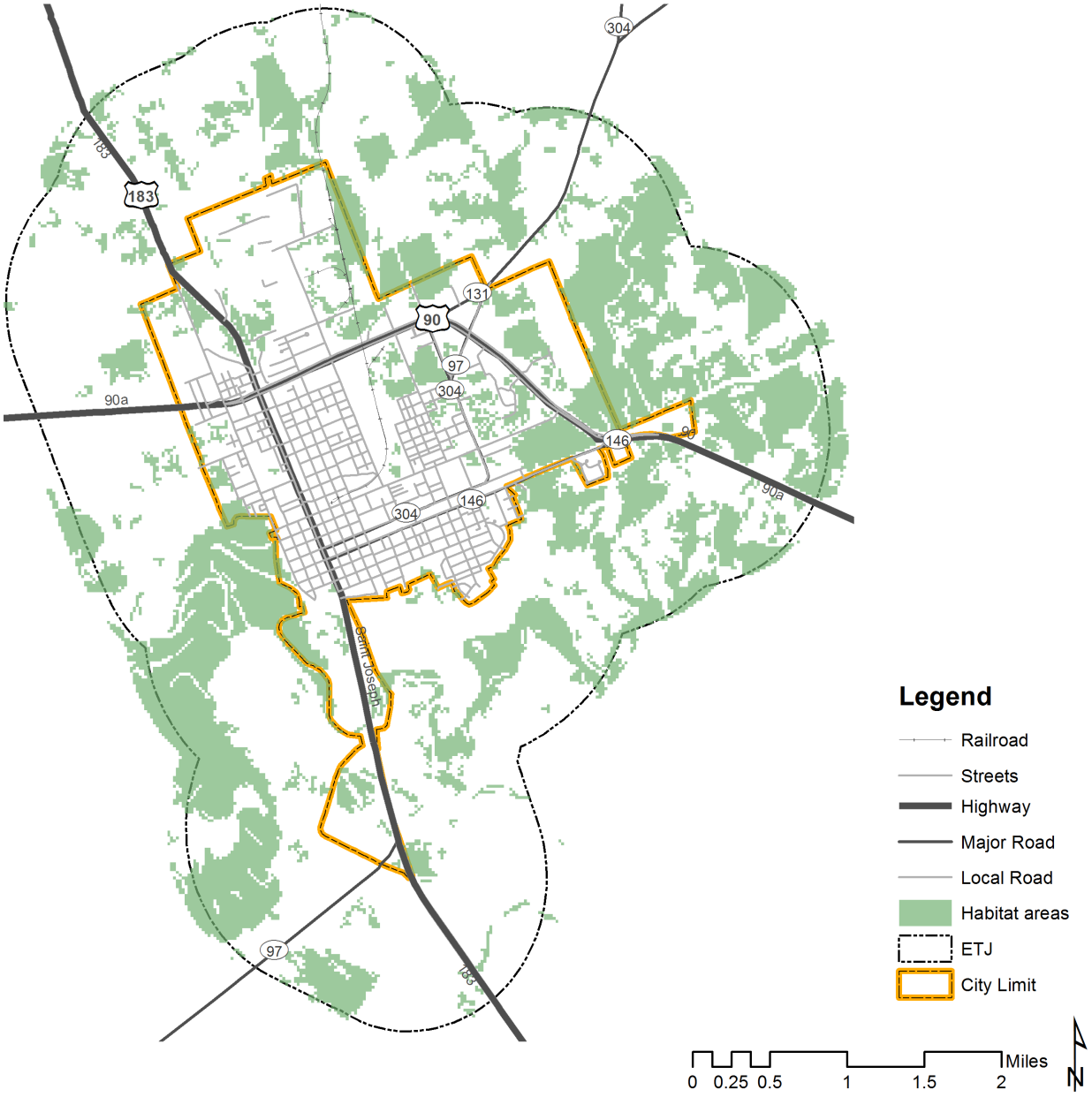
It is important for city officials to be aware of the areas in their cities that are not optimal for future development. There are a number of factors that can be included in a land suitability analysis. The land suitability analysis developed for this section only takes into consideration environmental and hazard factors. The analysis should not be used as the only tool to determine areas that are suitable and not suitable for future development. The layers that were used in the analysis on Map 7.16, were poorly drained soils (Map 7.12), habitat area (Map 7.13), the flood zone (Map 7.14), and hazardous material protection buffers (Map 7.15). The areas in the darkest shade of green represent areas where development is not encouraged. The lighter shade of green is also not recommended but is more suitable than the areas covered in the darkest green. Development on poorly drained soils is not encouraged because of the increased potential for flooding damage during a hazard event. The development of habitat areas made up of a variety of vegetation types is also not encouraged to provide environmental protection and recreational use for the residents of Gonzales. Hazardous materials pose a threat to public health, for this reason the fire chief has designated 1000-ft evacuation buffers around the sites with 10,000 lbs. of chemicals or more. Future development is discouraged to occur within these 1000-ft buffers. Future development is discouraged in the floodplain because of the increased chance of loss of life and property damages within the flood plain during a hazard event.

The combination of these factors demonstrates that development along the Guadalupe River is not ideal in terms of environmental protection and public safety concerns. The land may be better suited for parkland or other similar low-impact uses. Land along Berry Creek in the southeastern section of the city should also be avoided because of the floodplain and existing habitat. The light green area along the middle of the city should be avoided if possible due to the proximity of hazardous chemical sites and the floodplain.

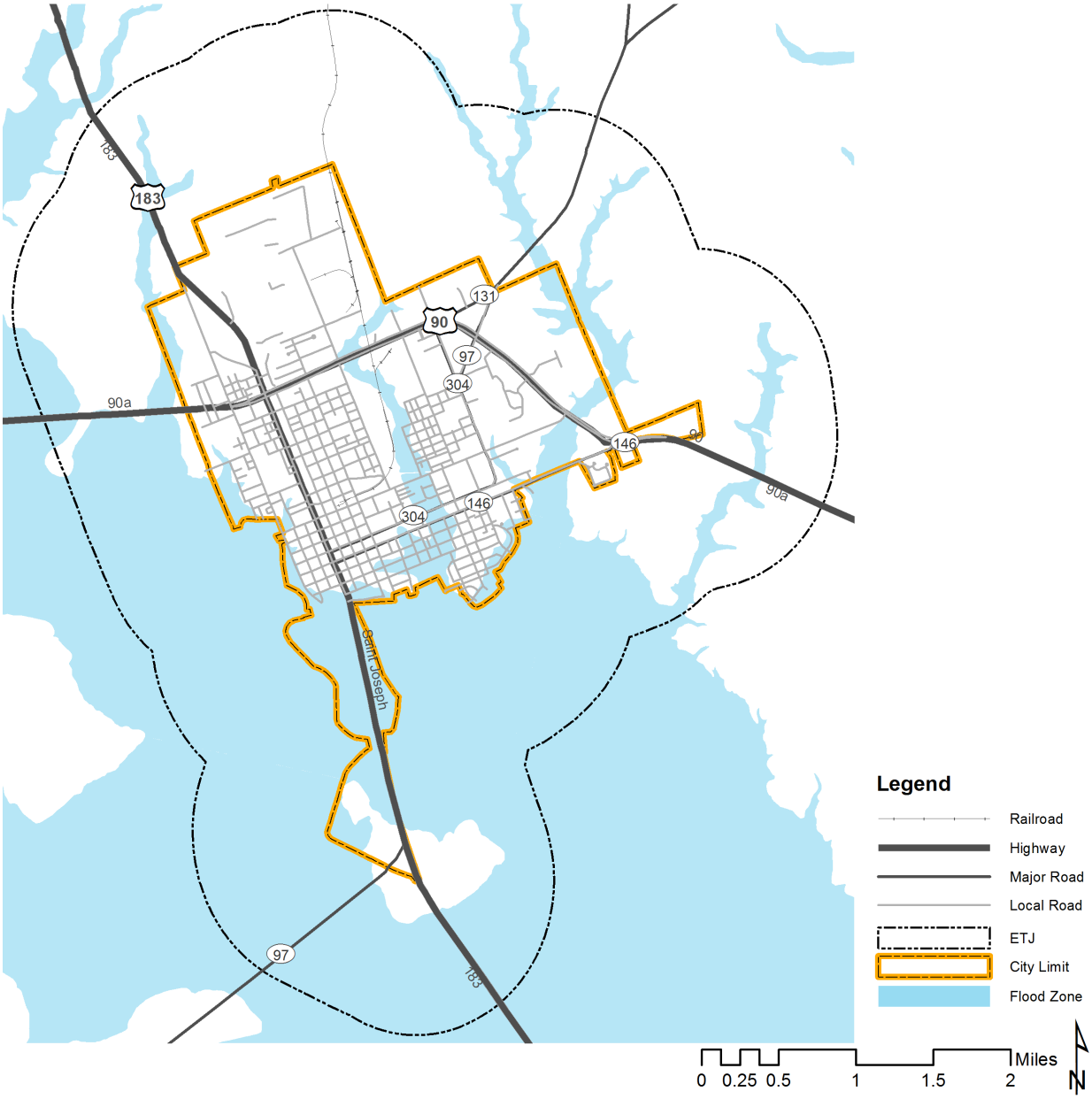
Map 7.12: Poor Drainage Soil Types



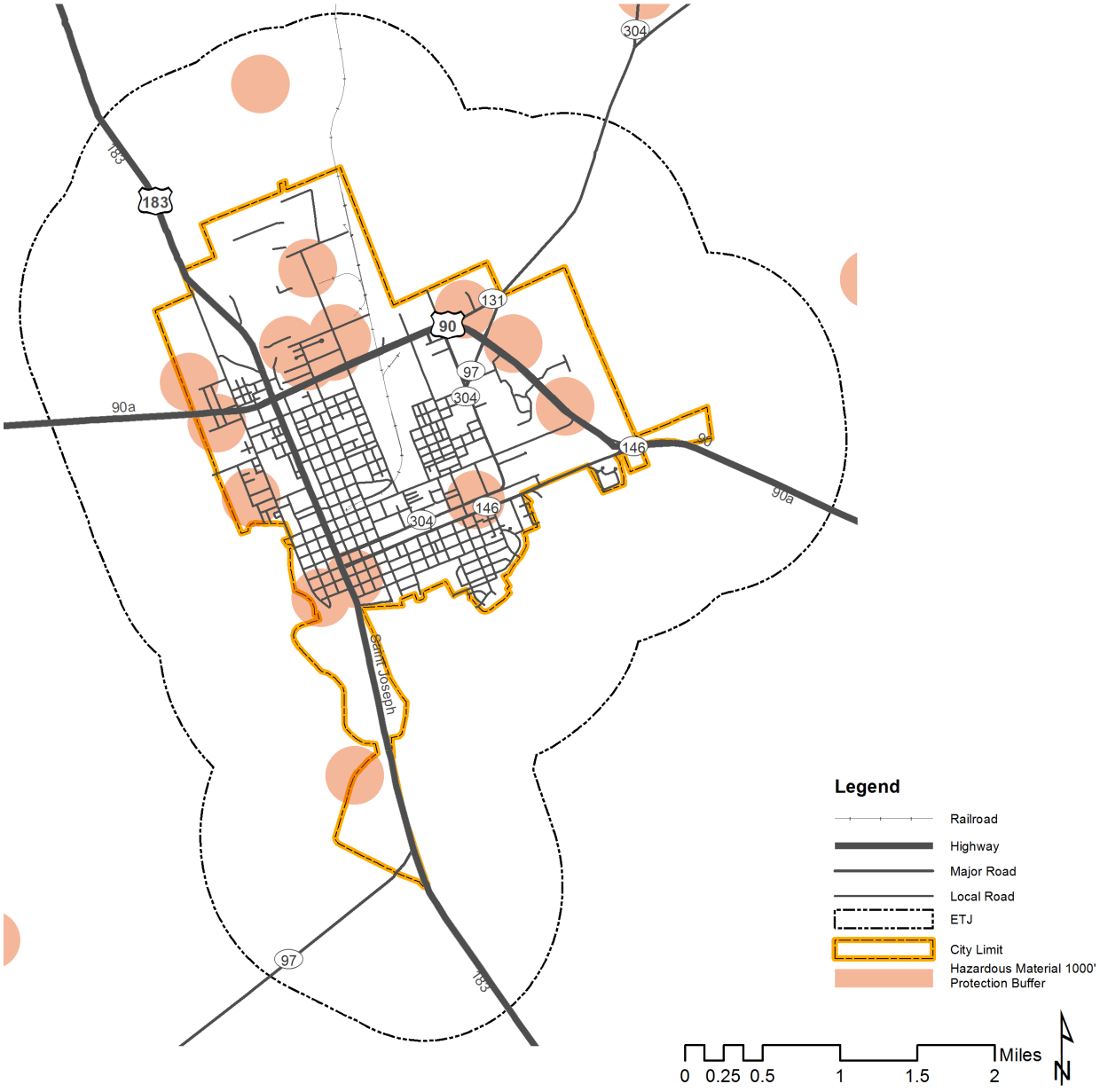
Map 7.13: Habitat Areas



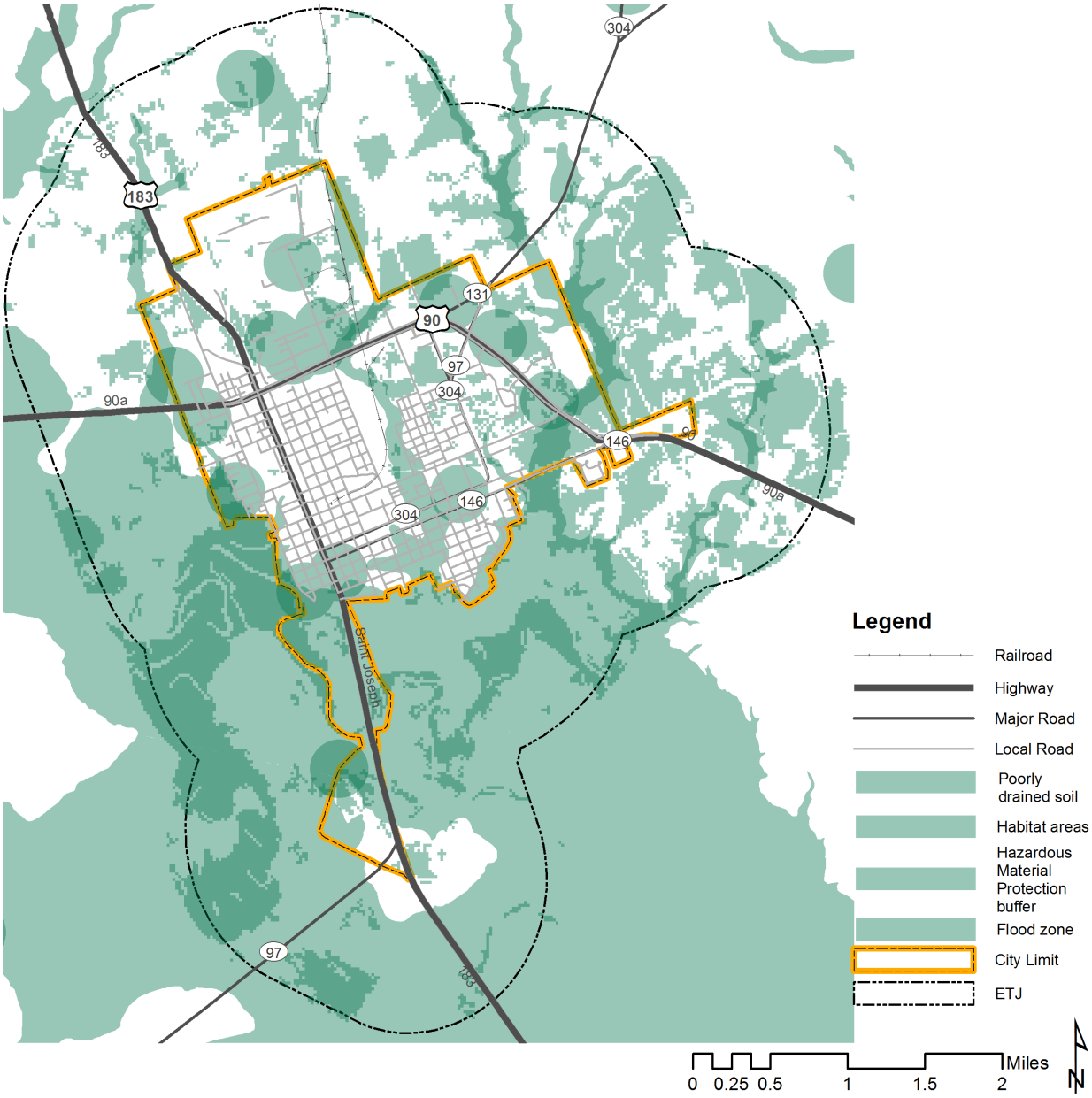
Map 7.14: Flood Zones



Map 7.15: Hazard Material Sites with 1000' Protection Buffer



Map 7.16: Overlay Analysis – Areas Discouraged from Development



The darker the shade of green, the less development is encouraged for that area.

SWOT

Strengths

- Gonzales has plenty of room to grow without constricting ecological processes.
- Permeable soil types are found throughout the region and lend themselves to absorbing rainfall events easily.
- River and stream systems have good water quality; that is, they have not been placed on the impaired waters list.
- City officials have stated that development will not occur in the floodplain; this strategy will lessen the potential for loss of life and property during flooding events.
- The San Marcos River segment within Gonzales County is considered an ecologically significant stream segment.

Weaknesses

- Large portions of the central business district and residential areas are within the floodplain.
- The most vulnerable populations are found in the downtown area, which has the greatest exposure to flooding.
- Gonzales has an aging infrastructure; power, water, and sewer systems need upgrading.
- There are 278 potential sources of contamination within the extraterritorial jurisdiction and 143 within the city limits.
- There are 78 potential sources of contamination within the floodplain.
- There are 6 potential sources of contamination within 1000 feet of the San Marcos River segment designated as ecologically significant.
- Consistent water quality monitoring is not present.
- Road damage from increased truck traffic due to fracking operations will become expensive to the city to repair and maintain.

Opportunity

- Because there is so much undeveloped land, Gonzales has the opportunity to develop in an environmentally conscious way.
- Gonzales has the opportunity to develop or redevelop land along the river in the CBD into parkway and recreation use.
- Gonzales has the opportunity to implement regulations and ordinances for new development that will shape the land in a way that meets Gonzales' goals.

- Flood resilient strategies should be a part of all new development in order to reduce flood risk to new and existing residents.
- The city has the capacity to prevent the contamination of its water sources by establishing regulations that require potential sources of contamination be sited away from water sources.

Threats

- The various hazards to Gonzales pose continual threats to the community.
- The threat to flooding, hurricanes/tropical storms, and wind-related severe storms are particularly significant.
- Strategies to address drought may not be as strong as they should be.
- Environmental changes to the region place a significant threat on agricultural land, water quality and quantity, and overall long term sustainability.
- Drilling and fracking is also a threat to long term water quality.
- Hazardous material spills, along routes and in facilities pose a significant threat to the city with 77 Tier II sites.
- Uncontrolled development is a threat outside of city limits. Environmental impacts of suburban sprawl around Gonzales can fragment species habitats.
- Development near water bodies can also increase surface runoff, degrading water quality beyond safe levels.

Future Environment

Environment Goals, Objectives, and Policies

GOAL 7.1: Become a model for small town sustainable practices in Texas

OBJECTIVE 7.1.1: Install grey water recycling system to reuse grey water for city irrigation by 2025.

OBJECTIVE 7.1.2: Install solar panels on 25% of city owned buildings by 2025.

OBJECTIVE 7.1.3: Develop a grant program to facilitate solar panel installation on private residences.

OBJECTIVE 7.1.4: Reduce water usage by the city government and private property owners.

POLICY 7.1.4.1: Create responsible design guidelines to demonstrate how property owners can reduce water use. Guidelines should include the use of paving strips (driveways paved only in parallel strips for tires) which help reduce runoff during rain events and assist the recharge of the water table.

POLICY 7.1.4.2: Install rainwater capture systems on 50% of city buildings by 2025. Rainwater capture is the accumulation and storage of rainwater for reuse before it reaches the aquifer. This can be accomplished through the use of rain barrels and other rainwater capture devices.

POLICY 7.1.4.3: Encourage use of rainwater capture systems by private property owners.

POLICY 7.1.4.4: Develop a grant program that assists property owners in replacing their landscaping with native, drought tolerant plants. This landscaping method, called xeriscaping, reduces or eliminates the need for supplemental water from irrigation (see Figure 7.8). A full listing of plants appropriate for xeriscaping can be found at *http://www.saws.org/Conservation/Outdoor/Plants/.*

POLCY 7.1.4.5: Create ordinance limiting hours for water use for landscaping purposes.