



## **Existing Conditions Report**

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Existing Conditions Report  
Chapter 1: Introduction

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# 1 Introduction and Plan Purpose

The Department of Planning & Community Development (DPCD) is revising the City of San Antonio's Comprehensive Plan. The City's current comprehensive plan is the 1997 *Master Plan Policies*. The City's comprehensive plan update will help implement SA2020, a strategic vision for the city and its current and future residents that identifies the community's desire to support economic development and new jobs while fostering community arts, education, health and culture.

The SA2020 vision and movement originated with a series of public forums in 2010 to develop goals for improving San Antonio by the year 2020 and to identify strategies for how to accommodate the more than 1 million new inhabitants expected over the next 20 years. Thousands of San Antonians participated in the visioning process, which culminated in a detailed report released in 2011 that outlined a bold vision for San Antonio's future.

The comprehensive plan update (**SA Tomorrow**) builds upon the SA2020 vision. The *SA Tomorrow Comprehensive Plan* is broken into project phases that will result in several deliverables to provide guidance and background materials necessary to integrate policy and technical information with a highly collaborative public process. The goals of this project are to:

- Revise 1997 *Master Plan Policies*;
- Implement SA2020 vision for built environment;
- Re-affirm the community's vision for the future;
- Articulate the form of future physical growth;
- Accommodate and distribute projected population growth;
- Guide strategic decision making – annexation and transportation planning;
- Guide infrastructure investments and incentives; and
- Reconcile existing plans, policies, and assumptions;
- Update the current city planning program.

The *SA Tomorrow Comprehensive Plan* will address the following 11 policy areas:

- Growth & Urban Form
- Transportation & Connectivity
- Housing
- Green and Healthy Neighborhoods & Communities
- Public Facilities & Community Safety
- Historic Preservation
- Military
- Natural Resources & the Environment
- Jobs & Economic Competitiveness
- Implementation/Codification Actions

Sustainability—economic sustainability, environmental sustainability and social equity—will be integrated throughout the above policy areas.

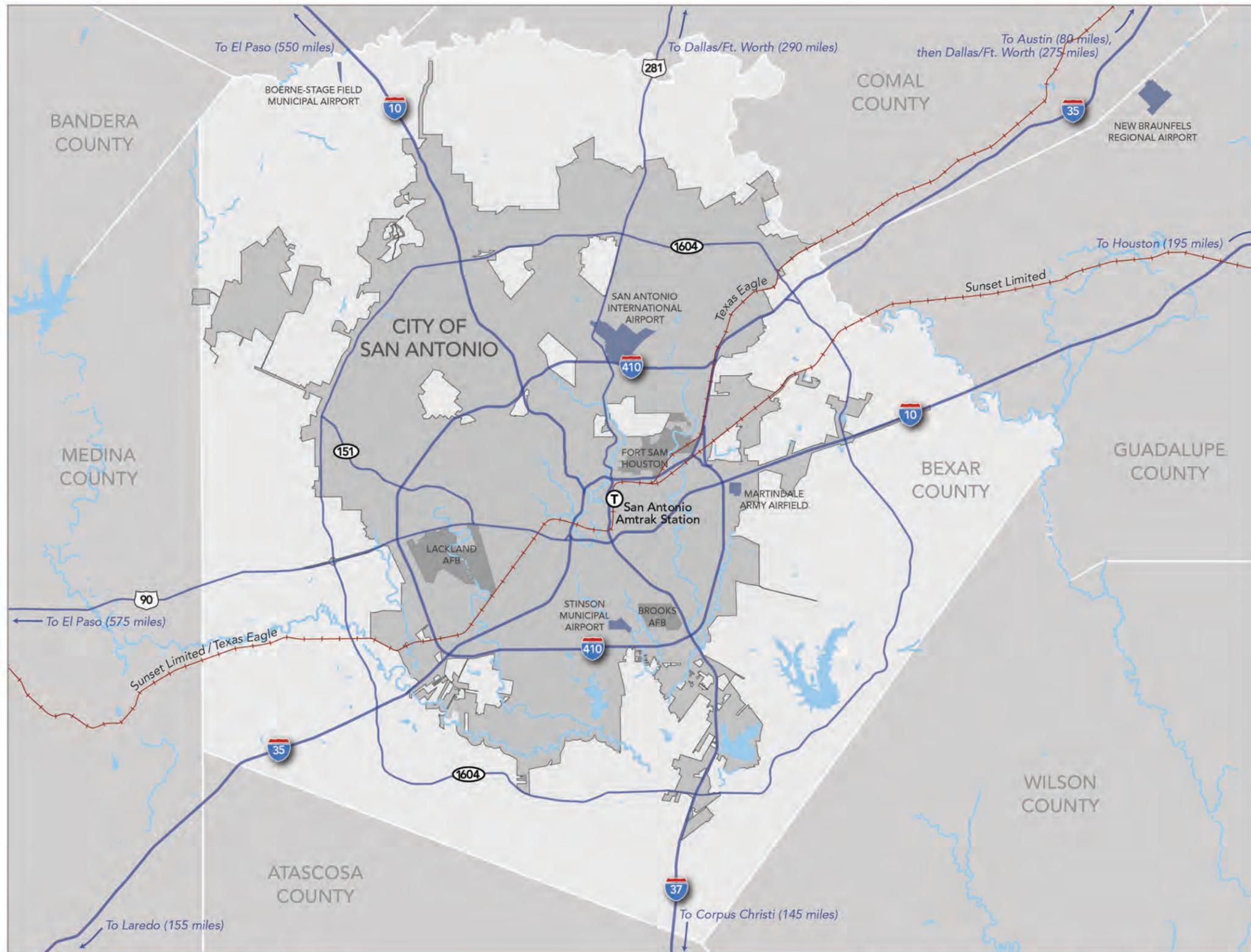
## 1.1 Background

In Phase 1 of this plan, SA Tomorrow was initiated and introduced to the community and decision-makers, including City Council. This report is Phase 2, and builds upon work completed in Phase 1. The objective of this phase is to understand and document current conditions, issues, and opportunities. Several technical documents were completed in the previous phase to inform the baseline understanding of how San Antonio fares in terms of capacity, land buildout and costs associated with different growth scenarios, and community goals. These studies included:

- **Infill Development Capacity Analysis** identified areas within the City where there is an underutilized infill development capacity which could accommodate the 1 million new inhabitants expected over the next 20 years.
- **Future Jobs and Economic Analysis** identified where major and minor employment centers could be located based on expected growth.
- **Fiscal Impact of Alternative Scenarios** analyzed the fiscal costs and benefits derived from future growth alternatives conducted with the Metropolitan Planning Organization's (MPO) adopted growth scenarios.

This second phase of work will assimilate all of the MPO background studies to articulate and illustrate the physical form of identified growth centers while considering regional impacts of growth. It includes a robust collaboration between the City and VIA Metropolitan Transit. Phase 2 will also analyze market conditions, identify areas inside the City and its periphery that would be addressed through an updated Comprehensive Plan, develop and review land use alternatives, and identify and discuss important policies and programs.

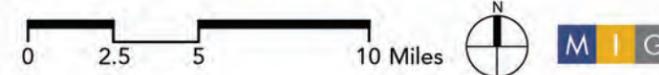
Other important products in Phase 2 will include an update of the city's planning program, the review of the different growth center scenarios, annexation policy, housing/job opportunities and constraints assessment, preferred land use and the integration of transit supportive land use with local/regional transportation plan(s), and the draft Comprehensive Plan policies. In the Vetting Phase (Phase 3), the project will identify, vet, modify, and establish the basic characteristics of the Comprehensive Plan Elements based on continuous and diverse community input.



### Legend

- City of San Antonio
- County
- Water
- Airport
- Military Land
- Major Highway
- Rail
- T Rail Station

## Chapter 1. Plan Area

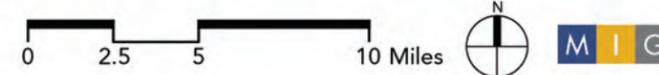




**Legend**

-  City of San Antonio
-  County
-  Water
-  Rail
-  Rail Station

**Chapter 1. Plan Area**



## 1.2 Report Organization

This *Existing Conditions Technical Background Report* is the foundation for Phase 2 of the SA Tomorrow planning process as it identifies and evaluates the existing land use and economic conditions, adopted plans and policies, and systems within San Antonio that will need to be considered during the comprehensive plan development process. The report is broken into the following sections:

- Housing, Growth and Population
- Land Use
- Urban Form and Urban Design
- Transportation
- Community Health
- Sustainability
- Military

For each of these topic areas, this report identifies the relevant adopted plans and policies to identify potential future implications for the comprehensive plan. This includes citywide and neighborhood plans, specific area studies such as the Downtown Transportation Study, joint land use studies, and partner agency plans such as the VIA Smart Way Plan and the MPO Metropolitan Transportation Plan.

## 1.3 Planning Area, Sphere of Influence and City Neighborhoods

SA Tomorrow's planning area is the San Antonio extraterritorial jurisdiction (ETJ), although this process will also affect and inform planning with the metropolitan planning organization (MPO). While the *Comprehensive Plan* is a citywide planning and policy document, its goals and policies will also inform specific area plans, including:

### Community Plans

- Arena District
- Greater Dellview
- Guadalupe/Westside
- Kelly/South San PUEBLO
- Near Northwest
- Nogalitos/South Zarzamora
- North Central
- San Antonio International Airport Vicinity
- South Central San Antonio
- Eastern Triangle
- Highlands
- I-10 East Corridor
- South Central
- Stinson Airport Vicinity
- Northwest
- Huebner/ Leon Creeks
- United Southwest

## Neighborhood Plans

- Dignowity Hill
- Downtown
- Government Hill
- Lavaca
- Mahncke Park
- Mahncke Park/Westfort
- Midtown
- Monte Vista
- Northeast Inner Loop
- River Road
- Tobin Hill
- Westfort Alliance
- Oakland Estates
- Tanglewoodridge
- Northeast Inner Loop
- Meadow Village
- Woodlawn Hills/ Ingram Hills

It is likely that the above mentioned plans will require an update to ensure consistency with the SA Tomorrow *Comprehensive Plan*. It will be important as the comprehensive plan process is underway that the above plans are also considered for their consistency with the outcomes of this process.

## 1.4 Concurrent Planning Processes and Studies

In addition to the ongoing SA2020 initiative, there are two concurrent planning efforts that are part of the SA Tomorrow development process. The City is currently engaged in developing a *Multimodal Transportation Plan* (SMMTP) that will expound on SA Tomorrow *Comprehensive Plan* policies, incorporate all modes of transportation, and create a sustainable, safe and efficient transportation system. Recommendations from the MMTP will be consistent with the *Comprehensive Plan's* vision for the city's transportation system. When complete, the MMTP will:

- Communicate the City's transportation strategy for the future,
- Develop proposed improvements that address all modes, and
- Provide for a method of prioritizing projects.

The City is also developing a *Sustainability Plan* that will work in tandem with the SA Tomorrow *Comprehensive Plan* and the *Multimodal Transportation Plan*, as well as other plans and guiding documents. This plan will define and clearly explain the community's current sustainability challenges and opportunities; serve as a mechanism to tie together the City's existing and developing initiatives, strategies and plans with the community's goals; and establish a cohesive set of strategies, implementation plans, and practical metrics for improving sustainability in municipal operations and the broader San Antonio area. Specifically, the Sustainability Plan will:

- Develop a roadmap through an inclusive and technically robust process that is grounded in the three pillars of sustainability- social, economic, and environmental
- Address issues and opportunities related to air quality, the built environment, the economy, energy, food, health, natural resources, solid waste, transportation, and water
- Engage San Antonians to provide their concerns and offer ideas on how San Antonio can improve
- Develop metrics of success that will be tracked and reported on an annual basis
- Design a process that ensures all SA Tomorrow plans are developed in a streamlined, inclusive manner

The results of the *Sustainability Plan* process will identify ways to integrate sustainability strategies into the *Comprehensive Plan* and the *Multimodal Transportation Plan*.

The *Multimodal Transportation Plan* and the *Sustainability Plan* are two of the primary planning efforts that SA Tomorrow will integrate with the *Comprehensive Plan*. The City and the Alamo Area MPO have several other planning initiatives that will be incorporated into the comprehensive planning process, such as the Walkable Community Program, the Regional Bicycle/Pedestrian Planning Study and VIA 2040 transportation plan.

## 1.5 Legal and Regulatory Context

Comprehensive planning is a coordinated, continuous process that helps a community achieve goals that are important to citizens. It promotes sound development, and public health, safety, and welfare. Chapter 213 of the Texas Local Government Code enables a municipality to adopt a comprehensive plan for the long-range development of a municipality. A comprehensive plan may include but is not limited to provisions on land use, transportation, and public facilities; may consist of a single plan or a coordinated set of plans; and may be used to coordinate and guide the establishment of development regulations. In light of this, a municipality must develop standards for determining the consistency required between a plan and development regulations.

A Comprehensive Plan encompasses a broad geographical area and all elements that affect a municipality's physical development. The plan may be in the form of a map, a written description and policy statements, or it may consist of a set of policy statements. The plan represents a "vision" for the community and sets forth goals and objectives, and lists actions for implementation. The current umbrella document for the City of San Antonio's Comprehensive Plan is the *San Antonio Master Plan Policies*, adopted May 29, 1997. These policies provide guidance in the evaluation of future decisions on land use, infrastructure improvements, transportation, and other issues. Ordinances should be consistent with the relevant goals and policies contained in the Master Plan.

The 1997 *Master Plan Policies* set broad long-range goals for San Antonio. It is implemented through more detailed levels of planning by means of other Citywide Functional Plans, Sector Plans, Neighborhood and Community Plans, and Community Development Plans.

Existing Conditions Report

## Chapter 2: Housing, Growth & Population

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## 2 Housing, Growth & Population

### 2.1 Executive Summary

The findings developed for the this chapter of the existing conditions report are based on research conducted for the comprehensive plan and the findings and analysis completed within two recent studies commissioned by the City; the Comprehensive Plan Initial Studies and the Comprehensive Housing Needs Assessment and Strategic Housing Plan. These two studies contain detailed analysis of existing population and housing conditions, as well as a projection of future growth for the City used to develop the Alamo Area Metropolitan Planning Organization's 2040 population and employment forecasts. Reference these two studies for additional information and background on the key findings listed below.

- The City of San Antonio and Bexar County experienced strong population and household growth over the past decade. This trend is expected to continue as an additional 1.1 million people and 520,000 households are forecast by the Alamo Area Metropolitan Planning Organization to locate in Bexar County between 2010 and 2040.
- San Antonio is capturing a decreasing share of population and household growth in the metro area and has grown slower than Bexar County and the surrounding communities in other metro counties since 2000. San Antonio captured only 70 percent of the household growth in Bexar County since 2000 after having captured virtually all of it during the previous decade. San Antonio households grew by an annual rate of 1.3 percent over the past 14 years in contrast to Bexar County, which grew by 1.8 percent, and the San Antonio-New Braunfels metropolitan statistical area (MSA), which grew by 2.5 percent.
- San Antonio has been losing its competitive market position for capturing single family housing development within the metro area as developers and home buyers look outside the City's boundaries for more attractive opportunities. San Antonio has been capturing a decreasing share of single family home development within the MSA and now captures less than half. Developers have begun working in unincorporated Bexar County due a decrease in annexation efforts by the City over the past decade and to public financing structures provided by the county in form of public improvement districts that allow the County and developers to pay for capital improvements needed with future tax revenues. This has led to a large amount of development to be located outside the City's boundaries and control, although the development continues to rely on City services and infrastructure to support it. Single family home buyers over the past decade have found it cheaper and more attractive to buy homes in the surrounding suburbs, which have been facilitated by infrastructure improvements that allow for easy access in and out of the City's periphery.
- Based on nation-wide surveys analyzed in the *Comprehensive Plan Initial Studies*, there is a growing preference from home buyers to live in walkable, mixed use communities that provide close and convenient access to neighborhood amenities and services, as well as shorter commutes to work, in exchange for smaller houses and yards. San Antonio lacks walkable neighborhoods that fit with changing consumer preferences. San Antonio has the opportunity to expand the market within the City by providing more neighborhoods

and areas that fit with more recent consumer preferences. Walkable, mixed use neighborhoods could provide a substantial market niche for the City, as these types of neighborhoods are less prevalent in the surrounding suburban communities.

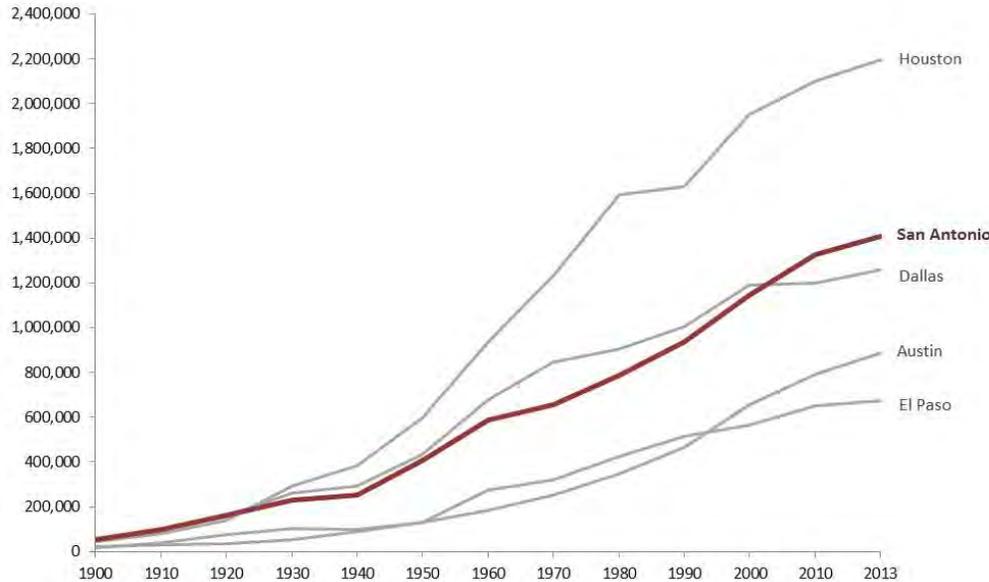
- When looking at growth patterns within the City over the past decades, the market has gravitated to the northern and western portions of the City and Bexar County. Areas of the City and Bexar County outside the 1604 loop captured 40 percent of housing development between 2000 and 2012, and over 70 percent of housing development occurred north of the I-410 loop. This will change as these areas are nearing build out given the lack of available land, topographic constraints, and the corresponding challenges for utility service. Residential growth is projected to occur more to the west, and to some degree, to the south. Depending on the ability of the City to create policies and infrastructure changes to attract growth, it may shift to locations within the city limits or may continue to expand into other counties.

## 2.2 Demographic Trends

### Population

San Antonio, with a total population of 1,409,000 million (2013 ACS), is the seventh largest City in the nation. As shown in the figure below, the City of San Antonio passed Dallas in early 2000's to become the second largest city in Texas.

**Texas Major Cities Populations, 1900-2013**



San Antonio is the principle city of the San Antonio-New Braunfels metropolitan statistical area (MSA). As shown in the table below, the MSA population is 2,192,724 and grew by 600,431 residents from 2000 to 2013. Population grew at an annual rate of 2.5 percent. During that time, San Antonio (which accounts for 78 percent of the population in Bexar County and 62 percent of the MSA) grew by 214,387 residents at an annual rate of 1.3 percent. Bexar County population increased at a faster annual rate than the City at 1.8 percent. Between 2000 and 2013, San Antonio accounted for 59 percent of population growth in Bexar County compared to 100 percent of the population increase in the County the decade prior.

Population	2000	2013	Change 2000 - 2013		
			Total #	Ann #	Ann %
City of San Antonio	1,144,646	1,359,033	214,387	16,491	1.3%
Bexar County	1,392,839	1,753,238	360,399	27,723	1.8%
San Antonio MSA	1,592,383	2,192,724	600,341	46,180	2.5%

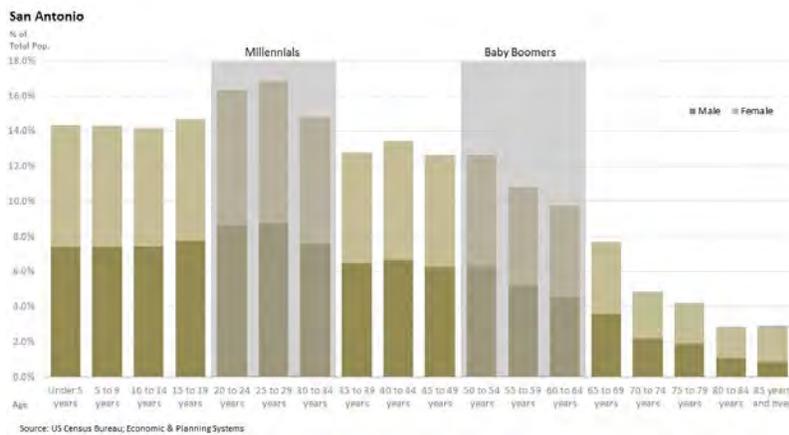
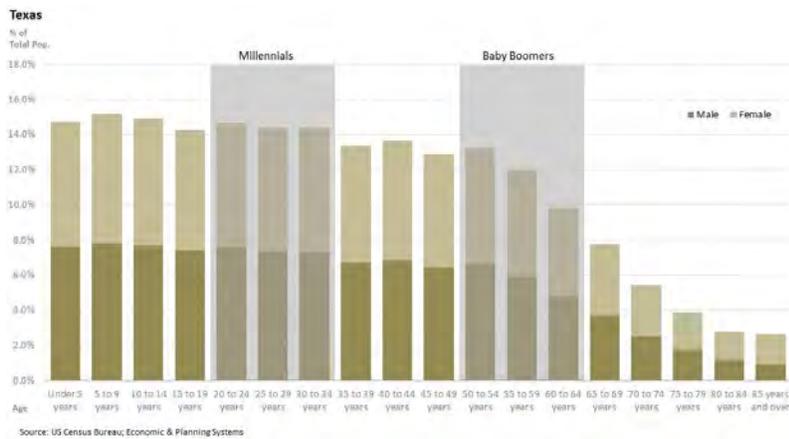
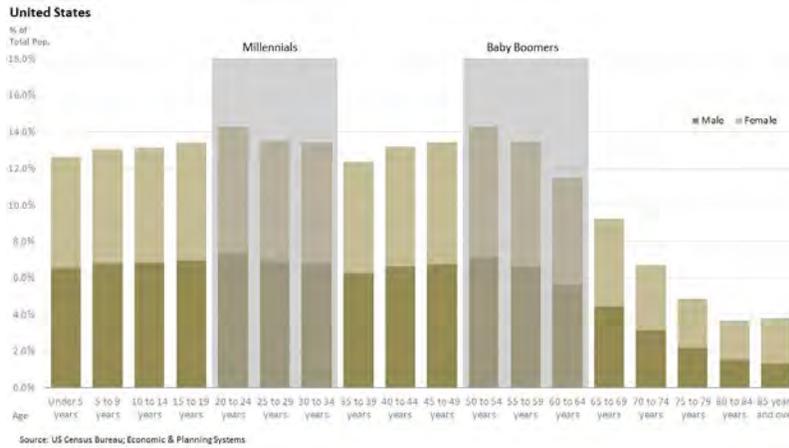
Source: US Census Bureau; US Census ACS 2013; Economic & Planning Systems

### Age

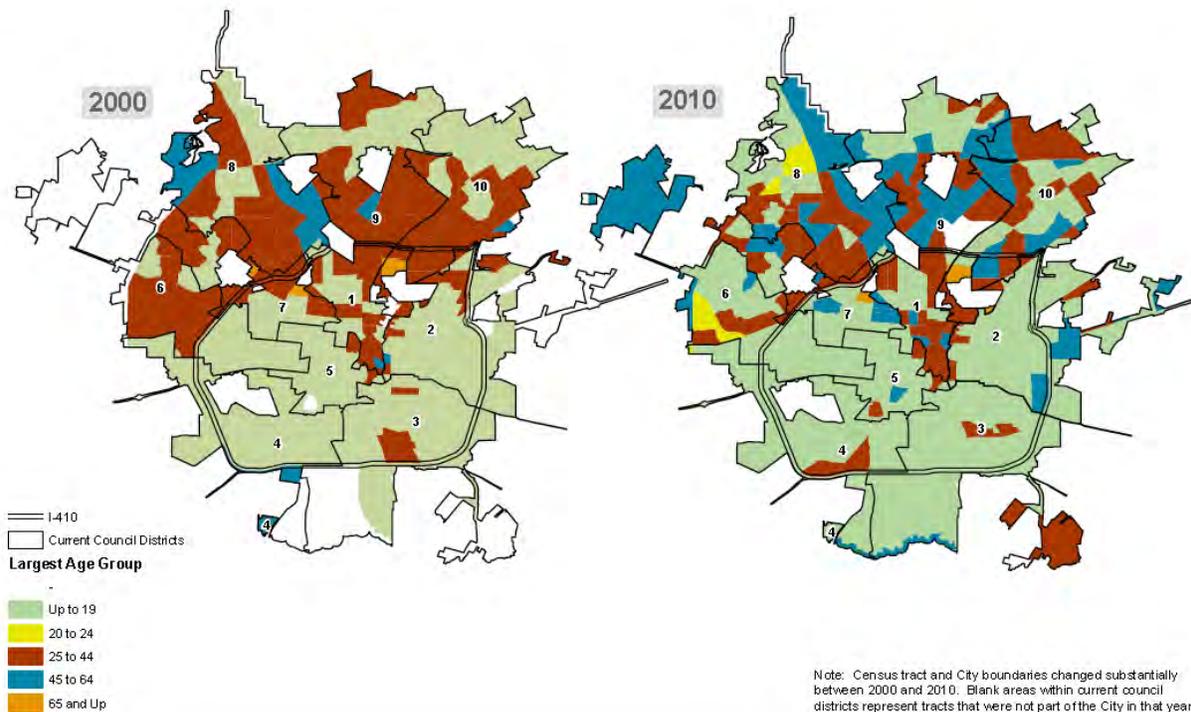
As shown on the table on the following page, residents of San Antonio and Texas as a whole are younger than the nation. The median age of San Antonio residents is 32.7 compared to 33.8 for the State of Texas, while the national median age is 37.3 years old. Nationally, the largest generation of people has been the Baby Boomers (approx. age of 48 to 65) for several

decades. However, the Millennial generation (approx. age of 18 to 35) has become the largest generation with the most prevalent age in the US being 23 years old. By comparison, the most prevalent age in Texas is 5 years old.

### Percent of Population by Age Cohort, US, Texas and San Antonio, 2013



## City of San Antonio Largest Age Group by Census Tract, 2000-2010



Source: Comprehensive Housing Needs Assessment and Strategic Housing Plan. 2013

San Antonio's largest age cohort is residents ages 25 to 30 and the percent of residents who are in the Baby Boomer generation is much smaller than the national average. The real estate preferences, such as housing and retail, within Texas and San Antonio will be largely dictated by the demands of the Millennial generation and even younger demographic cohorts. However, as the baby boomer population ages, there will be an increased demand for services for seniors.

Despite the high proportion of younger residents, the rate of growth for the Baby Boomer age cohort has been the fastest growing in the City of San Antonio. Between 2000 and 2010, the largest expansion was among persons age 45 to 64. The population of this age cohort has doubled since 1990. This cohort group accounts for 25 percent of the population, up from 17 percent in 1990. While the percent of residents under age 20 has fallen from 33 percent in 1990 to 30 percent in 2010, the share of seniors age 65 and up who live in the City has remained steady around 11 percent.

Geographically speaking, the southern half of San Antonio tends to be younger. The City's largest concentrations of elderly persons and individuals between the ages of 25-44, who may have young families, are in the north and central areas of the City.

## Race/Ethnicity

The ethnic make-up of San Antonio is diverse. Residents of Hispanic/Latino descent comprise 63 percent of the population. The share of Hispanic/Latino-descent residents increased from 59 percent in 2000. The Hispanic/Latino population is largely concentrated in the southern portion

of the City. However, the concentration of this population grew throughout the City, especially in the central and eastern areas of San Antonio.

The non-Hispanic, white population constitutes 26 percent of the population. The share of non-Hispanic white residents decreased from 32 percent to 26 percent from 2000 to 2010. The non-Hispanic white population has the highest concentrations in the northern quadrant of the City.

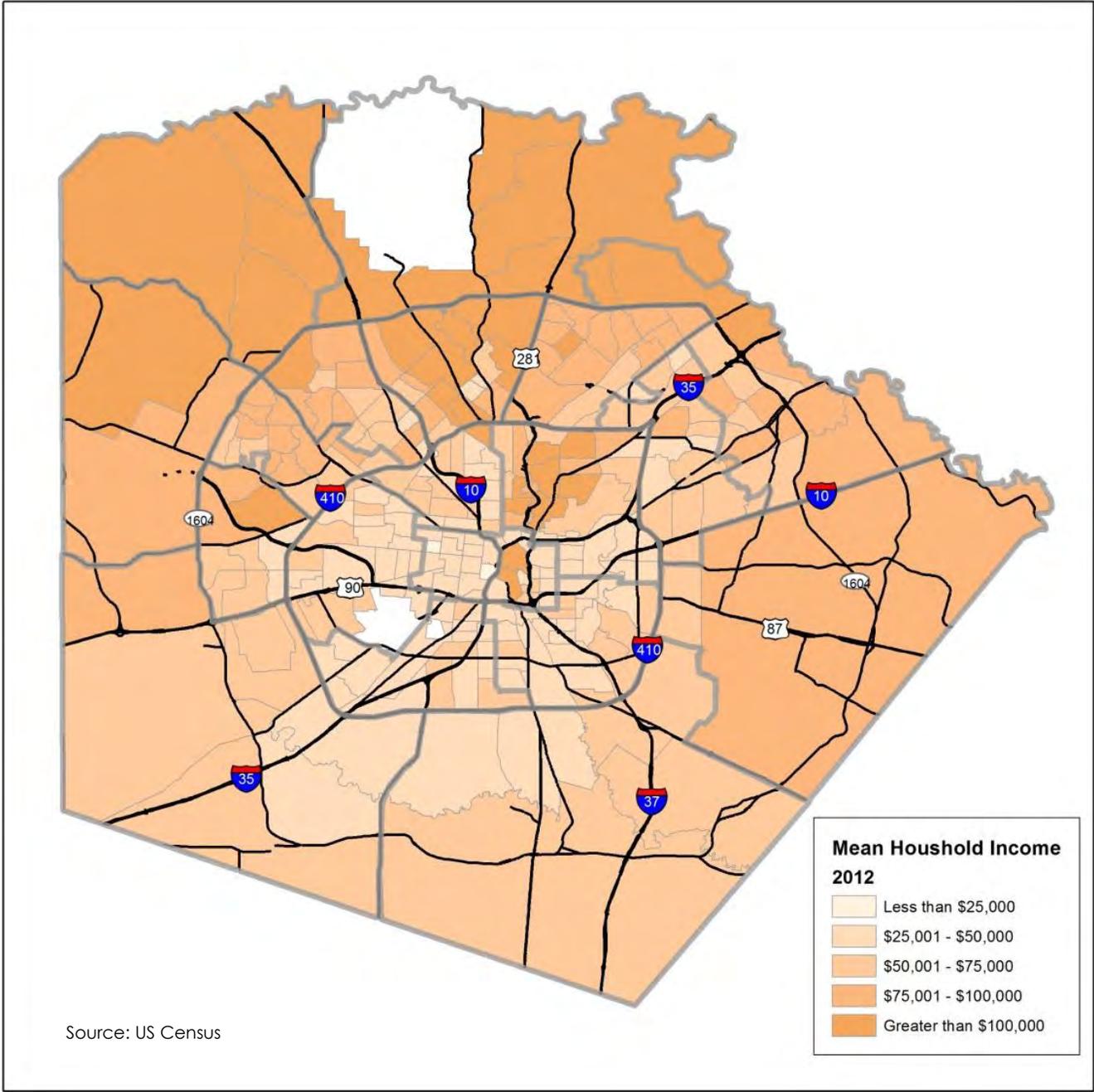
Two other racial groups have a significant presence in San Antonio. The Asian population accounts for approximately 2 percent of the City population. The African American population is slightly larger than the Asian population, and accounts for 6 percent of the City's population. The African American share of the population has remained relatively stable over the past 20 years as the share in 1990 was 7 percent.

## Income

The per capita income in San Antonio is \$22,414, which is lower than the State of Texas average of \$26,327 and national average of \$28,184. The average household income is \$60,707 and median household income is \$43,758.

The City's poverty rate was 19 percent in 2010, which is 10 percent higher than the rate in 2000. The 2010 poverty rate in San Antonio was nearly 3 percent greater than the poverty rate in the entire MSA. There is also a disparity between the rates of poverty for children versus the elderly population. The Comprehensive Housing Needs Assessment and Strategic Housing Plan completed for the City in 2013 found that children under 18 were twice as likely to live in poverty as the elderly.

The concentration of poverty and segregation of economic groups is another pressing issue for San Antonio. Areas of within the City with high levels of poverty are found mainly in the central and southern portions of the City. A recent study by the Martin Prosperity Group entitled *Segregated City: The Economics of Segregation in America's Metros* found that the San Antonio MSA had among the highest level of income segregation in the nation. A 2013 joint study between Harvard University and the University of California Berkeley found that metro areas in the US with low income individuals who were residentially segregated from middle income individuals were most likely to have low rates of upward economic mobility.



## 2.3 Housing Trends

### Housing Growth

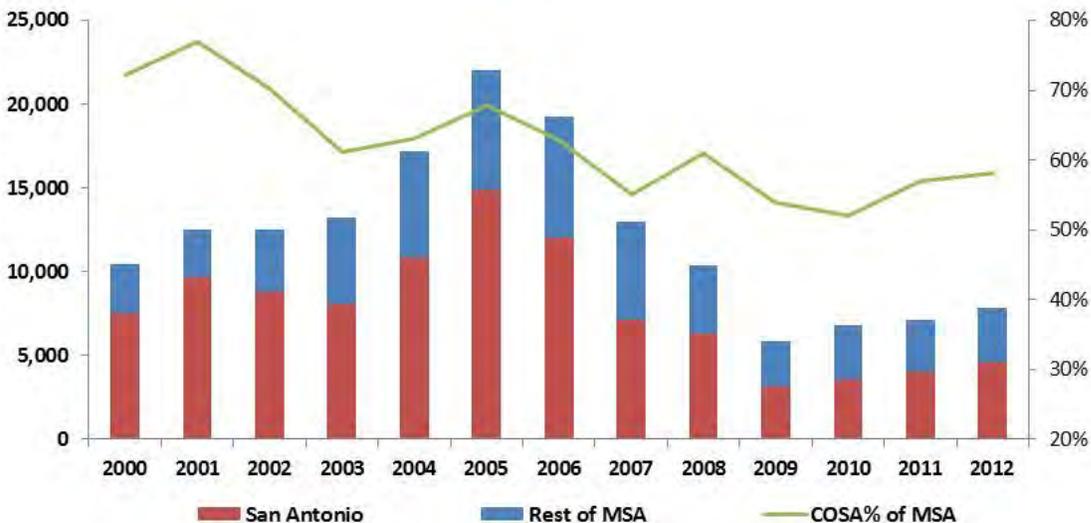
San Antonio, as of 2013, had 477,134 households, as shown on the table below. The number of households in the City increased by 71,660 from 2000 to 2013 and grew at an annual rate of 1.3 percent or approximately 5,500 households annually. The City of San Antonio households account for 79 percent of Bexar County and 63 percent of the MSA. Bexar County and the MSA both increased in households at quicker annual rates, 1.6 percent and 2.4 percent respectively, between 2000 and 2013.

Households	2000	2013	Change 2000 - 2013		
			Total #	Ann #	Ann %
City of San Antonio	405,474	477,134	71,660	5,512	1.3%
Bexar County	488,889	604,698	115,809	8,908	1.6%
San Antonio MSA	559,946	759,762	199,816	15,370	2.4%

Source: US Census Bureau; US Census ACS 2013; Economic & Planning Systems

The City's capture of new population and households in the MSA has declined steadily since 2000. In 2001 the City accounted for 77 percent of permitted new residential units in the region. By 2012, the percent of units permitted in San Antonio dropped to 58 percent, which is less than the average from 2000 to 2012 of 64 percent.

**San Antonio MSA Permitted Residential Units, 2000-2013**



Source: US Census Building Permits Survey

## Household Size

The average household size in the City of San Antonio in 2010 was 2.71, which is lower than the average in 2000 of 2.77. There have been significant changes in the household sizes of ethnic groups which could indicate significant changes in housing demand and preference. The largest change in household size was experienced by the Hispanic/Latino demographic as households in 2010 averaged 3.04 persons compared with 3.19 persons in 2000. The household size of other ethnic groups remained relatively stable

## Units by Type

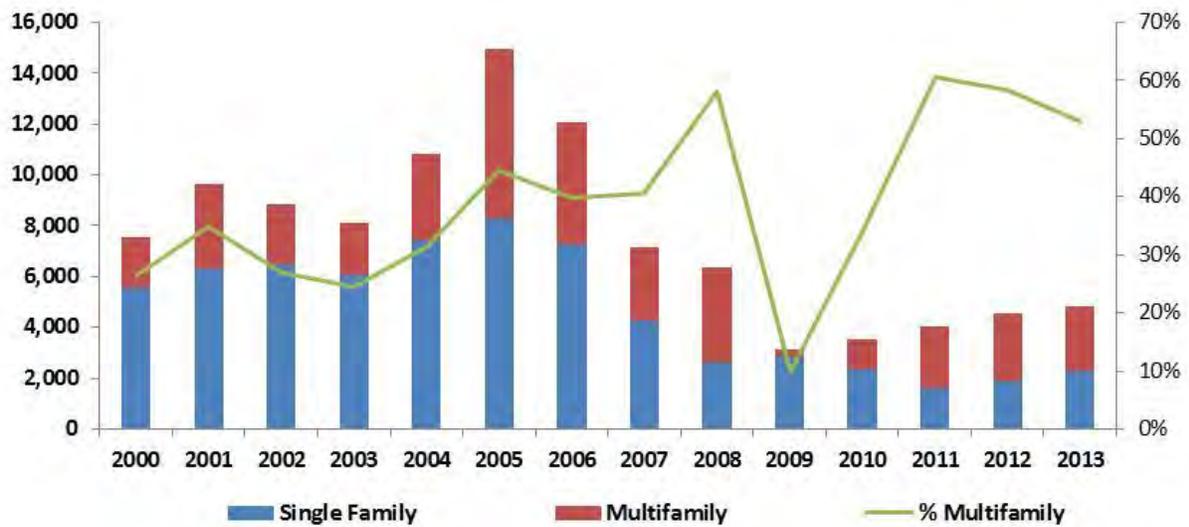
The most prevalent housing unit type in San Antonio is single family detached units, which make up 63 percent of all units in the City, as shown below. Single family attached units (2 to 4 units per structure) account for 9 percent of all units. Multifamily units, defined as structures with 5 units or more, account for 26 percent.

Housing Units	Number	% of Total
Single Family Detached	337,739	63%
Single Family Attached	13,988	3%
Duplex (2 units)	10,472	2%
3 to 4 units	22,699	4%
5 to 9 units	39,624	7%
10 to 19 units	49,912	9%
20 or more units	55,841	10%
Mobile Home	8,135	2%
Other	123	0%

Source: US Census ACS 2013; Economic & Planning Systems

There has been a significant shift in the types of housing units constructed in the City of San Antonio. For the three year period from 2000 to 2002, approximately 30 to 40 percent of permitted units in San Antonio were multifamily units. For the past three years, this has risen to 50 to 60 percent. Since 2000, San Antonio has captured 88 percent of multifamily development within the MSA.

**City of San Antonio Permitted Residential Units, 2000-2013**



Source: US Census Building Permits Survey

The housing unit vacancy rate in San Antonio is 8.4 percent, which is higher than the rate of 6.4 percent in 2000 but well below the MSA and State of Texas averages of 10.0 percent and 11.2 percent. The homeowner vacancy rate in the City of San Antonio is 1.5 percent, a slight increase compared to 1.4 percent in 2000. The rental unit vacancy rate is 6.5 percent, down from 6.9 percent in 2000.

As shown in the table below, 53 percent of housing units in San Antonio are owner-occupied, which is 5 percent lower than the rate in 2000. This matches with the trend in permitted units, which has shifted in recent years to be a majority of multifamily units that are renter-occupied. The renter-occupied households increased from 42 percent in 2000 to 47 percent in 2013.

Housing Tenure	2000	2013
Owner Occupied Units	58%	53%
Renter Occupied Units	42%	47%

Source: US Census ACS 2013; Economic & Planning Systems

## 2.4 Residential Market Overview

The residential development market is dominated by two distinct trends: the continuation of suburban and exurban single family home development, and urban infill multifamily development. These two trends are distinctly different in both locations of future development and the associated design. Most of this development has been built with little integration of different uses, unit types, and densities. For both greenfield and infill development, there is a lack of diversity and options. San Antonio is also lacking in compact, walkable mixed use neighborhoods that have a mixture of unit types, which is a growing preference for home buyers.

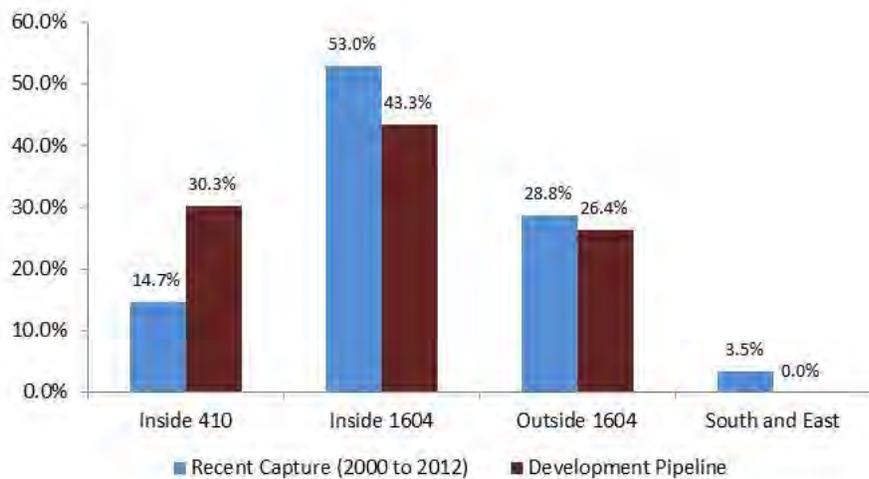
For the past four to five decades the development pattern for housing in San Antonio has been dominated by the outward sprawl of single family housing development within isolated subdivisions connected by large arterial roadways. This pattern of development continues to be the dominate land use pattern in the MSA. In the past decade, a significant portion of new single family home development in Bexar County and the MSA occurred outside of the borders of San Antonio. There have been several, large single family developments built within the unincorporated portion of the county. These developments generate large portions of population that rely on City infrastructure but are outside the land use controls of the City.

A fiscal impact analysis of new development on the City was completed as part of the *Comprehensive Plan Initial Studies*. The fiscal analysis found that new, outward expansion is less fiscally beneficial to the City than infill development. The analysis also found that compact, walkable neighborhoods have a fiscal benefit that is three to four times greater than the traditional, suburban residential neighborhoods that have been built in the City and suburbs over the past 50 years.

Analysis of housing preference surveys and existing housing conditions in San Antonio completed in the *Comprehensive Plan Initial Studies* indicated there is unmet demand for walkable neighborhoods based on existing conditions and consumer preferences. The demand by housing type in the future will more closely match consumer preferences and San Antonio should plan for and encourage the development of higher density and more walkable neighborhoods. To facilitate this, the forecast demand for housing types will shift away from the predominately large lot single family detached currently homes that dominate the region. The implication for this analysis is that more small lot, attached and multifamily homes, as well as neighborhoods that are more walkable will be in demand.

Multifamily development, specifically apartment development, is leading to reinvestment in the inner core of San Antonio. Development of apartments within the I-410 loop accounts for over 30 percent of the apartment development pipeline (defined as projects under construction, approved or planned) for the region. The city's activity centers, identified around major employment concentrations, have the opportunity to capture more than half of multifamily development over the next 30 years, which can transform the City's employment centers into vibrant, high density, mixed use activity centers.

### Bexar County New Apartment Unit Capture by Area



Within the City's SA2020 visioning plan, there are goals to increase the number of housing units downtown by 5,000 units and the capture of housing within the I-410 loop. As of the 2013 SA2020 indicator report, there were 4,185 units in downtown in 2012 and 881 units have been added since 2010. An additional 4,119 units are needed to reach the SA2020 goal. The market analysis completed as part of the *Comprehensive Plan Initial Studies* estimated that the Central Business District (CBD) could increase in households by 12,000 units by 2040, which is an average of 400 units annually. As of first quarter 2014, research indicates that nearly 2,000 units were in the development pipeline (i.e. under-construction, approved, planned/proposed) in the central subarea. Based on current construction trends and market analysis, it is likely that the 2020 goal will be achieved. The current City policies and incentives are working well and there is strong market momentum for apartments in downtown, with new units achieving the highest rental rates in the City. For-sale multifamily housing is still struggling to gain market traction, but will become more feasible as land prices and rental rates continue to grow. Potential barriers to achieving this goal include a lack of development sites, the cost to upgrade aging infrastructure (specifically replacing aging water pipes to meet fire flow requirements), and a lack of residential services to support the housing growth (i.e. groceries, service retailers, area amenities).

The recent infill housing development within the CBD and in other areas inside the I-410 loop has generated concerns of gentrification within existing inner-city neighborhoods. A handful of recent development projects have prompted discussions within these inner city neighborhoods about ways to best address these concerns. Gentrification does not appear to be a major issue for the City yet, and the City is well positioned to put in place the policies necessary to mitigate negative impacts of reinvestment in the urban core within the comprehensive plan process.

HUD completed the *Comprehensive Housing Needs Assessment and Strategic Housing Plan* in 2013. This plan identified the most pressing housing issues facing the City and quantified the gap in housing affordable to various households. The plan identified policy directives to help address neighborhood revitalization. The policy directives were to:

- Focus available funds within targeted areas, as resources are limited;
- Focus on neighborhoods adjacent to downtown for revitalization; and
- Shift the funds away from areas with the greatest needs to areas with the most opportunity for revitalization to ensure better success with revitalization efforts.

The needs assessment completed as part of the housing study identified the gap in housing for both owner- and renter-occupied households for households earning below 80 percent of the area median income (AMI). The analysis estimated that there is a need of 103,342 rental units affordable to those earning less than 80 percent of AMI. The need for owner occupied housing is 39,332 units.

## 2.5 Population Projections

The Alamo Area Metropolitan Planning Organization (MPO) completed a 30 year growth forecast for the five-county area within the MPO purview, as shown in the table, below. This forecast estimated that Bexar County will increase in population by 1.1 million by 2040. The forecast estimates population will grow by 1.7 percent annually which is approximately the same rate of growth experienced by the County between 2000 and 2013 (1.8 percent annually). The MPO estimated that this population growth will generate 519,594 new households by 2040. The estimated annual growth rate for households is 2.1 percent.

Bexar County	2010	2040	Change 2010-2040		
			Total #	Ann #	Ann %
Population	1,714,773	2,816,959	1,102,186	36,740	1.7%
Households	608,931	1,128,525	519,594	39,969	2.1%

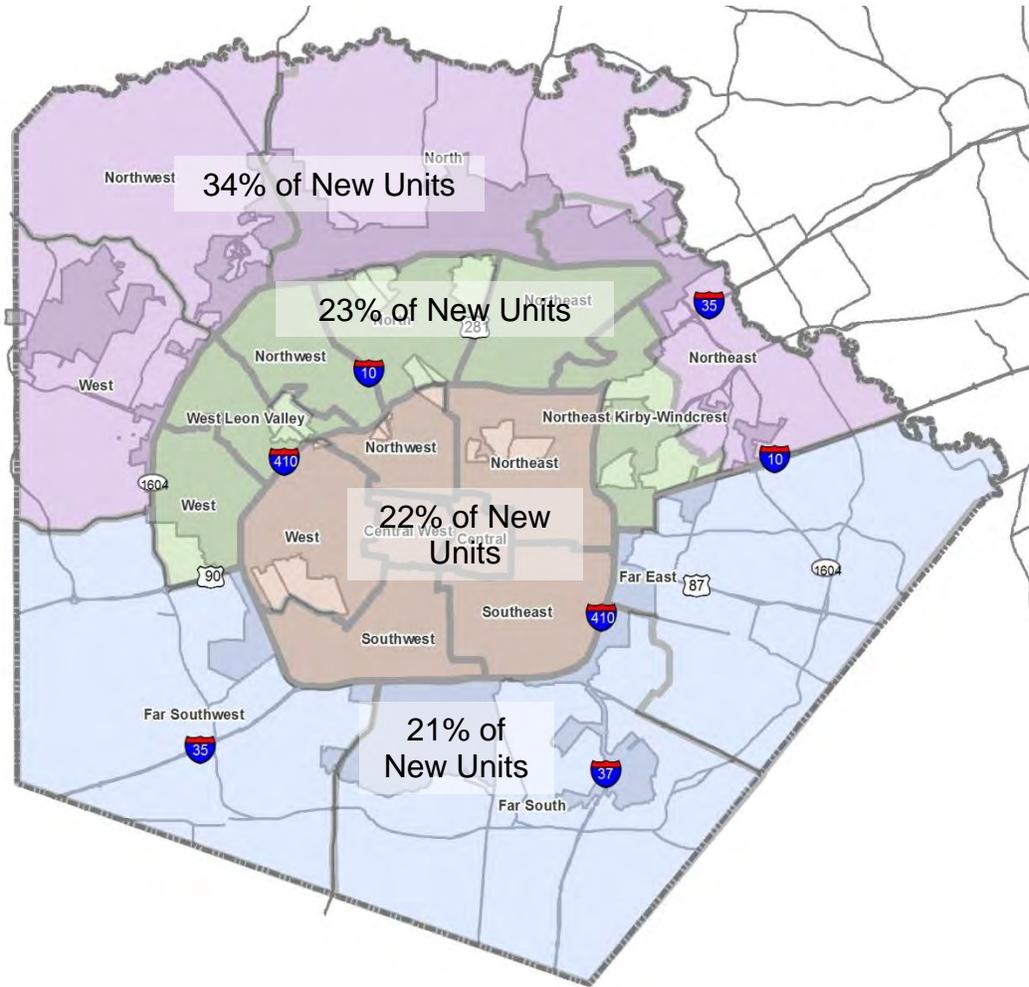
Source: US Census Bureau; US Census ACS 2013; Economic & Planning Systems

The analysis completed within the *Comprehensive Plan Initial Studies* helped generate the area-specific growth forecasts for Bexar County. The analysis for the initial studies estimated that demand for housing will begin to be more dispersed within the County instead of predominately in the north part of the County. However, the northern portion of the county is still estimated to capture the most amount of projected growth. They study estimated that 34 percent of new housing units will locate outside of the 1604 loop in the north portion of the County. An estimated total of 57 percent of new households will locate in the northern half of the county outside of the I-410 loop, which is down from approximately 70 percent over the past decade. Twenty-two percent of households are estimated to locate within the I-410 loop, and the remaining 21 percent in the southern half of the County outside the I-410 loop.

Over the past decade, a large amount of new population and housing growth within unincorporated Bexar County. This growth in the unincorporated portions of the County was due primarily to a reduction in annexation by the City of San Antonio and the use of public financing mechanisms by the County that allowed for the capital improvements necessary to facilitate new growth in the unincorporated portion of the County. This pattern of growth has significant implications on the City and the County, as the County lacks the regulatory and financial means to support sustainable development of this scale. Bexar County commissioned a major study completed in 2014 to develop an understanding of the ability of the County to provide municipal level services to urbanized area in the unincorporated portions of the County. The study also provided an estimate and understanding of the fiscal impact on a municipality if the urbanized areas were annexed into an existing city or incorporated into a new city. The study found that the County lacks the necessary funding mechanisms and governmental authorities to provide municipal level services. As well, the study found the majority of the unincorporated, urbanized areas in the County would create significantly negative fiscal impact on a city annexing or incorporating the area, expect for the areas of the county with high property values.

The City has recently shifted its annexation policies and is in the process of annexing large portions of land on the edges of the City, which include existing developed areas. The City's own fiscal impact analysis of these annexation areas found they would not create a negative impact on the city if annexed. Future growth on the edge of the City and within the unincorporated portion of the County will have a significant impact on the City. The City of San Antonio and Bexar County need to collectively develop a plan for future growth to address the negative impacts of growth.

**Bexar County Forecast New Housing Units, 2010-2040**





Existing Conditions Report  
Chapter 3: Economy

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## 3 Economics

### 3.1 Executive Summary

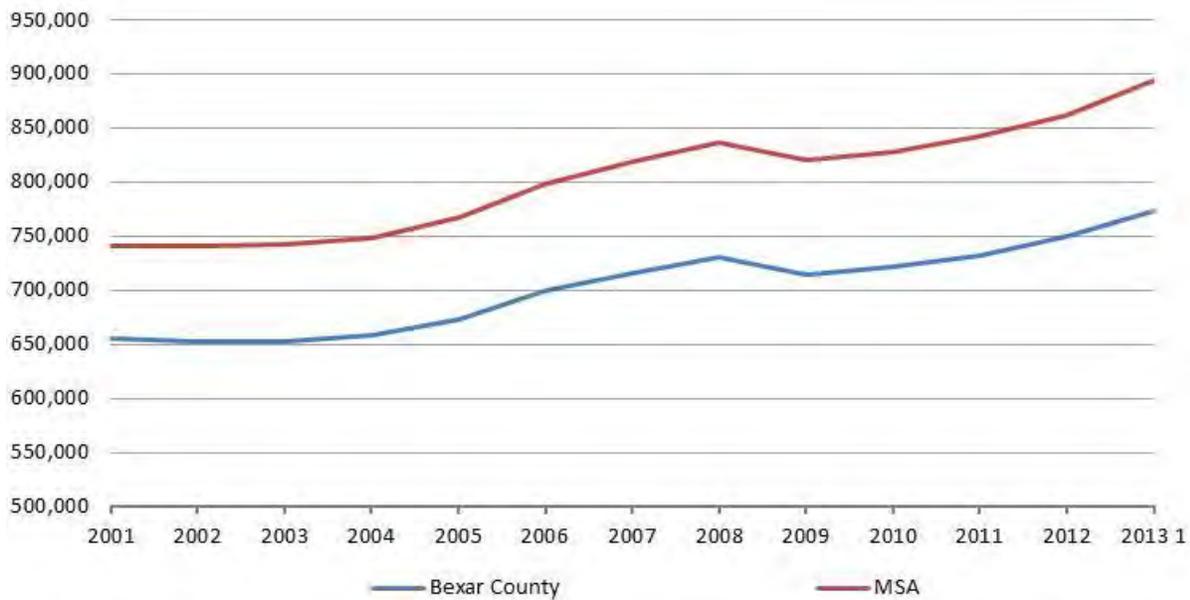
This chapter provides an analysis of economic and employment conditions and trends in the San Antonio area. Sections on current conditions, including existing employment and commercial and industrial market overviews are complemented by analyses of industries that have traditionally driven the San Antonio economy as well as industry clusters targeted for future growth and diversification. Equally important to this economic diversification is continued investment by the City and others into quality of life and live-ability of the City's neighborhoods and activity areas in order to be nationally competitive in attracting and retaining a skilled and educated workforce. Economic projections and the City's fiscal health are examined, and the impacts of different development types and densities are discussed.

- Employment within Bexar County grew by 118,000 jobs between 2001 and 2013. The majority of this growth occurred within the traditional economic drivers in San Antonio (health care, tourism, education, and military) which accounted for 80 percent of new jobs in the County.
- Bexar County is forecast to increase in employment by 675,000 jobs between 2010 and 2040, much of which is expected to occur within the City of San Antonio. The City identified 13 employment activity centers which will become the focus of employment growth in the future. These existing and planned employment centers account for 50 percent of current employment within Bexar County, and have captured over 50 percent of new non-residential square feet built in the County since 2005. The employment activity centers have the opportunity to capture at least 50 percent of the forecasted new jobs in the County by 2040. However, due to a lack of land capacity needed to support lower density, suburban development in some centers, changes to development patterns are needed to allow for more dense development.
- The City's traditional economic industries are forecast to continue to lead the economic and employment growth over the next 30 years and are estimated to account for over half the employment growth. San Antonio's economy is heavily reliant on its traditional industries, and consequently, a large portion of the workforce earns wages lower than the countywide average and lacks the skills necessary to attract businesses in other industries.
- The diversification of the San Antonio economy is needed to lessen the reliance on traditional economic drivers. Employment growth within the City's targeted industry clusters and certain business support industries is essential to ensure economic vitality. Although the oil and gas activity related to the Eagle Ford Shale formation is expected to continue to generate economic growth, it may be even more volatile than the traditional drivers. Going forward economic development efforts need to shift to industries that produce basic employment in the 21st century, provide better wages, and diversify the economy of San Antonio, including business within the creative, life sciences, scientific research and development, technology, advanced manufacturing, and aerospace industries to diversify and expand the economy.

### 3.2 Current Economic Conditions and Trends

As shown in the graph on the following page, employment in the San Antonio Metropolitan Statistical Area (MSA) increased by 152,600 jobs between 2001 and the first quarter of 2013, which equates to an annual rate of growth of 1.5 percent. Employment in Bexar County during this same period increased at a slightly slower rate of 1.3 percent per year for a total of 118,000 jobs. Both the MSA and County experienced a decrease in employment from 2008 to 2009 as a result of the national economic recession. However, both recovered the lost jobs from the recession by 2011. The time required to regain jobs lost during the recession outpaced most regions nationally and speaks to the overall health of the San Antonio region as well as the state of Texas.

**San Antonio MSA Wage and Salary Employment, 2001 to 2013**



Source: US Bureau of Labor Statistics

Healthcare, education, tourism and military were the major driving industries of the San Antonio economy over the past decade, and, as noted previously, are considered the traditional economic drivers for the City. The health care industry grew by nearly 40,000 jobs since 2000, an annual growth rate of 3.6 percent. Major employment concentrations for the City's traditional economic driver-industries include the South Texas Medical Center (health care), Downtown (tourism), the City's major universities, and the three area military bases. Finance and Oil and Gas are other industries that had significant gains in employment and generated economic activity within the City.

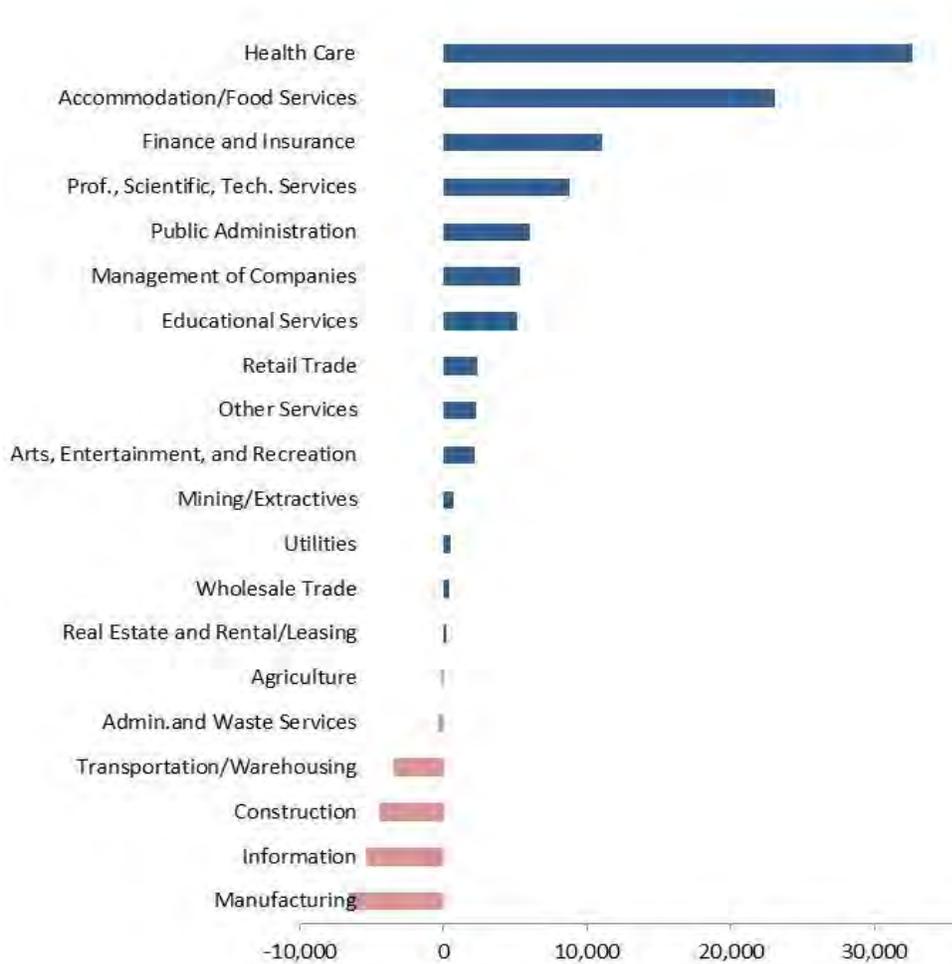
#### Target Industry Clusters

The San Antonio Economic Development Foundation (SAEDF) has identified a set of 11 target industry clusters that represent specific growth areas for the region (see graph on the following page). The clusters are based on industries with a strong historical presence in San Antonio and in sectors offering a strategic benefit to San Antonio, specifically those that generate quality jobs with higher wages. The clusters are based on mixture of individual sectors and aggregated sectors.

The 11 target industries are:

- Healthcare and Biosciences
- Information Technology and Information Security
- Aerospace
- Environmental Technology (New Energy Economy)
- Renewable Energy (New Energy Economy)
- Oil and Gas
- Finance
- Logistics
- Manufacturing (Advanced, Transportation Equipment, Other)
- Telecommunications
- Agricultural Business

**Bexar County Employment by Industry, 2001-2012**



Source: US Bureau of Labor Statistics

## SA2020

In 2010, San Antonio developed a vision and plan for what San Antonio should aspire to be in 2020. The process resulted in the SA2020 Report issued in 2011, a community vision document that includes a set of 11 causes with specific measureable goals. SA2020 includes economic competitiveness targets that were factored into the analysis. The City tracked two key indicators to guide the analysis. The first is a goal of “steady growth” in San Antonio’s traditional industries which include education, health services, government, and leisure and hospitality. The second goal is a 10 percent growth in healthcare and biosciences, information technology and information security, aerospace, and the new energy economy. In addition to growth in these sectors, SA2020 also called for growth in per capita income.

**ECONOMIC COMPETITIVENESS**

**SAN ANTONIO TODAY. SAN ANTONIO TOMORROW.**

**BASELINE DATA AND TARGETS FOR THE YEAR 2020.**

**KEY INDICATORS OR MEASURES OF WHERE WE ARE TODAY.**

- ▶ **PER CAPITA INCOME:** In 2008, San Antonio's reported per capita income was as \$34,029 (Bureau of Economic Analysis).  
**TARGET: INCREASE BY 20% OR TOP 1/3 OF US (BETTER OF THE TWO).**
- ▶ **JOB GROWTH BY SECTOR:** In 2nd Quarter 2010, during difficult national economic times, the following San Antonio sectors remained moderately stable: education, health services, government, leisure and hospitality (San Antonio Greater Chamber of Commerce).  
**TARGET: MAINTAIN STEADY JOB GROWTH IN THESE TRADITIONAL SAN ANTONIO SECTORS. PURSUE 10% JOB GROWTH IN THE FOLLOWING SECTORS: HEALTHCARE AND BIOSCIENCES, INFORMATION TECHNOLOGY AND INFORMATION SECURITY, AEROSPACE, AND THE NEW ENERGY ECONOMY.**

## Economic Drivers

In addition to the industries targeted by SAEDF and identified in SA2020, the *Comprehensive Plan Initial Studies* included an in depth analysis of the existing location, historic performance, and future potential of core industries in San Antonio, major economic drivers, and nationally emerging economic trends with the potential to drive growth locally.

## Traditional Drivers

As mentioned above, San Antonio has four core industries that have traditionally driven economic growth: tourism, healthcare, education, and the military. Employment in these industries accounts for over 35 percent of total employment in Bexar County. The health care and social assistance, accommodations and foods services, and education industries increased in employment by 80,000 jobs between 2000 and 2012 and were accordingly the highest growth sectors.

## Tourism

The Hospitality Industry is a vital and expanding part of the San Antonio economy. San Antonio is a major tourist destination in the U.S. and hosts more than 31 million visitors annually that come to shop, play and/or conduct business. Anchored by its unique history and culture, San Antonio is home to the Alamo, River Walk, and major attractions such as SeaWorld San Antonio and Six

Flags Fiesta Texas. In addition, San Antonio has successfully invested in its cultural and historical assets as well as newer developments. These include the Henry B. Gonzalez Convention Center, the Museum and Mission reach on the River Walk, the Tobin Performing Arts Center, and the Pearl Brewery Development. Of the 31 million total visitors, 24.9 million were leisure visitors including 15.2 million over night leisure.

San Antonio is also one of the top convention cities in the country and hosted 6.2 million business visitors in 2014 that came to the area for a convention, meeting, or other business purpose. The Henry B. Gonzalez Convention Center transformation is scheduled for completion in January 2016 and promises to make San Antonio even more competitive in attracting meetings and conventions.

A 2014 Economic Impact study indicates the local hospitality industry has a \$13.4 billion annual economic impact to the San Antonio Community. Overall there are more than 122,500 local jobs associated to the travel/tourism industry in San Antonio representing an annual payroll of \$2.49 billion. The growth in jobs for this industry increased 8.9% from 2011 to 2013 and 33.7% from 2003 to 2013. Overall the travel/tourism industry employs 1 out of every 8 workers in San Antonio and affords a diverse local workforce unique opportunities from catering to transportation and entertainment to hotel management. Additionally, a good portion of workers in this industry leverage their positions in travel and hospitality to support them while they further their education.

The geographic center of the tourism industry in San Antonio is downtown with nearly 14,000 hotel rooms that can accommodate both leisure and business travelers. The travel and hospitality industry enhances the quality of life for local residents by affording ongoing investment and economic development opportunities in the San Antonio area. In addition, it affords growth and promotion of the arts and San Antonio's historic and cultural assets. Based on the forecast created with the *Comprehensive Plan Initial Studies*, tourism is expected to continue to be a driving industry in San Antonio in the future.

## Health Care

The health care and social assistance industry is the largest in San Antonio, accounting for 15 percent of employment. The industry grew in employment by 40,000 jobs between 2000 and 2012, an annual rate of 3.6 percent. The health care industry in San Antonio is boosted by a large presence of military related health care services and providers, anchored by the South Texas Veterans Health Care System located in the South Texas Medical Center, and the San Antonio Military Medical Center located at Fort Sam Houston. The *Comprehensive Plan Initial Studies* forecast employment within the health care industry to grow by 138,000 jobs by 2040, at an annual rate of 2.9 percent.

The San Antonio Economic Development Foundation has identified health care and biosciences as a target industry cluster. The top five industries in San Antonio in this industry cluster are general medical and surgical hospitals, home healthcare services, offices of physicians, nursing care facilities, and offices of dentists. General medical and surgical hospitals, offices of physicians and offices of dentists were highlighted by the SAEDF as the clear target for future growth due the City's strength in these areas and the high average wages within these sub industries.

There are two primary geographic concentrations of employers in this industry cluster: the South Texas Medical Center and the Central Business District. The South Texas Medical Center is a major cluster of health care activities with 45 medical related institutions including 12 hospitals and five specialty institutions. Healthcare employment in the center reached 27,500 jobs in 2011

and accounts for nearly 30 percent of all health care employment in Bexar County. The Central Business District, while significant, has just over 8,100 health care jobs within it.

## Education

The education industry is split between primary education and higher education. While both are important, higher education is considered an economic driver because of its ability to generate a skilled workforce and to attract students, faculty, and related employment from outside San Antonio.

There are 31 higher education institutions in San Antonio with a total of more than 100,000 students. The major institutions include University of Texas at San Antonio (UTSA) and its two campus locations, the growing Texas A&M–San Antonio campus, Trinity University, University of the Incarnate Word (UIW), and the Alamo Community College District with its five colleges.

The educational services sector increased employment by 16,000 jobs from 2000 to 2012, an annual rate of 2.1 percent. There are an estimated 74,000 educational services jobs in Bexar County. The *Comprehensive Plan Initial Studies* estimated this sector will by 94,500 jobs by 2040, at an annual rate of 3.0 percent.

Educational institutions in San Antonio are dispersed throughout the City, aligning with general employment patterns of the City. There are only two major institutions located next to each other: University of the Incarnate Word and Trinity University. Unlike other cities or towns with major universities the city lacks a sizeable or recognizable college oriented commercial and residential concentrations. Many of the institutions function as “commuter schools” where students live throughout the City and commute by car or transit to school. The institutions operate in a fairly isolated manner with seemingly little opportunity for informal interaction between students. However, the location of education facilities often serves as a catalyst for development in areas despite the isolation from other education facilities. Specifically, the UTSA downtown campus and the forthcoming UIW nursing school at Brooks are two examples of locations that will have an impact on attracting development and activity to areas in the City. The major institutions are expected to continue to grow at strong rates, which means employment in and around them will follow. An emerging growth area in the City is the area around the Texas A&M–San Antonio campus in the south portion of the City. The school’s goal is to grow enrollment from approximately 7,000 to 25,000 in the next twenty years, which could generate up to 10,000 jobs related to the school’s activities based on jobs to student ratios for other major universities.

## Military

The U.S. Military has a large economic impact on San Antonio, estimated at \$27.7 billion annually according to the Joint Base San Antonio yearly economic impact study. San Antonio is home to three major bases and the 27,990-acre Camp Bullis training camp. The three major bases (Fort Sam Houston, Lackland Air Force Base, and Randolph Air Force Base) were combined under a single organization in 2005, forming the largest joint base operation for the U.S. Department of Defense. The joint base operation includes eight other operating areas in addition to the three major bases. Fort Sam Houston is home to the largest Department of Defense hospital in the nation and is one of 15 hospitals in the U.S. with a Level One Trauma certification.

Aggregating employment across these multiple bases, there are an estimated 132,000 jobs directly attributed to the U.S. Department of Defense. The direct employment positions generate an additional 57,000 induced and indirect jobs, according to the joint base study. In addition, there are an estimated 55,000 retired military veterans in the San Antonio area. Forecasting future growth in direct military employment is difficult due to the uncertainty related to the

military needs and future military budgets. In several cities across the country, the potential for base closures are an ever growing concern as the military has consolidated operations. San Antonio has benefitted from closures elsewhere in the nation and from the consolidation of operations to San Antonio, despite the closure of Brooks Air Force Base. Woods and Poole, a secondary economic forecast data source used in this study, estimates military employment to increase by 1.0 percent annually.

## Creative, Science, and Technology Industries

### Creative Industries

The *Comprehensive Plan Initial Studies* projected growth in the creative industry sector based on a 2011 research from the SABER Institute as well as other reports. The creative industry is a widely defined set of different occupations. SABER used a variety of definitions of creative industries including this qualitative definition: "those industries which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation through the generation and exploitation of intellectual property." Using SABER's identified NAICS industries that encompass the creative industries, creative industry jobs were mapped to indicate the areas where these industries are concentrated. The primary clustering of creative industries in the City is within the Central Business District. Secondly, employers in these industries are also clustered in the airport area. An interesting trend is the growth of these employers along arterial corridors emanating from downtown including Broadway, San Pedro Avenue, and Fredericksburg Road. Professional services employers (i.e. architects, engineers, lawyers) are also located in the same areas as creative industries employers,<sup>1</sup> along the arterial corridors.

Clusters or collections of employers in these industries near each other are indicators of the areas of the City these employers desire to be in and often of places that are considered desirable work locations. Creative industries seek areas with concentrations of similar creative activities, leading to economic activity related to the interaction of these firms as well as the informal interactions of their workers. The location of creative and professional service firms also reflects the areas in which their workers prefer to live.

### Scientific Research and Development

Research and development activities are essential to the generation of new products and processes that drive business development and innovation. New, small businesses are a major driver of economic expansion. Investment in research and development leads to innovation that spurs economic activity either directly for the investor or indirectly through the persons performing the activity and their surrounding community.

The clustering of these industries is extremely important for fostering a collaborative environment, which is a hallmark of these industries. The interactions between these industries lead to cross over of industries and technology. The presence of areas in a city with a high concentration of these industries creates a desirable location for not only incoming or start-up companies but for attracting high skilled workers within these industries. Research and development employers have clustered in the same areas of San Antonio where creative industries employers and technology employers have located. The areas with high concentrations include the CBD, the airport area, and the Medical Center.

Another major anchor of research and development in San Antonio is the Southwest Research Institute (SwRI). The SwRI is located between Culebra Road and West Commerce Street, just inside the I-410 loop. The SwRI is an independent, nonprofit research and development

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<sup>1</sup>The definition of the Professional Services and Creative Industry groups overlap.

organization that employs over 2,800 people. The focus of the organization is the creation and transfer of technology in engineering and physical sciences. The organization contracts research and development services for industrial and government clients. SwRI has a large sprawling campus of more than 1,200 acres with over 2 million square feet of building space, isolated from the surrounding area.

### *Technology Employers*

Technology employers are businesses within industries involved with advanced manufacturing, communications, software, and computer-related services, biosciences and physical science. Technology employees are most often associated with workers who are involved with computer services and information technology (IT), but the technology industry is broader. Despite a reasonably large local concentration of technology employers, there is the perception that San Antonio lacks technology employers and workers. Another factor is the diversity of technology employers and geographic separation of them within San Antonio. Technology employers, particularly large ones, are more dispersed than creative and R&D employers, which has contributed to the perception of a diluted local presence.

- **Information Technology and Information Security** - The information industry in San Antonio has had a varied track record of performance over the past 13 years. Traditional information industries (publishing, motion picture and sound recording, and broadcasting) and telecommunications have lost employment since 2000. The Telecommunications industry in San Antonio lost over 8,000 jobs since 2000, partly due to the departure of the AT&T headquarters to Dallas. However, the IT and Information Security industry cluster has increased in employment.
- **The major anchors to San Antonio's Information Technology industry are the Federal Government, major corporations (Valero and USAA) and Rackspace.** The City is home to a major National Security Agency data center and an Air Force Air Intelligence, Surveillance and Reconnaissance Agency center, which employ thousands of IT workers. Each of the largest corporations in San Antonio employs large numbers of IT workers, as well.
- **Related to federal centers in San Antonio is the growing information security sector in San Antonio.** This is due to the presence of these centers and the workforce they generate. Aiding to the strength of this industry also are the educational institutes, specifically UTSA. UTSA is the highest ranked school in the country for cyber security based on a Hewlett Packard survey of IT Security professionals.
- **Lastly, Rackspace Inc., an IT hosting company, is a major anchor of the burgeoning tech scene in San Antonio.** Rackspace was started in San Antonio by three founders who are Trinity University alumni. The company began with the intent to develop internet applications but realized that there was a demand for web-hosting that was unmet. The company grew out of the decision to shift its focus on internet hosting services. Rackspace now has over 4,000 employees with its headquarters located a converted mall in Windcrest, TX, a suburban enclave of San Antonio. Based on interviews with regional business leaders, it is understood that Rackspace has successfully attracted skilled workers to San Antonio. To build a tech culture in San Antonio, the CEO of Rackspace Graham Weston created Geekdom. Geekdom is a co-working space and technology incubator located downtown.

- As a result of Rackspace location in San Antonio, **other related internet hosting companies have located in San Antonio**, which is generating a collection of employers and workers in this industry. For example, Peer 1 Hosting, a Canada based company, recently located an office within The Pearl.
- **Advanced Manufacturing, Aerospace and Transportation Equipment Manufacturing** - Another major component to San Antonio's technology industries are high-tech or advanced manufacturing. Advanced Manufacturing, Aerospace, and transportation equipment manufacturing are all target industry clusters for the SAEDF. Transportation Equipment Manufacturing doubled in employment since 2000, almost entirely related to opening of the Toyota manufacturing plant in the southern portion of the City.
- **Aerospace is a significant industry cluster within San Antonio** anchored by the presence of major aerospace companies Boeing, Standard Aero, and General Dynamics. Aircraft manufacturing accounts for 30 percent of the employment within the industry cluster, which largely consists of airport related employment aside from manufacturing. The presence of the two Air Force bases is also a major driver of this industry.
- **Luring Toyota to San Antonio was a major accomplishment** for economic development officials. The new plant brought over 3,000 jobs to the City. Most supply chain operations at Toyota are performed completely within the plant and the plant has generated a limited amount of spin off activity as a result. However, it has attracted interest from other similar companies and may attract similar plants.

## Oil and Gas and the Eagle Ford Shale

Oil and Gas industry employment is 2,205 within Bexar County. The industry has grown by 1,264 jobs in the past 13 years at an annual rate of 7.4 percent. The employment for this industry is relatively low and fixed location employment is limited mainly to management and administration of the companies involved in the activity. However, the industry does drive significant induced employment with services that support oil and gas in proximity to drilling activity. San Antonio is close to one of the most active oil and gas drilling plays in the nation, which is the Eagle Ford Shale Formation.

The primary active area within the Eagle Ford Shale formation for drilling is along I-37 between San Antonio and Corpus Christi. San Antonio is the closest major city to the oil and gas drilling activity, and therefore will be the location of a majority of the support services related to the drilling activity. A 2013 study of the Economic Impact of the Eagle Ford Shale completed by the University of Texas at San Antonio Center for Community and Business Research illustrated the major impact the oil and gas activity has and will have on San Antonio. The report found that oil and gas development expenditures in the Eagle Ford Shale were expected to total \$28 million in 2013 alone. The study also estimated that the activity in the oil and gas fields will generate \$582 million in direct economic impacts on Bexar County and \$6.65 billion in total economic impacts on Bexar County by 2022. The study estimated that 15,000 indirect jobs and 9,000 induced jobs will be generated by 2022. The *Comprehensive Plan Initial Studies* estimated that employment within the Oil and Gas industry (which does not include indirect or induced jobs) will increase by 6,211 jobs at an annual rate 4.9 percent by 2040.

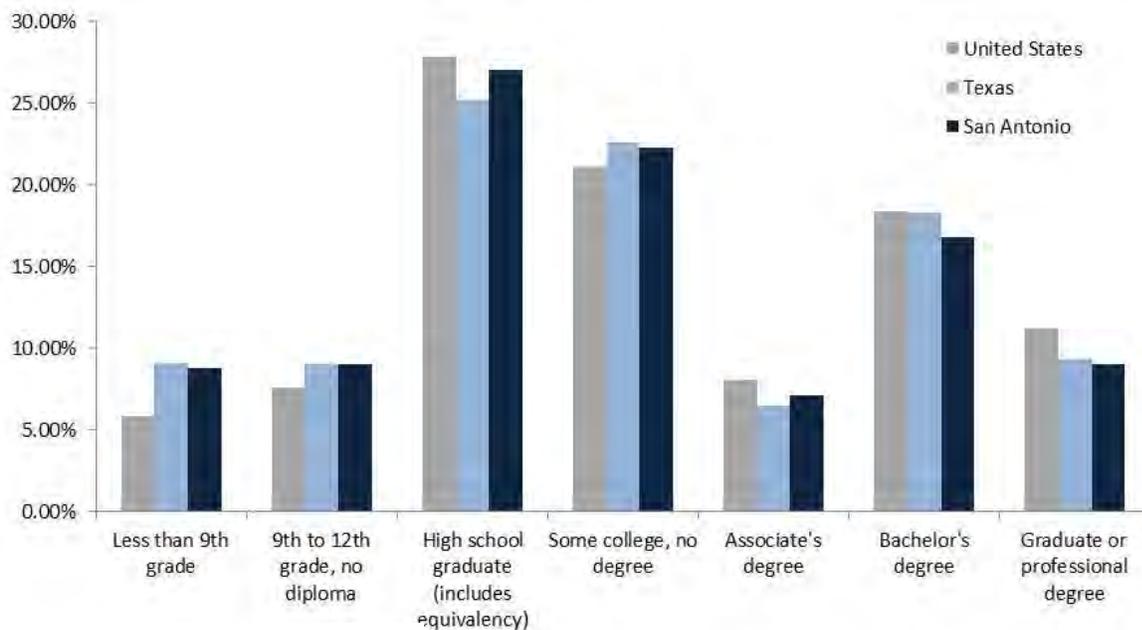
## Talent Attraction

Traditional economic development theory held that workers will locate to available jobs. Therefore, economic development activities were focused primarily on attracting companies. However, the availability of a job is no longer the main driving factor for most people's

locational decisions. Americans are moving less, a trend that has been occurring for several decades. When they do move, more often people make decisions based on the community they want to live in. The quality of life appears to be equal, if not more important, than a specific job. As a result, employers are locating where their target workforce resides or wants to be. This is happening on both national and regional level. Companies are choosing to locate or relocate in cities that have workers they want and near similar companies. On a local and regional level, the location of a company is being driven by where employees want to live and recreate. Investment in the quality of neighborhoods and communities within the City should be a major component to their economic development efforts.

Another major component of talent attraction and economic development is the development and retention of an educated local workforce. San Antonio lags behind the State and US in terms of the percent of residents with a college degree.

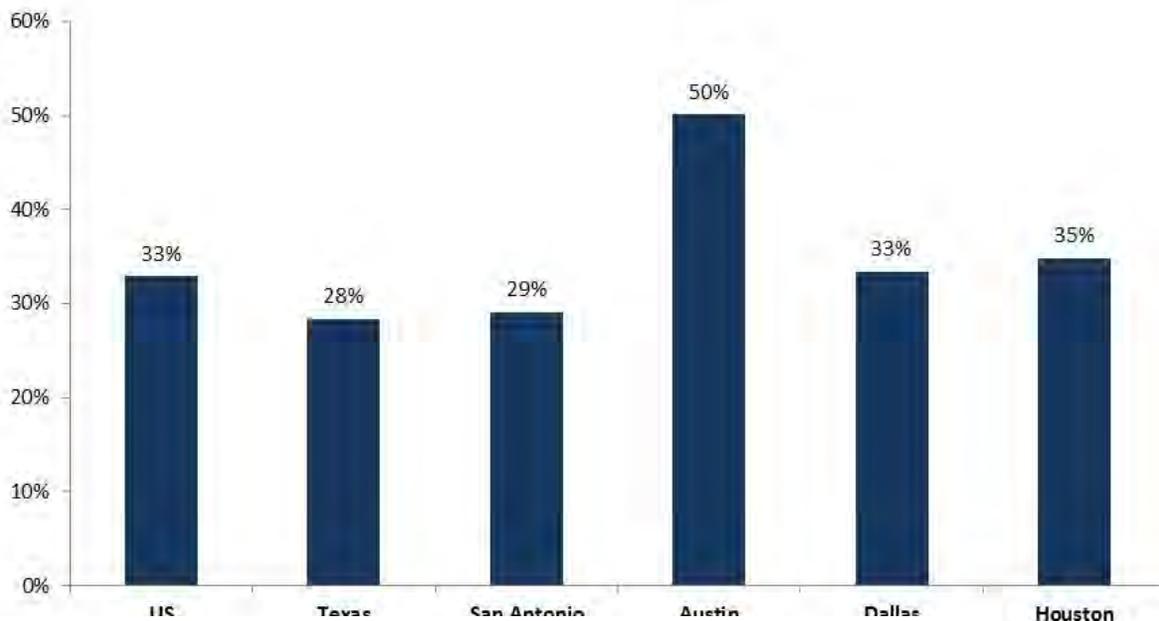
**San Antonio Educational Attainment, 2013**



Source: US Census 1-Year ACS 2013

As described above, San Antonio has several major higher education assets, which should be producing a talent workforce. SA 2020 commissioned a study in 2012 from Trinity University (*Young Professionals in San Antonio: Opportunities for Growth*) that looked at impact and opportunities related to young professionals in San Antonio. The study defines young professionals as residents who are between the ages of 25 and 34 and have a four-year college degree. The study found that many college graduates (estimate of 80 percent of Trinity graduates) leave San Antonio after graduation. The study also found that San Antonio ranks low among its peers for the concentration of young professionals. The study cited some reasons for this low rank: a lack of attractive, dense neighborhoods that are attractive to young professionals, lack of centralized social centers, inadequate public transit, and the low walkability of the City. As these new college graduates choose where they want to live based on quality of life and availability of employment, lacking amenities is attractive to young professionals may be a large barrier to future economic development. The study recommended that the City better leverage its educational assets by increasing the tie between students and the city, and increasing interaction and opportunity between employers in San Antonio and students.

### Percent of Residents Age 25 to 34 with Bachelor's Degree, 2013



Source: US Census 1-Year ACS 2013

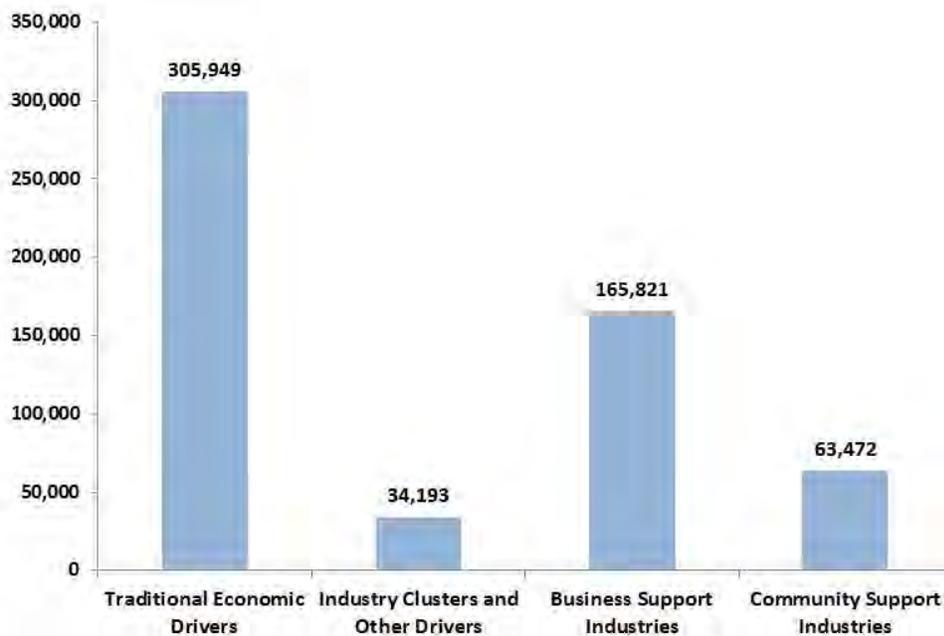
### Existing Employment

Four groups of industries, as shown in the graph below, were created within the Comprehensive Plan Initial Studies to group industries within the economic development framework created by the City and its economic development partners. The four groups include:

- Traditional Economic Drivers (health care, tourism, education, and military)
- Industry Clusters and Other Drivers (e.g. oil and gas, aerospace, biomedical, IT, advanced manufacturing)
- Business Support Industries (e.g. finance, real estate services, professional services, administration services)
- Community Support Industries (e.g. retail trade, public administration, arts and entertainment).

The traditional economic drivers make up the majority of employment within Bexar County. There are 306,000 jobs within these four industries within Bexar County.

### Bexar County Employment by Industry Group, 2012



Source: Comprehensive Plan Initial Studies

Employment growth has been concentrated within the industries and specifically within the traditional economic drivers group. Between 2000 and 2012, these industries increased in employment by 80,811 jobs and accounted for 80 percent of new jobs. Employment within the City's targeted industry clusters decreased by 14,604 jobs. Employment within business support industries and community support industries grew at annual rates of 0.9 percent and 0.6 percent respectively, which is slightly less than the rate of population growth in the County.

The average annual wage for workers within Bexar County was \$40,219 in 2012 (see graph, below). The average wage of workers within the traditional economic drivers industries is \$36,179 annually, which is less than the county average. Wages in the industry clusters and business support industries are significantly higher, with average annual salaries between \$53,000 and \$58,000.

**Bexar County Average Annual Wage by Industry Group, 2012**



Source: Comprehensive Plan Initial Studies

### Opportunities for Economic Diversity

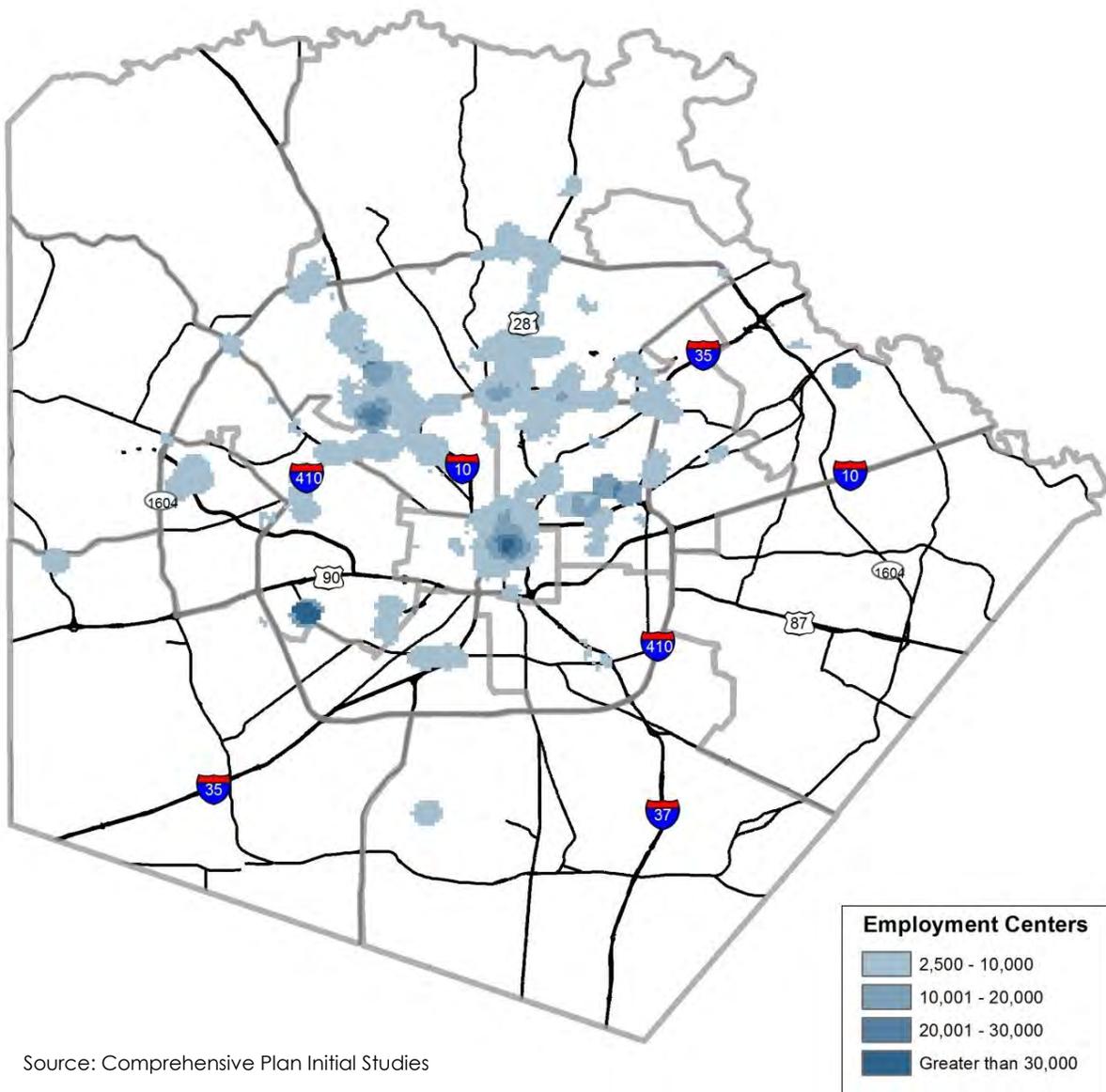
The wages for the industries within the traditional economic drivers are low and the issue is compounded by the lack of growth in other industries with higher paying wages. The low average wages in San Antonio's major economic driving industries illustrate the need for diversifying the economic base of the City. The Comprehensive Plan Initial Studies identified a set of industries that could represent opportunities for future growth within the City that have higher paying wages and could help to diversify the economy of San Antonio these industries are shown below.

- Oil and Gas
- Life Sciences
- Scientific R&D
- Creative industries
- Technology
- Advanced Manufacturing
- Aerospace
- Workforce development through education
- Workforce attraction through place making

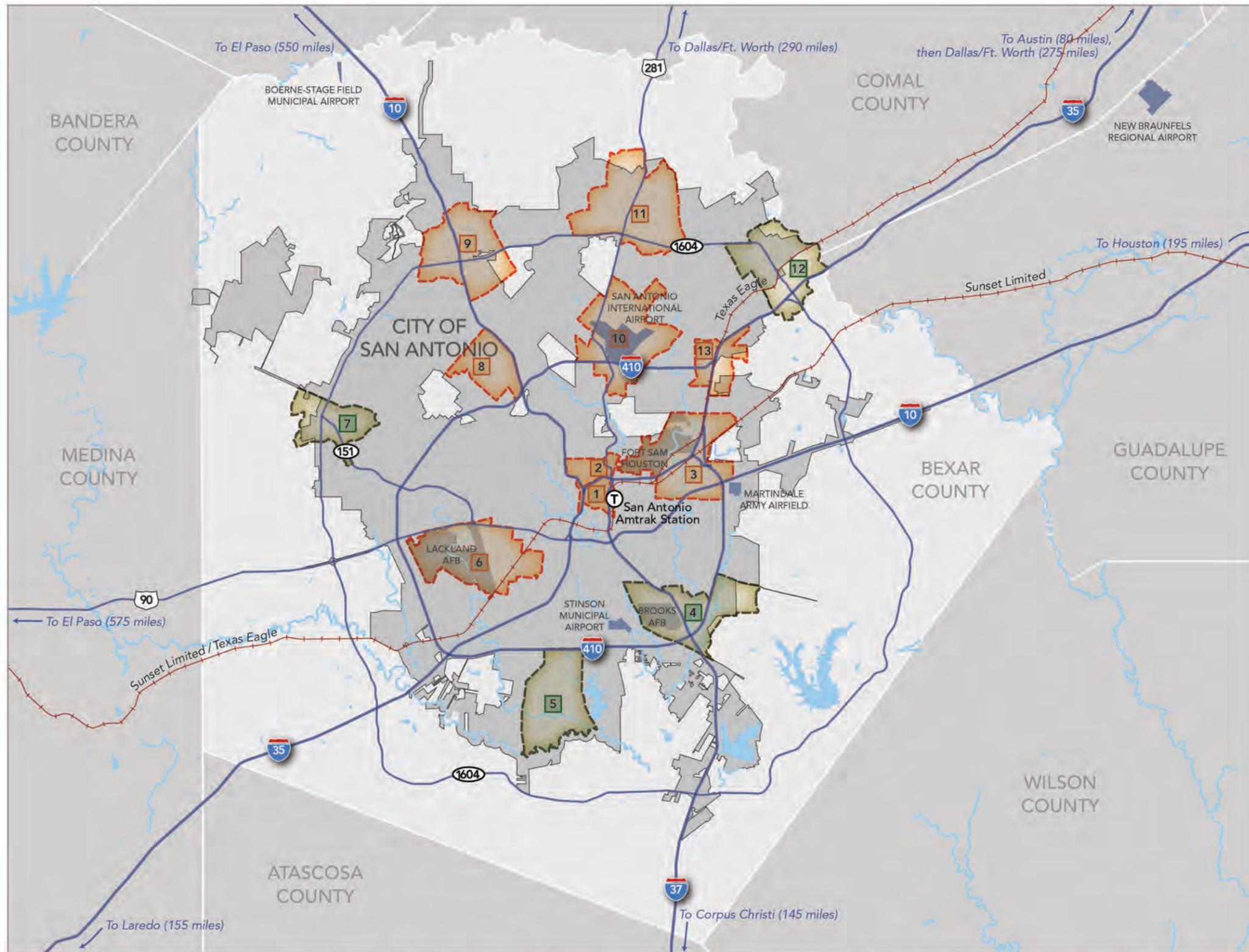
### 3.3 San Antonio's Economic Geography

Employment in San Antonio has a polycentric geographic pattern. Due to the composition of the economy in San Antonio and presence of multiple major employment nodes (i.e. military bases), the employment base is dispersed throughout the County, as shown on the following map. It is difficult to identify discernable major concentrations of employment within the City aside from the defined concentrations. This is a result largely due to the lack of adequate innovative land use controls or incentive and appropriate master plans to guide/attract employment growth and also reflects the nature of the major economic drivers present in San Antonio. The analysis, within *Comprehensive Plan Initial Studies*, of the density of jobs within Bexar County, however, showed that jobs within the county have somewhat organically concentrated into centers/nodes. The concentrations have appeared largely along major transportation routes.

**Bexar County Major Employment Concentrations**



Source: Comprehensive Plan Initial Studies



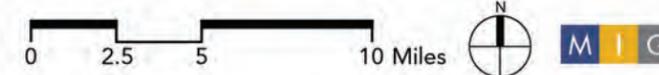
### Legend

- City of San Antonio
- County
- Water
- Airport
- Military Land
- Major Highway
- Rail
- T Rail Station
- Employment Center - Existing
- Employment Center - Emerging

### Employment Center Names

- 1 Central Business District
- 2 Midtown
- 3 Fort Sam Houston
- 4 Brooks
- 5 Texas A&M - San Antonio
- 6 Lackland AFB/Port San Antonio
- 7 Highway 151 and 1604
- 8 Medical Center
- 9 University of Texas - San Antonio
- 10 Greater Airport Area
- 11 Stone Oak
- 12 Rolling Oaks
- 13 Northeast I-35 and I-410

## Chapter 3. Employment Center Status

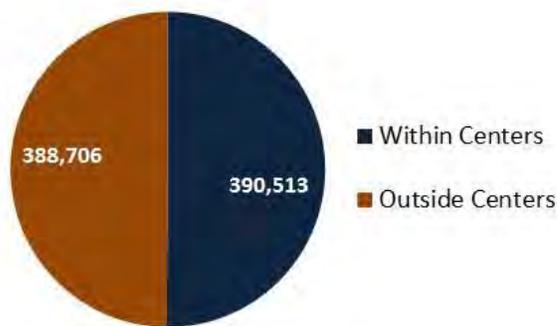


The *Comprehensive Plan Initial Studies* identified 13 employment activity centers within Bexar County, nine existing centers and four emerging, as shown on the preceding map. The location of existing employment centers were defined as areas with significant concentration of jobs, over 15,000, within a collection of contiguous traffic analysis zones, and the location of major, large employers. In addition to the existing centers, four emerging centers were identified based on a combination of significant recent development, major infrastructure assets (highways, existing/planned transit lines), and employment driven master planned developments. Other potential areas were considered but lacked the cohesive collection of employment or amenities that would support large employment gains.

### Historic Employment Capture

Initially in the *Comprehensive Plan Initial Studies* analysis, employment density was evaluated in order to understand the composition of areas that have high employment density. As a part of the analysis of the concentration of jobs within each center, it was determined that these centers have captured a significant amount of employment and function as major employment centers despite the lack of a coordinated plan for many of them. Half of all jobs in Bexar County are located in these employment centers, as shown in the following graph. Approximately half of all jobs in three of the employment groups described above are located within these centers. Jobs within community support industries are more dispersed and only 34 percent are in the centers, due to their reliance of being located in certain proximities to households to serve customers.

#### Existing Employment



Source: US Bureau of Labor Statistics Quarterly Census of Employment and Wage

The employment activity center with the most employment within Bexar County is the "Greater Airport Area", with 65,000 jobs. The Greater Airport Area is commonly thought of as employment activity related to the actual San Antonio International Airport; however the majority (approximately 60 percent) of jobs in this center is not related to the airport. The Greater Airport Area functions in many ways as a traditional Central Business District with a large mixture of uses and jobs within all industries with the majority of jobs within the business support industries due to its central location.

The second largest employment center is the Medical Center area (64,000 jobs), which includes the South Texas Medical Center and USAA. The jobs within this center are primarily either in traditional economic drivers industries (Healthcare) or Business Support Industries (Finance), with very few jobs within the other categories. The Central Business District has an estimated 44,000 jobs and is the fifth largest center (factoring in military bases) and functions as the center of the tourism economy, public administration activities, and arts and cultural activity. The CBD has a relatively low proportion of jobs within the business support industries, which are typically higher in other major city CBDs.

The centers also seem to be predominately oriented towards a limited number of market niches and therefore have jobs mainly within one of the four employment categories. This reinforces the finding that employment centers in San Antonio have been generated mainly by the intentional

concentration of employers within similar industries and lack the benefits of concentrated collaboration and talent attraction.

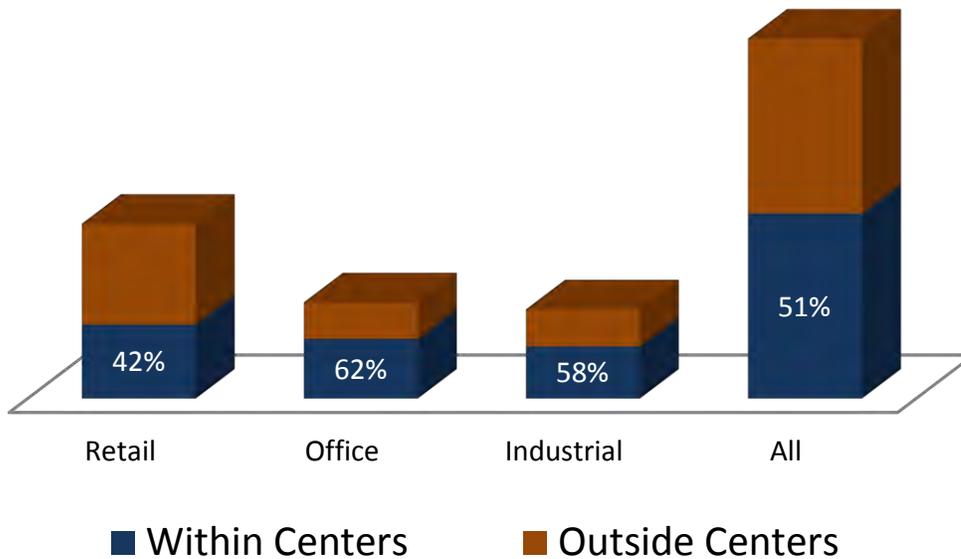
### 3.4 Commercial/Industrial Market Overview

#### Recent Development

Furthering the importance of the employment activity centers is the discovery that over half of recent non-residential development (since 2005) has occurred within these 13 centers, as shown on the graph on the following page. Sixty percent of office and industrial development has occurred within the centers, as well as 42 percent of retail development, which is higher than the proportion of retail trade jobs within centers. Historically, employment has gravitated to these centers and recent development is continuing this trend. Better planning to facilitate this growth can increase the economic benefits of San Antonio's existing centers and economic clusters.

Future employment and development is expected to continue in this pattern for multiple reasons, including development capacity, but primarily due to the desire of employers to locate in these centralized locations. Generally, emerging centers in San Antonio are located in areas where two major highways intersect and major anchors and master planned developments are located. To gain traction in the market for a major employment center, these elements and other are essential, and there are limited opportunities for this to occur elsewhere within the County. By 2040, the Comprehensive Plan Initial Studies estimated that at least 50 percent of new jobs will locate in these centers and the City has the opportunity to capture 60 percent or more within the centers. The estimate of 50 percent of new jobs formed the bases for the forecast of employment within the County.

**Non-Residential Development Square Feet by Use Built within Bexar County, 2005 to 2013**



Source: CoStar

## Retail Development

There is a total of 106.2 million square feet of retail space in Bexar County according to CoStar. Traditionally the retail market has been centered inside the I-410 loop in San Antonio. There are 47.1 million square feet of retail within the I-410 loop and the area accounts for 44 percent of the retail space in Bexar County. The area between downtown and the airport along US 281 has the most retail space of any portion of the City, with 12.5 million square feet and is home two major retail destinations, the Quarry Marketplace and the North Star Mall. Retail development in recent years has followed household growth closely, with the outer areas of the County (particularly in the northern portion of the County), capturing the majority of retail development. The area along Highway 1604 in the northern portion of the County is the second largest concentration of retail with 9.5 million square feet in that subarea. The area is anchored by the Shops at La Cantera (1.3 million sq. ft.) and The RIM shopping center (1.5 million sq. ft.).

The inventory of retail space in Bexar County increased by 16.2 million square feet between 2006 and 2013. The northern subarea described above increased by 6.4 million square feet of retail space since 2006, which was 40 percent of all retail development in the County. Vacancy rates for retail space in San Antonio are relatively low, with all but one Costar subareas having an average vacancy rate below 10 percent. As outward expansion of the City and region continues, retail development will continue to follow new households, which will likely lead to vacancy and disinvestment along some major arterial corridors. As this occurs, the City should be proactive in addressing the reuse of these shopping centers. As well, new centers should be planned around activity centers both at a regional and neighborhood level to prevent the stripping of retail along corridors.

## Office Development

There is a total of 65.4 million square feet of office space in Bexar County according to CoStar. The office market in San Antonio is dominated by subareas along the I-10 and US Highway 281 corridors. The largest concentration of office space inventory in the county is mainly between the I-410 and 1604 loops between I-10 and US 281. This area has 48 million square feet of office space. Within the I-410 loop there is 24.4 million square feet of office space with 10.1 million square feet of office space in the Central Business District.

The inventory of office space increased by 11.3 million square feet between 2005 and 2013. The area of the City between the I-410 and Highway 1604 loops to the north captured the most office development since 2005 (62 percent, 7 million square feet). However, there was significant office space development north of Highway 1604 with an increase of 2.6 million square feet of office inventory. Despite having 37 percent of office space in San Antonio, the area within the I-410 loop captured only 12 percent of the office development since 2005 (1.3 million square feet).

## Industrial Development

There is a total of 91.9 million square feet of industrial space in Bexar County according to CoStar. The industrial market in San Antonio traditionally has been located in the northeast portion of the City along the I-35 and I-10 corridors. Three subareas along I-35 from downtown to Highway 1604 account for 50 percent of the industrial space in Bexar County.

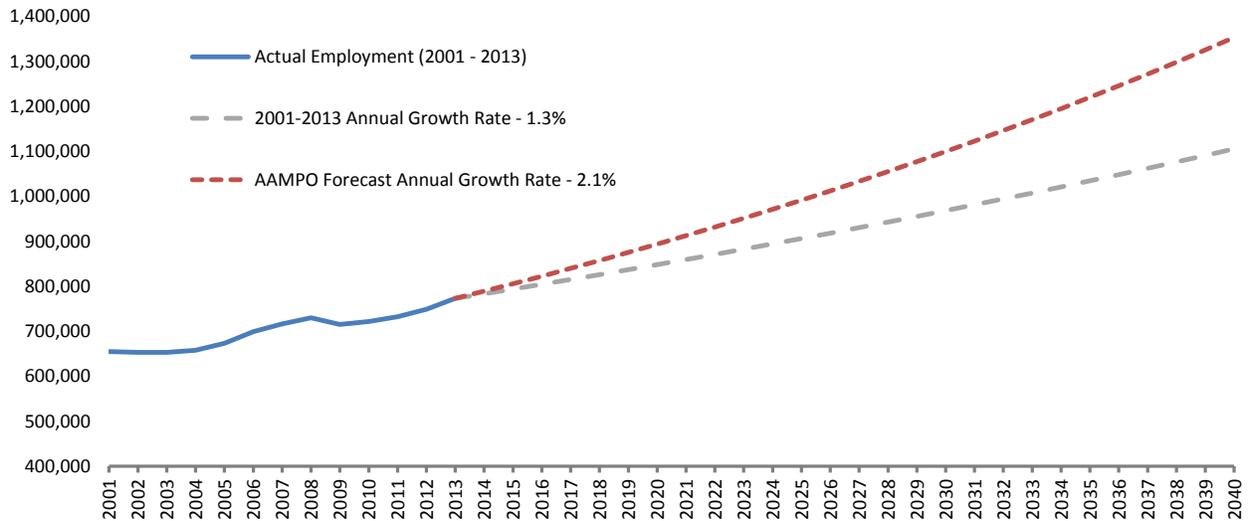
The central portions of San Antonio have a large amount of industrial buildings and space, much of which is past its useful age. The average year built of industrial space in CoStar's CBD market area is 1953, while the average for the northeast market area is 1980. The CBD subarea has 7.9 million square feet of industrial space, but the subarea has only increased in space by 38,787 square feet since 2005. Demand for industrial space has shifted primarily to two portions of the

City, which are the I-35 corridor in northeast San Antonio and the Port San Antonio area. The subareas in the northeast portion of the City captured 30 percent of the industrial development since 2005, building on the subareas position as the primary industrial location in the City. However, the southwestern portion of the City also captured new development. The west portion of the city within the I-410 loop captured the most industrial development in the City since 2005, with 1.6 million square feet, of any subarea. Much of this development was within Port San Antonio, illustrating the strength of that employment center. It should be noted that the far south subarea also captured 1.6 million square feet of industrial space since 2005, however the Toyota plant accounted for 1.5 million of it. As a whole, the inventory of industrial space increased by 8.2 million square feet between 2005 and 2013. Vacancy rates for industrial space in San Antonio are relatively low, with only one subarea having an average vacancy rate above 10 percent.

### 3.5 Economic Projections

The Alamo Area Metropolitan Planning Organization (AAMPO) forecast that Bexar County will increase in employment by 675,000 jobs over the next 30 years at an annual rate of 2.1 percent, as shown on the graph on the following page. Bexar County increased in wage and salary employment by over 100,000 jobs between 2000 and 2012 and grew at an annual rate of 1.2 percent. The AAMPO is forecasting employment to grow at nearly twice the annual rate as experienced in the previous decade. Secondary employment forecasts project Bexar County to increase in employment at the same annual rate as forecast by the AAMPO.

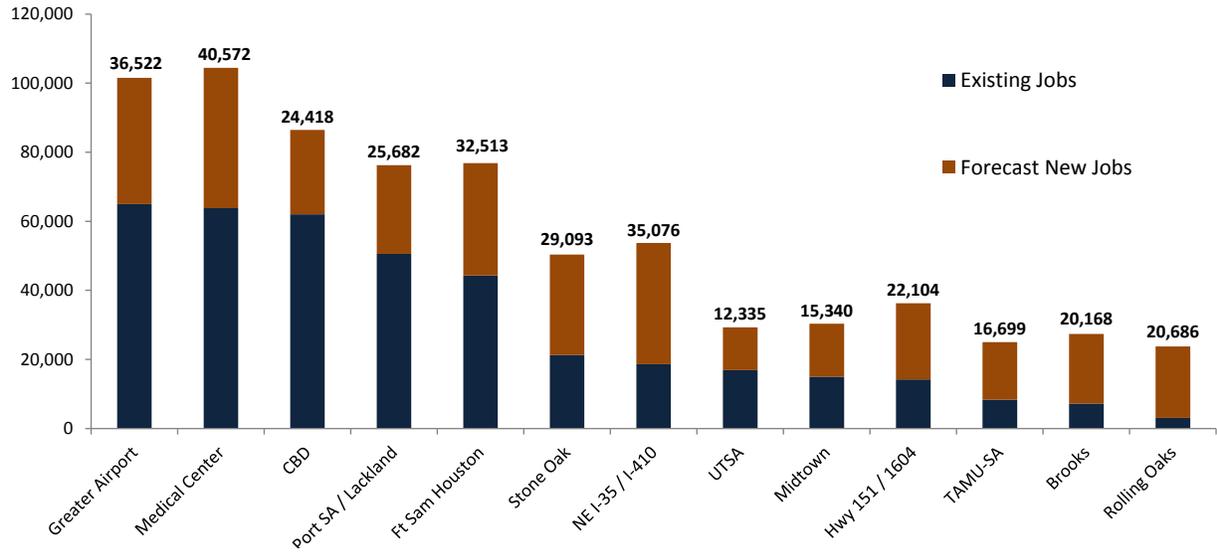
**Bexar County Employment, 2001 to 2040**



Source: US Bureau of Labor Statistics; AAMPO; AACOG

Fifty percent of the forecast new jobs in Bexar County are estimated within the *Comprehensive Plan Initial Studies* to be located within the 13 employment activity centers. The distribution of jobs by center created in the study were based on four factors; the historic capture of jobs by industry, recent employment changes by industry, recent development trends, major development plans, and the employment composition of each center. The medical center is forecast to capture the most amount of jobs of all centers, 40,600. The greater airport area is estimated to capture the second most amount of job growth with 36,522 new jobs by 2040.

### Forecast New Jobs by Employment Activity Center



Source: Comprehensive Plan Initial Studies

### 3.6 Fiscal Health

An analysis of the fiscal impact of new development was completed within the *Comprehensive Plan Initial Studies*. The study found the new development has the greatest impact on the City's General Fund, which covers a broad range of City services including fire and police protection, as well as roadway maintenance. The revenues for the City's general fund come primarily from sales and property tax as well as proceeds from CPS Energy, the City's electric and gas utility. The fiscal impact analysis completed as part of the initial studies had two main findings regarding new development.

Infill development was found to have a lower fiscal impact than greenfield development. Greenfield development has the most significant impact on fire service in the City of San Antonio, especially if the development is part of a new annexation area. The cost for capital improvements needed for new development is lower for infill development, with capital cost for roads and fire stations reduced due to existing infrastructure. New development outside of existing fire service areas requires the need for a new fire station, which costs approximately \$4 million to build.

The density of a development has a major impact on its fiscal impact. Five development programs were tested in the initial studies to compare the fiscal impact of existing development patterns with alternative approaches to new development. The five programs address densities for a conventional neighborhood, walkable neighborhood, a walkable neighborhood with a mixture of housing types, urban employment center, and suburban employment center. The denser programs—walkable neighborhood and urban activity center—had the greatest net fiscal impact of all four scenarios. The analysis illustrated the fiscal benefit of a denser development pattern. It is critical to note that these scenarios are both in demand and needed to accommodate future growth in San Antonio.

Existing Conditions Report  
Chapter 4: Land Use

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## 4 Land Use

### 4.1 Executive Summary

The City of San Antonio continues to develop outwards on low-cost land, resulting in low-density, unsustainable, suburban development patterns, rather than encouraging urban development and infill. These patterns affect residential quality of life, the City's ability to attract target industries and skilled employees, and contribute to unsustainable fiscal obligations for the City. It is important to distribute land uses to meet the physical, social, cultural, economic, and energy needs of present and future populations. San Antonio's hierarchy of plan types addresses planning at a variety of needed scales, and its policy requiring concurrency between them ensures that plans are integrated and well coordinated.

- Land use is regulated in collaboration with different local, regional and federal agencies. This includes coordination for growth adjacent to city limits, transportation, natural areas and the San Antonio River watershed, historic resources, and military uses.
- San Antonio's Master Plan Policies establish the guiding principles for comprehensive land use planning in the city. All land use decisions must conform within the parameters of these policies.
- The City's uses a hierarchy of plan types to regulate land use, all based on the guidance of the Master Plan Policies. Plan types include city-wide (Functional Plans), large sub-area (Sector Plans), community and neighborhood (Community and Neighborhood Plans) and street corridor or site specific (Community Development Plans).
- San Antonio emphasizes concurrency in land use planning, in which each plan must be balanced, efficient, and harmonious with other plans, resulting in an orderly, well-planned and integrated future growth pattern.
- Land use planning in San Antonio dates back to the 1700's, when the San Antonio Missions were established under Spanish rule as a center of civic life and ranching.
- San Antonio adopted its first master plan during the Great Depression in 1933. Subsequent updates to the master plan largely followed nationwide trends, such as the emergence of zoning in the 1930s, the role of the personal automobile and suburban growth in the '40s and 50s, urban renewal in the '60s and early '70s, and the rise of neighborhood planning in the '80s.
- Today, the City of San Antonio covers a large land area but has relatively low population density, largely due to low-density housing and farm/ranch land.
- The majority of existing residential zoning allows for large lot sizes with low density. There is a smaller amount of high density, multi-family residential zoning which allows for as much as 65 units per acre.
- There are several zoning overlays that restrict site and building design but are intended to encourage transit-oriented development (TOD). These overlays include corridor districts, form based zoning districts, infill development zones and mixed use districts.
- There are also several overlays that aim to protect unique places and features in the city such as Historic Districts and Neighborhood Conservation Districts. Environmental overlays aim to protect sensitive areas such as the Edwards Recharge Zone and the Alamo Viewshed Protection District.
- Neighborhoods are an important building block in the city's current land use planning. The City has several programs and policies that aim to support strong and healthy neighborhoods throughout San Antonio.

## 4.2 Recent and Current Land Use Planning Efforts

### Land Use Coordination

The City of San Antonio coordinates land use planning with a number of organizations and agencies that include county and metro, regional and federal partners.

#### *County and Metro*

Bexar County provides a range of land use services for county residents including county parks, streets and traffic engineering, housing and community development, hazardous waste and stormwater and environmental quality. The Alamo Area Metropolitan Planning Organization (MPO) is the federally initiated entity that provides coordinated transportation planning throughout the metro area. The City works with the County and other agencies to regulate land use adjacent to San Antonio's city limits.

San Antonio's extraterritorial jurisdiction (ETJ) is the unincorporated land within five miles of the city boundary. The City can only extend certain regulations into the CTJ in order to regulate development and reduce potential impacts to the city. State law allows the City to conduct full purpose and limited purpose annexation in areas within the extraterritorial jurisdiction. Full purpose annexation entails the city providing full municipal services, assessing taxes, and enforcing ordinance and regulations. Limited purpose annexation extends City ordinances and regulations that pertain to the environment, development, health and safety.

#### *Regional*

At the regional scale, the Alamo Area Council of Governments (AACOG) is a voluntary association of local governments and organizations that provides planning, information and coordination across Bexar County, and the other 11 counties in the region. AACOG provides a range of services related to air quality, transit, housing, and public safety, including the Regional Mitigation Plan for natural hazards.

Other regional organizations include the San Antonio River Authority (SARA) and the Edwards Aquifer Authority (EAA). SARA is another regional organization that coordinates land use, focusing on the use and management of the San Antonio River watershed. Established in 1937, SARA owns the beds and banks along the San Antonio River, its creeks and tributaries, and conveys land rights for public and private projects. EEA preserves and protects the unique resource by coordinating land purchases related to the aquifer protection.

#### *Federal*

Within the city there are several military installations and a National Historic Park that require land use and planning coordination with Federal Government agencies. These include Fort Sam Houston, Lackland Air Force Base, Randolph Air Force Base and the San Antonio Missions National Historic Park.

## 4.3 Existing Programs and Recent Plans and Studies

Comprehensive Planning is a coordinated, continuous process that helps a community achieve goals that are important to its citizens. The process intends to promote sound development, and public health, safety, and welfare. Chapter 213 of the Texas Local Government Code enables a municipality to adopt a comprehensive plan for the long-range development of the municipality. A comprehensive plan may include but is not limited to provisions on land use, transportation, and public facilities; may consist of a single plan or a coordinated set of plans; and may be used to coordinate and guide the establishment of development regulations. In light of this, a municipality may develop standards for determining the consistency required between a plan and development regulations.

The plan represents a “vision” for the community, sets forth goals and objectives, and lists actions for implementation. The City of San Antonio’s Comprehensive Plan is the San Antonio Master Plan Policies, adopted May 29, 1997. These policies are intended to provide guidance in the evaluation of future decisions on land use, infrastructure improvements, transportation, and other issues. Ordinances should be consistent with the relevant goals and policies contained in the Master Plan.

### Plan Types

San Antonio’s planning consists of a hierarchy of four different plan types, all stemming from the guidance of the Master Plan Policies.<sup>1</sup>

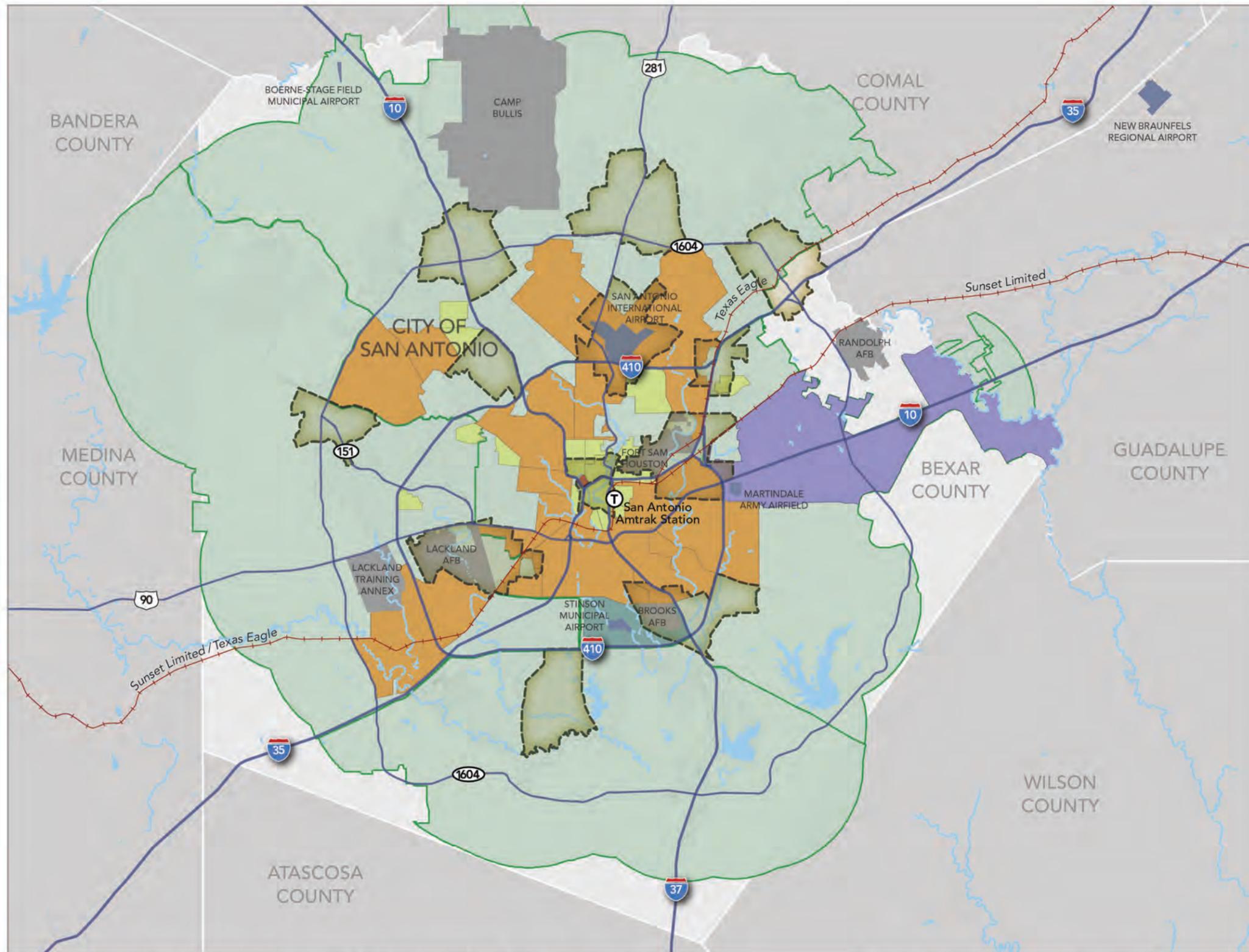
- **City-wide Functional Plans:** These are City-initiated plans that focus on specific systems such as the environment, transportation, parks and historic site or districts. Examples of these plans are the Major Thoroughfare Plan, Parks Strategic Plan, Economic Development Strategic Plan, and the Airports Master Plan.
- **Sector Plans:** Sector Plans are developed for large sub-areas where regional coordination is required (areas greater than 30 square miles), and are typically City-initiated. San Antonio comprises five sectors: North, West, East, Central, and Heritage South.
- **Community and Neighborhood Plans:** These plans are community-led plans that provide more detailed and context driven strategies to address land use, transportation, infrastructure and community facilities.
  - Community Plans are based on the Master Plan policy for Sector Plans, which calls for a system of community areas. The City bases plan areas on the city’s current population, boundaries based on community association areas, the parks and recreation system plan service areas, creeks, freeways, major arterials, and census tracts. The Perimeter Plan is a type of Community Plan that covers land within the city limits, as well as the ETJ land and county land outside the current ETJ. Perimeter Plans are amendments to the city’s master plan for areas within the city limits.
  - Neighborhood Plans allow for the smallest scale of planning at the neighborhood level. These may be incorporated into the larger community plans and shall function as building blocks of community plan areas.

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<sup>1</sup> San Antonio Comprehensive Planning Program (2009)

- **Community Development Plans:** City-initiated plans that provide a specific level of detail for site-specific developments, including design guidelines streetscape recommendations and capital project guidance. These plans may include site specific land use, housing and other design guidelines, streetscape recommendations and capital project priorities. Additionally, areas may be selected based on market analysis, current city initiatives such as neighborhood sweeps, economic development initiatives, or potential public/private investment opportunities. The City employs three types of Community Development Plans.
  - Reinvestment Plans focus on areas inside Loop 410, the original city limits (36 square miles), the Fort Sam Houston area of influence, and TIF/TIRZ areas. It identifies resources to facilitate redevelopment. (Proposed Reinvestment plan areas are presented to the Community Development Action Committee for consideration.)
  - Specific Project Plans are created in conjunction with the development or expansion of a public facility or a major private investment that could significantly change/impact surrounding land uses, and address primarily land use, infrastructure and urban design.

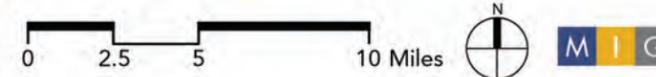
Corridor Redevelopment Plans address strategies to revitalize commercial uses along a corridor and may introduce residential and office uses to improve the area. Corridor overlay districts may be developed in conjunction with Corridor Redevelopment Plans, with direction by a City Council Resolution.

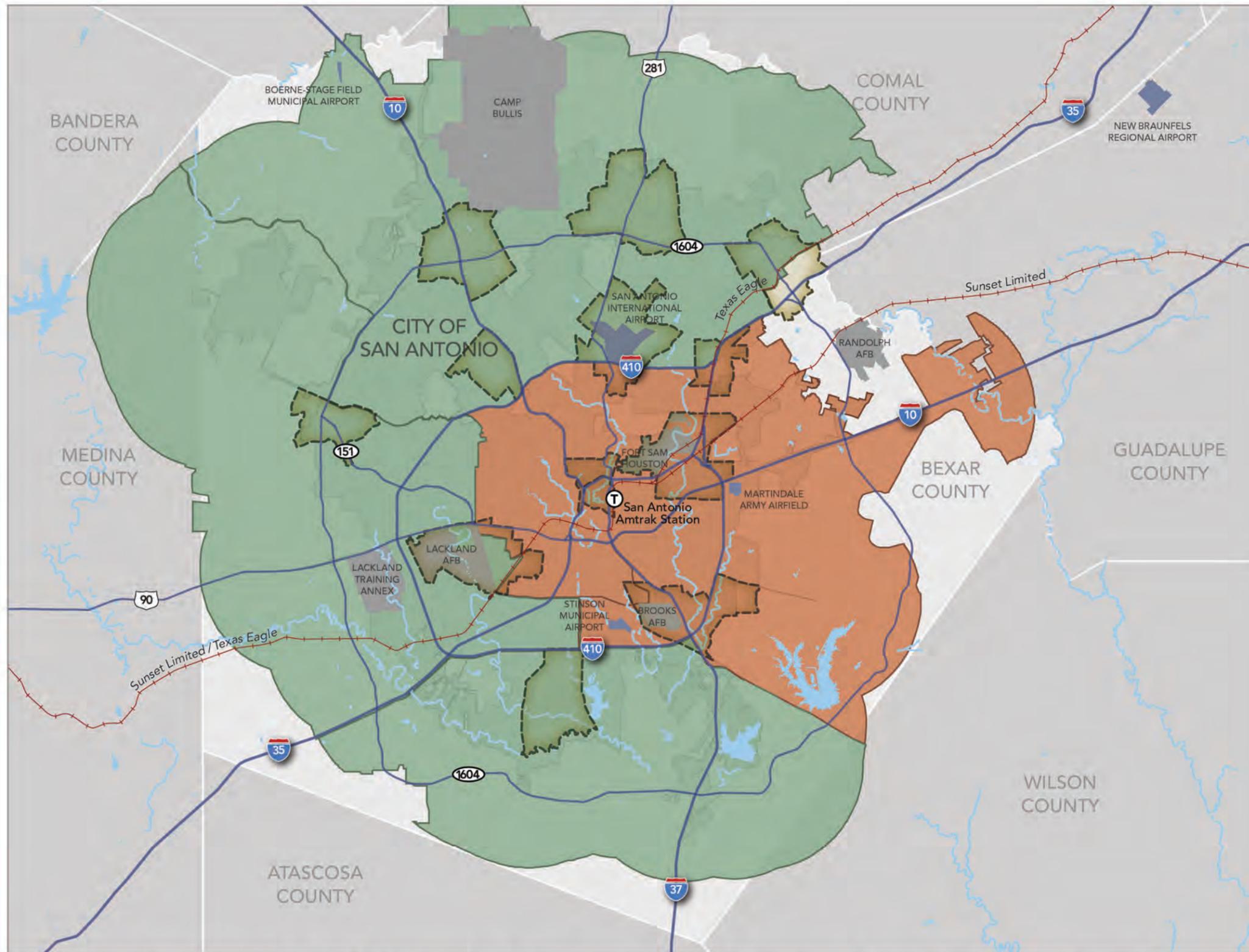


**Legend**

- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
- Plan Type**
- Neighborhood Plan
  - Sector Plan
  - Community Plan
  - Perimeter Plan
  - Strategic Plan
  - Master Plan

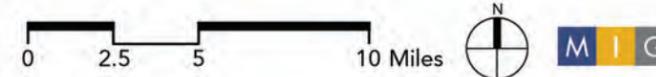
**Chapter 4. Existing and Potential Plans - Type**

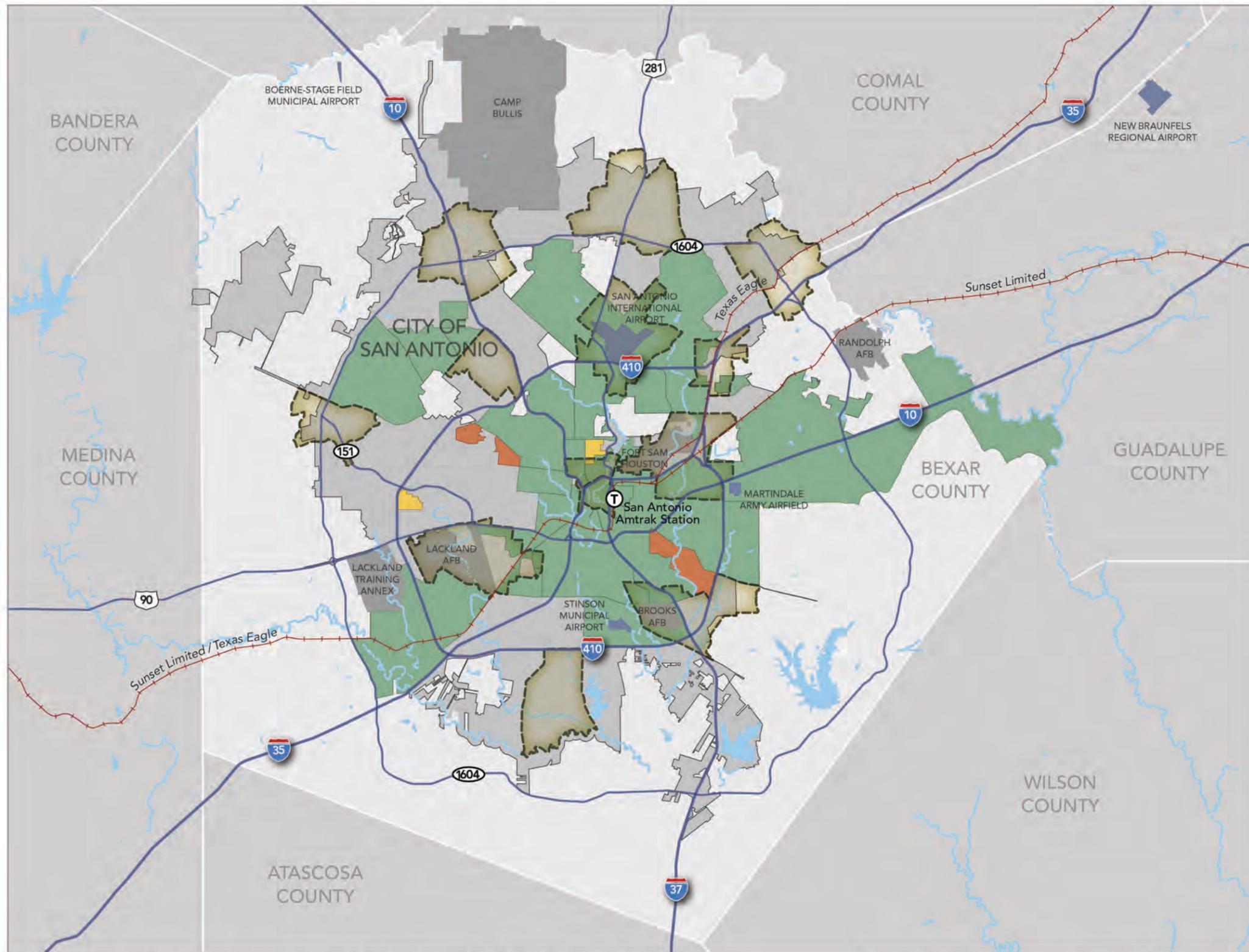




- Legend**
- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
- Plan Status**
- Completed Sector Plan
  - Potential Sector Plan

**Chapter 4. Existing and Potential Sector Plans - Status**

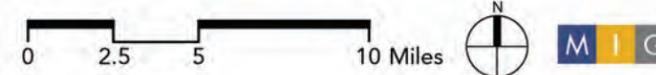




**Legend**

- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
- Plan Status**
- Completed Land Use Plan
  - Completed Plan with no Land Use Component
  - Potential Plan

**Chapter 4. Existing and Potential Plans - Status**



## 4.4 Concurrent Planning

The San Antonio Master Plan Policies (1997) provide comprehensive, broad, long-range goals for city-wide land use planning. The document provides guidance in evaluating future decisions on land use, infrastructure, transportation and other elements. All ordinances must align with the overarching goals and policies of the Master Plan Policies.

### Growth Management

Effective growth management includes balanced consideration of dynamic urban development, using resources effectively and efficiently to manage growth, responding to change and minimizing the negative impact and maximize the benefit from adjacent development outside the city limits.

### Economic Development

Retain the city's status as the economic center for the South Texas Region, as well as the major center for international trade and commerce. Focused economic development can lead to a wide range of positive outcomes on the city, from quality jobs and entrepreneurial opportunities, to viable and safe neighborhoods and well planned communities.

### Community Services

Focus on safety, health and education of the community, while achieving a balance between centralized and dispersed service locations to optimize the delivery of community services.

### Neighborhoods

Preserve, protect and enhance the integrity, economic viability and livability of the city's neighborhoods, and encouraging neighborhood planning, accessible housing, and welcoming neighborhoods, with an emphasis on Downtown.

### Natural Resources

Preserve San Antonio's natural environment and achieve a sustainable balance between conservation, use and development. This goal includes an emphasis on the Edwards Aquifer, floodplain management, as well as other objectives such as attracting environmentally sensitive industries and partnerships for implementation.

### Urban Design

Integrate planning and design with utilities, transportation, historic resources, community services and natural resources. This includes identifying and promoting a system of neighborhood centers and corridors with design standards to encourage smart planning and development throughout the city.

## 4.5 History of Land Use Development

### Early Settlement (1700s – early 1800s)

San Antonio's earliest land use dates back to the early 1700s, with Spanish rule. Spain began colonization north of Mexico and established a series of missions within eastern Texas. The *Laws of the Indies* mandated that the planning of new cities oriented around a central plaza as the focal point of civic and cultural life. Similarly, the design of the mission communities consisted of a walled compound, fortified for defensive purposes, surrounded by farm land and ranches. By the 1750s, the growing importance of ranching led the Spanish to designate ranchos, or ranch land, to be reserved for grazing. These areas comprised a wide territory north and south of the missions on both sides of the river. Linking the missions to one another were caminos reales, a road network between settlements, providing travel routes for settlers and for trading.<sup>2</sup>

### Statehood (mid 1800s – early 1900s)

During the 19<sup>th</sup> and early 20<sup>th</sup> Centuries, a series of major battles, the path towards Texas statehood and the American Civil War resulted in dramatic change across the physical landscape. During this time, land in San Antonio was predominantly used for ranching and as a military center. In the late 1800s, economic growth drove development of a railway system, with the International-Great Northern terminus to the northeast. Utilities, paved streets and other modern infrastructure emerged shortly after.

### Modernization (1930s-1950s)

The City adopted its first master plan during the Great Depression, approved in 1933. Led by Harland Bartholomew, the plan called for major investments in streets and transportation, parks, transit, recreation, zoning and public art. Though the plan successfully established the city's first zoning ordinance, other elements, such as subdivision regulations and San Antonio River rehabilitation goals were never implemented. The city did not expand from its historic Spanish charter land until 1940. The rise of the automobile led to expansion of suburban development across the city, with growth moving steadily northward.<sup>3</sup> Under the guidance of a second master plan in 1951, the plan provided a renewed direction for infrastructure, such as streets and utilities, as well as addressing urban redevelopment and water resources. Yet, the primary outcomes of the 1951 master plan were focused on urban renewal, with minimal success directing land use management.<sup>4</sup>

### Contemporary City (1960s-1990s)

A series of supporting documents led to a new master plan in 1979, following continued growth in the 1960s and 70s, with mounting concerns over non-conforming land uses, urban blight, and water resources. In 1978, the City developed a plan to guide public street requirements and guidance of major roadways. The Major Thoroughfare Plan outlined a hierarchy of street classifications to support the land use plan of the 1970s, calling for a "balanced, multimodal transportation system." The City established neighborhood planning as a component of the San Antonio Master Plan in 1983, in response to the increasing movement of active and organized neighborhood groups. In 1997, the City adopted its current master plan, following a six-year planning process.

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<sup>2</sup> National Park Service, *San Antonio Missions*, [www.nps.gov/saan/historyculture.htm](http://www.nps.gov/saan/historyculture.htm)

<sup>3</sup> Texas State Historical Association, [www.tshaonline.org](http://www.tshaonline.org)

<sup>4</sup> *San Antonio Master Plan Policies (1997)*



BIRD'S EYE VIEW OF  
**SAN ANTONIO**  
 BEAUF CO TEXAS 1886 LOOKING NORTH EAST

- |              |               |                   |                  |                 |                  |                 |                  |               |                  |                  |                    |                 |                    |                     |                |
|--------------|---------------|-------------------|------------------|-----------------|------------------|-----------------|------------------|---------------|------------------|------------------|--------------------|-----------------|--------------------|---------------------|----------------|
| 1. The City  | 11. The River | 21. The Mountains | 31. The Plains   | 41. The Hills   | 51. The Woods    | 61. The Fields  | 71. The Pastures | 81. The Farms | 91. The Villages | 101. The Towns   | 111. The Cities    | 121. The States | 131. The Countries | 141. The Continents | 151. The World |
| 161. The Sun | 171. The Moon | 181. The Stars    | 191. The Planets | 201. The Comets | 211. The Meteors | 221. The Clouds | 231. The Rain    | 241. The Snow | 251. The Wind    | 261. The Thunder | 271. The Lightning | 281. The Hail   | 291. The Frost     | 301. The Ice        | 311. The Fire  |



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## 4.6 Existing Land Use and Zoning

San Antonio has grown into a large region, comprising over 460 square miles with a relatively low population density of 3,017 people per square mile.<sup>5</sup> This lower density is predominantly due to an extensive amount of land within the city used for single family homes and farm and ranch land. Much of the urban development is located within Loop 1604, and north of 410. Outside of this area, the predominant land use is a patchwork of farm and ranch land, and lower density residential.

Major uses that define the city include the San Antonio International Airport, and several military bases, including Camp Bullis, Lackland Air Force, Fort Sam Houston, Brooks Air Force Base, and Randolph Air Force Base. Commercial areas are located along major transportation corridors, as

Summary of Population Density in Similar Size Cities <sup>5</sup>		
City	Land Area (square miles)	Density (people/square mile)
San Antonio, TX	467	3,017
Houston, TX	600	3,662
Phoenix, AZ	517	2,927
Nashville, TN	475	1,336
Los Angeles, CA	469	8,282

well as in several large commercial centers.

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<sup>5</sup> US Census 2013 Population Projections, [factfinder.census.gov](http://factfinder.census.gov)

## 4.7 Base Zoning

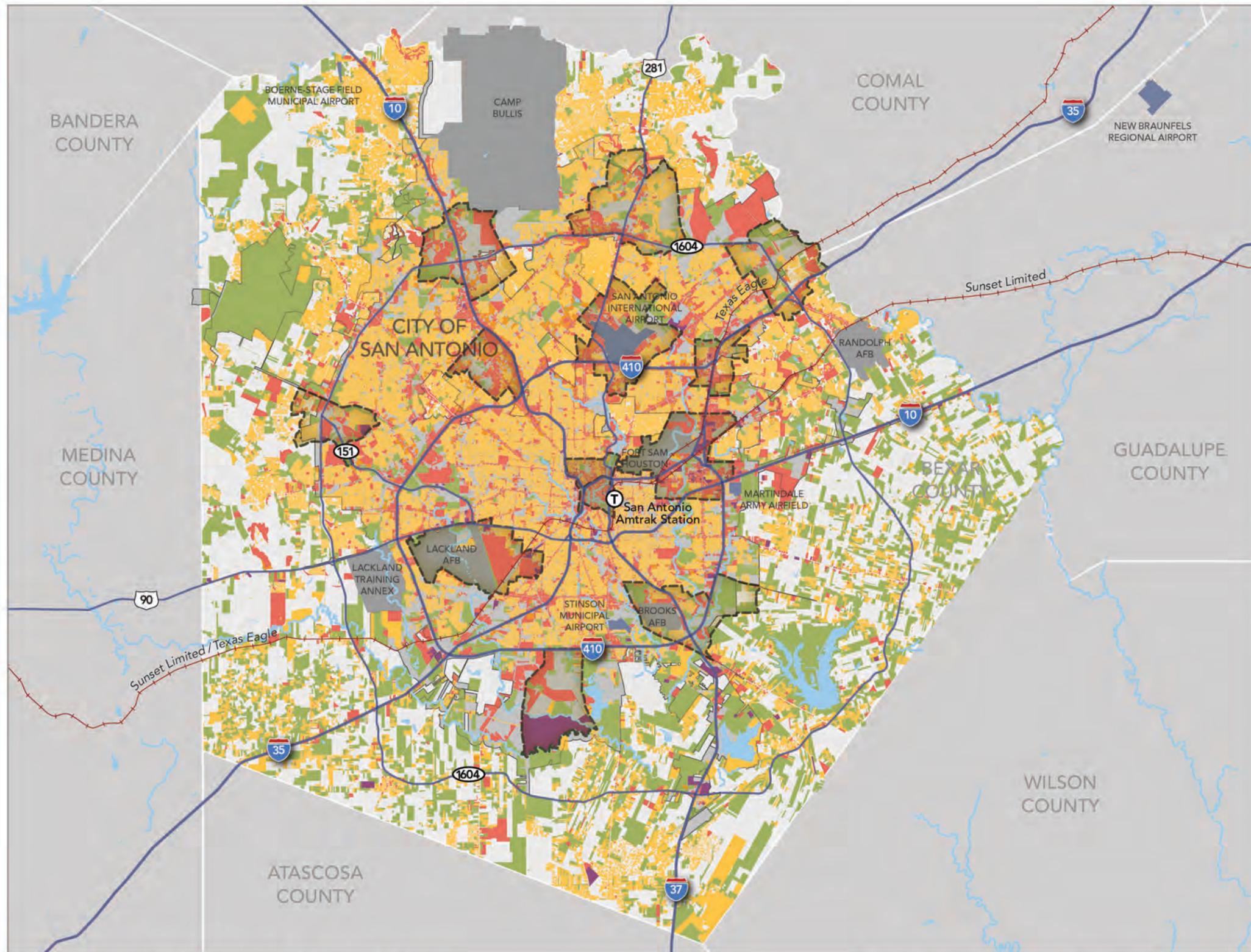
The City regulates the use and development of land through comprehensive zoning. The following outlines different land and zoning regulations in San Antonio. The base zoning districts address underlying zoning to distinguish between different land uses and development intensities. The overarching goals of the base zoning are to ensure consistent design and regulate impacts of conflicting uses. The table below provides a summary of development regulations, followed by a description of each zoning type.

Summary of San Antonio Zoning Development Regulations								
Zoning District	Min. Lot Size (square feet)	Density (max) (units/acre)	Street Frontage (min)	Front Setback (feet)		Height (max) (feet/# of stories)	Max Building Size	
				Min	Max		Individual	Aggregate
RP	10 acres	0.1	—	15	—	35/2-½	—	—
RE	43,560	1	100	15	—	35/2-½	—	—
R-20	20,000	2	65	10	—	35/2-½	—	—
R-61	6,000	7	30	10	—	35/2-½	—	—
R-51	5,000	9	30	10	—	35/2-½	—	—
R-41	4,000	11	20	10	—	35/2-½	—	—
R-31	3,000	—	15	10	35	35/3	70% of lot area	—
RM-61	6,000	7	15	10	—	35/3	—	—
RM-51	5,000	9	15	10	—	35/3	—	—
RM-41	4,000	11	15	10	—	35/3	—	—
MF-18	—	18	50	—	20	35	—	—
MF-25	—	25	50	—	20	35	—	—
MF-33	—	33	50	—	20	45	—	—
MF-40	—	40	50	—	20	60	—	—
MF-50	—	50	50	—	20	—	—	—

Summary of San Antonio Zoning Development Regulations								
Zoning District	Min. Lot Size (square)	Density (max) (units/acre)	Street Frontage (min)	Front Setback (feet)		Height (max) (feet/#of)	Max Building Size	
MF-65	—	65	50	—	20	—	—	—
O-1	—	—	50	—	35	25	10,000	90,000
O-1.5	—	—	50	—	35	60	—	—
O-2	—	—	50	25	80	—	—	—
NC	—	—	20	—	15	25	3,000	5,000
C-1	—	—	50	—	20	25	5,000	15,000
C-2	—	—	20	—	—	25	—	—
C-2	—	—	20	—	35	25	—	—
C-3	—	—	20	—	—	35	—	—
D	—	—	—	—	—	—	—	—
L	—	—	80	25	—	35	—	—
I-1	—	—	80	30	—	60	—	—
I-2	—	—	100	100	—	30	—	—

## Residential

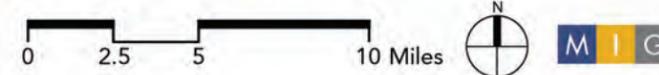
- Residential Estate (RE): low-density residential use on a lot that is a minimum of one (1) acre.
- Residential Single Family (R-20): low-density single-family uses which provide a buffer between the agricultural and "RE" classifications and the higher density areas of the city.
- Residential Single Family (R-3, R-4, R-5 and R-6): medium- to high-density, single-family residential uses where adequate public facilities and services exist with capacity to serve development.
- Mixed Residential (RM-6, RM-5 and RM-4): medium to high-density, single-family residential uses mixed with a variety of housing types where adequate public facilities and services exist with capacity to serve development.
- Multi-Family (MF-18, MF-25, MF-33, MF-40, MF-50, MF-65): multi-family uses with a maximum density ranging from up to 18 units per acre (MF-18) to 65 units per acre (MF-65).

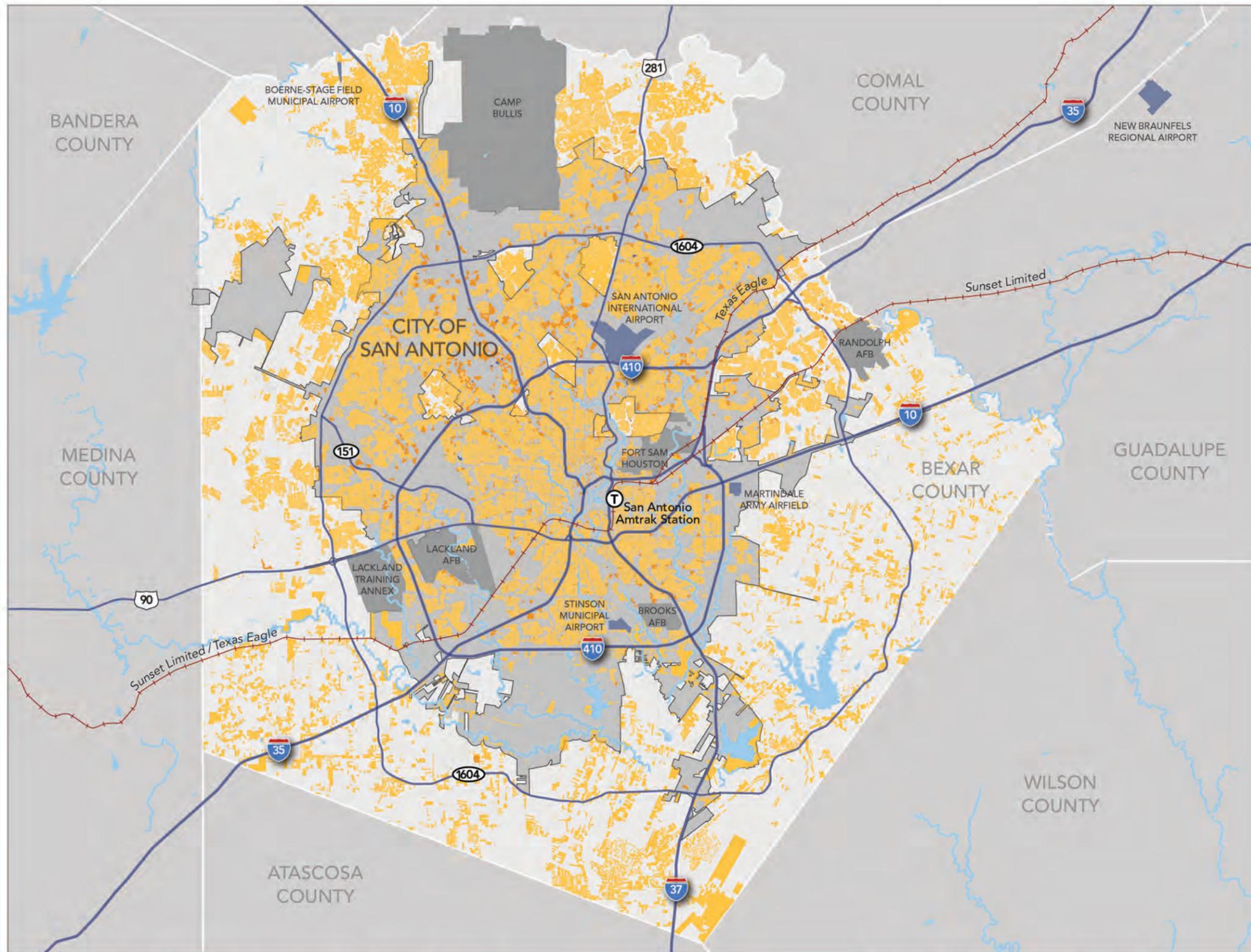


**Legend**

- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
- Existing Land Uses**
- Single Family Residential
  - Multifamily Residential
  - Commercial
  - Industrial
  - Improved Farm and Ranch Land

**Chapter 4. Existing Land Uses**

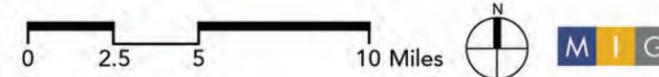




**Legend**

- City of San Antonio
- County
- Water
- Airport
- Military Land
- Major Highway
- Rail
- T Rail Station
- Single Family Residential
- Multifamily Residential

**Chapter 4. Residential Land Uses**



## Commercial

- Neighborhood Commercial (NC): small areas for offices, professional services, service and shop front retail uses, all designed in scale with surrounding residential uses.
- Commercial (C-1): neighborhood commercial uses which depend on a greater volume of vehicular traffic than an "NC" district. "C-1" uses are considered appropriate buffers between residential uses and "C-2" and "C-3" districts and uses.
- Commercial (C-2): commercial and retail uses that are more intensive in character than "NC" and "C-1" uses, and which generate a greater volume of vehicular traffic and/or truck traffic.
- Commercial (C-3): more intensive commercial uses than those located within the "NC," "C-1," "C-2" or "C-3" zoning districts. "C-3" uses are typically characterized as community and regional shopping centers, power centers and/or assembly of similar uses into a single complex under either single ownership or the structure of a property owners or condominium styled organization.
- Downtown (D): concentrated downtown retail, service, office and mixed uses in the existing central business districts. Major/regional shopping centers are permitted, but urban design standards are required in order to maintain a neighborhood commercial scale, to promote pedestrian activity, and to maintain the unique character of the center.

## Office

- Office (O-1): low to mid-rise office buildings which do not have peak weeknight or weekend usage in order to provide a buffer between residential areas and more intensive uses.
- Mid-Rise Office (O-1.5): same uses as the "O-1" district, however the "O-1.5" district is intended for taller, mid-rise office buildings or campuses.
- High-Rise Office (O-2): low to high-rise office buildings with a regional market area.

## Mixed

- Mixed Light Industrial (MI-1): mixed agricultural, commercial and light industrial uses that are internally compatible in an effort to achieve well designed development and provide a more efficient arrangement of land uses, building, and circulation systems.
- Mixed Heavy Industrial (MI-2): commercial, light and heavy industrial uses that are internally compatible in an effort to achieve a well-designed development and provide a more efficient arrangement of land uses, building, and circulation systems. These districts are located for convenient access from existing and future arterial thoroughfares and railway lines.

## Industrial

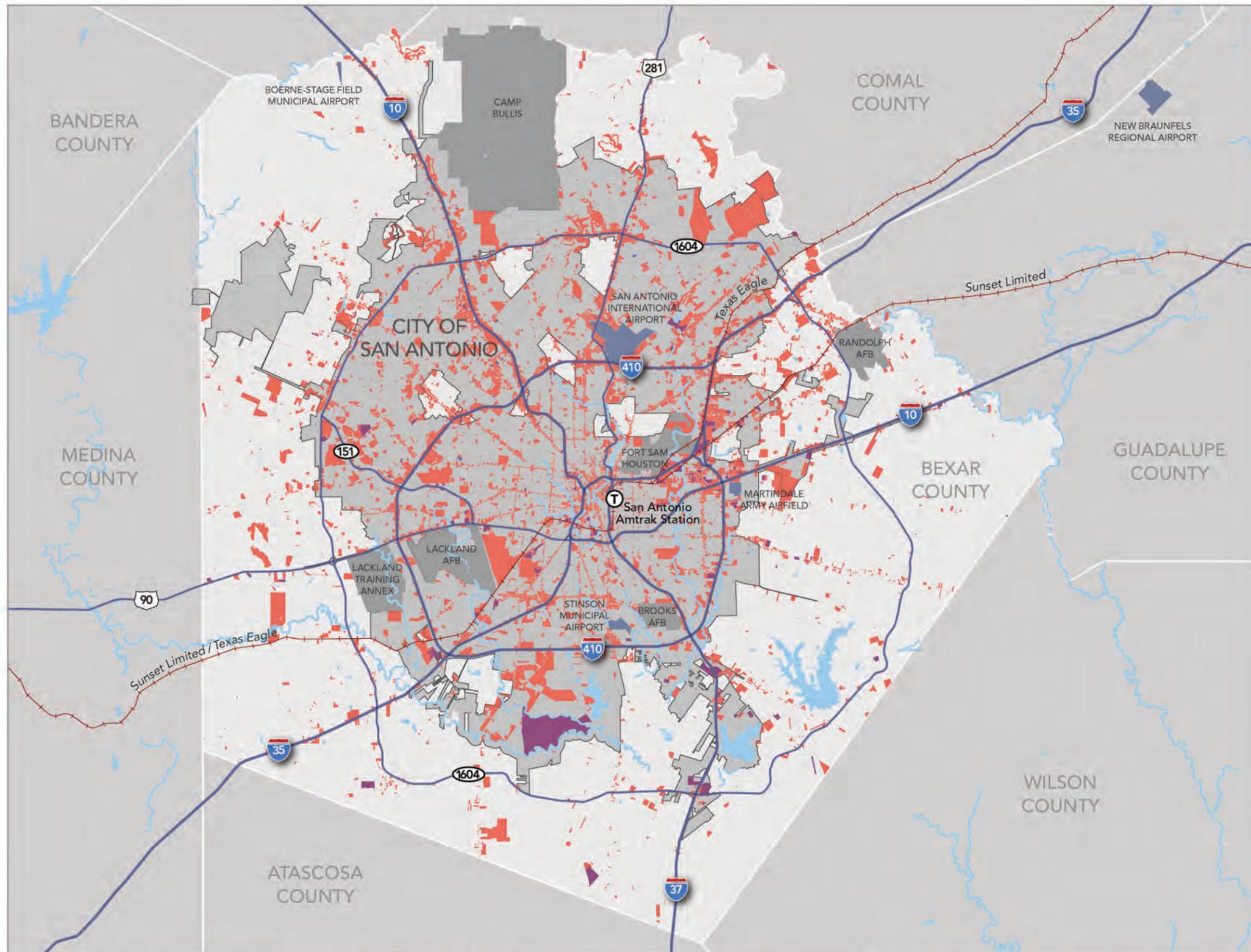
- Light Industrial (L): a mix of light manufacturing uses, office park, flex-space, and limited retail and service uses that services the industrial uses with proper screening and buffering, all compatible with adjoining uses.
- General Industrial (I-1): heavy and concentrated fabrication, manufacturing and industrial uses which are suitable based upon adjacent land uses, access to transportation and the availability of public services and facilities.
- Heavy Industrial (I-2): highly hazardous uses, environmentally severe in character and/or generate very high volumes of truck traffic. The "I-2" district is established in order to provide sites for activities which involve major transportation terminals, and manufacturing facilities that have a greater impact on the surrounding area than industries found in the "L" or "I-1" district. These districts are located for convenient access for existing and future arterial thoroughfares and railway lines.

## Urban and Rural Development

- Urban Development (UD): compact neighborhoods and centralized commercial areas that promote a sense of community and are pedestrian and transit friendly. The intent is to minimize traffic congestion and environmental degradation while improving the quality of life and promoting the health, safety and welfare of neighborhood communities.
- Rural Development (RD): rural living characteristics by encouraging low density, single-family residential land use patterns with limited commercial uses placed in a manner that conserves open land. The "RD" district serves as a buffer between more urbanized, denser development, and significantly rural, open, or agriculturally oriented land use patterns.

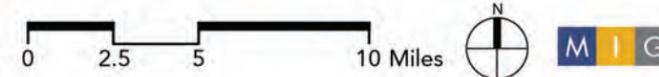
## Farm and Ranch

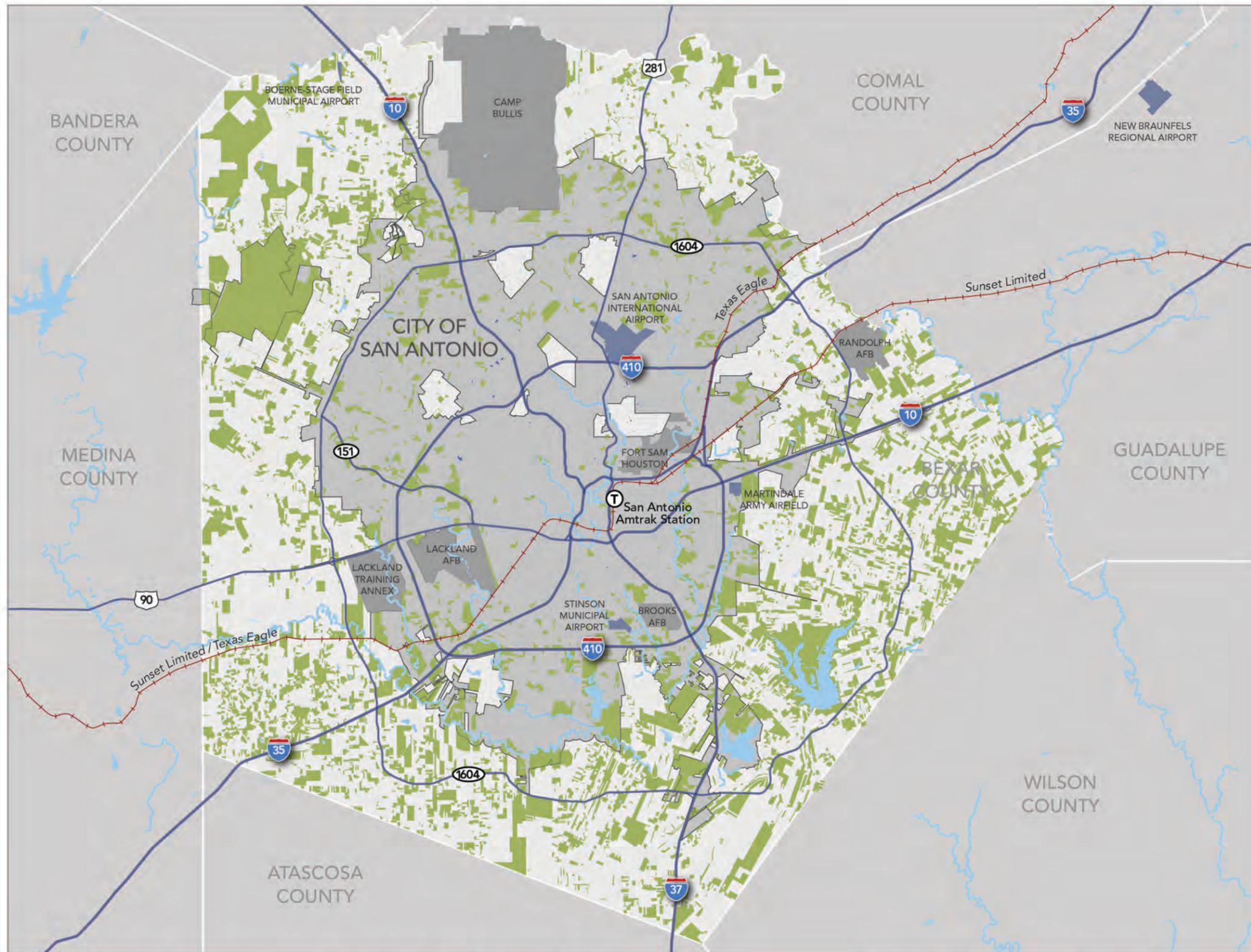
- Farm and Ranch District (FR): larger minimum lot sizes and by prohibiting incompatible land uses. The "FR" district provides areas for agricultural operations and natural resource industries. "FR" zoning protects and preserves valuable agricultural areas, implements agricultural and natural resource protection, preserves rural areas, and identifies areas appropriate for agricultural preservation. The "FR" district may be used to establish and buffer low intensity uses along streams, floodplains, and similar environmentally sensitive areas.



- Legend**
- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Commercial
  - Industrial

**Chapter 4. Commercial Land Uses**

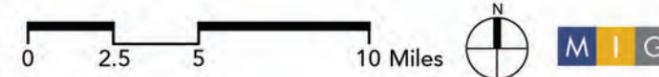




**Legend**

- City of San Antonio
- County
- Water
- Airport
- Military Land
- Major Highway
- Rail
- T Rail Station
- Improved Farm and Ranch Land

**Chapter 4. Improved Farm and Ranch Land**



## 4.8 Overlays and Special Districts

There are several categories of overlay districts. This zoning type allows for unique standards to be applied as an alternative to conventional base zoning. The following provides a summary of selected overlay districts in San Antonio.

### Arts and Entertainment Districts

Arts and entertainment districts provide guidance for supporting arts and entertainment venues and to encourage private and public investment. These special zoning districts are appropriate where existing arts and entertainment venues are adjacent to areas with high building and lot vacancy rates where infill development and redevelopment is desired. The arts and entertainment districts facilitate infill development and redevelopment by creating a consistent pattern of zoning, creating certainty about the form and function of future development and creating an identity that may be utilized to attract investment.

### Corridor Districts

Corridor Districts provide development and design standards for in-fill development along the city's major street corridors. The purposes of these overlay districts are as follows:

- To create a more attractive, cohesive, and safe environment.
- To safeguard San Antonio's heritage by preventing the despoliation of views of areas and buildings that reflect important elements of the city's cultural, natural, historic, and economic fabric.
- To create favorable impressions of San Antonio as well as provide environmental enrichment for the citizens of the city.
- To enhance San Antonio's image as a progressive, scenic, and livable community.
- To preserve, protect, and enhance areas of high tourist and visitor visibility.
- To enhance the appearance and economic viability of corridors within established neighborhoods.
- To provide motorists and pedestrians with attractive viewing opportunities.
- To reduce visual chaos and limit distractions along public roadways.
- To stabilize and strengthen property values within the corridors.
- To protect capital investments in new roadways and infrastructure.

### Flex Zoning Districts

Flex zoning districts combine urban design and form, with use standards based on specific location requirements. These districts encourage innovative designs and cohesive development, where it is in the best interests of the private landowner and the city to exceed the minimum requirements. In such instances, the city's interests in restricting density or imposing certain regulatory requirements can be offset by increases in open space, natural resources, or the provision of affordable housing or certain amenities. Further, the system provides incentives to

landowners while preserving the overall integrity of the master plan by providing uniform rules of general application for density increases. This includes use of transfer of development rights to allow for protection of critical areas and restrictive use of such lands from urbanization.

### Form Based Zoning Districts

Form based zoning districts encourage a sustainable pattern of development by concentrating growth in hamlets, villages and regional centers while preserving and protecting prime agricultural land, environmentally sensitive areas, important natural features and open space for large planned developments. The district regulates development standards by development pattern plans, the individual transect districts, and the calibrated transect districts, if applicable.

### Historic Designation

Historic designation is a tool which offers protection for properties having historical, cultural or architectural significance. Properties with a historic zoning overlay consist of both individually-designated landmarks and historic districts. San Antonio currently has over 2,000 individual landmarks and 27 locally designated historic districts, ranging in size from the Leon Springs Historic District (3 parcels) to the Mission Historic District, which extends for approximately seven (7) miles on the city's south side. Historic designation is authorized by ordinance at City Council and includes legal enforcement of compliance with adopted development codes that are specific to historic properties. Design review and other requirements for historic properties are administered by the Office of Historic Preservation. OHP also administers an ongoing survey to identify new resources having historical or cultural significance. Infill Development Zone

This overlay zone provide flexible standards to encourage reuse of underutilized parcels. Urban design standards are required in order maintain a neighborhood commercial scale, to promote pedestrian activity, and to maintain the unique character of the center. Pedestrian circulation is also required as are common parking areas.

### Military Districts

San Antonio has three special districts to regulate uses near military bases. These include a lighting overlay district, a sound attenuation overlay district and a military airport overlay. The lighting overlay regulates outdoor lighting within five miles of Camp Bullis/Camp Stanley, Randolph Air Force Base and Lackland Air Force Base. The sound attenuation district provides standards to lessen the noise impacts from military activities. The military airport overlay regulates land below military aircraft take off and final approach paths.

### Mixed Use District

The mixed use district provides concentrated residential, retail, service, office and mixed uses. This district does not regulate land uses but, instead, permits any use to be established subject to an approved zoning site plan. Urban design standards are required in order to maintain a neighborhood commercial scale, to promote pedestrian activity, and to maintain the unique character of the center. Pedestrian circulation is required as are common parking areas.

### Neighborhood Conservation Districts

The Neighborhood Conservation Districts address the form and design of new construction and improvements. The purposes of a neighborhood conservation district in residential neighborhoods or commercial districts are as follows:

- To protect and strengthen desirable and unique physical features, design characteristics, and recognized identity and charm;
- To promote and provide for economic revitalization;
- To protect and enhance the livability of the city;
- To reduce conflict and prevent blighting caused by incompatible and insensitive development, and to promote new compatible development;
- To stabilize property values;
- To provide residents and property owners with a planning tool for future development;
- To promote and retain affordable housing;
- To encourage and strengthen civic pride; and
- To ensure the harmonious, orderly and efficient growth and redevelopment of the city.

### Transit Oriented Development District (TOD)

The transit-oriented development district encourages a mixture of residential, commercial, and employment opportunities within identified light rail station or other high capacity transit areas. Uses and development are regulated to create a more intense built-up environment, oriented to pedestrians, to provide a density and intensity that is transit supportive.

### Other Districts

- **The Edwards Recharge Zone** regulates uses and activities in locations where the Edwards and associated limestone formations come to the surface to provide a recharge for the underground water supply.
- **The RIO District** establishes regulations to protect, preserve and enhance the San Antonio River and its improvements by establishing design standards and guidelines for properties located near the river. The districts cover a total of six geographic areas spanning the river from its northern boundary, near Hildebrand Avenue, to a southern boundary near Mission Espada and the southern City Limits. It important to note that the RIO guidelines do not affect residentially zoned properties (up to 6 units).
- **The Alamo Viewshed Protection District (VP-1)** is located at the Mission San Antonio de Valero (The Alamo), a local Exceptional Landmark and a National Historic Landmark. No part of a new structure, sign, tower, roof top equipment, or other appurtenance shall be permitted to encroach into any designated viewshed as set forth in this ordinance unless an encroachment was approved legally before the effective date of the Viewshed Protection ordinance.<sup>6</sup>
- **Mission Protection Overlay Zoning Districts (MPOD)** were created in 2014 after the Missions were nominated as World Heritage sites. The goal of these districts is to protect

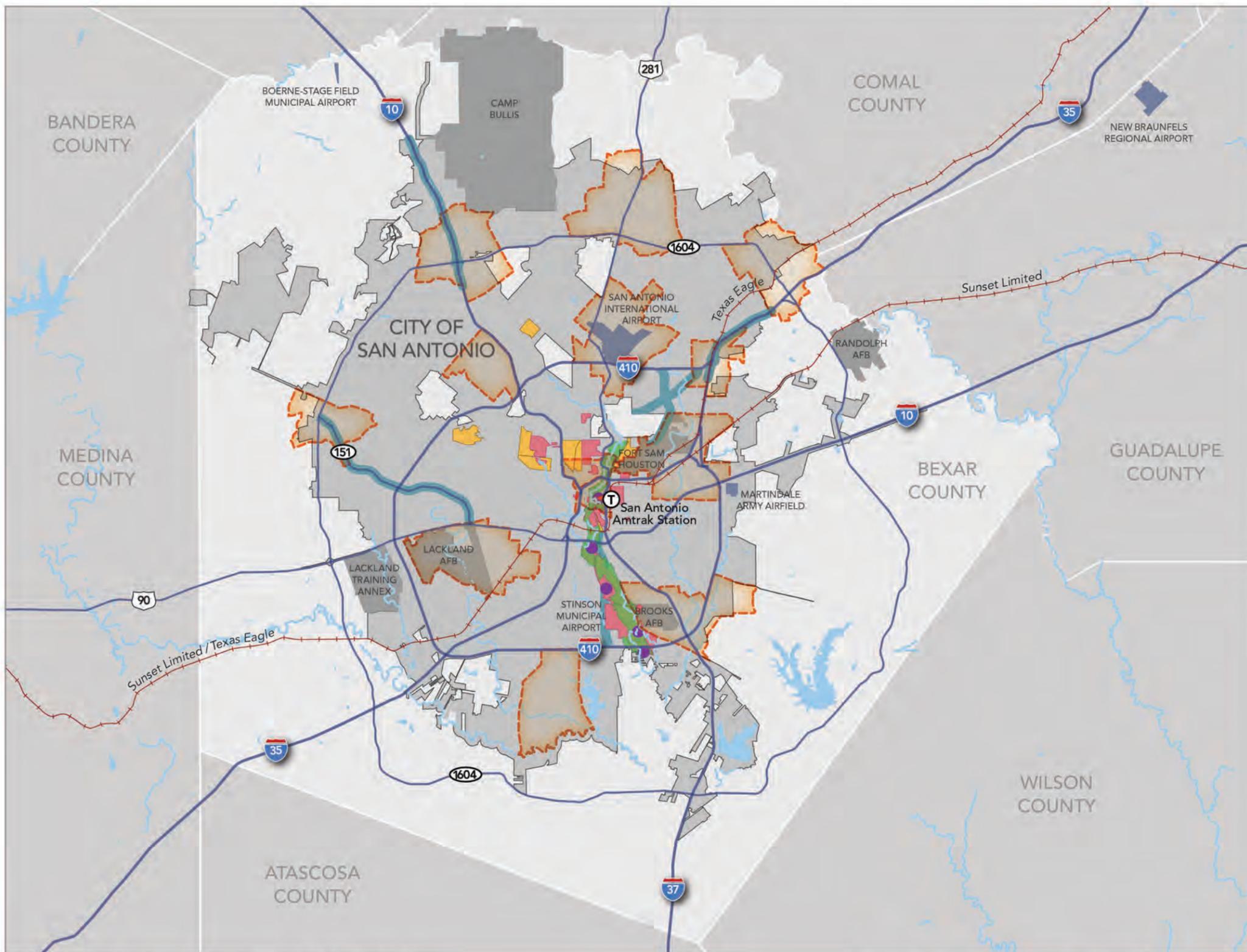
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<sup>6</sup> <http://www.sanantonio.gov/historic/viewsheds.aspx>

the overall environment and setting for mission sites, protect the inward and outwards views and provide a buffer for encroachment into the Mission sites.

- **Quarry Districts** are a special zoning district intended to allow for a quarry and related uses for the extraction of limestone and other raw materials and the processing of those materials into finished products.

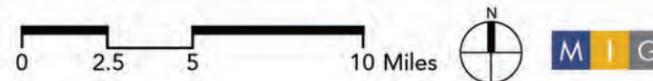
Note: Not all corridor overlay districts are shown.  
Our GIS data is incomplete - awaiting more complete/accurate data.



### Legend

- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
- Zoning Overlay Districts**
- Corridor Overlay District
  - RIO (River Improvement Overlay) District
  - Historic District
  - Neighborhood Conservation District
  - Mission Protection Overlay District
  - Alamo Viewshed Protection District

## Chapter 4. Overlay Districts



## 4.9 Neighborhoods

San Antonio comprises an extensive network of neighborhood associations and community organizations. There are many adopted neighborhood plans that provide goals and strategies for growth and development. In July 2014, the City established a task force for identifying the best way to manage changes to neighborhoods, with the aim to create vibrant, diverse and inclusive neighborhoods. The task force will rely on a series of community discussions to identify priority locations within the city.

The City has several programs and policies to support strong and healthy neighborhoods throughout San Antonio. The Inner City Reinvestment and Infill Policy encourages the coordination of public incentives to stimulate private investment in selected areas of the city. The policy encourages infill development and reinvestment in the central city. The incentives are part of the City's Brownfields Program to redevelop contaminated properties. REnewSA is the City's community development program, focusing on restoring value and vitality to city neighborhoods, commercial corridors, homes and historic structures. REnewSA is an interagency collaborative and also serves as home buyers, property owners, contractors and developers.<sup>7</sup>

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<sup>7</sup> [www.renewsa.com](http://www.renewsa.com)



Existing Conditions Report

## Chapter 5: Urban Design and Form

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# 5 Urban Form and Urban Design

## 5.1 Executive Summary

Urban Design determines how a City looks, feels and functions. It embodies the design, planning, and integration of transportation, historic resources, community services, natural resources and utility infrastructure. San Antonio's urban form derives predominantly from decades of planning and design based around automobile travel, suburban single family neighborhoods, and car-oriented business parks and military bases. Striving for good urban design can shape San Antonio into a cohesive and attractive array of neighborhoods, commercial centers, and public amenities. Applying principles of higher density and intensity appropriate to various environments in the City, focusing on urban design elements that enhance historic districts, neighborhoods, and streetscapes, and promoting increased multimodal access to residential neighborhoods, employment centers, and cultural amenities will increase the City's ability to deliver the high quality of life demanded by existing and future residents.

- The 1997 *San Antonio Master Plan Policies* and the current SA2020 both provide policy guidance on urban design with downtown, activity centers, and neighborhoods. In addition, the Downtown Design guide provides specific standards and guidelines within the downtown district.
- San Antonio's urban form is dominated by its highways and single family neighborhoods, which promotes auto use and auto dominated land use patterns. A car is needed for most daily trips. The existing highway system is a significant barrier for non-auto travel modes.
- The pattern of single family neighborhoods vary in the city, likely depending on the period the neighborhood was built. Older subdivisions often lack basic pedestrian amenities, but have more road connections between the interior system and the main arterials. Newer subdivisions have very poor internal connectivity, often with many cul-de-sac's and a limited number of intersections. External connectivity of newer subdivisions is also very poor due to numerous new subdivisions relying heavily on the same roadway for basic travel.
- San Antonio's topography is generally flat, which made a very strong street grid system possible in older neighborhoods. However, land uses are predominantly single family residential with little variation, making it difficult to define neighborhoods or districts unless they have unique qualities like unique downtown landmarks or historic architecture.
- Intersections are generally compact at the arterial and collector levels and provide some pedestrian connectivity across roadways. While these road types are still auto-dominated, they provide opportunities to increase active modes of transportation and create neighborhood centers that are walkable.
- The San Antonio area is the location for several military bases. These bases, while large economic and employment centers, are also disconnected with the surrounding landscape. Air bases also affect the urban design of surrounding development due to height and land use restrictions in airplane approach zones.

## 5.2 Recent and Current Urban Design Planning Efforts

San Antonio's first comprehensive planning effort that included initial steps for formalizing the City's approach to urban design took place nearly 17 years ago. Since that time, attitudes about living and interacting in the urban environment continued to shift. The ongoing evolution of downtowns as destinations for work-live-play environments may well diminish the suburb-to-city commute pattern that is typical in places such as San Antonio<sup>1</sup>. The way we choose to build, rebuild, and preserve San Antonio today will have a tremendous impact on the lives of its residents, visitors and workers in the coming decades. Incorporating walkability, pedestrian realm improvements and traffic calming measures into the City's next iteration of urban form and urban design goals will be critical moving forward.

The City of San Antonio's urban design and physical environment – its streets, sidewalks, parks, plazas, buildings and skyline – have a great effect upon the way community interactions are shaped and how patterns of daily living play out. The decisions about how the City builds, what it preserves, and what it replaces all have an impact on the way citizens understand their environment and their perceptions about what to expect in the future. The following are the guiding documents for urban design. While some areas, such as downtown, have very specific policies and design guidance, much of the city does not have this level of detail to focus growth and urban design.

### San Antonio's Master Plan Policies (1997)

The **Master Plan Policies** is currently San Antonio's most recent comprehensive planning document. The plan acknowledges that urban design should be a component of the goals and policies of its larger development framework. As a result, five urban design goals were adopted that embodied the City's future aspirations:

- **Goal 1:** Preserve and enhance the City's urban design.
- **Goal 2:** Preserve and enhance the City's historic resources.
- **Goal 3:** Develop and maintain a diversified and balanced citywide system of parks and open space.
- **Goal 4:** Plan, locate and maintain infrastructure and utilities to facilitate and maintain safe, healthy, and sustainable environments for human activity.
- **Goal 5:** Develop policies for various transportation modes that will increase access to employment centers, community services, and cultural recreational, educational and commercial facilities; and decrease reliance on single occupancy vehicles.

Included within the five urban design goals are thirty-four distinct policies intended to direct the City's planning and implementation strategies towards fulfilling the Plan's overall vision. It should be noted that the 1997 *Master Plan* placed special emphasis on San Antonio's historical and cultural resources as a critical character-defining element.

### SA2020 (2011)

In 2011, the City adopted **SA2020** which focuses on downtown urban design. The Downtown Development vision statement described how the City's urban form and design should respond to an evolving downtown environment as used by not only visitors, but also its residents, workers, students, etc. Prominent within the vision was the concept of maintaining/preserving San

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<sup>1</sup> "Commuting in America 2013", Brief 16: *The Evolving Role of Commuting*, January 2015, p.11.

Antonio's historical and cultural resources. A list of potential partners in the public, institutional and development community were also identified to play a role in achieving the stated vision:



### Downtown Design Guide: Urban Design Standards and Guidelines (2013)

As a follow up to both the City's SA2020 effort and the 1997 *Master Plan Policies*, in 2014 the City adopted the **Downtown Design Guide: Urban Design Standards and Guidelines**. The guide provides a means of encouraging design consistency with new infill development while building on the downtown's existing urban fabric. It supplements the Unified Development Code (UDC) provisions and applies to all properties in the Downtown zoning district. The guide addresses the following aspects to urban design in the downtown district:

- Sidewalks and setbacks
- Ground floor treatment
- Parking and access
- Massing and street wall
- On-site open space
- Architectural detail
- Streetscape improvements
- San Antonio River Walk
- Signage
- Sustainable design
- Public art

## Downtown Streetscape Design Manual

The City has also drafted the **Downtown Streetscape Design Manual** to further flesh out design development standards along public rights-of-way. The standards are intended to ensure that materials and furnishings used on San Antonio's streets create a distinct identity and attractive ambience for downtown, which serves as the social, commercial, lodging and cultural heart of the city. The design manual addresses the following aspects to urban design along its downtown streetscapes:



**Street trees, directional signage and paving treatment along E. Houston Street.**



**Detail of glass blocks embedded in sidewalk, Alamo Plaza Historic District**

- Street furniture (street lights, pedestrian lights, benches and seating, bollards, tree grates, tree guards, street pole placement, traffic signal structures, street names signs, sidewalk café barriers, bike racks)
- Paved surfaces (asphalt, concrete, special paving treatments, crosswalks, bike lanes, car share designation paint)
- Street trees (placement, species selection, size, location, spacing, tree well size, structural soil systems)
- Special district elements (functional art, miscellaneous pole elements, manhole covers, brass street names, shade structures, public art, branding, clocks)
- Engineering specifications (standard street corner, "bubble-out" curbs and parking, marked crosswalks, special intersection paving, curb ramps, corner radii, curb extensions, roundabouts, manhole covers)

## City of San Antonio Historic Design Guidelines (2012)

In 2012, the City adopted the **City of San Antonio Historic Design Guidelines** which provides a background on each of the City's historic districts, an understanding of architectural design principles, and guidelines that promote predictability and ensure compatibility between new development and the existing historic environment.

### Overlay Zoning and Districts

Other zoning and overlay districts relevant to San Antonio's urban form and design include:

- **Mission Protective Overlay Districts (2014):** This zoning overlay protects the overall environment and setting for missions sites, protects inward and outward views, and provides a buffer for encroachment into mission sites. This includes more stringent height controls based on proximity to a mission site.
- **RIO (River Improvement Overlay) Districts:** These six zoning overlays protect, preserve and enhance the San Antonio River and its improvements with design standards and guidelines for properties located near the river.
- **Alamo Viewshed Protection District (VP-1):** The purpose of this district is to establish regulations to protect, preserve and enhance views and vistas originating from the Alamo. Named VP-1, the Alamo View shed is measured from a brass disk located in the Alamo Plaza in front of the Alamo Chapel.
- **Mission Protection Overlay Zoning Districts (MPOD-1, 2, 3, 4):** The San Antonio Missions have been nominated as a World Heritage Site. In order to protect these community treasures, additional Viewshed Protection Districts were adopted in 2014. The goal of these additional overlay districts are to protect the overall environment and setting, protect inward and outward views, and provide a buffer for the encroachment into the mission sites. The missions that now have protected viewsheds include Mission Concepcion (MPOD-1), Mission San Jose (MPOD-2), Mission San Juan (MPOD-3) and Mission Espada (MPOD-4).
- **Local Historic Districts (27 total) and Historic Landmark Designations:** This zoning overlay districts apply to areas or individual properties officially recognized by the City of San Antonio for their outstanding historical, cultural, archaeological or architectural significance. They protect properties, whether in a historic district or individually designated, from hasty demolition and inappropriate exterior alterations through a design review process.
- **Neighborhood Conservation Districts Design Standards:** This zoning overlay addresses appropriateness of new construction in existing residential neighborhoods and commercial districts, through enforceable design standards.
- **Corridor Overlay Districts Design Standards (various)**



**View of the Alamo façade and plaza.**

## 5.3 Views, Gateways and Landmarks

### Views

Views of significance to urban design often contain visual landmarks such as public buildings, gathering spaces, monuments, hilltops, as well as the overall urban skyline profile. Views of landmarks also serve a secondary function to orient pedestrians to their surroundings. In considering the impact of future development, it is important to safeguard the integrity of significant views. In San Antonio, prominent views include:

- Alamo Plaza (pictured on right, previous page)
- Tower of the Americas (pictured below)
- Paseo del Rio (River Walk)
- San Antonio skyline

### Gateways

Gateways are the major points of arrival into a city and often provide an opportunity to make a statement about a city's history, culture and identity. Corridors leading into the city may also act as gateways to help direct pedestrians and vehicles toward downtown. Gateways typically include special landscaping, lighting, sculptures, signs, artworks or other markers. In San Antonio, significant gateways include:



**Tower of Friendship sculpture along S. Alamo Street looking toward Tower of the Americas.**

- Houston Street
- East Commerce Street Streetscape
- Tower of Friendship (pictured below)
- San Antonio Market Square
- Paseo del Rio (River Walk)
- HemisFair Park
- Lackland welcome sign on Military Drive

### Visual Landmarks

Landmarks act as points of external reference within a city, are often recognizable from a distance, and often have historical significance attached to them. This means they can serve as a destination unto themselves. The City's **Historic Design Guidelines** also recognizes landmarks and districts with historic significance. In San Antonio, landmarks to note include:

- The Alamo Mission
- San Antonio Missions National Historic Park
- Bexar County Courthouse (pictured on next page)
- HemisFair Park
- St. Paul Square
- Paseo del Rio (River Walk)
- University of Texas San Antonio campus
- Tower of the Americas

- Majestic Theater
- Fort Sam Houston
- San Pedro Springs Park
- Municipal Auditorium



***Bexar County Courthouse.***

## 5.4 Densities and Intensities

Density generally refers to the amount of people or elements of urban form (e.g. dwelling units, floor area) per unit area of land. It is well known that denser environments generate higher levels of interaction between people, establishments, and institutions than sparser city environments.<sup>2</sup> More interactions, in turn, leads to the perception of urban vibrancy.

The 2014 **Downtown Design Guide** includes a chapter that speaks to desired densities in the downtown zone as they relate to massing, street walls and tower spacing:

- Massing should reinforce the street wall with well-scaled elements or structures that are sensitive to the neighborhood context.
- The street wall should define the street and provide a comfortable scale for pedestrians.
- The tower spacing strategy should provide privacy, natural light and air and contribute to an attractive downtown skyline. Slender towers of sound proportions should appear simple and elegant.

Urban intensity refers to the volume of spatial interactions that the ground floor of a district has to offer. Street networks that accommodate higher concentrations of activities are considered more intense. The quality of ground floor interactions also lends to a district's potential intensity. Factors to consider include the presence of sheltered walkways, number of entrances, ground floor height, setbacks, diversity of age of building stock, edge permeability, and presence of mobile vendors.

Downtown is a very specific urban form, but as this relates to the rest of the City, Activity Centers should also support a mix of uses within an urban design framework that meets the needs of the specific uses, but that also intersects with the surrounding development pattern.

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<sup>2</sup> "Capturing Urban Intensity," MIT Working Paper, City Form Lab, 2013, 2.

## 5.5 Centers and Corridors

City centers exist where a variety of elements come together to form a cultural, institutional or commercial focal point. They act as magnetic pulls for human activity and are associated with a strong sense of place and purpose. Common examples of centers are a downtown area, a university campus or an arts district. The following centers in San Antonio have been mapped and include:

### Existing Centers

- Central Business District
- Midtown
- Fort Sam Houston
- Lackland AFB/Port San Antonio
- Medical Center
- UT-San Antonio
- Greater Airport Area
- Stone Oak
- Northeast I-35 and I-410
- Alamo Plaza
- East Commerce Street Roundabout

### Emerging Centers

- Brooks
- Texas A&M-San Antonio
- Highway 151 and 1604
- Rolling Oaks

These centers are generally located at intersections with the ring highway system with major north/south and east/west highways. Many of these centers are focused toward specific uses (employment, military, education etc.) surrounded by generally single family land uses. There is little mixed use development (vertical or horizontal) within these centers and neighborhood development is often disconnected (except for by car) with what are generally major employment centers.

### Corridors

Urban corridors are linear planning areas associated with a road, street, and highway or open space that need to accommodate a broad range of mobility options including walking, bicycling, driving and transit. Corridor development, in turn, benefits from guidelines and standards in order to avoid sprawl-type development patterns and inefficient use of land.

The City of San Antonio classifies designated corridors as one of three types: gateway corridors, metropolitan corridors or preservation corridors. In 2002, the City adopted a Corridor District enabling ordinance that amended the Unified Development Code (UDC) by establishing overlay zoning districts for gateway, metropolitan and preservation corridors and setting forth a process for designation.

The purpose of the overlay districts is to preserve, enhance and perpetuate the value of roadway corridors through the adoption of area-specific site and building design standards. The more specific purpose of a preservation corridor is to protect a roadway with unique historical significance, natural vistas and/ or unique scenic environments from visual blight.

The corridor overlay districts in San Antonio include:

- GC-1: Hill Country Gateway Corridor
- GC-2: Highway 151 Gateway Corridor Overlay District Plan
- IH-1: Northeast Gateway Corridor
- MC-1: Roosevelt Avenue Metropolitan Corridor
- MC-2: South Presa Metropolitan Corridor
- MC-3: Austin Highway/Harry Wurzbach Metropolitan Corridor
- PC-1: Bulverde Road Preservation Corridor

Highway corridors, while providing a means to get through San Antonio, are also significant barriers for non-auto modes of travel. From an urban design perspective, the level of “permeability” between neighborhoods and centers is significantly diminished because travelers are limited by where crossings are located, often spaced more than one mile apart in San Antonio. However, at the arterial and collector level, intersections are generally compact in order to provide some pedestrian connectivity across the roadway. While still auto dominated in the size of the road and the site design standards for adjacent land uses, this level of road network provides opportunities to increase multimodal travel and create neighborhood centers that are walkable for surrounding single family neighborhoods.

## 5.6 Neighborhoods

Neighborhoods are the basic building blocks of San Antonio's urban fabric. Neighborhoods define and characterize the unique cultural, historical and natural qualities of the city. They also create a sense of place that is knowable to citizens from all walks of life.

The creation, preservation and enhancement of San Antonio's neighborhoods means ensuring basic elements are provided in a balanced way. These elements include, but are not limited to, schools, parks, open space, libraries, offices, a range of housing types, stores, cultural facilities and public safety facilities. Neighborhoods are more valued when they contain a welcoming streetscape environment that is walkable and bikeable.

The City's **Master Plan Policies** (1997) acknowledged that neighborhoods should be a component of the goals and policies of its larger development framework. As a result, five neighborhood goals were adopted that describe the City's direction:

- **Goal 1:** Preserve, protect and enhance the integrity, economic viability, and livability of San Antonio' neighborhoods
- **Goal 2:** Strengthen the use of the Neighborhood Planning Process and neighborhood plans.
- **Goal 3:** Provide safe, attractive, well maintained neighborhood for all adults and children
- **Goal 4:** Promote the provision of sound and affordable housing to all San Antonians.
- **Goal 5:** Encourage development of the downtown area as a complete neighborhood to enhance its image to both visitors and residents.

Neighborhoods in San Antonio are dominated by single family detached residences, with some supporting commercial uses along the main arterials. Not atypical of a highway dominant development pattern, older neighborhoods are generally located within the interior of the city, and as San Antonio has grown over time, residential development has followed the road network. Adjacent communities, once separated, have now grown together with single-family residential subdivisions. Given the road network and limited multimodal access, traditional subdivision development is often more isolated than neighborhood focused development types that incorporate multiple options for travel. Additionally, there does not appear to be a consistent park system approach throughout the city with many areas, particularly the northern and western areas, lacking coverage. Much of the residential development in those areas of the city is more than ½ mile from a park or other recreation facility.

Some of San Antonio's neighborhoods have neighborhood plans tailored to their specific needs. These plans follow a standard template and typically include a land use plan with detailed classification descriptions and information about setbacks, buffers, fencing and landscape requirements.

### Walkability

WalkScore.com states that "San Antonio is a car-dependent city. Most errands require a car." This is reflected in the City's low Walk Score of 34. San Antonio also does not have many bike lanes and has an insufficient amount of public transportation. San Antonio's four most walkable neighborhoods (in descending order) are Downtown, South Broadway/ Tobin Hill, Lavaca, and King William Historic District.<sup>3</sup>

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<sup>3</sup> [www.walkscore.com/TX/San\\_Antonio](http://www.walkscore.com/TX/San_Antonio)

The 20-minute neighborhood has become a buzzword in urban areas across the U.S., but San Antonio has not yet taken on this planning initiative, despite one of the City's most popular attractions being the pedestrian-oriented River Walk. This concept consists of a neighborhood where residents have safe and convenient access by walking, bicycling, or transit to many of the places and services they use daily, including local markets and other neighborhood serving businesses, restaurants, schools, and parks within a half-mile or 20-minute walking distance. In short, it's a neighborhood where residents can have a high quality of life without needing to own a personal vehicle – either because they can't afford to or because they choose not to. The City government can have great impact on the walkability of their neighborhoods by zoning changes, programming and infrastructure improvement.

Existing Conditions Report

## Chapter 6: Transportation

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## 6 Existing Transportation Conditions

### 6.1 Executive Summary

Land use patterns in San Antonio over the past 60 years have facilitated a transportation system dominated by single occupancy automobile trips. With the majority of residential and commercial development occurring outside the I-410 loop, particularly in recent decades, major roads throughout the City are at or are predicted soon to be at capacity. As measured by boardings and alightings, VIA's transit system is most effective in the core of the City, closer to downtown. However, the agency's *Long Range Comprehensive Transit Plan* aims to create more frequent and efficient service along major corridors, providing better transit mobility between important activity nodes throughout the City. Along with a recent bicycle plan, and a new focus on pedestrian safety, San Antonio is beginning to lay the foundation for a safer and more efficient multi-modal transportation system. Successfully implementing these efforts will help alleviate future congestion issues and provide a greater variety of safe, low cost, healthy, and sustainable mobility alternatives for San Antonio residents and visitors who either cannot or choose not to drive. Enhancing peoples' ability to manage their everyday transportation needs for work, school, personal activities, and daily tasks without getting in their cars helps create a more human scaled, inclusive, and sustainable city.

- The City's current Major Thoroughfare Plan (MTP) policy was created in 1978, making it over 35 years old. Considering the growth that San Antonio has experienced since then, the plan and policy document are no longer adequate to address the current transportation needs.
- Based on the Alamo Area Metropolitan Planning Organization (AAMPO) travel demand model results, congestion will result in a decrease in average speed (about 48%) and it will take longer to travel the same distance on the same roadway in year 2040 compared to year 2010. Total vehicle hours of delay will increase by over 900% from 2010 to 2040. In 2010, the majority of over capacity roadways (volume-to-capacity ratio  $\geq 1.00$ ) were located primarily on the north side of the city, where most of the recent growth has occurred. The southern portion of the city has better levels of service (LOS C or better) and a road network with available capacity (20% or more available). Level of service (LOS) and volume to capacity (V/C) ratios are measurements used to determine how well a roadway or intersection is operating. Level of service is a measure of delay and congestion on roadways and at intersections. It is reported by a letter grade of A through F, with A representing the ideal condition with very little delay and congestion present, and F representing over-capacity conditions with substantial delay and congestion. V/C ratios are defined as the relationship of the daily volume compared with the maximum capacity of the roadway. As the V/C ratio approaches or exceeds 1.0, the volume is nearing or exceeding the capacity of the roadway.
- By 2040, all major roads on the north and west sides of the city outside of Loop 410 will be over capacity (volume-to-capacity ratio  $\geq 1.00$ ). The south side will experience significant congestion as well, with most major north-south roads operating at LOS F.
- The average weekly commute time in San Antonio is 3.95 hours. The average weekly commute times for Austin, Dallas, and Houston are 3.75, 4.25, and 4.55 hours, respectively (2015 NYC Economic Brief).
- In 2011, San Antonio experienced approximately 40 million hours of total annual delay, which ranks 30<sup>th</sup> in the nation (Texas A&M Transportation Institute (TTI) 2012 Urban Mobility Report).
- San Antonio has a long range bicycle plan, portions of which have been constructed, primarily west and north of Loop 410, (the plan was adopted in 2011). Although education and encouragement on the bicycle

plan is continuing, there are still a number of projects yet to be implemented and supported by the community.

- Pedestrian facilities are present along most major roads, with the exception of some gaps (\$1.3 billion in sidewalk gaps) that have been identified along specific corridors. Sidewalk gaps are more prevalent along collector and local streets in the road network. One challenge facing pedestrians is access to crossings at signalized intersections on major roadways within walkable distances. San Antonio has been named a Pedestrian Focus City by the US Department of Transportation (USDOT) based on the high number of pedestrian fatalities. San Antonio and Dallas have the highest average pedestrian fatality rates per 100,000 population in Texas based on data from 2010 through 2013.
- Transit service in San Antonio includes 91 transit routes, including one bus rapid transit line, and serves approximately 140,000 riders per day and over 44 million riders annually. The highest boardings and alightings occur in or near downtown.
- Trade between Texas and Mexico increased 8.5 % between 2011 and 2012 (Mobility 2040), and is expected to continue to increase in the future, placing additional demand on San Antonio's transportation infrastructure.
- Passenger rail service in San Antonio consists of two Amtrak lines operating on freight rail lines. The Sunset Limited runs from New Orleans to Los Angeles, and the Texas Eagle runs from Chicago to San Antonio. The Lone Star Rail District (LSRD) is proposing a 118 mile passenger rail service from north of Austin to San Antonio. Up to 24 possible stations may be considered including San Antonio, San Marcos, New Braunfels and Austin.
- Four major railroad lines pass through San Antonio. Major rail yards are located at the Port of San Antonio, and along Interstate 35 near Kirby and south of Fort Sam Houston. The City of San Antonio completed a Quiet Zone Feasibility Plan in February 2012 which identified 118 crossings eligible to meet requirements for a Quiet Zone. Quiet zones have been established in several areas of the city; however, there are remaining rail corridors through residential areas without quiet zones or grade separations.
- The City's San Antonio International Airport Vision 2050 Master Plan calls for a proposed Terminal C to be constructed to meet demand in 2030. A consolidated car rental facility (CONRAC) is to begin construction in 2015 and a new Intermodal Center is planned to encourage transit ridership by providing access to several modes of transportation, such as bus and regional rail, all contained in one facility.

## 6.2 History

Much of San Antonio's road network evolved as trade routes connecting historic settlements, and later farm-to-market routes, and main roads connecting towns. The San Antonio River and the acequia system influenced much of the orientation and location of the road network originating in downtown. The first road network, known as El Camino Real, predated the City and the historic missions and was used by the Spanish linking the Texas frontier to Mexico. According to the National Park Service, El Camino Real included a series of four main routes, El Camino Real de Los Tejas, Lower Road, Old San Antonio Road and Laredo Road. San Antonio's five missions were among the 36 established by the Spanish along El Camino Real.

In 1937, the city of San Antonio encompassed a 36 square mile area. Through annexation the city has since grown to over 500 square miles. During the 1980's the population began to shift outside of Loop 410 and by the early 2000's was extending beyond Loop 1604. A significant amount of growth has occurred outside of Loop 1604 to the north and along the IH-10, US Highway 281 corridors and to the west. The population of the City in 2010 was 1,354,381. Currently, the City of San Antonio is the 7th largest city in the United States, based on population density, and the 2nd largest in Texas. The Eagle Ford shale formation, located south of San Antonio, has resulted in increased business and population in the south side of the City, with anticipated continued growth.

More recently, the City of San Antonio (CoSA) adopted the Inner City Reinvestment/Infill Policy (ICRIP) to promote growth and development in the heart of the city through the use of public incentives. The trend towards infill was further supported by the SA2020 and the Center City Strategic Framework Plan visions for downtown, as well as the adoption of the HemisFair Park Area Master Plan and ongoing redevelopment efforts associated with it.

CoSA also adopted the Bicycle Master Plan and implemented San Antonio B-cycle, a bike share program that is now the second most used bike share program in the United States. Denver has the most used bike share program, which has been up and running since 2007.

Concurrent to, and in partnership with the preparation of this plan, VIA Metropolitan Transit is developing their Vision 2040 long range plan; an update to the SmartWaySA 2035 plan adopted by VIA's Board of Trustees in 2011. The Alamo Regional Mobility Authority began environmental studies looking at managed lanes and other capacity improvements along Loop 1604 and US 281. At the same time, the Advanced Transportation District Sales Tax has given Bexar County additional tools to finance and build transportation projects and increased their role in transportation planning for the region. All of the above examples indicate that the transportation climate is indeed changing for the region. The growing population has emphasized the need to look at land use and how it relates to transportation infrastructure, as well as alternative modes of transportation. In this changing environment, it will be critical that the development of the city-wide transportation plan results in realistic multimodal scenarios that complement the AAMPO Mobility 2040 plan, VIA's long range plan, TxDOT's Statewide Plan, and the City's Bike Plan and embrace the concept of center development that encourages people to live where they work and play.

### 6.3 Forecasting Population & Employment

San Antonio faces major challenges as we approach the future, including an anticipated increase in population of over a million additional residents in Bexar County by 2040, continuously increasing demand for an already limited water supply, a strained City budget due to maintaining and improving infrastructure in an expanding geographic area, planning for and addressing air quality compliance as the region approaches non-attainment status, and informing and educating the community about the benefits of alternative modes of transportation to encourage a paradigm shift in views on using and investing in transit, light rail, streetcar, bike, and pedestrian facilities. The City’s Multimodal Transportation Plan is an opportunity to address San Antonio’s challenges, explore its opportunities, and develop a sustainable and efficient transportation system for the future.

San Antonio’s population is expected to increase by around 1.1 million additional people by year 2040, and by 1.4 million additional people by year 2050 which represents over 85% growth since 2010 based on the State Demographer (see Table 1). This type of growth will have significant impacts on the region’s transportation system. To better prepare for this growth, the City of San Antonio will work with area transportation partners to provide additional transportation choices as well as reduce travel demand, or the need for people to make a trip, through initiatives such as ridesharing, telecommuting, and encouraging people to live closer to work and other activities by providing housing close to employment and retail uses. To fully understand the impacts to the transportation system, the AAMPO led a scenario planning exercise to identify the preferred growth scenario for the region.

AAMPO, like most other MPOs in the state, uses the State Demographer’s projections with regards to the number of people and jobs expected to come into the region. From a transportation standpoint, this is only one piece of the puzzle. In order to understand how this will impact the transportation system, the AAMPO worked with transportation planning partners to develop a scenario that illustrates where that growth is likely to occur. During the process, the AAMPO developed three alternative growth scenarios that adhere to the requirements set forth by the Federal Highway Association (FHWA). The Demographic Working Group of the AAMPO, in generating scenarios, considered what was achievable while realizing that the scenarios needed to differ significantly enough to realize impacts to the transportation system. Ultimately, the AAMPO board adopted a scenario which follows a growth pattern seen over the past five years. For San Antonio and Bexar County, this typically means infill development that is primarily medium to higher density and supports increased use of alternative modes of transportation. The adopted scenario is consistent with current market-driven development patterns. It also adopts a more sustainable development pattern but will require some changes to land use and transportation attitudes and policy.

**Table 1 - Projected Population and Employment Growth**

	Population Forecast				Employment Forecast			
	2010	2040	#	%	2010	2040	#	%
Bexar	1,714,773	2,747,163	1,032,390	60%	781,905	1,448,533	666,628	85%

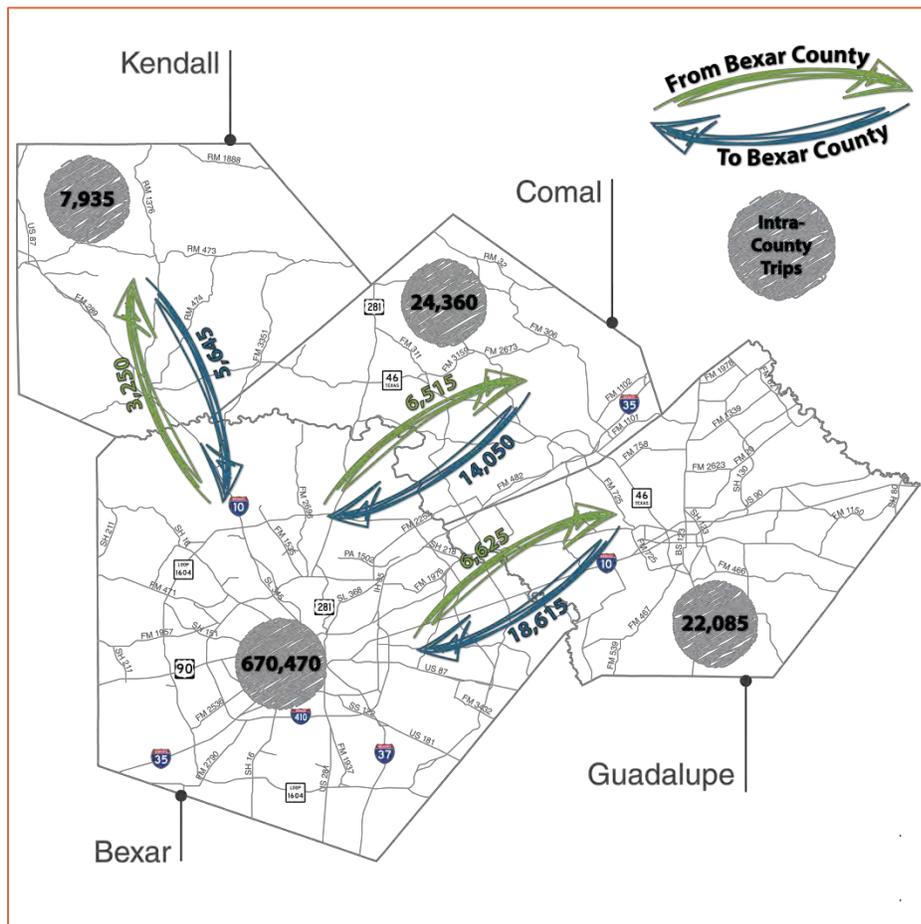
Source: State Demographer’s Office

## 6.4 Travel Patterns

Work trips are, in many ways, ideal for evaluating a planning project in further depth because they are usually repeated on a daily basis, occurring at peak travel times. In comparison to other trips (like social, recreational or shopping trips) the consistency and regularity of work trips makes them much easier to plan around. The Census Bureau maintains a database of journey-to-work statistics for the country called the Longitudinal Employer-Household Dynamics (LEHD) dataset. This product provides a set of home origin and work destination pairs for nearly all employment within the United States. LEHD data cover about 93% of all employment in the United States.

According to the most recent journey-to-work data available, Bexar County is an employment draw for the region (See Figure 1). More people travel into Bexar County for jobs than leave the County. However, these travel patterns account for a small percentage of total employment. Downtown San Antonio is not the major employment center. In fact, employment in San Antonio is fairly dispersed, as is housing, which can make it challenging for transit and ridesharing options to work efficiently since a much larger geographic area and origin-destination pairs must be covered.

**Figure 1 – Journey-to-Work Data by County- 2006 to 2008**



Source: AAMPO Metropolitan Transportation Planning Process, 2014.

## 6.5 Travel Demand

One of the reasons San Antonio lacks transportation options is that even as recently as 2010, the transportation system has been operating at an acceptable level of service (LOS) (C or better) with limited congestion. Level of service is a measure of delay and congestion on roadways and at intersections. It is reported by a letter grade of A through F, with A representing the ideal condition with very little delay and congestion present, and F representing over-capacity conditions with substantial delay and congestion. Although our road network generally operates at an acceptable LOS in 2010, the addition of 1.1 million people by year 2040 will dramatically increase the demand on the transportation system. The AAMPO's travel demand model is the primary analysis tool for assessing the impacts of increases in population and employment. The following table outlines the results of the modeling process and expected demand on the regional transportation system.

**Table 2 – Mobility 2040 Modeling Results**

Performance Measure	2010 Base Year	2040 No Build	Mobility 2040
<b>Total Daily VMT (vehicle miles traveled)</b>	46,686,894	95,345,457	97,701,102
<b>Total Daily Congested VHT (vehicle hours traveled)</b>	1,608,556	6,157,647	4,912,212
<b>Total Daily Vehicle Hours of Delay</b>	336,269	3,483,024	2,167,582
<b>Person Vehicle Hours of Delay</b>	269,781	2,744,585	1,769,706
<b>Trucks Hours of Delay</b>	35,252	353,813	214,105
<b>External Trips Hours of Delay</b>	31,235	384,626	183,771
<b>Average Speed (miles per hour)</b>	29	15	20
<b>Total Daily Transit Boardings</b>	122,298	220,290	299,840

*Source: Alamo Area MPO Mobility 2040 Transportation Plan Update*

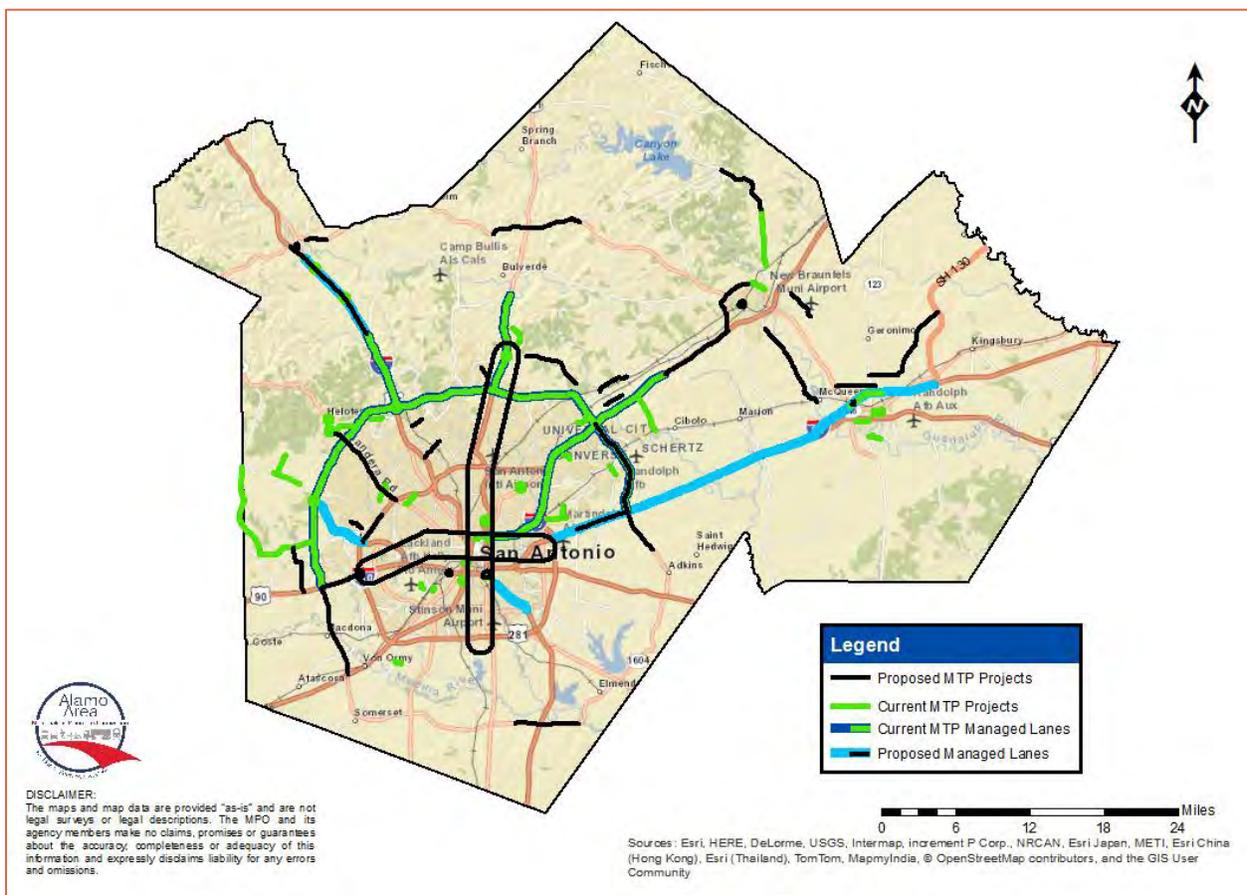
The increase in VMT, vehicle-miles traveled, from 2010 to 2040, as reported by the model, indicates an increase in vehicles and drivers on the road network, combined with an increase in number of trips and distances traveled. Bexar County currently shows 1,517,285 vehicles registered in 2014 which represents 88% of the population. There are 11% more vehicles on the road in 2014 compared with 2010 in Bexar County. There are 1.6 vehicles available per household and 7.9 vehicles per 10 adults within the City of San Antonio, according to the Census Bureau's 2010-2013 American Community Survey. The national average number of vehicles per household is 1.8%. About 9% of households have no vehicle available, compared to Austin at 6.9%, Dallas and Houston, both at 10%. New York City has over 55% of households without an available vehicle; an advantage of an extensive public transportation system.

The decrease in average speed (about 48%) shows that it will take longer to travel the same distance on the same roadway in year 2040 compared to year 2010. Total vehicle hours of delay are anticipated to increase by over 900% by 2040. The AAMPO's Mobility 2040 model results show some improvement associated with funded projects anticipated to be in place. However, the change is not enough to reduce the delay or raise the average speed to the level that the community desires.

## 6.6 Regional Transportation Investment

The AAMPO recommends a project list for adoption as part of Mobility 2040 that maximizes benefit possible within the financial constraints binding the plan. The plan focuses heavily on state-owned, regional roadways and includes a significant managed lanes system and approximately \$300 million in other projects (See Figure 2). It also includes two major transit corridors; a north-south high capacity transit line and an east-west high capacity transit line. Significant investments will also be made in Comal and Guadalupe counties in order to help them prepare for triple digit growth percentages. In San Antonio, most of the investment will occur on the interstate system and in the form of proposed managed lanes. The growth in the city's extraterritorial jurisdiction (ETJ) and County will also be of concern as Bexar County does not current possess the legal authority to initiate or modify land use controls in the unincorporated areas of the county.

Figure 2 – Mobility 2040 Projects



## 6.7 Related Plans and Studies

### Community and Neighborhood Plans

In addition to the regional transportation plan prepared by the AAMPO, the City has numerous neighborhood and sector plans completed, each with their own set of transportation goals and objectives. The following plans were reviewed as part of this effort:

#### Community Plans

- Arena District
- Greater Dellview
- Guadalupe/ Westside
- Kelly/ South San PUEBLO
- Near Northwest
- Nogalitos/ South Zarzamora
- North Central
- San Antonio International Airport Vicinity
- South Central

#### Neighborhood Plans

- Dignowity Hill
- Downtown
- Government Hill
- Lavaca
- Mahncke Park
- Mahncke Park/ Westfort
- Midtown
- Monte Vista
- Northeast Inner Loop
- River Road
- Tobin Hill
- Westfort Alliance

The following two tables highlight the transportation corridors, as well as the transportation goals identified throughout each of these plans.

**Table 3 – Transportation Corridors Identified in Community and Neighborhood Plans**

	Arena District Community Plan	Greater Dellview Community Plan	Guadalupe Westside Community Plan	Near Northwest	Nogalitos/S. Zarzamora	North Central	San Antonio International Airport Vicinity	South Central	Dignowity Hill	Downtown	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
San Pedro						★				★			★	★		4
Broadway										★	★	★				3
New Braunfels Ave.								★	★		★					3
Hildebrand											★		★	★		3
Avenue B											★	★				2
Houston Street	★								★							2
Guadalupe Street			★		★											2
Commerce Street	★								★							2
McCullough						★									★	2
Blanco						★							★			2
Jones Maltsberger						★	★									2
Hackberry Street	★															1
Vance Jackson		★														1
Brady Street					★											1

	Arena District Community Plan	Greater Dellview Community Plan	Guadalupe Westside Community Plan	Near Northwest	Nogalitos/S. Zarzamora	North Central	San Antonio International Airport Vicinity	South Central	Dignowity Hill	Downtown	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
Laredo Street					★											1
Perrin Beitel Road							★									1
Basse						★										1
Wurzbach Parkway							★									1
Sandau Road							★									1
Airport Blvd.							★									1
Walzem							★									1
West Avenue							★									1
S. Presa Street								★								1
Cherry									★							1
Mesquite									★							1
Cesar Chavez										★						1
Navarro										★						1
Main										★						1
South Flores										★						1

	Arena District Community Plan	Greater Dellview Community Plan	Guadalupe Westside Community Plan	Near Northwest	Nogalitos/S. Zarzamora	North Central	San Antonio International Airport Vicinity	South Central	Dignowity Hill	Downtown	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
Soledad										★						1
Mulberry Avenue														★		1
Martin Luther King Dr.	★															1
St. Mary's Street															★	1
Austin Highway							★									1
Fredericksburg Road				★												1
Josephine Street															★	1

Kelly/South San Pueblo, Government Hill, Lavaca, Northeast Inner Loop, River Road, and Westfort Alliance plans are not represented as they focused on land use and did not include a transportation component.

**Table 4 – Goals Identified in Community and Neighborhood Plans**

	Arena District Community Plan	Greater Delview Community Plan	Guadalupe Westside Community Plan	Kelly/South San Pueblo*	Near Northwest	North Central	Dignowity Hill	Downtown	Government Hill*	Lavaca	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
Maintain and improve sidewalks/Pedestrian environment	★	★	★		★		★	★		★	★	★	★	★	★	12
Provide safe bicycle networks	★	★	★		★	★	★	★		★	★		★		★	11
Improve access to transit facilities		★	★		★	★		★		★	★		★			8
Street trees					★	★	★	★			★		★		★	7
Increase safety of transportation network	★		★				★			★	★	★	★			7
Storm water management/flood relief			★		★	★	★				★			★	★	7

	Arena District Community Plan	Greater Dellview Community Plan	Guadalupe Westside Community Plan	Kelly/South San Pueblo*	Near Northwest	North Central	Dignowity Hill	Downtown	Government Hill*	Lavaca	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
Parking improvements								★		★	★		★	★		5
Maintain and improve transportation infrastructure			★		★	★		★							★	5
Traffic management		★				★					★			★		4
Mobility							★			★	★		★			4
Traffic calming					★		★							★		3
Clean, safe, and functional alleys			★		★									★		3
Ensure safety and efficiency of railroads			★			★							★			3

	Arena District Community Plan	Greater Dellview Community Plan	Guadalupe Westside Community Plan	Kelly/South San Pueblo*	Near Northwest	North Central	Dignowity Hill	Downtown	Government Hill*	Lavaca	Mahncke Park	Mahncke Park/ Westfort	Midtown	Monte Vista	Tobin Hill	FREQUENCY
Traffic control					★									★		2
Educate about light rail and other rapid rail alternatives					★								★			2
Complete Streets							★	★								2
Highways					★											1
Encourage economic revitalization	★															1
Enhance downtown	★															1

Kelly/South San Pueblo, Government Hill, Lavaca, Northeast Inner Loop, River Road, and Westfort Alliance plans are not represented as they focused on land use and did not include a transportation component.

## Transportation Plans and Studies

As of June 2013, the San Antonio metropolitan area is home to 1.3 million residents. One of the first tasks undertaken towards documenting existing transportation conditions was a review of relevant transportation planning studies and plans. The information gathered from these documents will help inform the development of the City's Multimodal Transportation Plan.

The study team identified a number of planning studies for inclusion in this process. In total, the consultant team reviewed 11 plans to ensure consistency and, where applicable, to align strategies to develop a sustainable, efficient transportation system over the next 25 years.

The following is a list of the plans and studies reviewed, as well as a brief summary of the key takeaways. A summarization of the goals within the plans can be found in Table 5.

### *AAMPO Mobility 2040: Metropolitan Transportation Plan*

On December 8, 2014, the AAMPO Transportation Policy Board approved the region's long range multimodal transportation plan or Metropolitan Transportation Plan. This was the first Metropolitan Transportation Plan for the expanded AAMPO study area that includes all of Bexar, Comal and Guadalupe Counties as well as a portion of Kendall County. The Metropolitan Transportation Plan sets population and employment control totals for the region. It also defines a preferred growth scenario that is adopted for use with the regional travel demand model. The City was part of this process and will build on this work for the development of its own strategic Multimodal Transportation Plan.

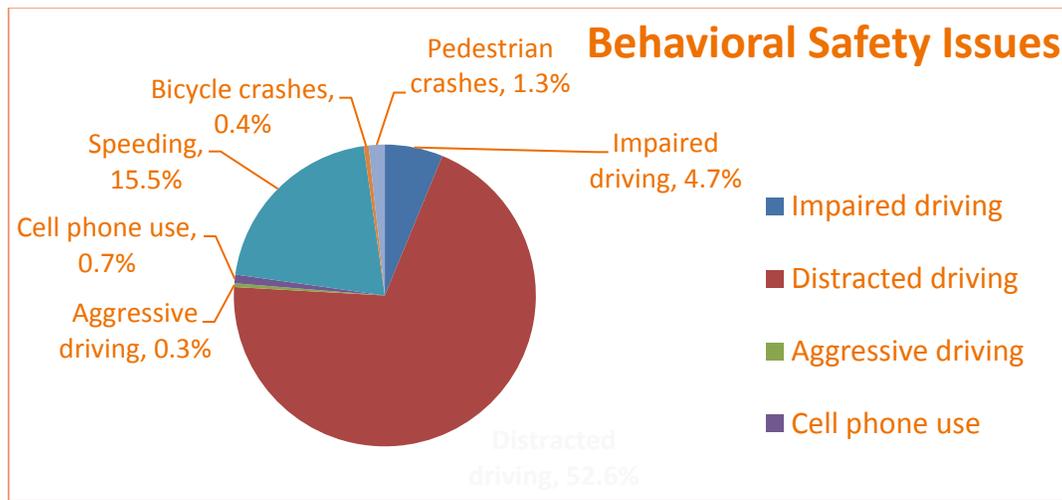
### *AAMPO Pedestrian Safety Action Plan*

This is a detailed plan with specific corrective recommendations tailored to street crossing and pedestrian concerns. This report provides corrective measures to be applied for defined circumstances that are not tied to a specific location. The report provides a "toolbox" of solutions for use when evaluating roadways and intersections for pedestrian safety improvements. Specific examples of the safety issues identified include missing or insufficient signals, sidewalk connectivity, difficult street crossings/intersections, and unsafe paths to bus stops. Certain corridors were identified as having a disproportionate representation in terms of needed improvements.

### *AAMPO Regional Safety Study*

This study compiles local, state, and national activities meant to keep safety at the forefront of transportation planning. It includes charts, graphs, and GIS-based maps identifying safety issues, crash hot spot locations, and the results of the 2008-2009 MPO Transportation Safety Survey. Specific safety issues identified include those around roadway design and signage, pavement markings, visibility, pedestrian and bicycle facilities, bridges, traffic signals and signal timing. Some of the behavioral safety issues identified by the study include the need to avoid unsafe driving practices such as not wearing seatbelts or appropriate restraints, drunk driving, running red lights, aggressive driving, and distracted driving. The frequency of these behaviors and how often they are cited is shown below in Figure 3. Bicycle and pedestrian education was also highlighted, particularly when traveling at night.

Figure 3 – 2010 Behavioral Safety Issues in the Region



Source: Alamo Area MPO Regional Safety Study

### Alamo Area MPO Regional Bicycle and Pedestrian Study

The AAMPO is currently conducting a Regional Bicycle and Pedestrian Study. The study completes an inventory of bicycle and pedestrian facilities in and outside of Bexar County. It also identifies bicycle and pedestrian hot zones based on weighted criteria.

### City of San Antonio 2011 Bicycle Master Plan

This is a detailed plan with specific bicycle improvement projects identified by 14 areas of the city. The plan defines specific projects at each location and budgets for planned project construction. Changes to the street system made by the City's Multimodal Transportation Plan could change the type of bicycle facility improvements needed. An evaluation of these improvements will need to be completed based on current conditions and recommended concepts to determine the most appropriate course of action.

### City of San Antonio Downtown Transportation Study

The Downtown Transportation Study looked at providing Complete Streets improvements in downtown San Antonio. Specifically, it identified over 30 projects that incorporate complete streets elements combined with streetscaping and other transformative improvements to encourage vibrancy in the downtown. Each of the projects were evaluated for feasibility based on available right-of-way (ROW) traffic operations, design, safety and level of service benefits to pedestrians, transit users and bicyclists.

### City of San Antonio Quiet Zone Feasibility Plan

A Quiet Zone is a segment of a rail line, within which is situated one or a number of consecutive public highway at-grade crossings at which locomotive horns are not routinely sounded. Quiet Zones consist of safety improvements implemented at at-grade rail crossings. The improvements remove the requirement for a train to sound the horn as it passes through a crossing. Trains still have the option of sounding the horn if it is deemed necessary. Sometimes a rail line has a number of closely spaced crossings that are located within residential neighborhoods creating a significant safety issue as well as a noise disturbance, especially during nighttime hours.

The City of San Antonio completed a Quiet Zone Feasibility Plan in February 2012. The plan identifies which at-grade public railroad crossings within the city qualify to meet the requirements for establishing a Quiet Zone in

accordance with the Federal Railroad Administration (FRA). The plan determined that 118 crossings were eligible to meet requirements for a Quiet Zone.

### *SA2020 Vision*

This document articulates a vision for San Antonio through 2020. It was developed in cooperation with members of the business community, non-profit organizations, and the citizens of San Antonio. It outlines where and how the City hopes to grow in a variety of areas including transportation. The specific transportation goals outlined by SA2020 focused on transit, complete streets, and congestion. The goals were to triple public transportation ridership by 2020 and to decrease the travel time index to 1.1. While these goals may prove more challenging to meet than expected, the intent behind the goals is what is important; to reduce the single occupancy vehicle trips by promoting transit ridership.

### *South Texas Medical Center Bicycle Master Plan*

This plan was developed to introduce bicycle facilities within the South Texas Medical Center (STMC). A major goal was to add bicycle facilities where feasible and enhance safety for both cyclists and pedestrians. Twelve of fifteen major intersections evaluated by this effort had right turn lanes. These are considered to be less than desirable for both pedestrians and cyclists. Medical, Wurzbach, and Floyd Curl were found to be the busiest, highest speed streets. The study found that these streets could not accommodate bicycle facilities without a significant decrease in capacity. Ultimately, the plan proposed 12 miles of connected bicycle lanes by combining both on-street (wider outside travel lanes) and off-street routes.

### *South Texas Medical Center Transportation Study*

This study included an origins and destinations survey to identify how people get to the STMC, the streets driven and bus routes used, and other pertinent information including respondent demographics. The study found that the primary corridors used to get to the STMC include IH 10, IH 410, Loop 1604, Huebner Road, US 87, Wurzbach Parkway, IH 35, Babcock Road, Fredericksburg Road, and Medical Drive. It also found that 79% of employees arrive between 6:00 and 9:00 a.m. and 75% depart between 3:00 and 7:00 p.m. Among the top priorities mentioned by visitors were parking availability, safety issues related to crime and walking, and the need for bicycle and pedestrian improvements. It is important to note that a major improvement is currently underway at the intersection of Medical Drive and Fredericksburg Road. The project will create a grade separated intersection to improve access to and from the South Texas Medical Center. The South Texas Medical Center Transportation Study was updated in 2014 with expanded bike and pedestrian facilities including a \$6 Million Transportation Advancement Project (TAP) creating a green street with bike lanes and pedestrian improvements.

### *VIA SmartWaySA 2035 Long Range Plan*

The 2035 Plan was adopted July 26, 2011, and led to the development of several passenger facility improvements, including Centro Plaza, which received a \$15 million federal TIGER grant, and is currently under construction on Frio Street near UTSA Downtown campus. VIA is currently developing Vision 2040 in coordination with the City's Multimodal Transportation Plan, which is an update to SmartWaySA. The 2035 plan was developed to provide a guide for the implementation of high-capacity transit in San Antonio that could encourage economic development while accommodating current and future users. The recommended system plan encompassed a comprehensive, multimodal high-capacity transit system that will provide safe, reliable, and fast public transportation service. This included an improved network of bus service, 39 miles of light rail, 57 miles of bus rapid transit, and 5 miles of streetcar circulators. VIA completed the Project Development process on three streetcar routes serving destinations in and around downtown San Antonio on 5.9 miles of rail embedded in downtown streets. Upon completion of this phase, VIA, along with City of San Antonio and Bexar County, agreed to revisit the streetcar plan in a coordinated regional context to identify the best high-capacity public transit investment for the greater region. This will be done through Vision 2040 and the City's Multimodal Transportation Plan.

**Table 5 – Goals Identified in Related Transportation Studies and Plans**

	AAMPO Mobility 2040: Metropolitan Transportation Plan	AAMPO Pedestrian Safety Action Plan	AAMPO Regional Safety Study	COSA 2011 Bicycle Master Plan	COSA Downtown Transportation Study	COSA Quiet Zone Feasibility Plan	SA2020 Vision	South Texas Medical Center Bicycle Master Plan	South Texas Medical Center Transportation Study	VIA SmartWaySA Long Range Transportation Plan	FREQUENCY
Improve pedestrian facilities	★	★		★	★		★	★	★	★	8
Improve bicycle facilities	★			★	★		★	★	★	★	7
Improve safety	★	★	★			★	★	★			6
Improve transit options	★				★		★		★	★	5
Foster collaboration between public agencies	★		★				★			★	4
Provide premium transit options	★						★		★	★	4
Relieve traffic congestion	★			★			★			★	4
Provide Complete Streets					★		★			★	3
Save on costs of transportation infrastructure	★			★						★	3
Encourage a healthier population				★			★				2
Support downtown					★		★				2
Ensure adequate parking								★			1

## 6.8 Policies

The City of San Antonio has two principal policy documents in place in addition to the regulatory document, the Unified Development Code (UDC), to ensure the quality, adequacy, and utility of its roadway network. These policies include:

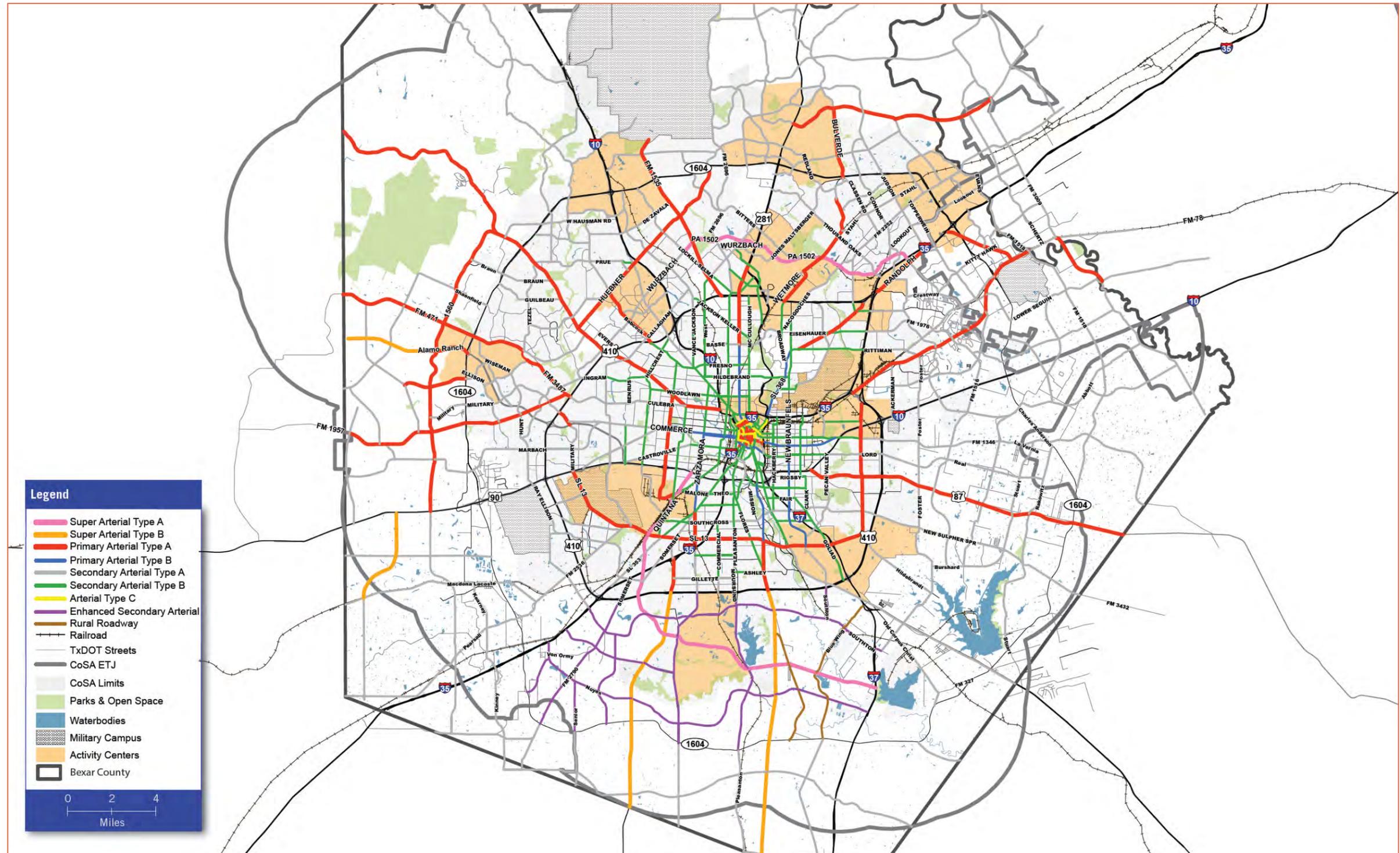
### COSA Major Thoroughfare Plan

The City's current Major Thoroughfare Plan (MTP) policy was created in 1978, making it over 35 years old. Considering the growth that San Antonio has experienced since then, the plan in Figure 4 and the policy document are no longer adequate to address the current transportation needs. The MTP is a tool for basic connectivity that was put in place before many of the roadways were built. The MTP has thoroughfares that have been partially built and others that do not exist at all. Both issues affect the connectivity and capacity of the overall roadway network. In addition, the city's current MTP amendment policy does not evaluate proposed changes or exclusions at a level to adequately assess the impact on the network. Furthermore, the type of desired growth in the community has changed since 1978 and, as a result, the MTP will need to be changed to better align with the current vision for growth. The Multimodal Transportation Plan offers the opportunity to work with the public to create a vision for the corridors studied and that vision can then serve as a pilot project for setting ROW dedication requirements.

### Complete Streets Policy

The City of San Antonio adopted a Complete Streets Policy on September 29, 2011. The policy encourages an approach to street design that supports pedestrian and bicycle oriented neighborhoods; promotes healthy living, fitness, and activity; enhances the economic vitality of commercial corridors and districts; and maximizes the benefits of investment in public infrastructure. One of the most important principles of the Complete Streets concept is that each street improvement will take into account all users. This includes people driving cars, riding bikes, walking, using transit, and using wheelchairs. There is not a "one-size fits all" approach to Complete Streets. The function of the road (e.g. local, collector, and arterial) and the level of vehicular, pedestrian, and bicycle traffic will be considered as will adjacent land uses. Implementation of the complete streets policy through the development process has been a challenge due to discrepancies between the MTP and the UDC. Implementation strategies are needed to install complete streets elements along corridors in order to address phasing. The corridors evaluated as part of the City's Multimodal Transportation Plan will include Complete Streets concepts.

Figure 4 – City of San Antonio Major Thoroughfare Plan



## 6.9 Transportation Modes

### Road Network

An assessment of the ability of San Antonio's road network to accommodate the existing and anticipated traffic levels was recently completed as part of the Alamo Area Metropolitan Planning Organization's development of *Mobility 2040: Metropolitan Transportation Plan*. The AAMPO conducted travel demand modeling for the 2010 base year, a 2040 No Build scenario, and a 2040 Build scenario. A similar process is also underway as part of the Texas Department of Transportation's *Texas Transportation Plan 2040*.

Figure 5 shows the Levels of Service on freeways and arterials for 2010. Figure 6 shows the same for year 2040. "Levels of Service" are representative of the ease with which traffic flows and the amount of delay that is experienced by drivers and passengers in vehicles traveling along the roadway. The output from the AAMPO travel demand model correlates V/C ratios to LOS. Figures 5 and 6 illustrate the potential impact to the transportation system if no additional improvements are made. Both maps display the model results for LOS based on volume to capacity (V/C) ratios. V/C ratios are defined as the relationship of the daily volume compared with the maximum capacity of the roadway. As the V/C ratio approaches or exceeds 1.0, the volume is nearing or exceeding the capacity of the roadway. High V/C ratios are represented in red. The impact to non-highway arterials is apparent with the red indicated on the road network in the map in Figure 5 and will need to be addressed as part of the City's Multimodal Transportation Plan.

In 2010, the majority of over-capacity roadways, those with V/C ratios at or greater than 1.0, are located primarily on the north side of the city where most of the growth has occurred. Some examples of major roads and areas with roadways shown to be over capacity in 2010 include, but are not limited to the following:

- US 281 north of Loop 1604
- Interstate 10 between Loop 410 and Loop 1604
- Bandera Road between Loop 410 and Mainland Drive
- Loop 1604 from SH 151 to Braun Road
- Interstate 35 from the Loop 410 split to the Fratt interchange
- Interstate 35 from US 90 to US 281.
- The arterial network also shows roads with poor levels of service in the following areas:
  - Wurzbach and Vance Jackson east of Interstate 10
  - UTSA and South Texas Medical Center area
  - Stone Oak Area
  - Fort Sam Houston

On the south side of San Antonio, the levels of service are typically good (LOS C or better), with some short segments of poor levels of service (LOS D or E) at the higher volume intersections.

TxDOT publishes an annual list of the 100 most congested roadways in the state. In 2014, San Antonio had seven of the top 100 congested corridors. These corridors are listed below, along with their limits and rank.

- Interstate 35 (Loop 410 North to Loop 410 South Cutoff) (40)
- Interstate 35/ Interstate 10 (US 90 to US 281/IH 37 Downtown) (44)
- Interstate 10 (Loop 410 North to Loop 1604 North) (51)
- Interstate 35 (Loop 410 North to Loop 1604 Northeast) (54)

- US 281 (North of Loop 1604 to Stone Oak Parkway) (58)
- Loop 410 North (US 281 to Interstate 10) (59)
- SH 16 (FM 1560 to Loop 410) (77)

The Texas A&M Transportation Institute (TTI) 2012 Urban Mobility Report contains mobility and congestion data for San Antonio. In 2011, San Antonio experienced approximately 40 million hours of total annual delay, which ranks 30<sup>th</sup> in the nation. In 2000, San Antonio only experienced 30 million hours of delay. This delay also resulted in over 16 million additional gallons of fuel consumed and 336 million pounds of additional carbon dioxide emitted.

The Urban Mobility Report also shows that in 2011, 63 percent of travel during peak periods was on congested roadways. Travel time during peak periods was 1.19 times as long as during uncongested periods.

With VMT increasing due to continued growth, the levels of congestion will worsen. The largest increases in population between 2010 and 2040 are expected on the far west side, downtown and the far north side areas. Many of the improvements previously included in Mobility 2035 and those added by Mobility 2040 focus on the region's interstate highways. As such, the AAMPO's modeling found that most of the future needs would be along city streets, specifically major and minor arterials. One reason for this is that as interstates become congested, people look for alternate routes. Another reason is that some portions of the AAMPO study area include those that are experiencing rapid growth on previously undeveloped land with a transportation infrastructure that has not kept pace with growth. This can be seen in some parts of the San Antonio Extraterritorial Jurisdiction (ETJ).

As shown in Figure 6 the north side of the city is expected to be heavily congested by 2040. All major roads on the north and west sides of the city outside of Loop 410 are over capacity (with V/C ratios  $\geq 1.0$ ) with the exception of Wurzbach Parkway. The south side now shows significant congestion as well, with most major north-south roads operating at LOS F. The inner east and southwest sides are the only areas of the city that still have available capacity (20% or greater) on their road network.

Figure 5 – 2010 Level of Service



Figure 6 – 2040 Level of Service



## Bike Network

Figure 7 shows the 2011 Bike Plan for San Antonio, which when completed, will provide a connected bicycle network throughout the city. Currently the most built-out portions of the network are located on the west side and north of Loop 410. Areas where there are significant gaps in connectivity with the existing bike facility include the north-central, south-central, and east sides. The Bike Master Plan prioritized the proposed bicycle facility improvement projects into two levels: Tier 1 Improvements and Tier 2 Improvements.

The San Antonio Bike Plan was adopted in 2011. In addition to the map, the Plan also established the following goals for the development of bike facilities in San Antonio: Connectivity; Culture and Commitment; Health and Fitness; and Vibrant Streets. The Bike Plan sets forth a framework for implementing bicycle facilities throughout the city in order to create a connected network. However, one of its weaknesses is that it does not perform a detailed evaluation of the feasibility of the implementing the bike facility or type of facility. This is especially true where reductions in travel lanes are required.

The Downtown Transportation Study, adopted in 2012, updates the bike plan within downtown to improve connectivity and modify facility types based on a more in-depth study of right-of-way, design, street character, and traffic operations.

Bike paths/trails through the linear greenway parks provide routes for bicyclists outside of the street network. Paths have been completed along Leon Creek, Salado Creek, Medina River, and the Mission and Museum Reaches of the San Antonio River. Future plans include extending existing paths further along the waterways and creating new paths along other waterways such as San Pedro, Alazan and Apache Creeks.

San Antonio also has B-cycle, a bike sharing program. Users can pick up a bike at any B-station and return it to any B-station when finished with their ride. Users can pay a membership fee to gain unlimited access to the B-cycle system or they can pay based on the time that the bike is used. There are currently 55 B-cycle stations in San Antonio. The stations are predominantly located in downtown, but are also located near the Mission and Museum Reaches of the San Antonio River. As of May 2014, over 600,000 miles had been traveled on B-cycle bikes according to a San Antonio Express News article (Marini, Richard A. "Let it Ride: Trends in B-Cycling" (San Antonio Express News. May 15, 2014).

In response to bike safety concerns, the City of San Antonio adopted a Bike Light Ordinance and a Safe Passing Ordinance in 2010 as described below:

- Bike Light Ordinance - This ordinance addresses the ability of drivers to see cyclists at night. The ordinance requires cyclists to have a front white light mounted to the bike, and a rear red reflector or red light mounted to the back. It reinforces the State of Texas law requirements for bicycle lights.
- Safe Passing Ordinance – This ordinance addresses concerns regarding driver behavior when encountering cyclists in the roadway. Recent fatal accidents involving cyclists being hit by vehicles prompted passage of this ordinance. This ordinance sets a requirement of 3 feet for cars and 6 feet for commercial or large trucks as safe passing distance.

Crashes involving bicycles are illustrated in Figure 8. The majority of crashes are concentrated in the central and southern parts of the city. However, this may be indicative of more cyclists in these regions resulting in greater exposure, not a higher crash rate. In particular, the Fredericksburg Road corridor south of Loop 410 has a high frequency of crashes involving bikes. There were 258 bike crashes in San Antonio in 2013, increasing to 324 in 2014. So far in 2015, we have experienced 17 bike crashes as of the end of January. Of greater concern, are the increase in serious injuries and fatalities associated with increased cycling. There were 5 fatal bike crashes in 2013, 1 in 2014 and 1 in 2015 through the end of January. All of the bike crashes in years 2013 and 2014 occurred on collectors and arterials. Most of the fatal bike crashes occurred during night conditions between the hours of 7 PM and 7 AM.

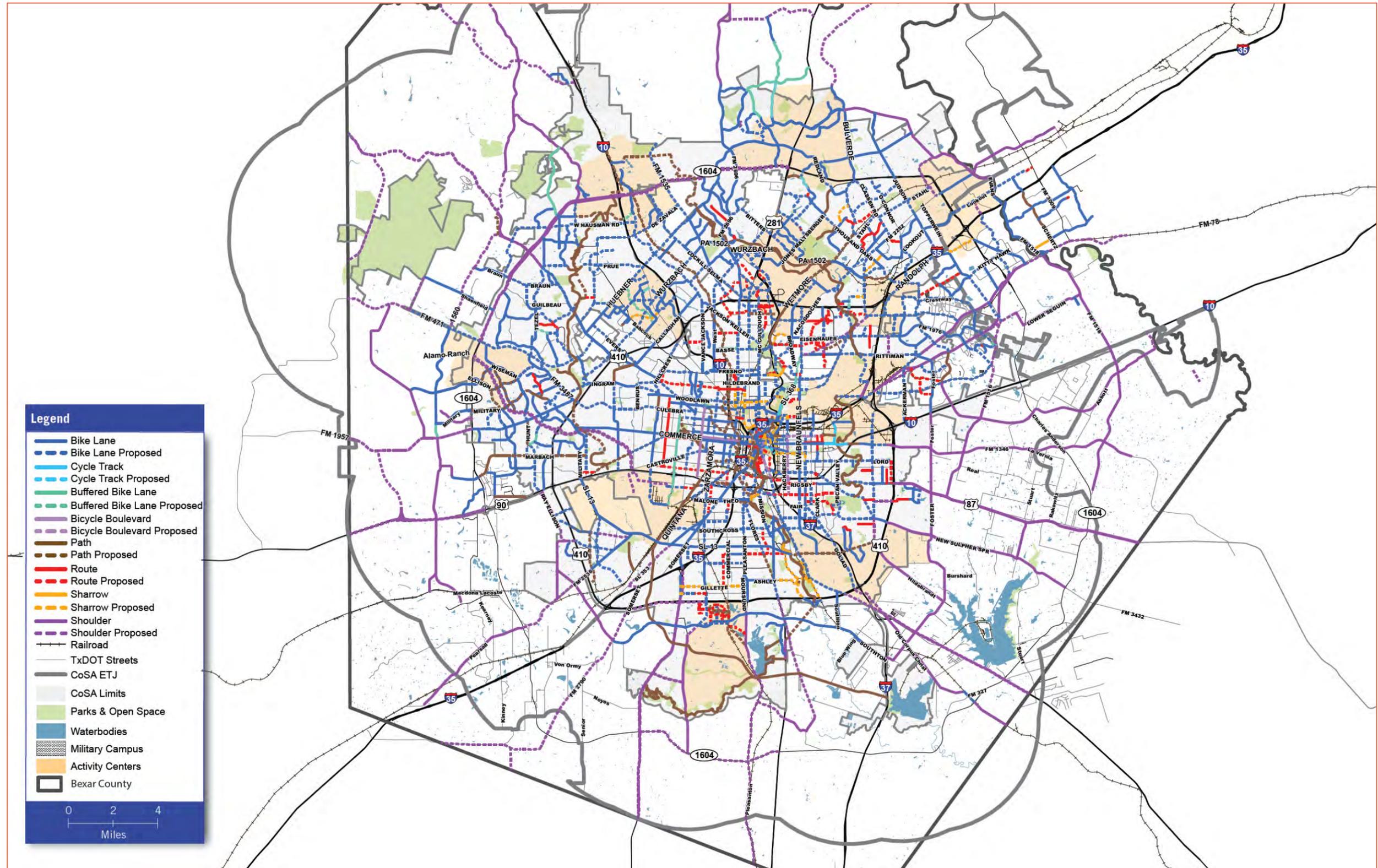
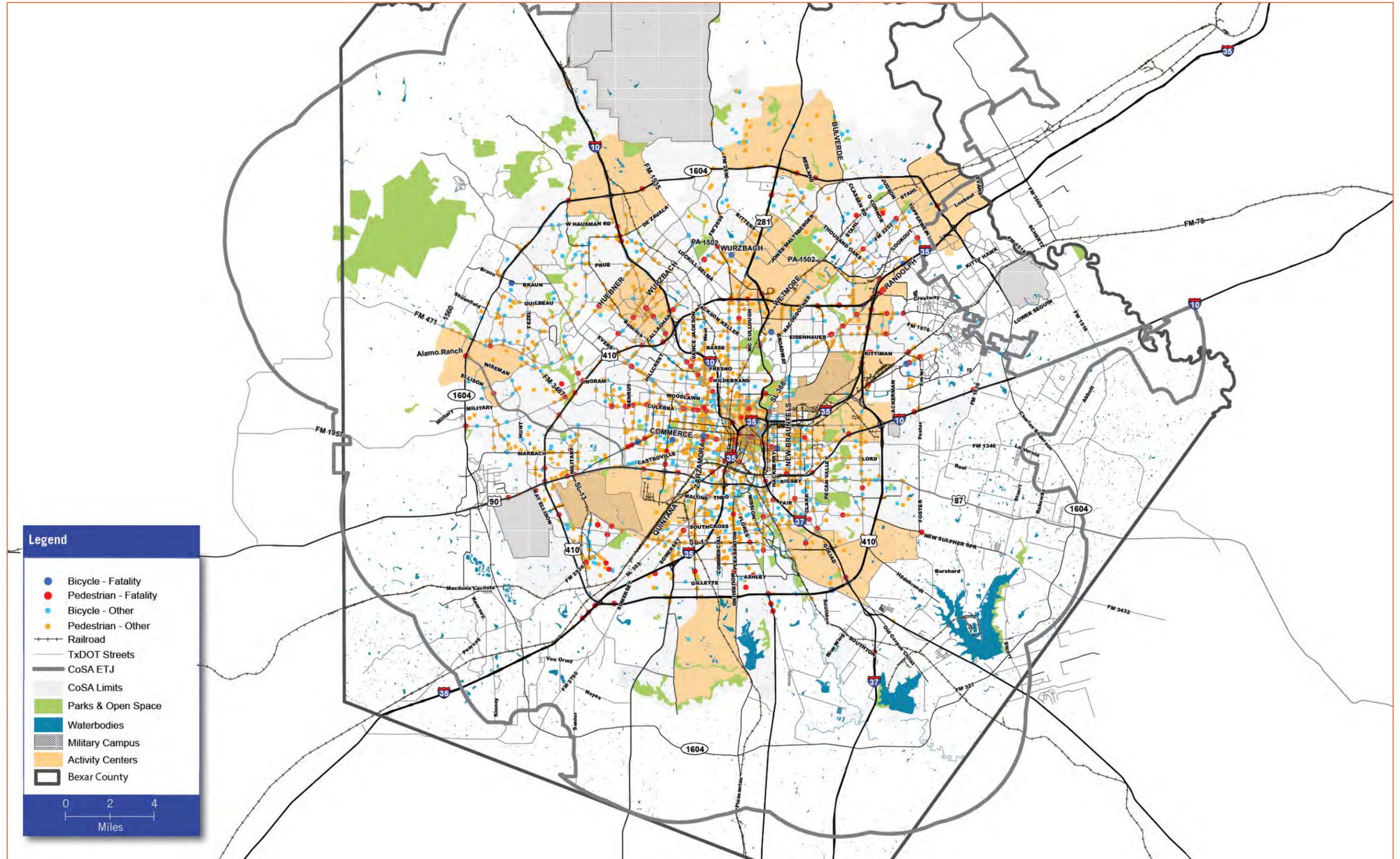


Figure 7 – Bike Map

Figure 8 – Pedestrian and Bicyclist Related Vehicular Crashes (2010-2014)



## Pedestrian Network

San Antonio's existing pedestrian network consists mostly of sidewalks, linear greenway trails, and park trails. The current state of many of San Antonio's roadways is that a significant portion do not have sidewalks, or have gaps in existing sidewalks (see Figure 9). Other issues include sidewalks in disrepair, and sidewalks with accessibility issues such as barriers and absent curb ramps. Pedestrian safety is an area of focus for the City of San Antonio. Pedestrian-related crashes are shown in Figure 8. Similar to bike crashes, a large number of the pedestrian crashes are concentrated in downtown, which is likely more indicative of the higher numbers of pedestrians in this area rather than there being a higher rate of crashes involving pedestrians.

San Antonio has been named a Pedestrian Focus City by the US Department of Transportation (USDOT), which is designated for cities with a high number of pedestrian fatalities. San Antonio and Dallas have the highest average pedestrian fatality rates per 100,000 population in Texas based on data from 2010 through 2013. There were 832 pedestrian related crashes in San Antonio in 2013. The number dropped slightly to 793 in 2014 and there have been 71 in 2015 through the end of January. San Antonio experienced 46 pedestrian fatalities in 2013, increasing to 53 in 2014. So far in 2015, 1 pedestrian fatality has occurred through the end of January. Over 75% of the pedestrian crashes occurred outside of intersections and over 70% occurred during night conditions, between the hours of 7 PM to 7 AM.

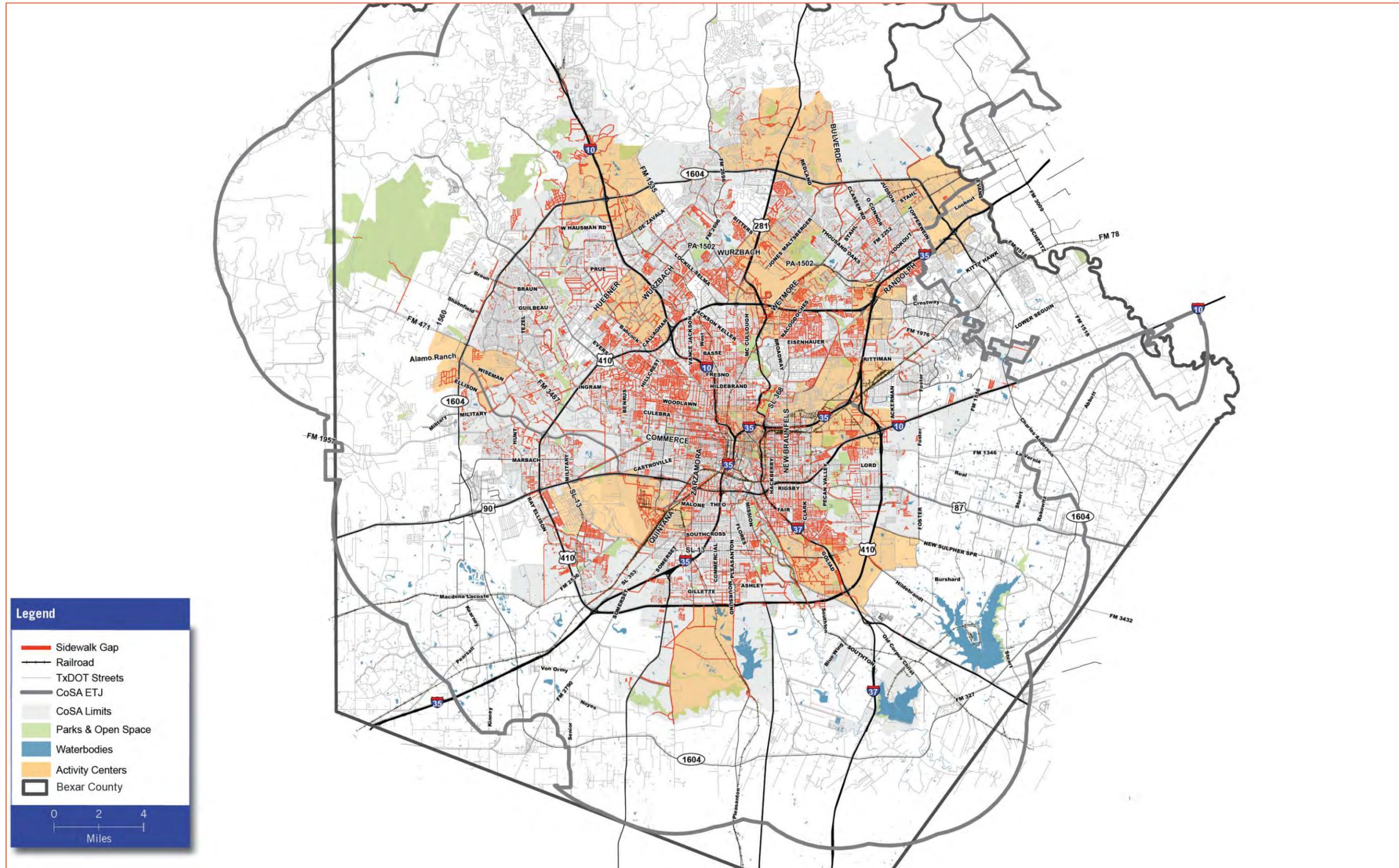
The City of San Antonio is taking steps to reduce pedestrian and bicycle fatalities. The "Getting to Zero" campaign, initiated in 2015, includes education programs and safety improvements to streets to help achieve a goal of zero pedestrian and bicyclist fatalities.

Figure 9 shows identified sidewalk gaps throughout the city.

Areas without sidewalks do not appear to correlate to higher frequencies of pedestrian related crashes; however, some locations such as Harry Wurzbach Road and the area east of Fredericksburg Road are near locations with a high number of transit boardings ( See Figure 10) indicating there may be considerable pedestrian traffic.

The Downtown Transportation Study contains concepts which improve pedestrian facilities on streets such as Commerce, Market, Navarro, and St Mary's. It also evaluates the walkability of the downtown area and provides a street typology for each street in downtown which gives guidance on the type of pedestrian improvements needed.

Figure 9 – Pedestrian Facility Gaps



## Transit Service

VIA Metropolitan Transit Agency has provided public transportation in the San Antonio area since March 1978. VIA currently operates 91 transit routes, with 7,080 bus stops and serves approximately 140,000 riders per day and over 44 million riders annually. VIA's services include frequent, metro, express, skip, VIA Primo downtown circulator, VIATrans, and Vanpool. VIA's first bus rapid transit (BRT) line, VIA Primo, which began operation in December 2012, circulates through downtown, then continues northwest along Fredericksburg Road to the South Texas Medical Center, with extended service to UTSA and Leon Valley. VIA Primo carries over 6,000 riders per day, and has increased use by 15% since it began operation. VIA also currently operates eight park & rides, ranging from 30 to 500 parking spaces, and five transit centers, primarily serving to facilitate transfers between transit lines. Almost 20% of VIA's daily boardings occur in the downtown area, 60% of which are originating from or destined for that employment center. VIA is implementing two transit centers at the west and east ends of downtown to provide an improved rider experience for the remaining 40% of downtown boardings served in that area. Centro Plaza (formerly Westside Multimodal Transit Center) is currently under construction, to begin operation in September 2015, serving about 60 buses per hour in the peak, and Robert Thompson Transit Center is currently in project development, expected to open in the 2017-2018 timeframe..

VIATrans service provides paratransit service for residents with disabilities who are unable to use the fixed-route system. This service provides approximately 1 million rides annually, using a fleet of 230 paratransit vans. VIA also offers a rideshare program called Vanpool, which allows six or more passengers the ability to commute up to 100 miles to their place of employment with trips either originating or destined for Bexar County. VIA recently announced a new service, "The E" line which is a free downtown circulator that begins operating between the hours of 6 PM and midnight, Tuesday through Saturday, on March 28, 2015. The E service is a joint effort between CENTRO, VIA and the City of San Antonio to provide access to entertainment venues, dining and cultural sites within downtown.

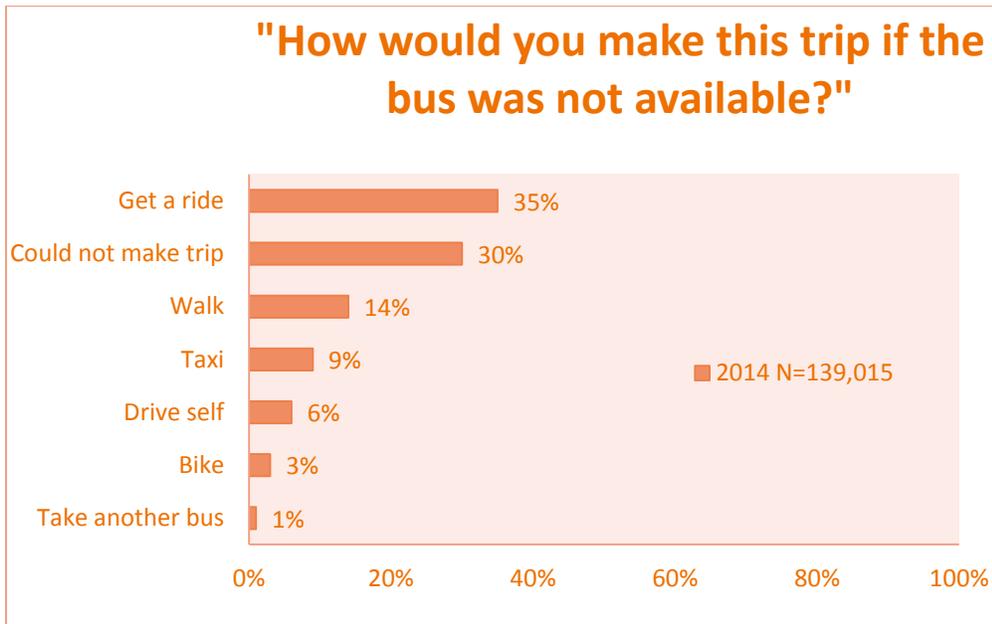
VIA's bus fleet includes 450 buses, of which 30 are diesel/electric hybrids, 16 are 60' articulated buses fueled with compressed natural gas, and 3 are fully electric. VIA buses operate 7 days a week, from 4:00 AM to 1:00 AM.

Figure 10 shows existing high boarding and alighting locations, current and planned passenger facilities, and areas where most current riders originate from and are destined to. The highest boarding and alighting locations are heavily concentrated near downtown due to the level of bus service and concentration of access to employment and other destinations found downtown. While this information, along with that found in **Tables 6** and **7** can help VIA plan improvements to respond to existing needs, transit services can be considered to offer more diverse choices to meet other major travel demands throughout the region. This will be studied further in the Vision 2040 plan update.

**Table 6: How Do People Get to the Bus (2014 O&D Survey)**

Mode	Percentage
Walked up	94%
Got a Ride	4%
Drove	1%
Rode a Bike	1%

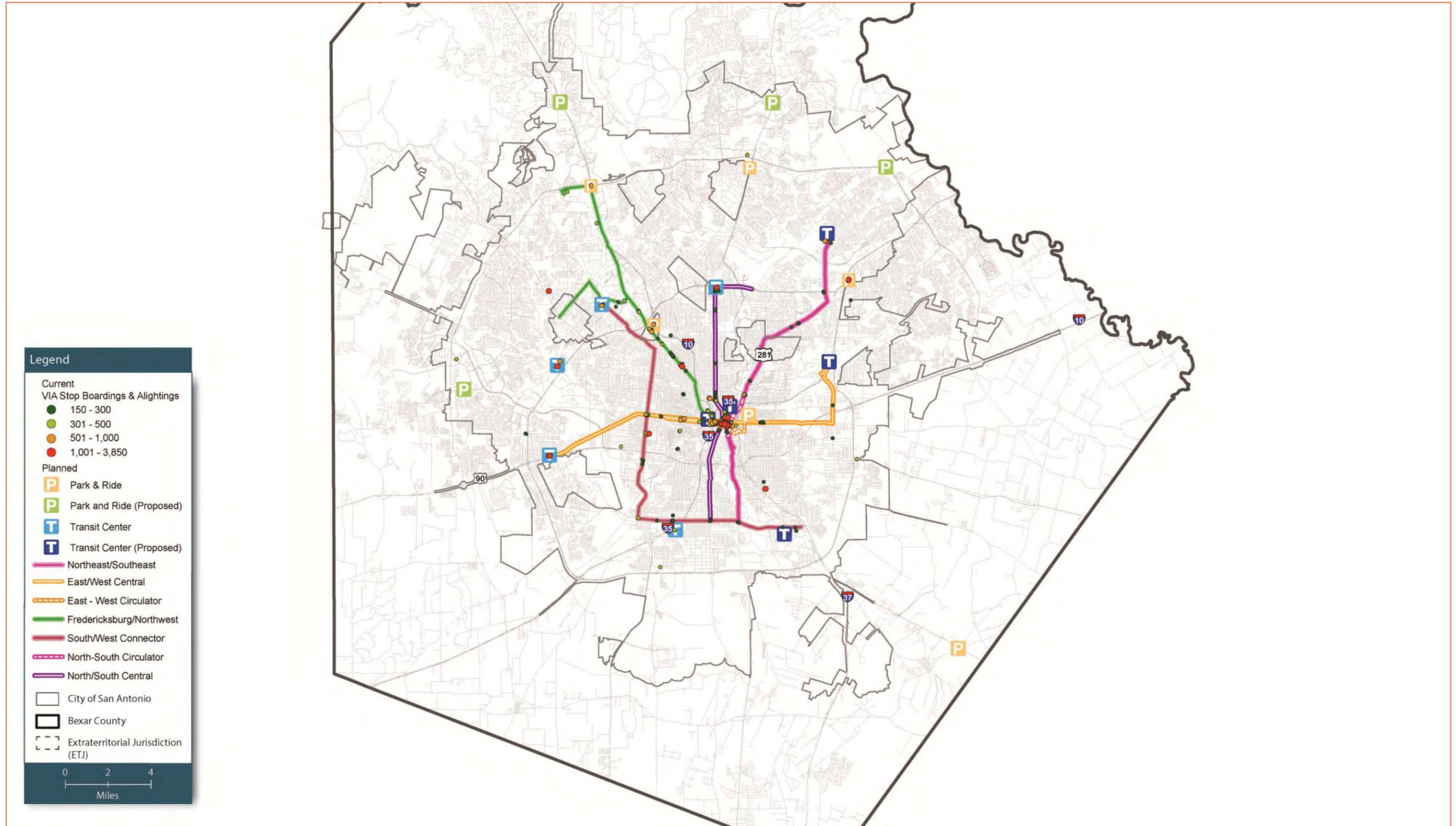
**Table 7: Travel Options If No Transit Service**



In Table 6, you can see that the vast majority of residents that use VIA services are essentially pedestrians, reinforcing the need to ensure that pedestrian improvements are prioritized in areas where there is high demand for public transit as shown in Figure 10. While other means of access and egress like getting a ride, driving, or cycling are used less often, this may show an opportunity to improve bike infrastructure to better access areas where there is high transit demand, or to improve Express-type services that cater more to the park & ride market providing access to other major employment centers outside downtown. In Figure 7, you can see that many residents that rely on VIA would not have many other choices if their current service was not available to them.

VIA’s current improvements in addition to Centro Plaza and Robert Thompson mentioned earlier include a transit center to be located at Brooks City Base, a comprehensive shelter program that includes the installation of 1,000 next generation shelters at bus stop locations across the service area, larger-scale improvements at existing transfer locations at Naco Pass and Five Points, a Park & Ride on the southwest corner of US 281 and Stone Oak Parkway, corridor mobility improvements in the I-35, I-10, and Hwy 151 corridors, and new Primo services on Southwest Military Drive, Zarzamora, San Pedro, and West Commerce. Additional investments in the near-term include renovations at several existing passenger facilities and the replacement of the entire VIA bus fleet over the next five to seven years. Vision 2040 will help VIA identify how to continue these investments once these projects have been fully implemented.

Figure 10 – Long Range Comprehensive Transit Plan



## Rail Service

Rail lines in the San Antonio area were constructed between 1877 and 1912 according to the TxDOT San Antonio Region Freight Study, 2008. Seven major railroad lines pass through San Antonio, all operated by Union Pacific Railroad (UPRR). Approximately 100 trains per day travel through San Antonio (TxDOT San Antonio Region Freight Study, 2008). As shown in Figure 11, major rail yards are located at Port San Antonio, along Interstate 35 near Kirby and south of Fort Sam Houston. The major lines are:

- Del Rio Subdivision – runs from southwest to northeast San Antonio.
- Laredo Subdivision – runs from southwest to downtown. Shares track with Del Rio Subdivision near Port San Antonio
- Corpus Christi Subdivision – enters San Antonio from south. Ties into Laredo Subdivision south of US Highway 90.
- Rockport Subdivision – runs from southeast to downtown.
- Austin Subdivision (Line 1) – runs from north-central to downtown.
- Austin Subdivision (Line 2) – runs from northeast to downtown.
- Kerrville Subdivision – Runs from northwest to downtown.

There are spur lines to CPS power plants at Calaveras and Braunig Lakes, Fort Sam Houston, and the industrial lead which connects to the area on the east side near Loop 410. Spur lines have been abandoned or removed south of Lackland Air Force Base, along Wurzbach Parkway west of Interstate 35, and several shorter spurs near downtown, Fort Sam Houston, and Port San Antonio.

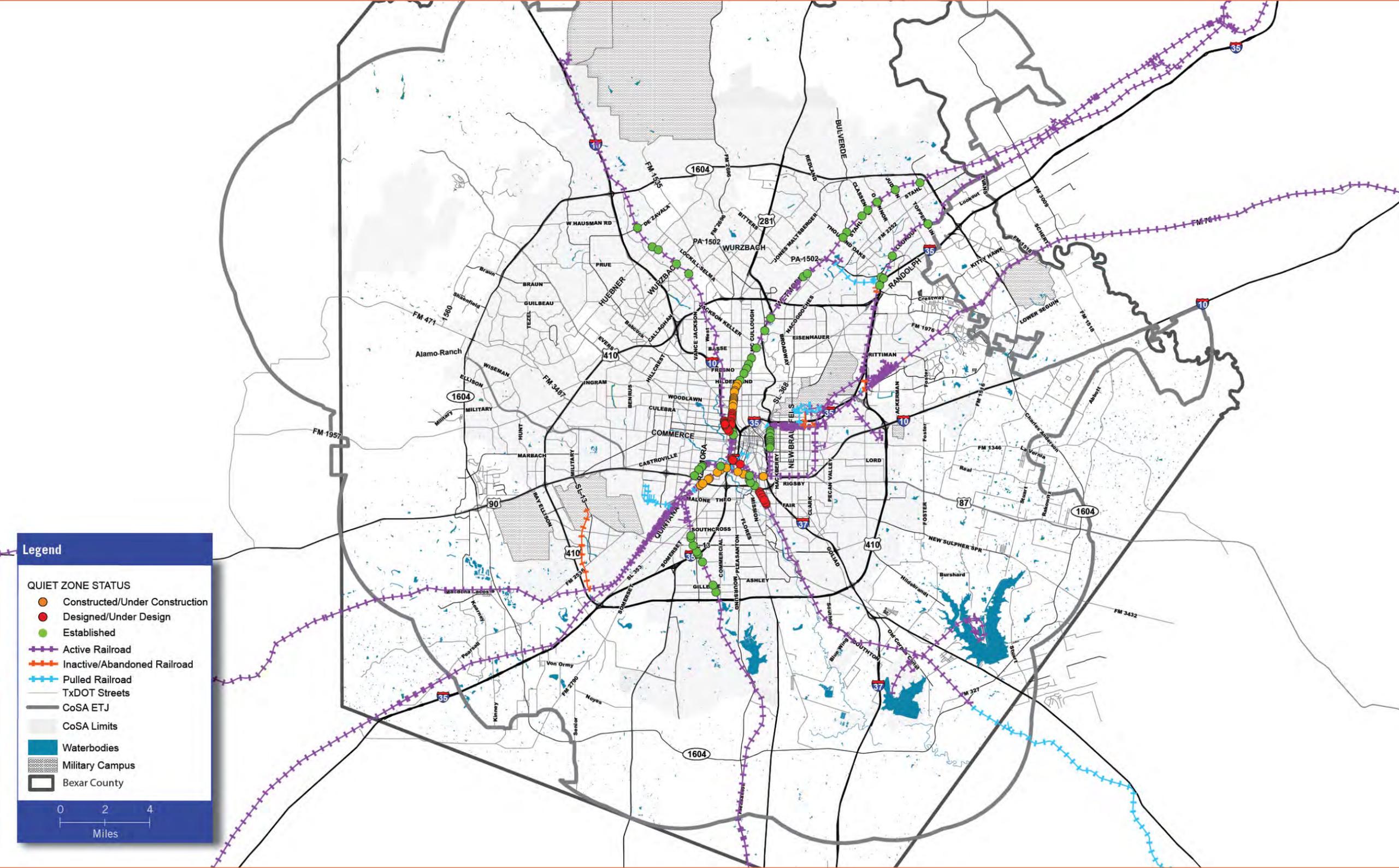
Trains must sound their horns at any at-grade crossings. Quiet Zones are proposed quiet rail corridors passing through residential areas. A Quiet Zone is defined in the Federal Register 49 CFR 222 as *a segment of a rail line, within which is situated one or a number of consecutive public highway at-grade crossings at which locomotive horns are not routinely sounded.* Quiet Zones consist of safety improvements implemented at at-grade rail crossings. The improvements remove the requirement for a train to sound the horn as it passes through a crossing. Trains may still sound horns if deemed necessary. San Antonio has retrofitted rail crossings at numerous intersections to implement quiet zones, with more planned. In the downtown area, where all four major lines pass through, quiet zones or grade-separations have been established at most rail crossings.

The Rockport subdivision has quiet zones planned at the crossing directly south of Interstate 10, but none planned at any crossings further south. The rail line passes through predominantly residential land uses in this area.

The Kerrville Subdivision also has crossings with no proposed quiet zones in residential areas. The other lines have existing or proposed quiet zones, or grade separations at most crossings in residential areas.

Rail lines and existing and planned quiet zones are shown in Figure .

Figure 11 – Railroad Lines & Quiet Zones



## Amtrak Passenger Rail Service

Two Amtrak lines currently run through San Antonio. Both operate on existing freight rail lines. The Sunset Limited runs from New Orleans to Los Angeles, and the Texas Eagle runs from Chicago to San Antonio.

The Sunset Limited currently has westbound departures every Tuesday, Thursday, and Sunday at 2:45 AM and eastbound departures every Tuesday, Friday, and Sunday at 6:25 AM. Other stops in Texas include Beaumont, Houston, Del Rio, Sanderson, Alpine, and El Paso.

San Antonio is the southern terminus of the Texas Eagle and serves as the transfer point to the Sunset Limited. The Texas Eagle departs daily at 7 AM and arrives daily at 9:55 PM. There are 13 stops in Texas including San Marcos, Austin, Fort Worth, Dallas, and Texarkana.

Both lines arrive and depart at Sunset Station on the east side of downtown San Antonio.

## Proposed Lone Star Rail (LSTAR) Commuter Service

The Lone Star Rail District (LSRD) is proposing a 118 mile passenger rail service from north of Austin to San Antonio as shown in Figure 12. Up to 24 possible stations may be considered including San Antonio, San Marcos, New Braunfels and Austin. The proposed passenger rail service would operate on existing UPRR freight rail lines and offer 75 minute express service from downtown Austin to downtown San Antonio. The LSTAR service will offer up to 32 trains per day, seven days a week. The through freight traffic is proposed to be shifted to an Urban Freight Rail Bypass comprised of existing and new rail lines to the east. Over 30 freight trains per day would be shifted to the new line. The plan requires over 80 miles of new freight rail line to be constructed between Seguin and Taylor. LSRD is currently conducting environmental, economic and engineering studies associated with the 80 miles of new freight rail line. The anticipated completion date of the studies and receipt of federal approval is 2016/2017, after which final design and construction will begin.

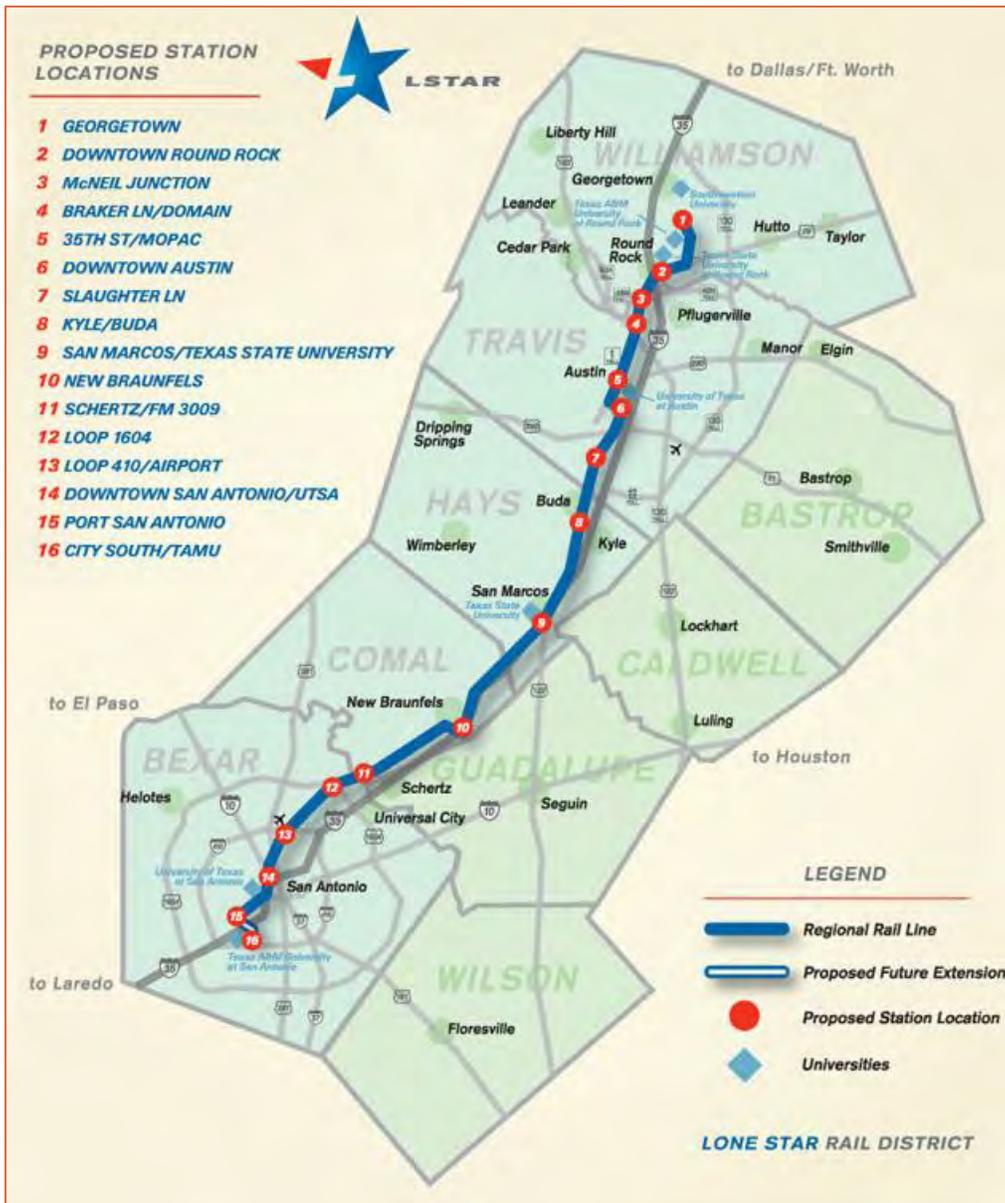
## Dallas Houston High Speed Rail Project

The Federal Railroad Administration (FRA) and TxDOT are working with the Texas Central Railway (TCR), a private entity that is developing and funding the environmental study for a proposed high-speed rail between the Dallas and Houston areas. The proposed corridor would connect Dallas and Houston with a dedicated High Speed Rail (HSR) system.

There are no plans for a connection to San Antonio at this time. However, this project, in conjunction with the Dallas-Fort Worth Core Express Project, Lone Star Rail Project and the Texas-Oklahoma Passenger Rail Study will provide Texas with an opportunity to address future growth and congestion on highways and in airports through development of an interconnected and multimodal transportation system.

The FRA published a Notice of Intent to prepare an Environmental Impact Statement (EIS) on June 25, 2014. Twelve public scoping meetings were held in October - December. The scoping period ended on January 9, 2015. The EIS will analyze alternative HSR route alignments. The TCR's proposed high speed line would not share track or infrastructure with existing trains or rail lines. The EIS will also analysis potential impacts associated with stations and maintenance facilities.

Figure 12 – Proposed Lone Star Rail Alignment and Station Locations



Source: Lone Star Rail District, [www.lonestarrrail.com](http://www.lonestarrrail.com)

## Freight

San Antonio's proximity to the Interstate 35 and Interstate 10 corridors is a great economic benefit with regard to movement of goods. However, with that benefit comes the challenge of accommodating the large amount of truck freight traffic passing through the City. Similarly, major north-south and east-west UPRR rail lines carrying freight also pass through San Antonio. The North American Free Trade Agreement (NAFTA) has greatly increased the movement of freight between Texas and Mexico, the state's largest trading partner (Mobility 2040). Major freight rail and highway corridors originating on the Texas border in Laredo and the Rio Grande Valley all converge in and pass through San Antonio. Trade between Texas and Mexico increased 8.5 percent between 2011 and 2012

(Mobility 2040), and is expected to continue to increase in the future, placing additional demand on San Antonio's transportation infrastructure.

UPRR opened its intermodal rail terminal just south of San Antonio on Interstate 35 in 2009. Serving as a transfer point between rail and trucks, it is capable of processing 250,000 containers per year (Mobility 2040). Port San Antonio also serves as an intermodal hub for freight, with connections to air cargo, major highways, and rail lines. Another intermodal center for trucks and rail is under construction off of US Highway 181 near Braunig Lake. San Antonio exported \$6.7 billion in 2010 (Mobility 2040), with transportation services, such as those generated by the Toyota and Boeing plants, being the primary exports.

The recent growth and activity associated with the energy sector has also contributed to an increase of freight traffic through San Antonio. Drilling in the Eagle Ford Shale formation, which is primarily located in counties south of San Antonio such as Karnes and Atascosa, has increased dramatically over the last several years. Over a million barrels of oil per day is currently produced in the region (Texas Railroad Commission). San Antonio is the major city nearest to the Eagle Ford play, located less than an hour away from the northern edge of the oil field. Major truck and rail corridors from the region pass through San Antonio. In addition to the movement of freight from the region through San Antonio, many companies operating in the Eagle Ford have located in San Antonio, such as Halliburton and Baker Hughes. The large number of trucks and employees needed to drill and maintain oil wells has increased traffic on the highways heading to and from the south, such as Interstate 37 and US Highway 181.

### Airport System

The airport system is comprised of two airports, the San Antonio International Airport and the Stinson Municipal Airport, both operated by the City of San Antonio. The San Antonio International Airport (airport code SAT), is located eight miles north of downtown, near North Loop 410 and US Highway 281. The airport has two terminals, A and B, which serve over eight million visitors each year. Terminal A was recently renovated and the new Terminal B was finished in 2010. Twelve airlines provide service to passengers at the airport. There are currently 31 non-stop destinations across the US and in Mexico. Stinson Airport is the General Aviation reliever airport.

In 2009, the City initiated the San Antonio International Airport Vision 2050 Master Plan. The Master Plan calls for a proposed Terminal C to be constructed to meet demand in 2030. A consolidated car rental facility (CONRAC) is to begin construction in 2015. The CONRAC will be located with the hourly parking garage. An intermodal center is also proposed in the Master Plan. The new Intermodal Center will encourage transit ridership by providing access to several modes of transportation, such as bus and regional rail, all contained in one facility.

Existing Conditions Report

## Chapter 7: Community Health

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# 7 Community Health

## 7.1 Executive Summary

Safe, healthy, and well-educated citizens are the basis of a prosperous and high quality city. Community services and facilities are vital to the economic prosperity and quality of life for the citizens of San Antonio. Policies and programs that increase access to multi-modal transportation, parks and open space, healthy foods, health care services, and educational opportunities all enhance community health in a city. Community health issues are integrated with many of the other elements evaluated in this report; land use patterns, transportation, urban design, and environmental and economic sustainability all have an impact on public health. Understanding how and when these issues overlap is key to envisioning and implementing a comprehensive community health policy.

- In 2014, of 232 counties in Texas, Bexar County ranked 69<sup>th</sup> in overall health outcomes, 58<sup>th</sup> in health behaviors, 55<sup>th</sup> in length of life, and 120<sup>th</sup> in quality of life. Bexar County ranked 16<sup>th</sup> in Texas for clinical care.
- Inadequate physical activity is one major source of the region's health issues. Despite programs that promote healthy lifestyles, physical activity levels declined in recent years. Between 2010 and 2013, regular participation in physical education in schools declined from 55% to 43%. Some residents believe that physical activity is not encouraged on local streets due to narrow lanes, lack of bicycle facilities, poor lighting, potholes, lack of sidewalks and prohibitions against basketball.
- Prior to 2005, Bexar County's average daily air quality measure far exceeded the state measure. By 2008, the county's level of fine particulate matter in the air had decreased to 9.1 micrograms per cubic meter, lower than Texas overall (10.2) but higher than the national benchmark (8.8). However, the number of unhealthy days due to ozone increased during this time.
- In 2012, Bexar County met the national benchmark for safe drinking water when no samples from public water systems had health-based violations. This contrasts with the rest of the state, where 6% of the population obtained drinking water from sources with health-based violations.
- Maternal care is a serious health concern in Bexar County. In 2011, nearly 33% of mothers received late or no prenatal care, more than twice the rate in 2003.
- In Bexar County, residents over the age of 65 accounted for 10% of the County's population in 2010 and are projected to reach 14% by 2020.
- Although the region has a psychiatric facility for children, some residents believe that demand for services exceeds supply. Substance abuse is also an ongoing public health concern.
- According to County Health Rankings, 28% of adults and 12% of children in Bexar County were identified as uninsured in 2014. In 2012, 19 percent of respondents in the community health assessment reported delaying medical care due to cost during the previous year. Nearly 33% of survey respondents admitted they did not have anyone they could identify as their personal doctor.

- The percentage of 3<sup>rd</sup> grade students meeting a satisfactory level of reading has declined 3% over the past three years and was 72% in 2014. The percentage of San Antonio high school freshman graduating in four years has increased over 7% since 2010, and is still trending upwards. Although San Antonio has one of the lowest percentages of adults with college degrees of the country's largest cities, this number is slightly increasing.
- The crime rate in San Antonio decreased about 11% from 2010 to 2012. In 2014, 66% of citizens rate their overall feeling of safety as "excellent" or "good".

## 7.2 Existing Health Indicators

Data collected from national, state and local sources indicates that individual health concerns in San Antonio are varied, widespread and tied to the health of the broader community. As a response to these increasing challenges, the City designated health and active living as a top priority for the region. The Mayor's Fitness Council (MFC) was established in 2010 with the objective of transforming San Antonio into one of the healthiest and most active cities in the country.

In 2011, the *SA2020 Report Book* was released after six months of community outreach. The plan lays out a strong vision and measurable performance targets across eleven different categories, with an online dashboard where progress towards these targets can be easily tracked. Within these categories, indicators relating to health were prominent. The table below provides a brief description of the indicators and the progress made towards each target.

### SA2020 Health Indicators and Targets

Indicator	Description	Progress Towards Goals
Access to health care	Goal: 86% of civilian population under 65 with health insurance coverage	On track
Access to parks and green spaces	Goal: 50% of population with walkable park access	Progress
Air quality index	Goal: 68 parts per billion	Flat/worse
Complete streets	Goal: 6465 miles of complete streets	Progress
Diabetes	Goal: 12.2% of adults reporting diabetes diagnosis	On track
Health and behavioral risks	Goal: 5969 total years of potential life lost before age 75	On track
Maternal and child health	Goal: 9.5% of births pre-term	Progress
Obesity	Goal: 31.6% adult obesity rate	Met/exceeded
Public transit use	Goal: more than 125M boardings or unlinked passenger trips on VIA's scheduled service routes	Progress
Teen birth rate	Goal: teen birth rate of 38.2 per 1,000	On track
Vehicle miles traveled	Goal: 18.7 daily vehicle miles traveled per capita	Flat/worse
Walkability	Goal: City-wide Walk score of 53	Flat/worse

Source: SA2020 Data Dashboard

In addition to SA2020, other regional efforts aim to identify challenges and strategies for promoting community health. The Health Collaborative of Bexar County conducted a community health assessment (CHA) in 2013, synthesizing quantitative data across a wide range of sources, and engaging people throughout the county in focus groups, interviews and

community dialogues. The project findings document current health indicators, environmental conditions that affect public health and community health objectives for the region.

In 2010, the Active Living Council (ALC) for San Antonio was formed to promote the integration of physical activity into people's daily routines. The ALC, a program of the San Antonio Metropolitan Health District, published the Active Living Plan for a Healthier San Antonio the following year. This plan provides a set of policies and strategies that can be implemented by public and private institutions across eight community sectors.

On a national level, the County Health Rankings and Roadmaps program provides an annual snapshot of counties across a range of vital health factors. Counties within individual states are ranked to provide a basis of comparison. In 2014, a total of 232 counties were ranked in Texas. Of these, Bexar County ranked 69<sup>th</sup> in overall health outcomes, 58<sup>th</sup> in health behaviors and 55<sup>th</sup> in length of life. However, the county also ranked 120<sup>th</sup> in quality of life. On the other end of the spectrum, the county ranked 16<sup>th</sup> for clinical care, with results equal to or better than the state averages in each category.

### Clinical Care in Bexar County

Category	Bexar County	Texas
Uninsured	23%	26%
Primary care physicians	1,468:1	1,743:1
Dentists	1,311:1	2,006:1
Mental health providers	1,086:1	1,757:1
Preventable hospital stays	55	68
Diabetic screening	82%	83%
Mammography screening	60%	59%

Source: County Health Rankings, 2014. ([www.countyhealthrankings.org](http://www.countyhealthrankings.org))

## 7.3 Community Health Trends

According to the Center for Disease Control, San Antonio's adult obesity rate of 31.1 percent was the highest in the nation in 2003. This worsened in the years that followed, with the Texas Department of State Health Services reporting a rate of 36 percent in 2006. Although some measures show improvement to 29.3 percent in 2012, Bexar County continues to be a region with significant health challenges. In general, the worst health outcomes are associated with racial and ethnic minorities, those with lower educational attainment and those with lower incomes. Unsurprisingly, the populations in these categories tend to overlap in San Antonio.

Inadequate physical activity is one major source of the region's health issues. Programs throughout the county such as fitness events and bike rentals promote an active lifestyle and have started shifting attitudes. Despite these improvements, physical activity levels declined in recent years. For example, in a 2012 survey only 72% of adults reported participation in exercise activities. Between 2010 and 2013, regular participation in physical education in schools declined from 55 percent to 43 percent. Some residents believe that local streets deter physical activity due to narrow lanes, poor lighting, potholes, lack of sidewalks and prohibitions against basketball.

Compared to the nationwide average, Bexar County residents are underserved by recreational and fitness facilities. The U.S. Department of Agriculture documented access to recreational and fitness facilities for the years 2007 and 2010. Bexar County had 117 facilities in 2007 and 120 in 2011. However, this increase did not keep pace with population growth. Over this period, recreational and fitness facilities relative to the population decreased from 7.4 per 100,000 residents in 2007 to 6.8 in 2011. This is lower than the statewide and national rates for the same period, which were 6.9 and 9.5, respectively.

The following list provides a snapshot of health trends in San Antonio and Bexar County.

- **Air Quality:** Air pollution is associated with a range of health issues. Prior to 2005, Bexar County's average daily measure of fine particulate matter far exceeded the state measure. By 2008, the county's level had decreased to 9.1 micrograms per cubic meter, lower than Texas overall (10.2) but higher than the national benchmark (8.8). However, the number of unhealthy days due to ozone increased during this time.
- **Water Quality:** In 2012, Bexar County met the national benchmark for safe drinking water when data showed that none was attained from public water systems with health-based violations. This contrasts with the rest of the state, where 6 percent of the population obtained drinking water from sources with health-based violations.
- **Pregnancy:** Maternal care is a serious health concern in Bexar County. In 2011, nearly one-third of mothers received late or no prenatal care. This was more than twice the rate of 14 percent in 2003. Furthermore, the third highest rate of hospitalization in the county resulted from pregnancy-related complications.
- **Sexual Health:** Although the teen birth rate remains high in San Antonio, it declined dramatically from 2009 to 2011, from 61.8 births per thousand to 45.2 births per thousand. Reported cases of STDs, on the other hand, increased significantly. From 2003 to 2011, syphilis cases more than tripled and Chlamydia cases nearly doubled. The incidence of gonorrhea and AIDS also increased during this time, but at a much slower rate.
- **Older Adults:** Like many places throughout the country, Bexar County has an aging population. Residents over the age of 65 accounted for 10 percent of the County's population in 2010 and are projected to reach 14 percent by 2020. For adults age 75 and older, heart disease and stroke are the leading causes of death. Seniors face a

number of barriers to accessing medical care such as a lack of coverage for dental treatment, minimal coordination among services and insufficient transportation options.

- Chronic Disease: According to a 2012 report by the Texas Department of State Health Services, adults in Bexar County report diagnoses of asthma (6 percent) and diabetes (11.4 percent) at rates similar to the state average.
- Behavioral and Mental Health: Studies and anecdotal evidence suggest that mental health is a critical issue in the region. In a countywide study, 23 percent of adults admitted to experiencing at least five days of poor mental health in the previous 30 days and nearly one-fifth altered their usual activities due to poor mental health conditions. In both cases, these proportions exceed state averages. For adults, the rate of hospitalization for mental disorders was approximately 6 per 1,000 in both 2009 and 2011. Although the region has a psychiatric facility for children, some residents believe that the demand for services exceeds the supply. Finally, substance abuse is an ongoing public health concern.

## 7.4 Parks, Open Space and Trails

The City of San Antonio Parks operates and maintains 244 parks covering nearly 15,000 acres of land and including more than 100 miles of trails. Park facilities include pools, gyms, historic cemeteries, sports facilities and recreation centers, plus the Botanical Garden and Conservatory.

Access to parks and recreational facilities is associated with higher levels of physical activity and therefore better health outcomes. In 2012, park acreage was 17.6 acres per 1,000 residents, a rate comparable to the national average. Unfortunately, as the city's population grows there is not a proportional increase in park acreage. The 2012 figure therefore represents a decrease from 2010, when the rate was 20.7 acres per 1,000 residents. Furthermore, the size and distribution of parks in the San Antonio region is uneven. Park acreage is especially slim in the west and southwest portions of San Antonio, where there are 3.0 and 5.1 acres of parkland per 1,000 residents, respectively. Additionally, there is an unequal distribution of parks and open space in the north, west and southwest parts of the City. One component of the *Active Living Plan* focuses on reducing these disparities.

## 7.5 Active Transportation

San Antonio is an extremely car-dependent city due to its low population density and development patterns. One consequence of the city's affinity for growth by annexation is that it has sprawled to nearly 500 square miles. This represents a challenge the City must overcome to effectively enable residents to use active forms of transportation. The examples set by Phoenix and Albuquerque in the categories of walkability and bikability suggest that progress is possible. San Antonio has the added benefits of relatively flat topography and mild weather patterns.

### Walk, Transit and Bike Scores

City	Walk Score	Bike Score	Transit Score
San Antonio	34	40	35
<i>Similar Population Size</i>			
Phoenix	38	52	N/A
Dallas	44	41	39
San Diego	49	48	36
Philadelphia	77	68	67
<i>Similar Population Density</i>			
Phoenix	38	52	N/A
Albuquerque	40	61	30

Source: <https://www.walkscore.com/>

transit trips to work take over one hour. By comparison, only three percent of auto trips to work take over an hour, while more than 70 percent of these trips take less than 30 minutes. The table on the following page provides comparisons of commuting behavior between San Antonio and other comparable cities.

The City is undertaking and promoting a range of efforts to promote greater physical activity among residents. A number of examples include:

- A bicycle share program
- Fitness assessment stations and exercise equipment at libraries and parks
- Síclovíá , a street-closure event hosted by the YMCA of Greater San Antonio that promotes biking, skating and walking
- Expanded greenways and trails to encourage biking and hiking
- A Walkable Community Program to educate the public about the benefits of walking
- A Neighborhood Walking Resource Guide
- The South Texas Walking Club
- The San Antonio Sports Foundation
- Initiatives to identify needed structural improvements and safety enhancements
- The Support Safe Routes to School Program to increase active transportation for public school students

The website 'Walk Score' scores cities from zero (completely car dependent) to 100 (the most walkable) using a tool that assesses the proximity between residential properties and typical consumer destinations. In early 2015, the San Antonio had a Walk Score of 34, a Transit Score of 35 and a Bike Score of 40. The Table to the left provides a score comparison between San Antonio and other comparable cities.

San Antonio workers have among the lowest rates for all forms of active transportation. Over the five year period from 2009-2013, the vast majority of San Antonio residents traveled to work by car. Only two percent of workers walked to work and less than a quarter of one percent cycled to work. While only 3.5 percent rode public transit to work, it is important to note the varied reasons for this trend. More than one-third of public

<b>Means of Transportation to Work</b>			
<b>City</b>	<b>Walking</b>	<b>Cycling</b>	<b>Public Transit</b>
San Antonio	2.0%	0.2%	3.5%
<i>Similar Population Size</i>			
Phoenix	2.0%	0.8%	3.6%
Dallas	2.0%	0.2%	4.1%
San Diego	3.3%	1.0%	4.3%
Philadelphia	8.8%	2.1%	26.9%
<i>Similar Population Density</i>			
Phoenix	2.0%	0.8%	3.6%
Albuquerque	2.0%	1.4%	2.1%
<i>Source: American Community Survey 2009-2013 estimates</i>			

## Bike Master Plan

In 2011, the San Antonio City Council passed the *Bike Plan 2011 and Implementation Strategy*. Based on research from the Alliance for Biking and Walking, the plan highlights some of the key challenges facing the city's attempts at increasing active transportation among residents:

- San Antonio's 0.16 miles of bicycle facilities is 66 percent lower than the national average.
- San Antonio's 0.1 percent rate of bicycle commuting ranks 45th in the nation and second-to-last in the state.
- Among 51 major cities, San Antonio ranks 41st for bicycling and walking levels combined, 36th for per capita funding for bicycle and pedestrian facilities and 44th for bicycle safety (based on a calculation of the fatality rate).

## 7.6 Access to Healthy Foods

Throughout the city and Bexar County, access to healthy foods is an ongoing concern. Recent surveys show that only 20 percent of adults eat three or more vegetables per day, and only 10 percent eat three or more fruits. Among children, 40 percent eat five or more fruits and vegetables daily, but 25 percent consume at least one soda per day. A further complication is that 52 percent of county restaurants are fast food establishments.

Participants in the 2013 community health assessment identified the following challenges to healthy eating:

- Limited access to healthy food options
- Lack of grocery stores
- Proximity of local convenience stores
- Lack of transportation options
- Lack of restaurants with healthy options
- Rushed lifestyles
- Lack of knowledge to prepare healthy foods

Current research shows a potential link between convenient access to grocery stores and the quality of food people consume. For Bexar County, the potential consequences of this relationship are bleak. In 2010, 40 percent of the county's urbanized population lived at least one mile from a grocery store. This compares to 36 percent for the state of Texas and 28 percent nationwide. Among low-income residents, 13 percent lived at least one mile from a grocery store, compared to 12 percent statewide and 7 percent nationwide. Finally, 3 percent of Bexar County households without a vehicle lived at least one mile from a grocery store, compared with 2 percent statewide and 1 percent nationwide. This data is summarized on the table in the following page.

### Supermarket Access for Urban Populations and Households

Indicator	US	Texas	Bexar County
Percent of the population* who lives:			
At least ½ mile of a supermarket	65.0%	74.4%	80.4%
At least 1 mile of a supermarket	28.4%	35.5%	40.2%
Percent of the low income population* who lives:			
At least ½ mile of a supermarket	18.9%	26.9%	30.1%
At least 1 mile of a supermarket	7.3%	11.9%	13.4%
Percent of households* without a vehicle that are:			
At least ½ mile of a supermarket	4.2%	4.2%	6.4%
At least 1 mile of a supermarket	1.3%	1.6%	2.7%

Source: US Department of Agriculture Food Access Research Atlas.

\* All data is for Census-designated urban residents and households.

Farmers markets are another means of bringing healthy food to populations, especially those without access to grocery stores. In 2009, Bexar County had 22 farmers markets, equivalent to 1.3 markets per 100,000 residents. By 2013, however, only 18 remained, or 1 per 100,000 residents. This represented a decrease of 26 percent. Though farmers markets are more prevalent per capita in Bexar County than in Texas as a whole, they are considerably less prevalent than across the nation. In 2013, the US had 2.6 farmers markets per 100,000 people. Furthermore, the 26 percent decrease in farmers markets in Bexar County stands in contrast to state and national trends. Between 2009 and 2013, per capita, farmers markets increased by 51 percent nationwide and 67 percent statewide.

As a response to these challenges, San Antonio is promoting healthy eating and access to nutritional food. These efforts include:

- A program with local restaurants to facilitate healthy food choices
- Distribution of chilled bins that enable neighborhood stores to stock fresh produce
- Expansion of farmer's markets

## 7.7 Access to Health Care and Health Facilities

Healthcare is a major economic driver in Bexar County, resulting in high-quality health resources. The South Texas Medical Center, for example, includes 12 hospitals and five specialty institutions. It is also the site of the South Texas Veterans Health Care Systems. Another military facility, the San Antonio Military Medical Center at Fort Sam Houston, is the largest Department of Defense hospital in the country. It is also one of only 15 hospitals with a Level One Trauma certification nationwide.

According to County Health Rankings, 28 percent of adults and 12 percent of children in Bexar County were identified as uninsured in 2014. The impact of the Affordable Care Act (ACA) is currently unclear, but in the long term the proportion of uninsured residents should decrease. At the same time, insurance coverage in Bexar County does not ensure access to care, especially because health care resources are not equally distributed across the region and transportation options are limited. Cost is also a barrier. In 2012, 19 percent of respondents in the community health assessment reported delaying medical care due to cost during the previous year. Finally, nearly one-third of survey respondents admitted they did not have anyone they could identify as their personal doctor.

### Ratio of Population to Health Care Resources

	Bexar County	Texas
Acute Care Hospitals	81,656:1	45,471:1
Psychiatric Hospitals	571,592:1	584,780:1
Beds Setup and Staffed for Acute Care	338:1	393:1
Beds Setup and Staffed for Obstetric Care	4,234:1	4,218:1
Acute Care Licensed Beds	257:1	321:1
Psychiatric Care Licensed Beds	3,152:1	4,614:1

Source: Texas Department of State Health Services, Health Currents System, 2009

## 7.8 Education

SA2020 plans to orchestrate one of the greatest turnarounds in community education rates in the United States. The City is propelled forward by an approach where students learn, teachers thrive, parents engage, and citizens contribute to meet the challenges and opportunities of the 21st century in a way that rivals any city in America. The indicators being used to measure education include:

- **Kindergarten Readiness:** Some of the strongest evidence in education research points to the economic benefits of investing in foundational education and the educational impact of children beginning school with basic math and literacy skills. SA2020 has partnered with United Way's collaboration with UCLA and area school districts that administer the Early Development Instrument, which measures school readiness to learn.  
*Source: SA2020.org*
- **3rd Grade Reading:** Reading proficiency in the third grade is the most important predictor of high school graduation and career success. Conversely, most students who fail to reach this critical milestone falter in later grades and often drop out before earning a high school diploma. The percentage of 3<sup>rd</sup> grade students meeting a satisfactory level of reading has declined 3% over the past three years and was 72% in 2014. SA2020 hopes for 85% of students to meet satisfactory reading levels by 2020.  
*Source: Texas Education Agency*
- **High School Graduation:** High school graduates, on average, earn \$8,000 more per year than those who do not graduate from high school, contributing greatly to the overall economic vitality of a metropolitan area. San Antonio has seen tremendous improvements in high school graduation rates in recent years, a tribute to the collective work of the area's many independent school districts' intense focus on graduating more students. The percentage of San Antonio high school freshman graduating in four years has increased over 7% since 2010, and is still trending upwards.  
*Source: Texas Education Agency*
- **College Readiness:** Academic preparedness is a key to the successful completion of college, paving the way for higher earnings or higher education. In addition to improving high school graduation rates, San Antonians said they wanted to see a significant increase in the academic preparedness of students coming out of area high schools. SA2020 is currently searching for an optimal measure to track college readiness that is more comprehensive than test scores alone.  
*Source: SA2020.org*
- **College Enrollment:** Despite an enormous citywide push to encourage more students to enroll in 2- and 4-year colleges, this number is not increasing to meet the demand in the workplace. San Antonio is also not on track to reach the SA2020 target: 80% of high school graduates in 2020 enrolled in Texas institutions of higher education by the following Fall. College enrollment and attainment are also influenced by factors not specific to San Antonio, including but not limited to rising tuition and decreased availability of low-cost loans and grants.  
*Source: Texas High Education Coordinating Board*
- **Adults with College Degrees:** San Antonio has one of the lowest percentages of adults with college degrees of the country's largest cities, and there is a demand from local

companies for additional workers with college degrees. However, this number is growing slightly. While adults with degrees are slightly increasing, college enrollment is not increasing. This raises a concern about whether local more students are pursuing college degrees or whether the increase results primarily from new arrivals to San Antonio.

*Source: US Census Bureau*

## 7.9 Community Safety

Public safety officials, city staff and citizens collaborate through strong, engaged community neighborhood networks to reduce crime and promote a thriving and law-abiding San Antonio. The city's proactive prevention programs, responsive enforcement efforts and high state of disaster readiness result in low levels of crime and a high sense of personal safety. The indicators being used to measure community safety include:

- **Attendance at Community Safety Trainings:** Safe communities require people who are engaged in taking action in improving the health and well-being of their own neighborhoods. One measure of this involvement is the extent to which community members are participating in citywide opportunities to gain new skills and knowledge that will help them keep their community safe. The number of residents trained in community policing and outreach programs has dropped from 1,040 people in 2010 to 803 people in 2013.  
*Source: San Antonio Police Department (SAPD)*
- **Recidivism:** This term refers to a person's relapse into criminal behavior, often after charged for previous crimes. San Antonians recognize that incarceration is not the only answer to ensure public safety, but that reducing the rate of reoffending is also critical. The City knows that effective programs and support can help change criminal behavior for some people and help them lead productive lives after they've been incarcerated and released.  
*Source: SA2020.org*
- **Emergency Response Times:** One of the community's early successes in improving community safety has been the reduction of emergency response times. By focusing on improving internal processes, both the San Antonio Fire Department and San Antonio Police Department have already met their targets, and both times continue to decline. Response times decreased from 8.5 minutes in 2011 to 7.1 minutes in 2013.  
*Source: San Antonio Police Department (SAPD)*
- **Crime Rate:** This is one of the most telling measures of safety in a community. Creating a vision of a safe community involves many players and strategies: systems in place that are trusted and responsive, resident involvement and awareness, and resources available to help keep neighborhoods and households safe. Crime rate decreased about 11% from 2010 to 2012.  
*Source: San Antonio Police Department (SAPD)*
- **Domestic Violence:** The number of family violence assaults has decreased since 2010 despite increases in population, but it must be considered whether the reduced number in fact represents fewer family violence assaults or just fewer people reporting those assaults. Recognizing the complexity of confronting domestic violence, the SAPD has developed crisis response teams and community-based organizations have also teamed up for collaborative, multi-intervention approaches. There were 1,242 fewer family violence assaults in 2013 than in 2010.  
*Source: San Antonio Police Department (SAPD)*
- **Satisfaction with Community Safety:** The City of San Antonio conducts a survey to assess whether citizens are satisfied with their protection services, as well as the general level of

safety felt by the community. In 2014, 66% of citizens rate their overall feeling of safety as "excellent" or "good".

Source: City of San Antonio – Department of Communication and Public Affairs

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Existing Conditions Report  
Chapter 8: Sustainability

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# 8 Sustainability

## 8.1 Executive Summary

As the City of San Antonio continues to grow and develop over the coming decades, it is committed to accommodating growth in a sustainable manner. Sustainability applies to the natural and built environments as well as the social and economic activity of the City and the region. The following describes current and planned sustainability efforts, existing conditions and trends related to several indicators of a sustainable urban region.

- The SA2020 plan address issues related to sustainability, including natural resources, the environment, transportation, neighborhoods and growth management.
- The City and its partner organizations are concurrently developing an over-arching, integrated Sustainability Plan for the City within the SA Tomorrow framework.
- In 2012, the City's Office of Sustainability used a tool called INDEX PlanBuilder in order to measure neighborhood-level sustainability performance across the City. The average score for all neighborhoods was 40.8, with neighborhoods performing highest on environmental indices and City goals and lowest on land use-related performance measures.
- The City has been actively improving and expanding recycling services to make recycling simpler for residents. The City's goal is to increase the single-family residential recycling rate to 60% by 2025.
- Although the municipal CPS Energy's overall energy generation has increased over time, its greenhouse gas emissions have declined as a result of increasing nuclear and renewable energy use.
- Wind power accounts for the vast majority of renewable power provided by CPS, with a growing solar supply. San Antonio joined the Solar America Cities program in 2007. Today, its current and planned solar capacity is the largest in Texas.
- The Neighborhood Sustainability Assessment report yielded a median score of 40/100, with the downtown area scoring highest. Neighborhoods with denser housing and development received higher index scores than those with low-density, suburban-style development patterns.

## 8.2 Overview of Existing Sustainability Program

The City of San Antonio has established itself as a leader in urban sustainability. It has several innovative policies, programs, and partnerships that guide municipal and community actions to support resource conservation and sustainable behavior. These efforts, and those of partner organizations, are described below.

### City of San Antonio Office of Sustainability

The City's Office of Sustainability (formerly the Office of Environmental Policy) leads and coordinates dozens of diverse efforts related to environmental health, land use, air quality, resource consumption, transportation and the green economy. The office provides support to City departments, the business community, residents and other public agencies to develop and implement sustainability initiatives focusing on energy efficiency, green building, renewable energy, and sustainable transportation. In 2014, the City named its first Chief Sustainability Officer to oversee city-wide sustainability efforts and environmental policy. The Office's website serves a clearinghouse of information on a range of programs offered by the City, CPS Energy (the region's electric and gas utility provider), and community organizations.

### Mission Verde: Building a 21<sup>st</sup> Century Economy

In January 2009, the City released *Mission Verde: Building a 21<sup>st</sup> Century Economy*. Mission Verde laid out a comprehensive policy that integrates economic and environmental goals. It called for investment in innovation and green venture capital in order to make San Antonio a world leader in the development of renewable energy infrastructure, green technology, green building, sustainable transportation and land use infrastructure, while also saving consumers money and creating jobs.

### SA2020

The SA2020 plan was developed from a 2010 community visioning effort championed by then Mayor Julián Castro. Several of the report's 11 focus areas address issues related to sustainability, including natural resources and the environment, transportation, neighborhoods and growth management. In each of these areas, SA2020 identified a vision for San Antonio as well as a set of indicators and measurable performance targets.

In 2012, SA2020 became a non-profit organization that annually tracks, measures and reports on progress on each indicator. A 2013 report shows progress towards meeting these goals across several indicators. The SA2020 website presents these findings in an accessible dashboard format.

### San Antonio Neighborhood Sustainability Assessment

In 2012, the City's Office of Environmental Policy engaged a team at the University of Texas-San Antonio to use a GIS-based planning tool, INDEX PlanBuilder, to measure neighborhood-level sustainability performance across the City. The tool was used to evaluate existing conditions across several sustainability and livability indicators as well as progress towards SA2020 and Mission Verde goals. The study produced detailed assessments of existing conditions for 275 neighborhoods across the city and a Neighborhood Sustainability Index Score for each. The average score for all neighborhoods was 40.8, with neighborhoods performing highest on environmental indices and City goals and lowest on land use-related performance measures.

## Other City Plans and Efforts

- **Recycling and Resource Recovery Plan:** This strategic plan prepared in 2010 by the City of San Antonio's Solid Waste Management Department seeks to increase the single-family residential recycling rate from 18% in 2010 to 60% by 2025. The Department also set a goal to ensure residents living in multi-family properties have convenient and accessible recycling services. Additionally, the Department will partner with businesses to improve recycling in the commercial sector.
- **Bike Plan and Implementation Strategy:** This plan was developed by the City of San Antonio's Office of Sustainability and adopted in 2011 to increase bike ridership, improve safety and connect the network infrastructure. Projects are being prioritized and funded by Council each year as part of their Infrastructure Management Program and Advanced Transportation District Funding.
- **Solar Development Plan:** This document guides the City's increased use of solar technology and grows its leadership in the solar industry in coordination with Mission Verde, SA2020 and other concurrent plans.
- **Strategic Multi-Modal Transportation Plan:** In June 2014, the City began work on the Strategic Multi-Modal Transportation Plan to coordinate local and regional transportation planning and reduce vehicle miles traveled (VMT).
- **San Antonio and Bexar County Hazard Identification, Risk Assessment (HIRA) and Consequence Analysis:** This document, published in 2014, provides a baseline for emergency response plans and mitigation measures by documenting natural and technological hazards, risks and vulnerabilities. Additionally, the City is sponsoring the development of a Hazard Mitigation Action Plan. The Plan will address natural and human-caused hazards that could potentially affect the planning area.
- **Five-Year Consolidated Plan:** This document, which is updated every five years to ensure the City is eligible for financial assistance from HUD, describes the City's housing market, identifies affordable housing and other community development needs and provides strategies to address those needs.
- **City of San Antonio Sustainable Urban Economics Tool:** This document, published in 2011 with funding from the U.S. Department of Energy (DOE) Energy Efficiency and Conservation Block Grant Fund, is a modeling tool that enables the City to look into its future and set sustainable policies today that expand options for future generations.

## Other Related Plans and Efforts

- **CPS Energy Sustainability Plan 2011-2013:** CPS Energy, the municipally-owned gas and electric utility serving San Antonio and surrounding areas, has laid out goals in the Energy Sustainability Report for renewable energy generation and conservation for 2020. The plan aims to increase renewable energy capacity from 14.5% (in 2013) of the generation portfolio to 20 percent by 2020.
- **San Antonio Water System (SAWS) 2012 Water Management Plan:** The SAWS Water Management Plan lays out a strategy for saving more than 16,500 acre-feet of water per year by 2020 through conservation efforts to reduce demand by five percent. In order to meet the demands of a growing population, the plan also lays out a strategy for expanding water supply. An acre-foot is a unit of volume commonly used to measure

large-scale bodies of water such as reservoirs. One acre-foot is equal to 325,851 gallons of water.

- **Alamo Area Council of Governments (AACOG) Ozone Studies and Regional Sustainability Initiatives:** In addition to several studies that provide critical baseline data on quantities and rates of emissions from ozone-producing pollutants and key emission sources, the agency published Alamo Ozone Advance Program: Regional Sustainability Initiatives to outline actions and proposed strategies to protect the region's air quality and meet federal ozone emissions standards.

### 8.3 Concurrent Sustainability Planning

As the City and its partner organizations continue to move forward with the initiatives outlined above, they are also concurrently developing an over-arching, integrated Sustainability Plan for the City. In November 2014, the City began a process to develop a comprehensive plan that is intended to be integrated into and coordinated with the Sustainability Plan and the Strategic Multi-Modal Transportation Plan.

The purpose of the Sustainability Plan is to connect ongoing and emerging initiatives with established goals and develop a unified set of strategies, actions and metrics to guide the City and the broader community towards a more sustainable future.

The Plan will address several diverse focus areas as well as developing a greenhouse gas inventory, air quality report, climate vulnerabilities assessment; and indicators based on the STAR community assessment tool.

## 8.4 Water Availability and Use

The City of San Antonio historically relied almost entirely on a single source of water, the Edwards Aquifer. Through water management planning, diversification of supply and an award-winning conservation program, San Antonio has made great strides towards developing a sustainable supply of water for its residents. However, it still faces challenges related to regulations, extreme weather and demand for water associated with outdoor irrigation. The San Antonio Water System (SAWS) updates its water management plan every five years, including most recently in 2012.

Since the inception of the city's conservation program in 1993, per capita water use has generally declined over time, though it has increased during particularly dry years. For example, in 2011, San Antonio residents used an average of 143 gallons per capita per day (GPCD). Since that time, water conservation goals set by SAWS in 2012 have been met and exceeded; and in 2013, San Antonio residents exceeded the SA2020 goal of 127 GPCD.

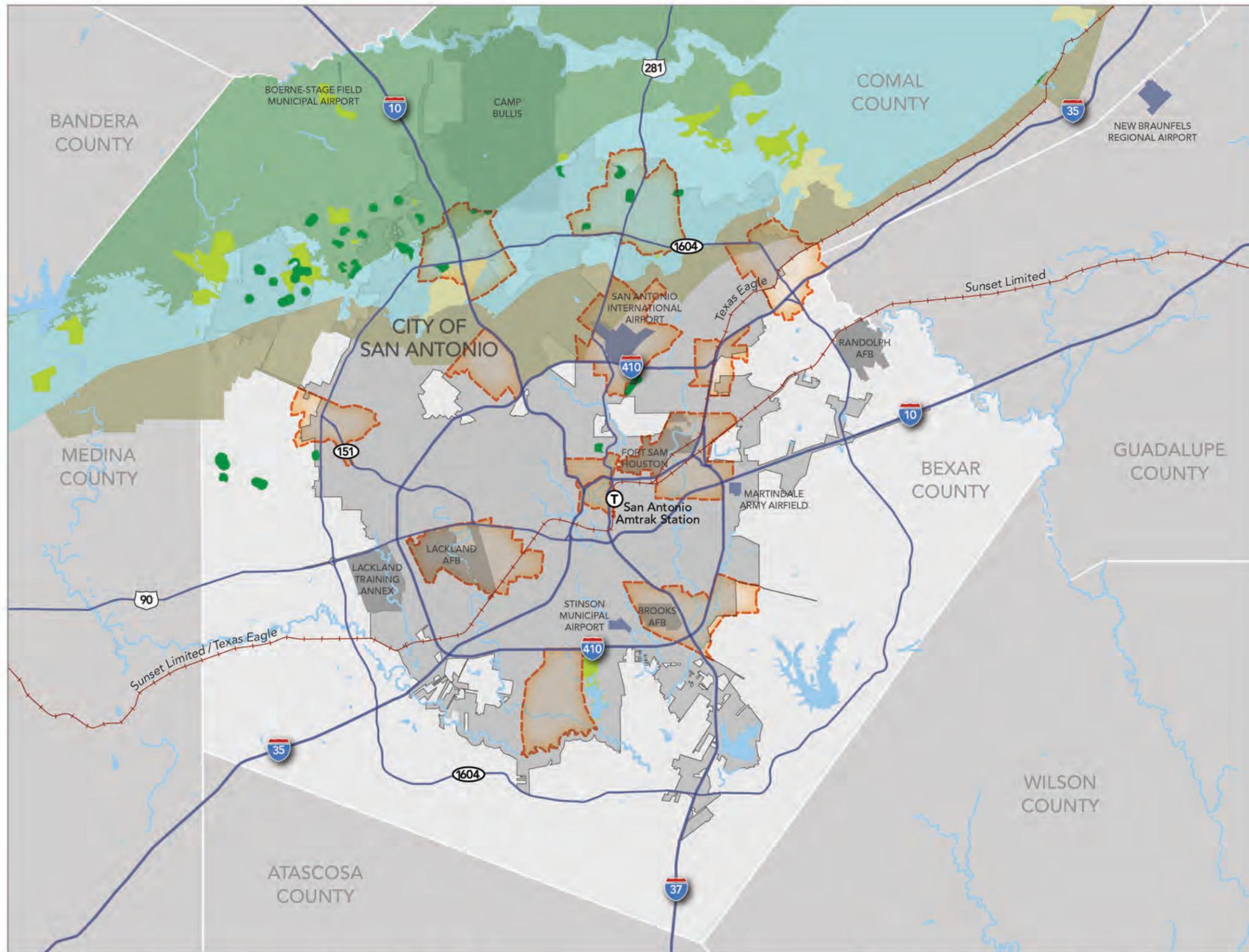
SAWS has diversified its water sources to reduce reliance on the Edwards Aquifer and added new sources including the Twin Oaks Aquifer Storage and Recovery plant that stores water underground for peak use or drought. The City also benefits from the largest direct water recycling program in the nation, using recycled water to irrigate parks, golf courses, lawns and the River Walk.

The SAWS Water Management Plan also lays out an ambitious program to expand water supply. Planned projects include:

- Construction of a groundwater desalination plant that will provide over 12 thousand acre-feet of water annually beginning in 2016, and over 30 thousand acre-feet by 2026.
- Expansion of the pumping from the Carrizo aquifer that will yield an additional 7,000 acre-feet of water annually by 2017, and 21,000 acre-feet by 2026.
- Development of a regional water supply project that will yield up to 50,000 acre-feet per of water annually starting in 2018.

Collectively, these projects will yield over 69,000 additional acre-feet annually by 2020 and over 100,000 acre-feet annually by 2026. SAWS also plans to save 16,500 acre-feet per year by 2020 through conservation measures.

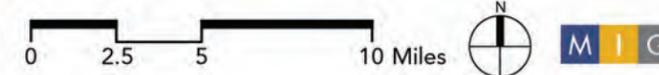
San Antonio is not only committed to conservation, but also to preserving the quality of the community's drinking water. The SAWS water quality protection program is one of the most aggressive in the state. Sampling, monitoring and enforcement are some of the services SAWS performs to prevent environmental pollution.

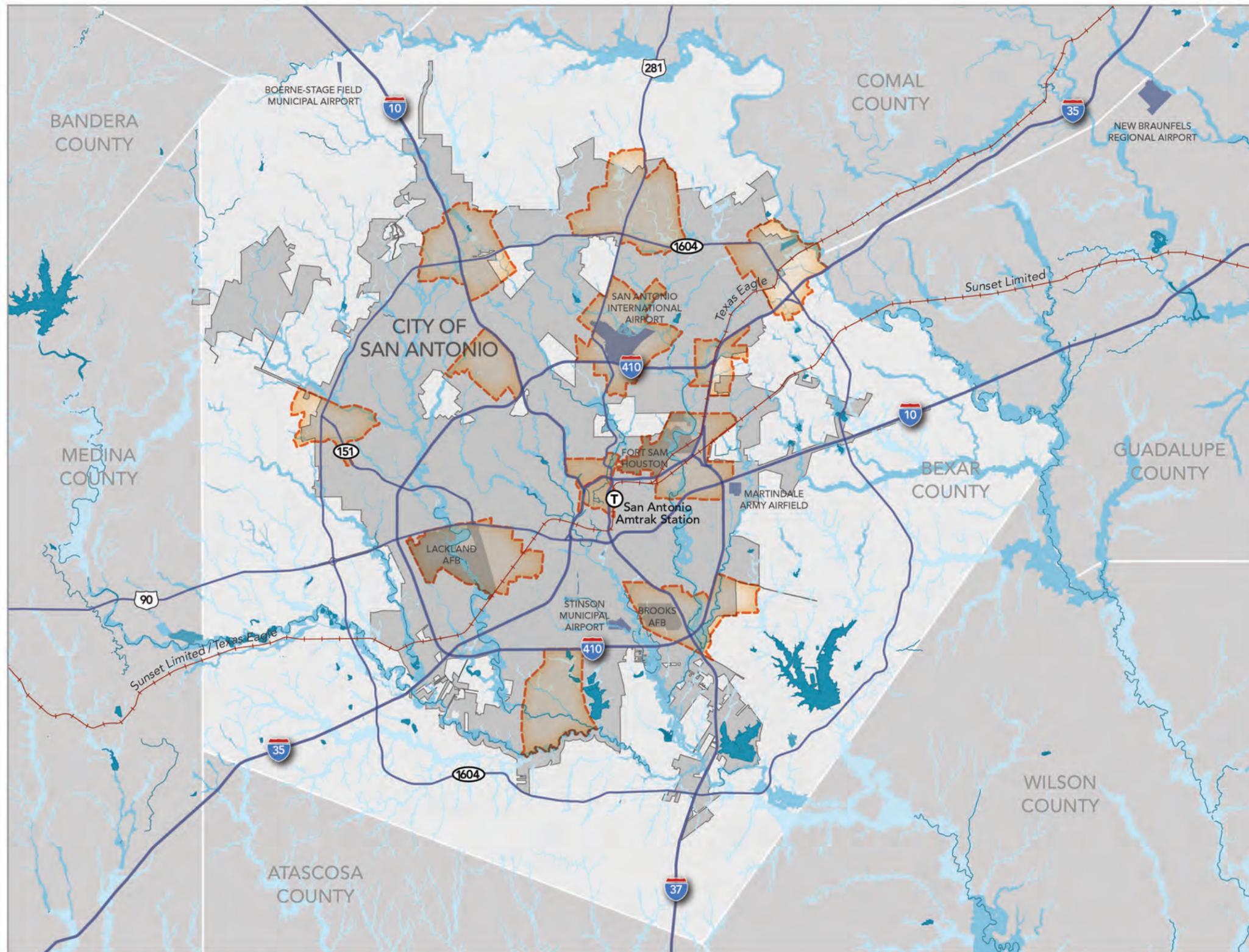


### Legend

- City of San Antonio
  - County
  - Water
  - Airport
  - Military Land
  - Major Highway
  - Rail
  - T Rail Station
  - Employment Center
  - Endangered Species Habitat
  - Conservation Easements
- Edwards Aquifer Recharge Zones**
- Recharge Zone
  - Contributing Zone
  - Contributing Zone within Transition Zone
  - Transition Zone

## Chapter 8. Conservation Areas

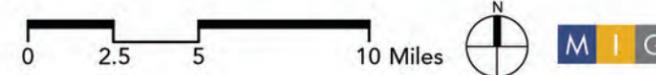




**Legend**

- City of San Antonio
- County
- Water
- Airport
- Military Land
- Major Highway
- Rail
- Employment Center
- FEMA 100-year Flood Zones**
- Zone A
- Zone AE
- Zone AH
- Zone AO

**Chapter 8. Flood Zones**



## 8.5 Waste, Waste Reductions and Recycling

The City's Solid Waste Management Department (SWMD) currently serves approximately 345,000 homes. The department's mission and vision include a sustainability statement that directs the agency to make a positive environmental impact through recycling programs and hazardous waste management. The Recycling and Resource Recovery Plan outlines a vision for zero waste, including strategies and actions to improve waste reduction and recycling programs through education and outreach, incentives, and regulatory changes.

According to SWMD, an average single-family household in San Antonio generates approximately eight pounds of waste per day. This rate has remained steady over time, though recycling rates have increased, resulting in less waste being sent to landfills.

The Department provides weekly curbside collection services to residents living in single family households and to most City facilities. It operates a single-stream recycling program which accepts paper, glass, tin, aluminum, and plastics. SWMD was the first in the state to offer curbside food scraps collection that is combined together with yard debris.

After instituting automated recycling services and other improvements to make recycling more convenient for residents, household recycling increased almost four-fold to 29% of the residential waste stream by 2014. The City's goal is to increase the single-family residential recycling rate to 60% by 2025. Since the adoption of the Recycling and Resource Recovery Plan in 2010, the Department has reduced annual landfill waste from 444,000 tons to 362,000 tons- an 18% reduction. Beginning in 2015, the Department will begin offering residents the choice of three garbage cart options: 48 gallon, 69 gallon, and 96 gallon. Residents' monthly bills will be based on the size of their selected garbage cart thereby incentivizing households to recycle and reduce their waste. Energy Production and Consumption

### Production and Resources

The City of San Antonio's power is delivered by CPS Energy, a municipally-owned energy utility acquired by the City in 1942. CPS provides natural gas and electric service to over 1,515 square miles, meeting the demands of approximately 757,000 electric customers and approximately 334,000 natural gas customers in San Antonio and the surrounding areas.

CPS has a diversified mix of fuels, including 43% natural gas, 28% coal, 14% nuclear and 14% wind. Solar and methane-gas sources account for the remaining share of energy sources. As of December 2013, renewable sources accounted for 14.6% of the region's generating capacity (1,113 MW), up from 9.7% in 2011 and 7.5% in 2009. Although its overall energy generation has increased over time, its greenhouse gas emissions have declined a result of increasing use of nuclear and renewable energy.

Wind power accounts for the vast majority of renewable power provided by CPS, with a growing solar supply. San Antonio joined the Solar America Cities program in 2007. Today, its current and planned solar capacity is the largest in Texas. The agency seeks to reach 20% renewable energy, or 1,500 MW, by 2020, including 65% no- or low-carbon sources. CPS Energy has initiatives to expand these sources, to use buildings as power plants, and to develop a Smart Grid.

The City of San Antonio and CPS's Solar Development Plan (2012) identifies a set of stakeholder-recommended strategies, concepts, goals and action steps that will increase San Antonio's leadership in the solar industry and will help guide the region's activities in deploying solar technologies and in growing various aspects of the solar industry in the future.

As a municipal agency, CPS also plays a role in the economic development of the region and actively works to attract clean technology firms to the region and partnering to leverage the City's buying power for its renewable portfolio.

CPS's Save for Tomorrow Energy Plan (STEP) aims to reduce the growth in demand for electricity in San Antonio by 771 megawatts (MW) by 2020. This is the equivalent of the output of a large power plant. In order to achieve this goal, CPS has committed millions of dollars in order to provide incentives and rebates to customers. Through these programs, residents are encouraged to purchase energy-efficient appliances, improve residential HVAC systems and insulation, increase the use of energy-efficient lighting, increase the use of programmable thermostats and expand commercial lighting retrofits.

## Consumption and Conservation

Household energy usage increased by five percent between 2010 and 2012, but then dropped by almost 3% to an average of 13,409 kilowatt-hours per household annually. CPS's goal is to reduce growth in projected peak electrical demand by 771 MW and SA2020 seeks to reduce energy use to 12,897 kilowatt-hours by 2020.

Encouraging both residential and commercial customers to reduce their energy consumption is a key part of CPS's corporate sustainability plan. Its Save for Tomorrow Energy Plan (STEP) encourages customer behavior change to reduce energy consumption. It offers a diverse set of tools to both residential and commercial customers including rebates, discounts, financial incentives, energy audits and smart technology and management systems. Between 2008 and 2013, the STEP program reduced over 318 MW of energy consumption. Making outreach to lower-income customers and finding ways to include renters in the programs will be an ongoing challenge.

## 8.6 Green Building Programs

### Build SA Green

Buildings account for over 90% of electricity consumption in San Antonio.<sup>1</sup> The Mission Verde effort recommended strategies to improve the environmental performance of existing buildings through a retrofit program and new construction by developing a high-performance development code. A Mayor's Task Force convened in 2008 established guidelines for a new building code which have not yet been adopted. Likewise, a large-scale municipally-supported retrofit program has yet to be implemented.

The City's Green and Healthy Homes program (formerly the Lead Based Paint Hazard Control Program) provides assistance to low- and moderate-income homeowners to improve the safety and environment of residences. Services include weatherization and lead-paint abatement. This program is supported in part by RENEWSA, an inter-agency community development initiative that seeks to improve the city's residential and commercial neighborhoods through a variety of programs. Casa Verde is a similar program, operated by CPS Energy that provides weatherization to low-income homeowners and renters.

Despite lack of a consolidated green building effort, San Antonio has over 180 buildings and residences certified under the U.S. Green Building Council's green building certification program. Build San Antonio Green is San Antonio's local residential green building program certifying over 3,500 homes to date.

Likewise, green infrastructure and stormwater management efforts are concentrated in a handful of programs and are often driven by non-profit advocacy organizations rather than institutionalized in the city. Several local initiatives have begun to promote Low Impact Development (LID) practices (site design to reduce storm water runoff) for both the public and private sectors. For example, the San Antonio River Authority (SARA) provides guidance on LID and is working with the City's development permitting department to develop a procedure that tracks properties that claim to be Low Impact Development in order to award development credits. SA2020 plans to add data on low-impact development (LID) to its progress reports after 2014.

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<sup>1</sup> *Mission Verde: Building a 21<sup>st</sup> Century Economy*. City of San Antonio Office of Mayor Phil Hardberger, January 28, 2009.

## 8.7 Transportation and Land Use

The built environment has myriad implications for urban sustainability – influencing travel patterns and VMT, public health and safety, emergency preparedness and access to housing and economic opportunity. San Antonio's sustainability planning work to date has included considerations of its transportation and land use networks, many of which were outlined earlier in this document. In particular, the Mission Verde plan and the Neighborhood Sustainability Assessment provide a strong framework and findings.

The Neighborhood Sustainability Assessment yielded a median score of 40/100, with the downtown area scoring highest. Neighborhoods with denser housing and development received higher index scores than those with low-density, suburban-style development patterns.

Other ongoing City initiatives that support a sustainable transportation and land use network in the City include the following:

- Urban gardening: The City has leased 18 acres of unused city-owned land to the San Antonio Food Bank to grow produce for local families in need.
- Parks and trails system: The City's Parks and Recreation department has developed 46 miles of greenway multi-use trails along the City's creeks in order to support recreation, physical activity and non-motorized transportation. The Linear Creekway Parks Development Program provides sales tax funding for land purchases and trails development. The current budget for trail development will account for approximately 40 additional miles of trails. The ultimate vision is to encircle the entire City of San Antonio with a complete ring of trails. This will require additional funding for approximately 32 additional miles of trails, primarily along Leon and Salado Creeks.
- Public transit: VIA Metropolitan Transit is the Region's public transportation agency that provides an alternative to auto travel for many passengers. The agency's fleet is almost one-third alternative fuel, and since 1999, the agency has dramatically reduced nitrogen oxide and particulate emissions from its vehicles.
- Bicycle Network: The 2011 Bike Master Plan calls for a network of over 1,700 miles of bicycle facilities throughout the San Antonio area. The City of San Antonio currently allocates \$1 million annually in Advanced Transportation District funding to build upon the bicycle network by adding new bike lanes, routes and paths.
- Bike sharing: The City's B-Cycle program is the first and largest bike-sharing program in the state of Texas. In 2014, B-Cycle expanded to 55 stations, including 14 stations along the Mission Reach, and over 450 bikes.

## 8.8 Green Businesses and Operations

A key driver of the Mission Verde project was to position San Antonio as a center of what former Mayor Castro called the "New Energy Economy" – a city that creates economic prosperity while improving quality of life and the environment of San Antonio. This document included initiatives focused on increasing clean and green technology activity in the region and creating local green jobs. The City of San Antonio, in partnership with CPS and private entities including the San Antonio Economic Development Foundation, continue to support and grow the environmental technology / green industry cluster by identifying as pro-business and pro-green. However, SA2020 reports that employment in green industries has remained flat or declined since 2010.

The City itself continues to "green" its municipal operations under the leadership of the Office of Sustainability, ensuring efficient operations that minimize environmental impact and resource use. The new Energy Management Division (EMD) oversees efforts to maximize water and energy efficiency in city-owned buildings and facilities that will save both energy and budget. Since 2010 the EMD has overseen 375 projects to 176 City-owned buildings. Energy savings from these retrofits amounts to over 13.5 million kilowatt-hours annually. This work results in cost savings of over \$1.29 annually and a cumulative reduction of over \$3.3 million since the program's inception.

Retrofits to date have included the interior and exterior lighting retrofits, Heating Ventilation and Air Conditioning (HVAC) upgrades, the installation of solar window film, large-scale chiller replacements, retro-commissioning (fine tuning) of large buildings, energy retrofits to municipal pools, and comprehensive energy audits at multiple locations. This work is paid for through a revolving Energy Efficiency Fund, which pays for retrofits as well as personnel expenses at no cost to the General Fund.

In 2014, the City adopted the nation's first Green Event Guide ordinance, requiring events on city-owned property to complete a "green scorecard" for certification and consider measures to reduce water and energy use, generate less waste and increase recycling. Other key City accomplishments include establishing a Farm to Work program to help City employees receive farm fresh produce and working both across departments and with Staples to establish eco-conscious purchasing policies and practices. The City's Sustainability Plan is expected to include recommendations, strategies and actions to further reduce the City's greenhouse gas emissions and resource consumption.

## 8.9 Climate Change Mitigation and Adaptation

Drought, excessive heat, and flooding are expected to worsen as a consequence of climate change – creating extreme weather events as well as changes in long-term climate patterns. Though worsening, these hazards are not new to the area, and the City has a long history of grappling with extreme heat, drought, and flood management measures. In fact, the San Antonio River Walk, a major tourist destination and retail, cultural, and restaurant district, was conceived in the 1920s in response to a decade of devastating floods. Planning for climate mitigation (reducing greenhouse gas emissions to slow climate change) and adaptation (planning for long-term changes in temperature and precipitation and emergencies) are both goals for the City's Office of Sustainability.

Currently, the City, County, nor MPO have produced a comprehensive study of climate change and its effects on the region. The City's Sustainability Plan will include a greenhouse gas inventory for both the city and the broader San Antonio community. The project will also include a detailed review air quality standards and plans to establish a unified set of recommendations and actions integrated into the Sustainability Plan. The Sustainability Plan will evaluate additional climate risks and vulnerabilities and make recommendations for local action.

The impacts of high heat and urban heat island effects can be mitigated in part through the city's tree canopy. The City of San Antonio adopted a Tree Preservation Ordinance in 2010 to encourage the preservation, protection and expansion of tree coverage in the city to meet environmental, economic and aesthetic goals. Currently, the City's overall tree canopy coverage is 38% and 12% in the Central Business District. SA2020 aims to increase these numbers to 40% and 15%, respectively.

## 8.10 Air Quality

Air quality in San Antonio and the region has been worsening for several years. The SA2020 is 68 parts per billion (ppb), 16% less than the 2013 value of 81 ppb. To date, most studies have focused on air quality and ozone. The Alamo Area Council of Governments (AACOG) has been conducting studies of ozone emissions in the 13-county region for over a decade and its research on ozone is thorough, ongoing and provides an excellent foundation for air quality management planning. The City of San Antonio maintains and enforces a pollution control ordinance to address urban air quality.

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<http://www.sanantonio.gov/sustainability/About/EnergyManagement.aspx>

Section 35-523 of the San Antonio Municipal Code, available at:  
[https://www.municode.com/library/tx/san\\_antonio/codes/unified\\_development\\_code?nod=eld=ARTVDEST\\_DIV5NAREPR](https://www.municode.com/library/tx/san_antonio/codes/unified_development_code?nod=eld=ARTVDEST_DIV5NAREPR).

<http://www.aacog.dst.tx.us/CivicAlerts.aspx?AID=587&ARC=1001>

[http://www.nytimes.com/2011/12/11/us/2011-proving-to-be-a-bad-year-for-air-quality.html?\\_r=0](http://www.nytimes.com/2011/12/11/us/2011-proving-to-be-a-bad-year-for-air-quality.html?_r=0)

<http://insideclimatenews.org/print/28635>

<http://eaglefordtexas.com/news/id/47481/aacog-report-eagle-ford-emissions-will-keep-rising/>

<http://www.eenews.net/stories/1059992914/print>

<https://www.federalregister.gov/articles/2014/12/17/2014-28674/national-ambient-air-quality-standards-for-ozone>

<http://adapt.oxfamamerica.org/>

<http://www.environmenttexas.org/news/txe/san-antonio-ranked-4th-nation-excessive-heat-days-2006>

<http://buildsagreen.org/our-partners/>

<http://saoemprepare.com/About/News/tabid/125/ArticleID/16/ArtMID/896/Hazard-Mitigation-Plan.aspx.aspx>

<http://www.saoemprepare.com/Portals/0/HIRA%20Plan.pdf>

[http://www.saws.org/Your\\_Water/WaterQuality/protecting.cfm](http://www.saws.org/Your_Water/WaterQuality/protecting.cfm)

Existing Conditions Report

## Chapter 9: Military

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## 9 Military

### 9.1 Executive Summary

San Antonio has nearly a 300 year history of military service and support. It is home to one of the largest active and retired military populations in the entire country, earning it the nickname Military City, USA. This section of the report outlines the current military installations and related missions within San Antonio.

- All of the bases described in this section have developed land use plans and mitigation strategies for operation of the bases with the City of San Antonio.
- A study prepared in 2011 for the City of San Antonio's Office of Military Affairs concluded that the military's impact was responsible for
  - Providing a \$27.7 billion economic impact
  - Supporting the employment of 189,148 people in the community
  - Awarding \$4 billion in local contracts including \$1.5 billion to the SA2020 targeted industries of Aerospace, Biosciences/Healthcare and Information Technology and Cyber Security
  - Supporting over 55,000 Department of Defense retirees who reside in the area

## 9.2 Military Installations

### Joint Base San Antonio

Under the 2005 Base Realignment and Closure (BRAC) Joint Basing Recommendation for San Antonio, installation support functions at Fort Sam Houston were combined with those at Randolph and Lackland Air Force Bases. The Air Force is the lead agency for Joint Base San Antonio (JBSA), comprising three primary locations - Fort Sam Houston, JBSA - Lackland and JBSA - Randolph plus eight other operating locations (see summary table on the following page). To provide installations support across all JBSA locations, the Air Force established the 502nd Air Base Wing. JBSA is considered a national asset made up of various components such as training, education, cyber, installation management, and healthcare.

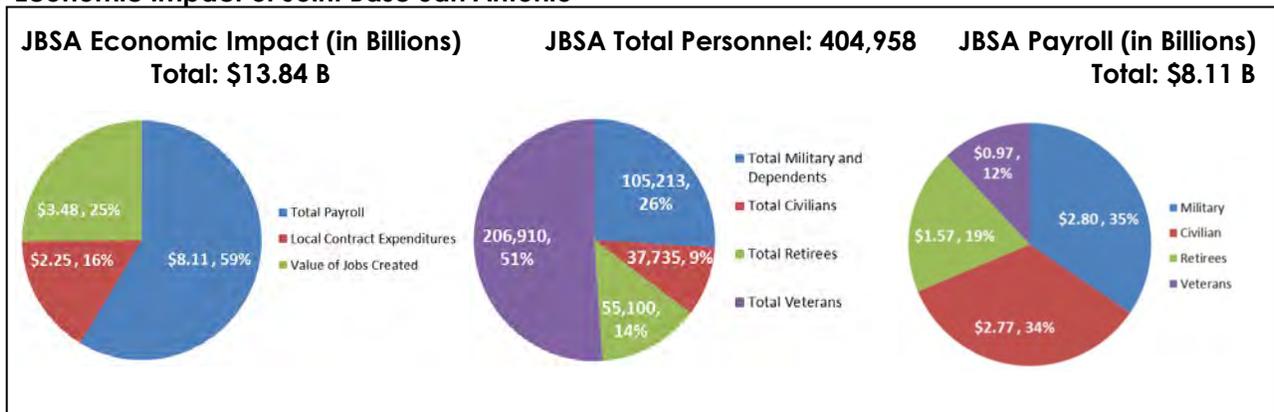
Joint Base San Antonio is the largest base organization in the Department of Defense. Joint Base San Antonio is made up of 31,601 active duty personnel and 37,735 civilians/contractors. Joint Base San Antonio is comprised of the following:

- Fort Sam Houston: Medical Training, Patient Care, Headquarters
- Lackland Air Force Base: Basic & Technical Training
- Randolph Air Force Base: Instructor Pilot, Navigator & Instrument Flight Training

Joint Base San Antonio is a major economic generator for the City of San Antonio and the City is committed to do everything possible to retain and support potential expansion of military missions and operations. The following charts illustrate the economic impact of Joint Base San Antonio on the local economy (see graphs on the following page).

<b>Joint Base San Antonio Missions by Installations</b>		
<b>Fort Sam Houston</b>	<b>Lackland Air Force Base</b>	<b>Randolph Air Force Base</b>
US Army North	24th Air Force	Air Education Training Command
Army Medical Command	59th Medical Wing	Air Force Personnel Center
Installation Management Command	Air Force Intelligence, Surveillance & Reconnaissance Agency	Air Force Recruiting Center
Army Medical Department Center & School (www.cs.amedd.army.mil)	Air Force Cyber Command	12 Flying Training Wing
US Army South	37th Training Wing	
Southern Regional Medical Command	149th Fighter Wing	
Mission and Installation Contracting Command	433rd Airlift Wing	
Medical Education Training Campus	Air Force Information Operations Center	
Institute of Surgical Research	Defense Language Institute	
Dental Command & Veterinary Command	Inter-American Air Force Academy	
	National Security Agency / Central Security Service	

## Economic Impact of Joint Base San Antonio



## Camp Bullis/Camp Stanley

Camp Bullis and Camp Stanley are contiguous Army facilities located approximately 21 miles north of downtown San Antonio. While they were once operated as one facility, they are now separate commands.

Camp Bullis was created in 1917 as a training site for soldiers stationed at Fort Sam Houston. It has evolved as the Army's premier training installation for combat medicine. It currently provides Base Operations and Training Support to Joint Base San Antonio in order to sustain their Operational and Institutional training requirements.

Camp Bullis encompasses approximately 28,000 acres and provides nearly 22,000 acres of field training and maneuver areas for Joint Base San Antonio as well as multi-service medical training. Camp Bullis supports small arms and large caliber firing ranges, ground and air operations night training (through the use of night vision equipment), air combat drop zones, and fixed-wing (airplane) and rotary-wing (helicopter) training.

Camp Stanley is a weapons and munitions supply, maintenance, test, and storage facility staffed entirely by civil service employees and contractors. The site includes 4,000 acres and 630,000 square feet of storage space and supports many military activities.

## 9.3 Overview of Existing Plans

As part of the development of this Existing Conditions Report, the study team reviewed several plans and studies related to San Antonio's military presence. Some of these are studies commissioned by the US Department of Defense Office of Economic Adjustment. These are called Joint Land Use Studies (JLUS). A JLUS is a cooperative land use planning effort conducted as a joint venture between an active military installation, surrounding cities and counties, state and federal agencies, and other affected stakeholders. Three of the military facilities in San Antonio conducted or are in the process of conducting a JLUS. These include studies for Camp Bullis and Lackland AFB which are completed and a study for Randolph AFB which is ongoing. Each of these studies provides:

- A detailed land use assessment for surrounding high growth areas.
- A baseline of existing incompatible land uses around the installation.
- Assessments of regional growth trends along designated transportation corridors.
- A plan to assist surrounding communities with decision-making.
- Recommendations and strategies to promote compatible land use planning around the military installation and surrounding communities.

These studies as well as other plans and documents reviewed are summarized on the following pages.

### Fort Sam Houston BRAC Transformation

This document was a PowerPoint deck prepared by Col. Mary Garr, Commander, US Army Garrison, Fort Sam Houston, to provide an overview of the Base Realignment and Closure recommendations for Fort Sam Houston. The deck describes in detail the missions that will be relocating to Joint Base San Antonio. It also provides an overview of construction improvements planned for Fiscal Years 2010 and 2011.

### Fort Sam Houston Growth Management Plan

The Fort Sam Houston Growth Management Plan was geared towards addressing the housing needs due to increases in the Fort Sam Houston workforce. The plan hoped to identify interventions to transform neighborhoods surrounding the post so they would have the attributes to attract an excellence-workforce. The plan also helped to attract post support enterprises that employ similar workforce (research, education, and innovation) to create a critical mass of employment and housing. The growth management plan also looked at the housing stock in surrounding neighborhoods and made recommendations on amenities that were lacking.

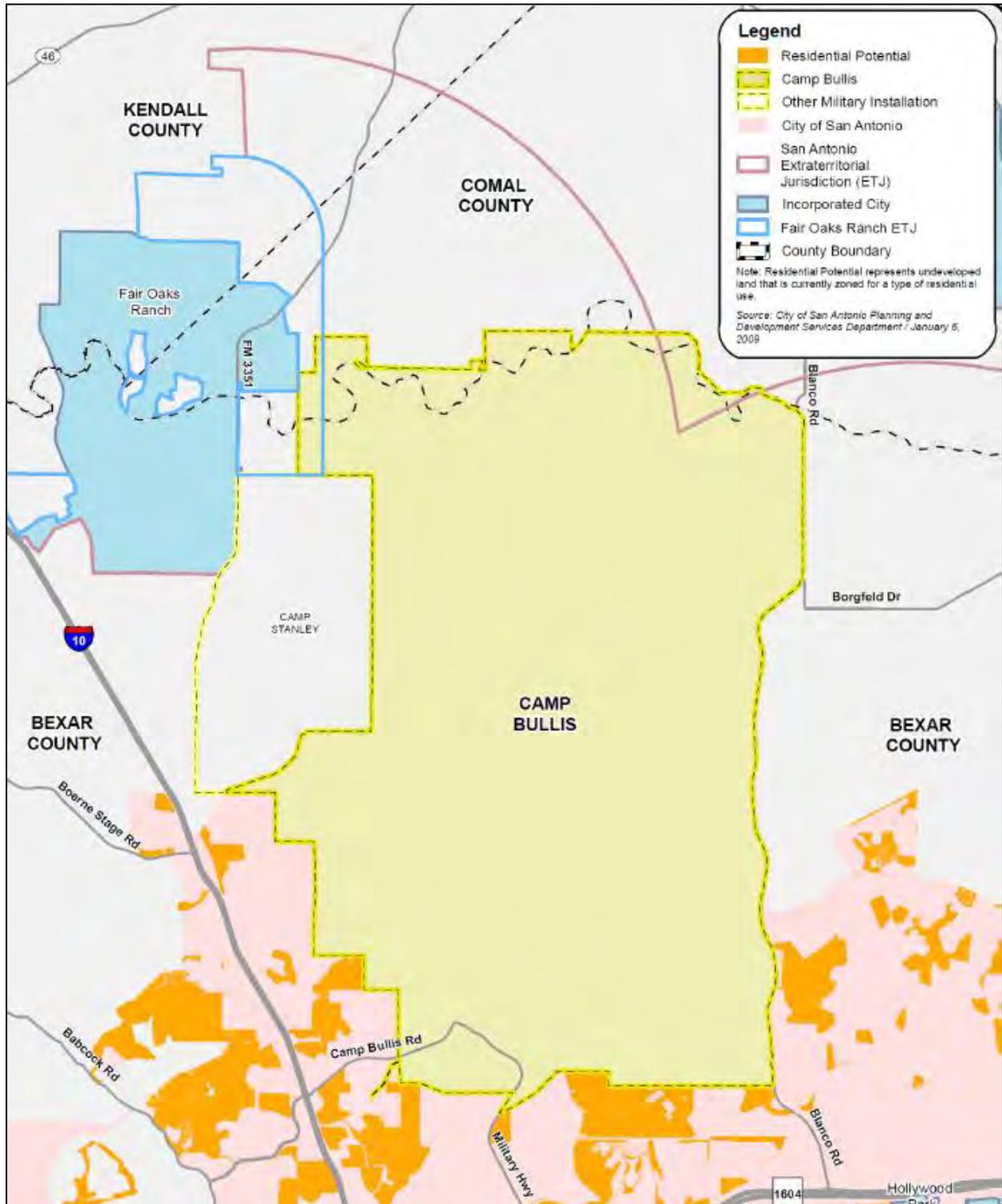
### Camp Bullis Joint Land Use Study Final Report

The Campus Bullis Joint Land Use Study was adopted by the San Antonio City Council on June 18, 2009. The study identified several land use compatibility issues and potential issues, as well as strategies on how best to address these. The study was prepared under a contract with the City of San Antonio with financial support from the Office of Economic Adjustment, Department of Defense. A summary of the issues and strategies can be found in the table below.

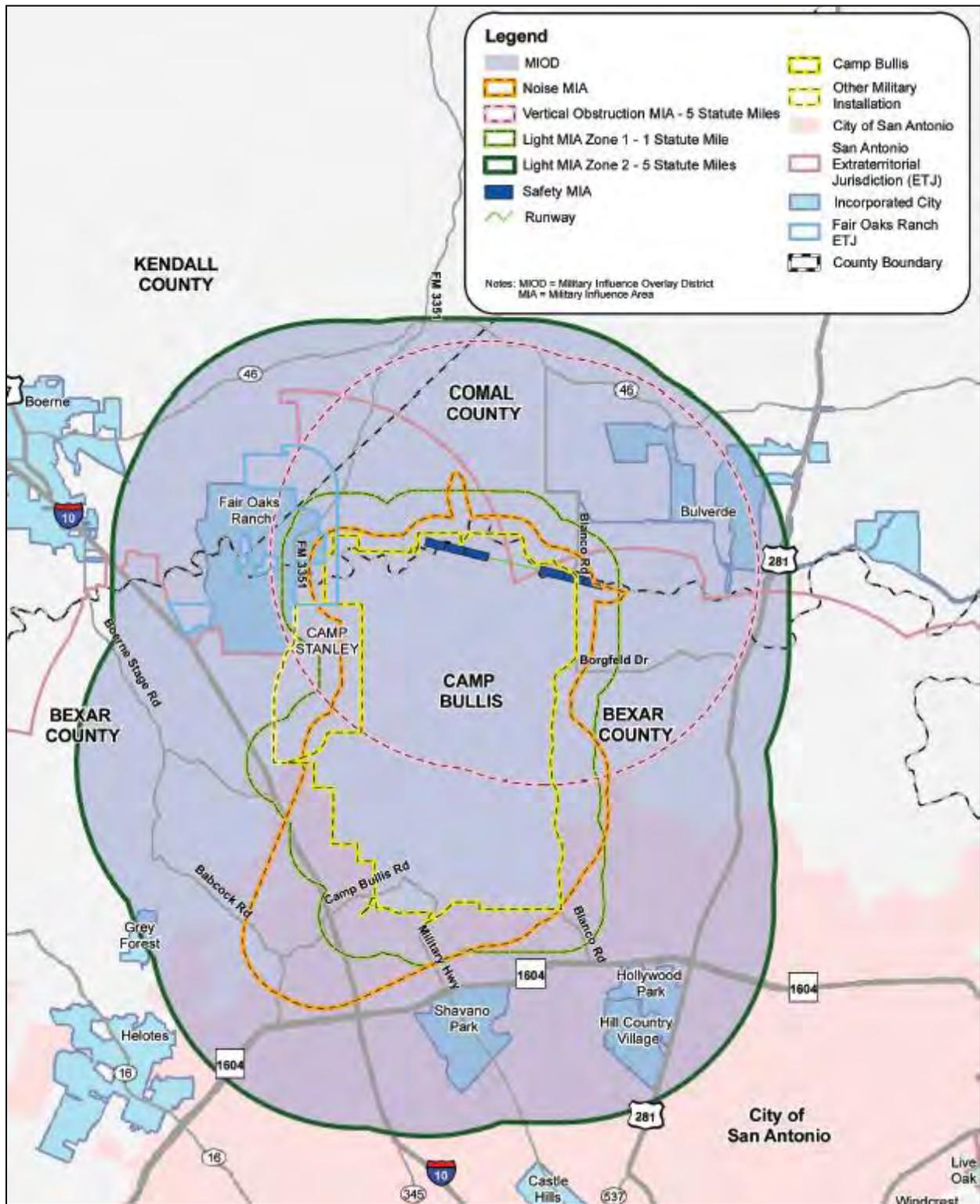
<b>Bullis Land Use Compatibility Issues and Strategies</b>	
<b>Land Use Compatibility Issue/Potential Issue</b>	<b>Proposed Strategies</b>
<p>The three most critical issues identified were:</p> <ol style="list-style-type: none"> <li>1. Light and glare,</li> <li>2. Threatened and endangered species, and</li> <li>3. Noise and safety issues.</li> </ol>	<p>The key recommendations of the study included:</p> <ul style="list-style-type: none"> <li>• Establish one and five mile light buffer zones to protect Night Vision Device training.</li> <li>• Develop a Regional Habitat Conservation Plan.</li> <li>• Minimize residential development adjacent to Camp Bullis and within the City limits.</li> <li>• Acquire properties or establish conservation easements in order to protect open space.</li> <li>• Require the Texas Association of Realtors Form 1406 include Language that Discloses if a Property is within the Military Installation Overlay District.</li> <li>• Develop a lighting retrofit program for businesses and homeowners.</li> <li>• Develop a Dark Sky Ordinance/Order.</li> <li>• Develop a voluntary sound attenuation retrofit program.</li> </ul>

These compatibility issues were identified based on a designated Military Influence Area (MIA), or areas of encroachment related to noise, vertical obstruction, light, and safety. The Camp Bullis JLUS also identified a Military Influence Overlay District as a proposed zoning tool to implement policies and regulations associated with the MIAs. These areas are identified on the following map.

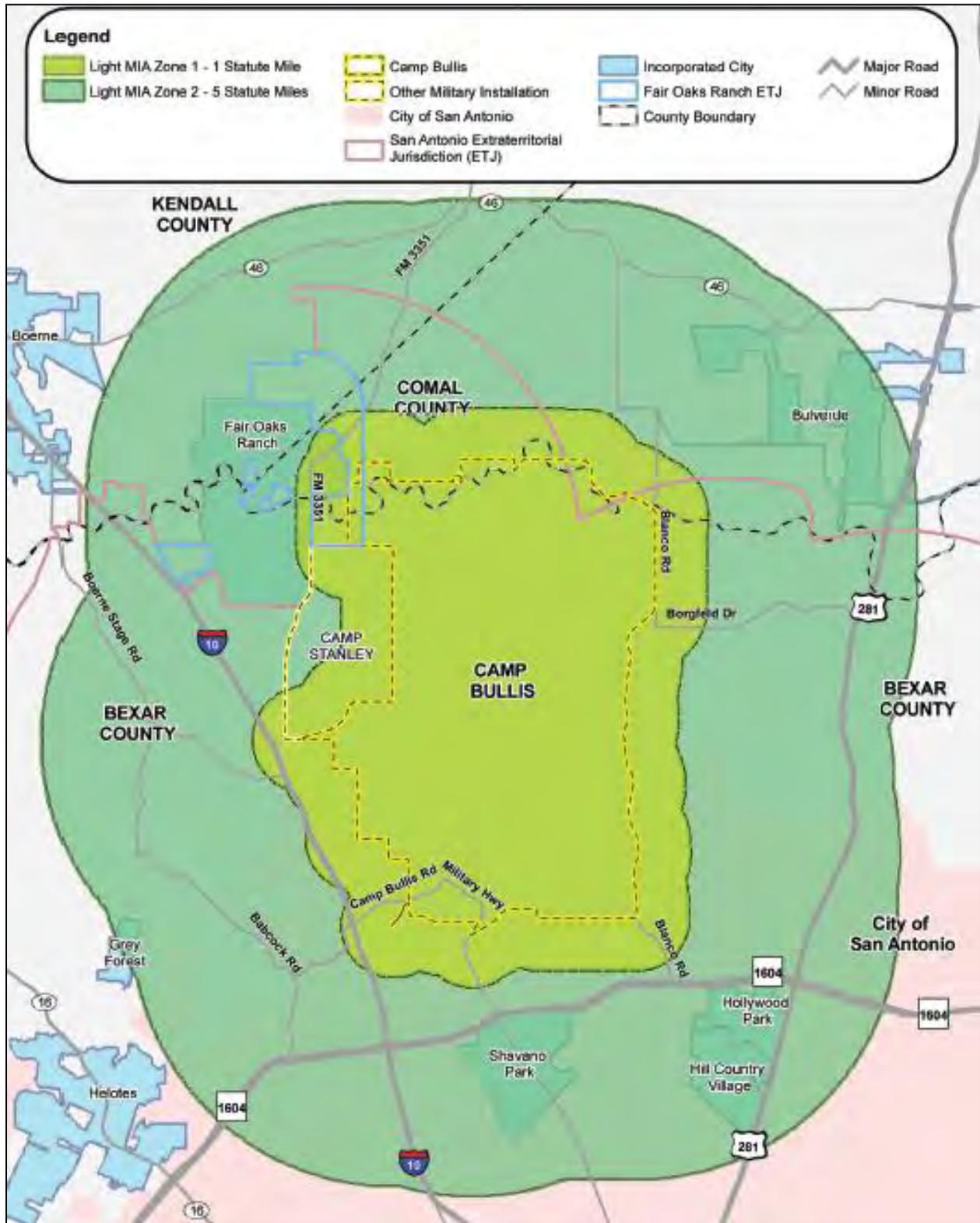
## Compatibility Issues – City of San Antonio Areas with Potential for Residential Development



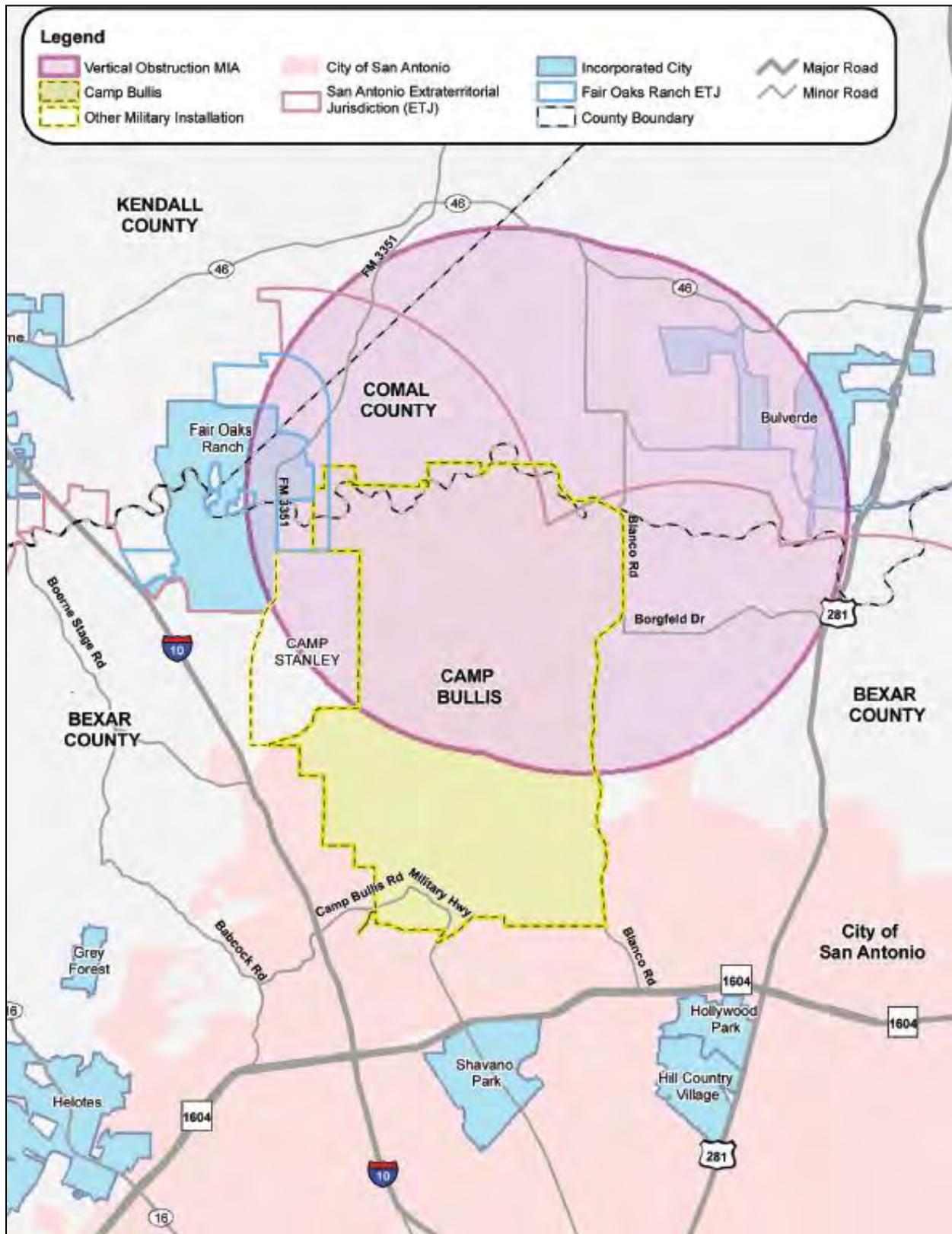
## Military Influence Overlay District and Military Influence Area Boundaries



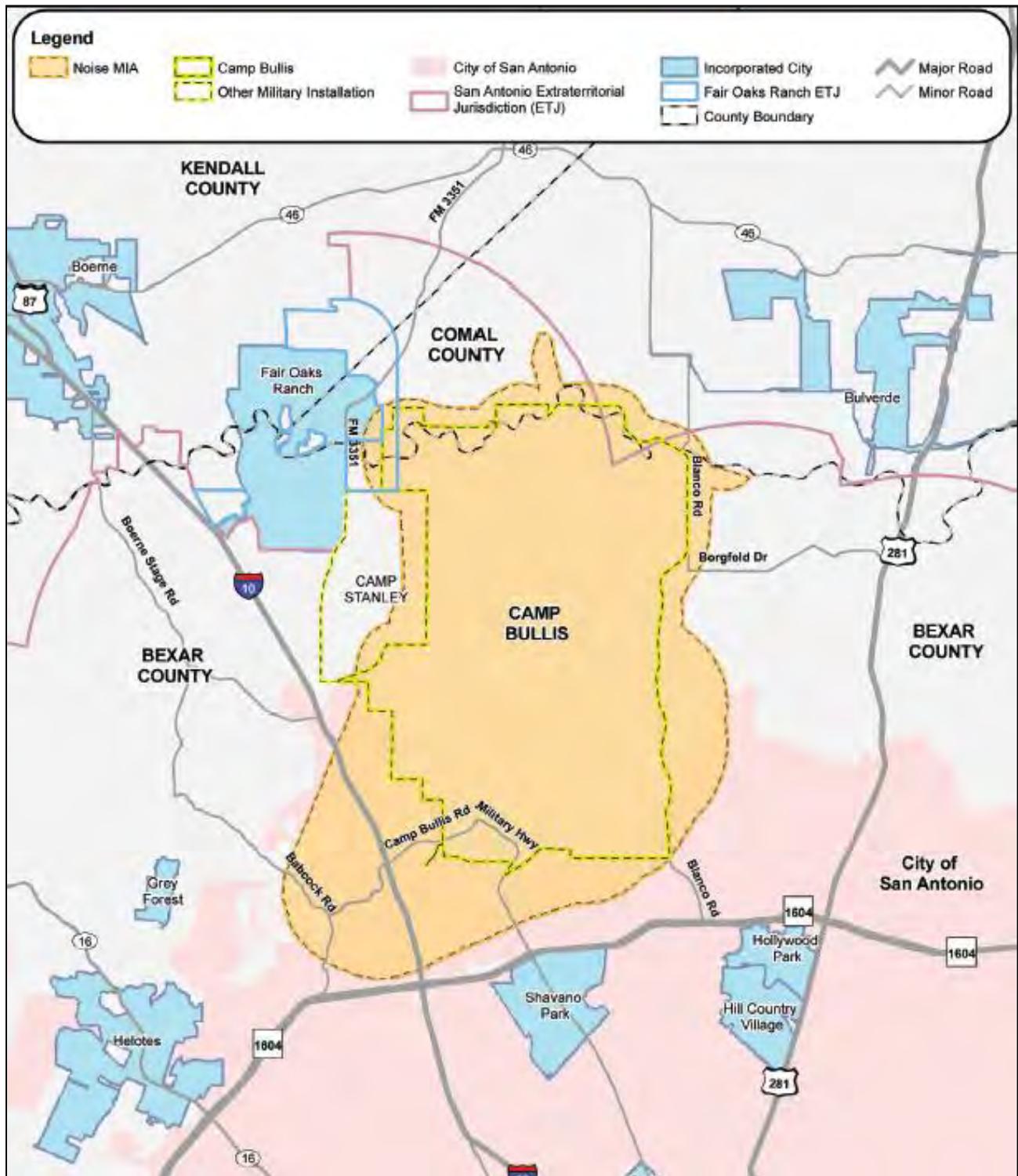
## Light Military Influence Area



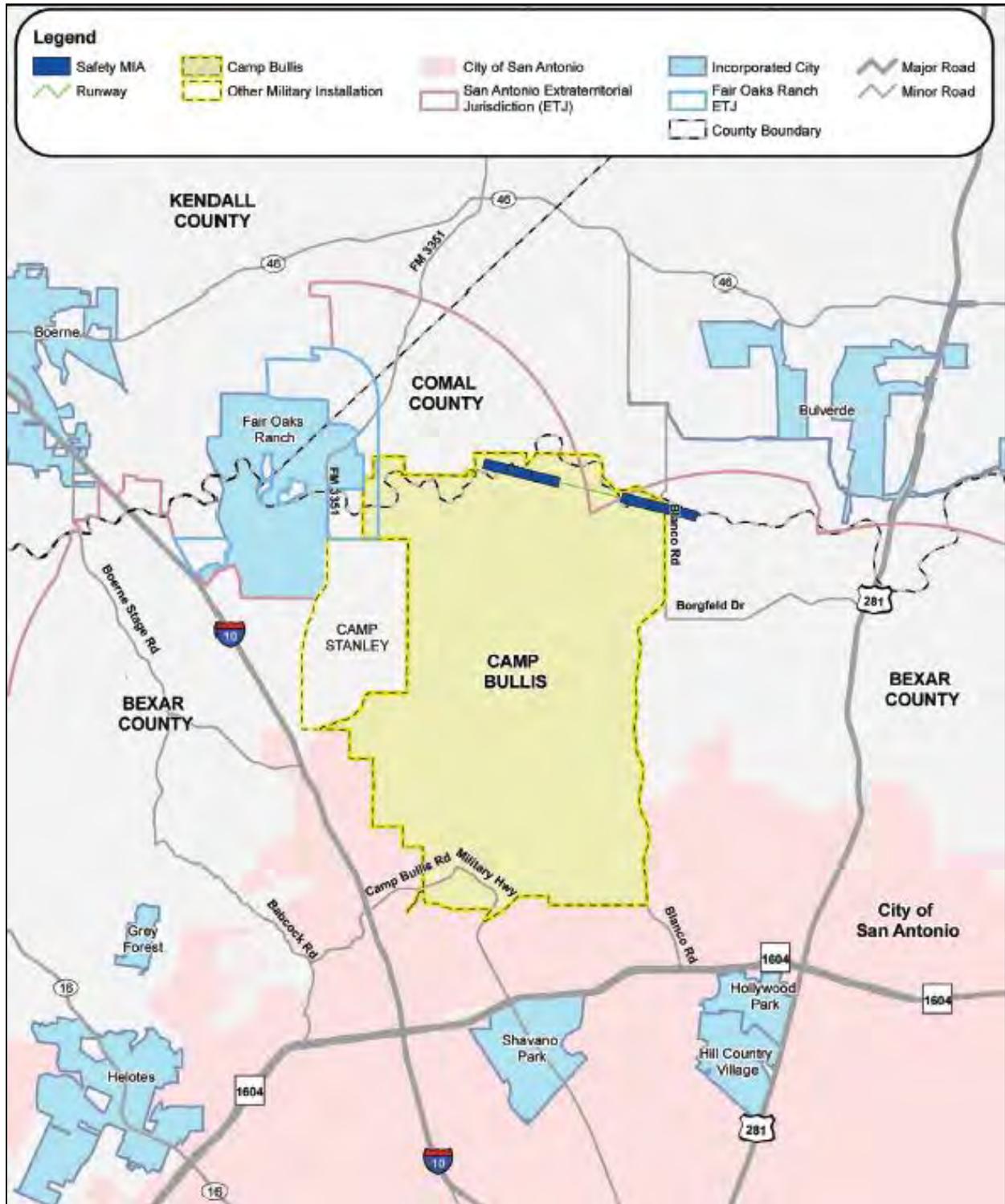
## Vertical Obstruction Military Influence Area



# Noise Military Influence Area



# Safety Military Influence Area

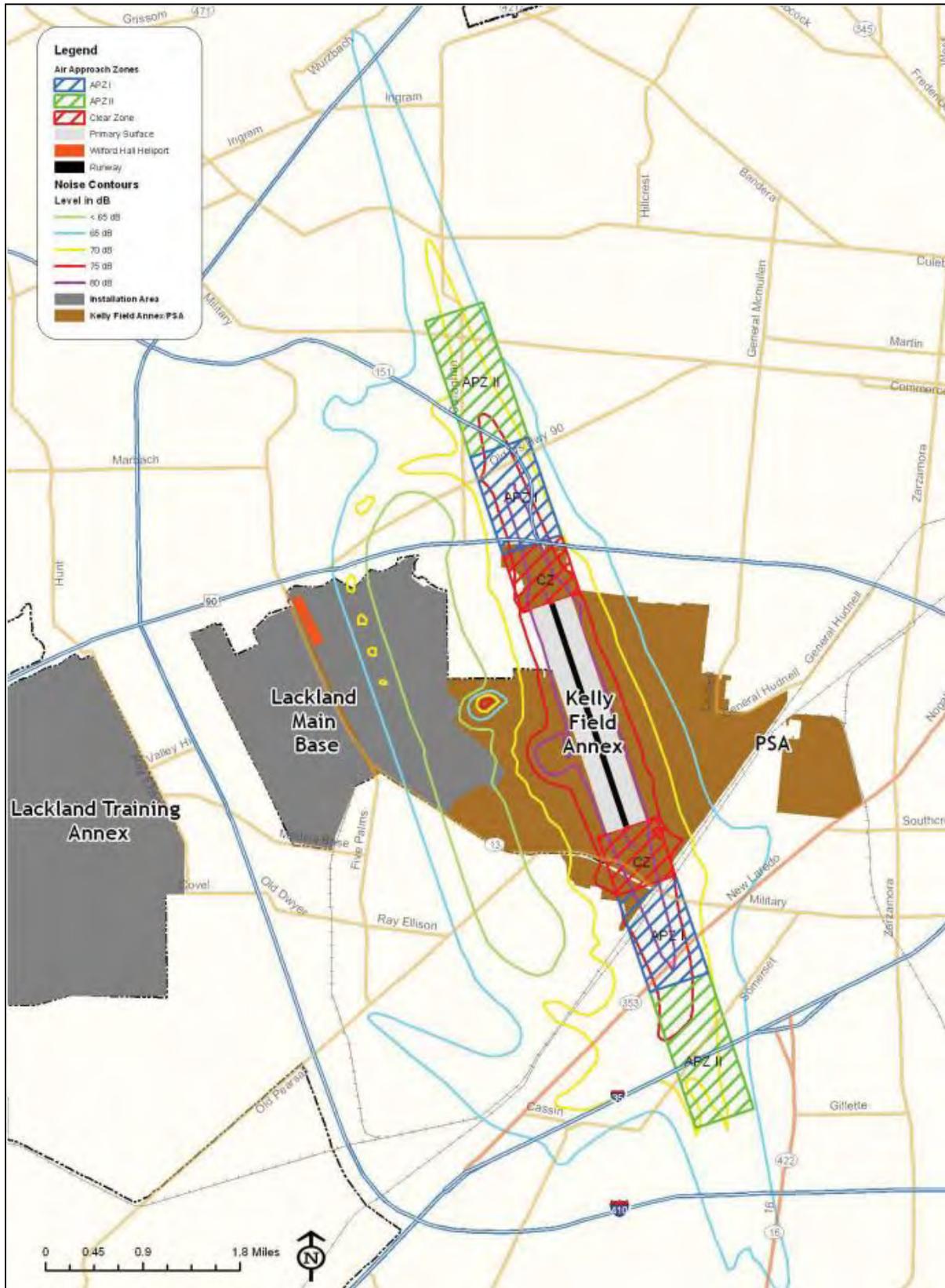


## Lackland AFB Joint Land Use Study Final Report

The Lackland AFB JLUS document established a set of short-, mid-, and long-term actions to promote land use compatibility and strengthen coordination around Lackland AFB and Port San Antonio. The tools are intended to address a variety of possible land use and operational issues, including physical adjacency to Lackland AFB and Port San Antonio, noise, aviation safety impacts, and outdoor lighting. Some of these specific issues and strategies are outlined below.

<b>Lackland AFB Land Use Compatibility Issues and Strategies</b>	
<b>Land Use Compatibility Issue/Potential Issue</b>	<b>Proposed Strategies</b>
<p>The three most critical issues identified were:</p> <ol style="list-style-type: none"> <li>4. Communication and coordination,</li> <li>5. Noise and light, and</li> <li>6. Future land use.</li> </ol>	<p>The key recommendations of the study included:</p> <ul style="list-style-type: none"> <li>• Implement science-based sound mitigation for the flight paths.</li> <li>• Explore voluntary real estate disclosure of noise and other factors that may affect property.</li> <li>• Conduct a modeling study of mission activities at the Lackland Training Annex and assess the feasibility of on-base noise mitigation measures.</li> <li>• Conduct a lighting study for night vision device operations at the Lackland Training Annex.</li> <li>• Formalize communication procedures between stakeholders through a memorandum of understanding.</li> <li>• Ensure the City of San Antonio West/Southwest Sector Plan considers the compatibility of findings of the study, along with other relevant input.</li> <li>• Develop educational outreach materials, including Web sites, handouts, brochures, regular community briefings with Joint Base San Antonio and Port San Antonio representatives.</li> <li>• Establish a group of stakeholder and industry representatives of the study's advisory committee to put the plan into action.</li> </ul>

# Kelly Airfield Noise Contours

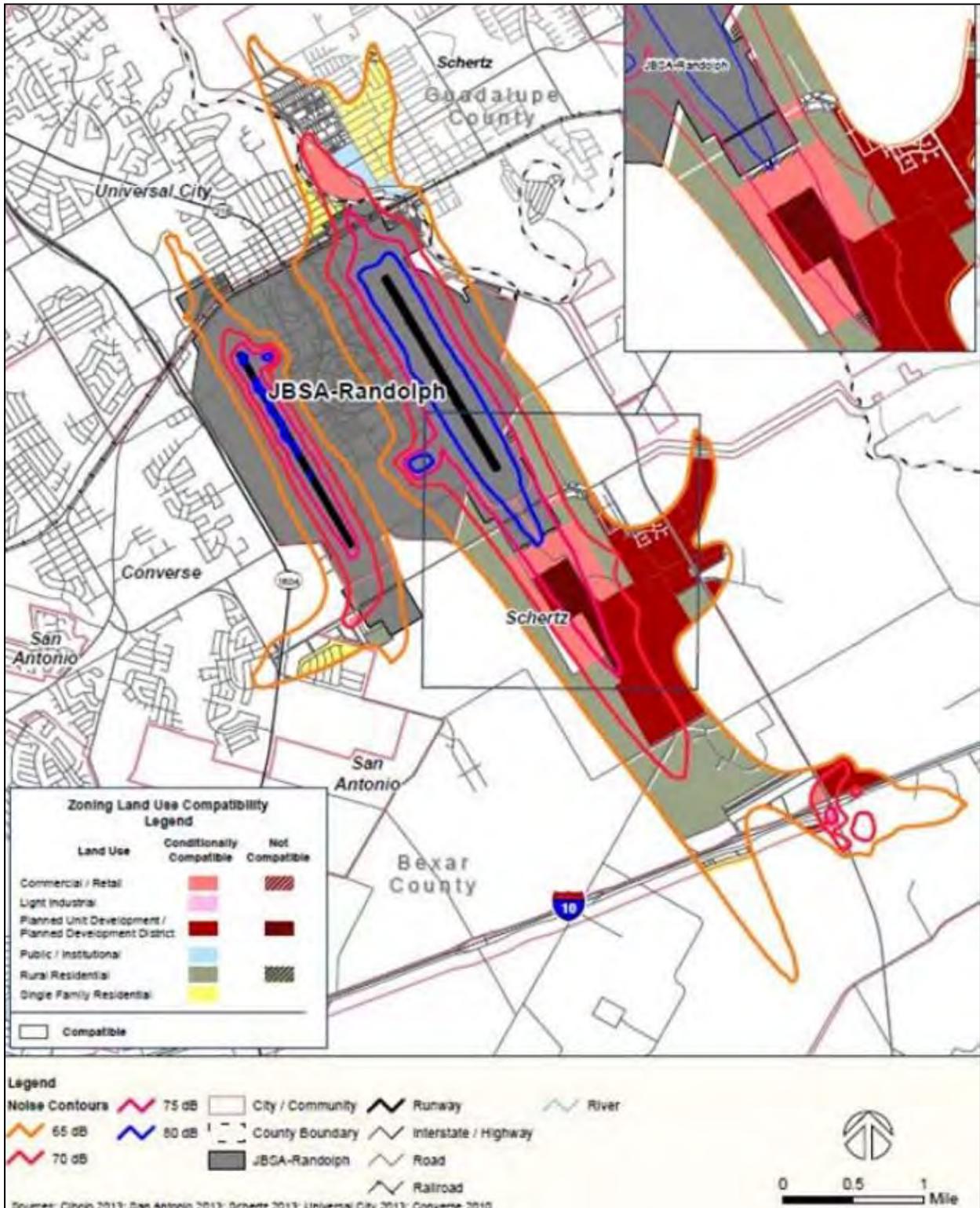


## Randolph AFB Joint Land Use Study Work Products (study ongoing)

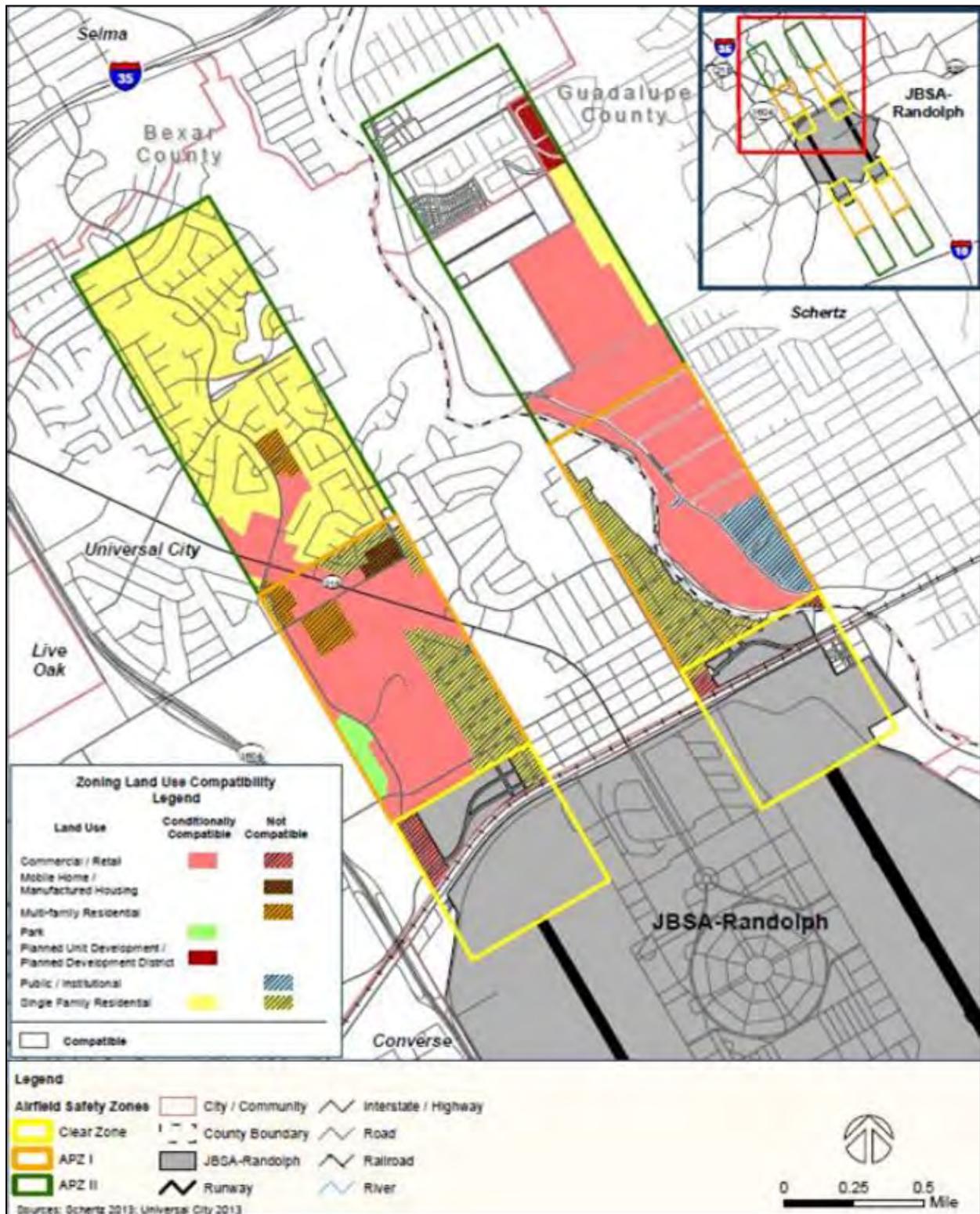
This study is currently being prepared under contract with Bexar County with financial support from the Office of Economic Adjustment, Department of Defense. JBSA-Randolph is home to the 12th Flying Training Wing (FTW) whose primary mission is to provide basic pilot training and instructor pilot training to airmen. In addition, JBSA-Randolph is Headquarters for Air Education Training Command (AETC). The goal of the JLUS is to reduce potential conflicts between the military's training mission and the surrounding areas while also accommodating growth and economic development, sustaining economic vitality, protecting public health and safety, and protecting the operational missions of the installation. The study began in 2013 and should be nearing completion.

<b>Randolph AFB Land Use Compatibility Issues and Strategies</b>	
<b>Land Use Compatibility Issue/Potential Issue</b>	<b>Proposed Strategies</b>
<ul style="list-style-type: none"><li>• Noise and safety issues related to the runway.</li><li>• Safety issues related to the 5-mile BASH Relevancy Area.</li><li>• Vertical obstruction concerns.</li></ul>	Recommended strategies are still under development.

# Randolph AFB Joint Land Use Study – Noise Contours



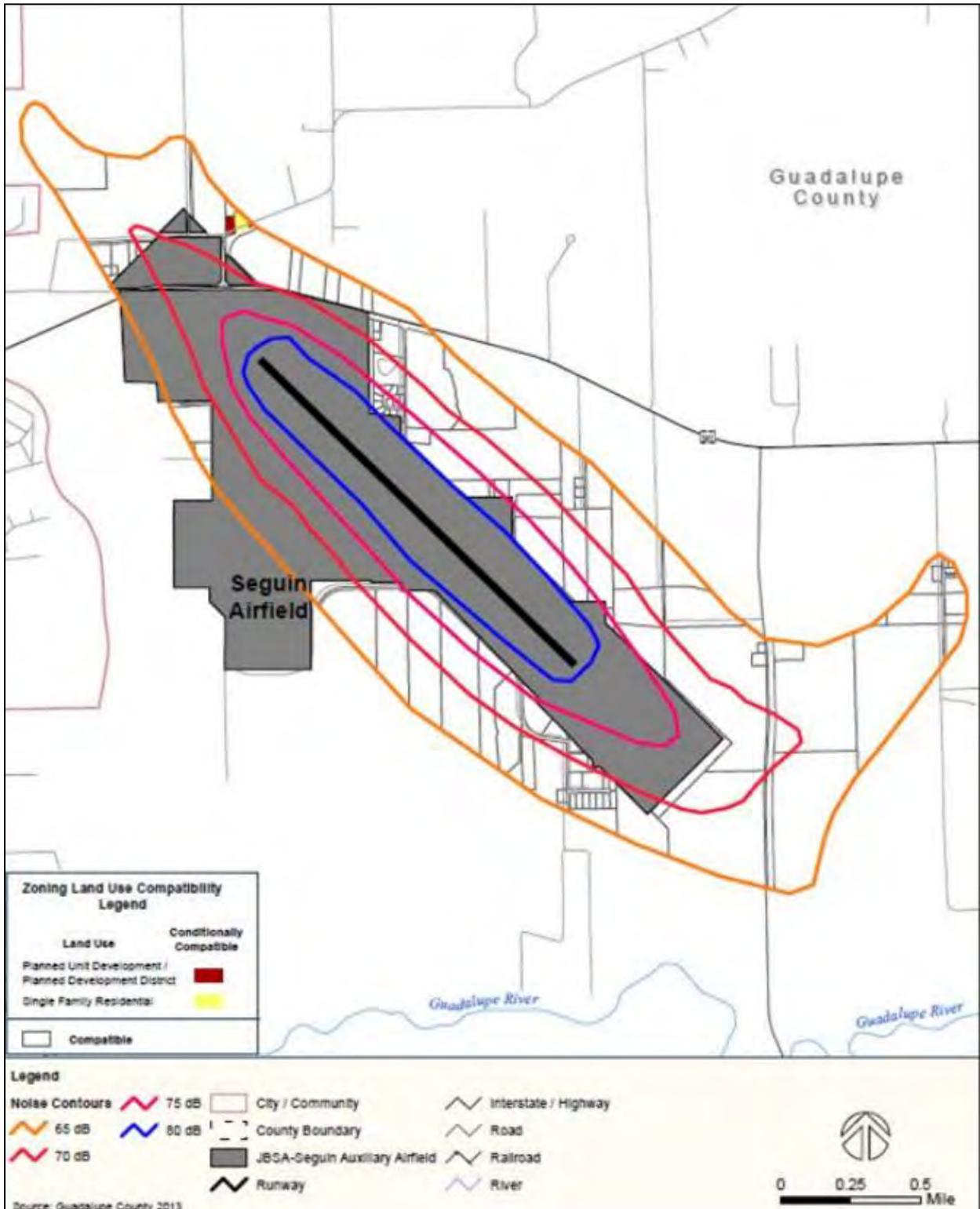
# Randolph Northern Airfield Safety Zones



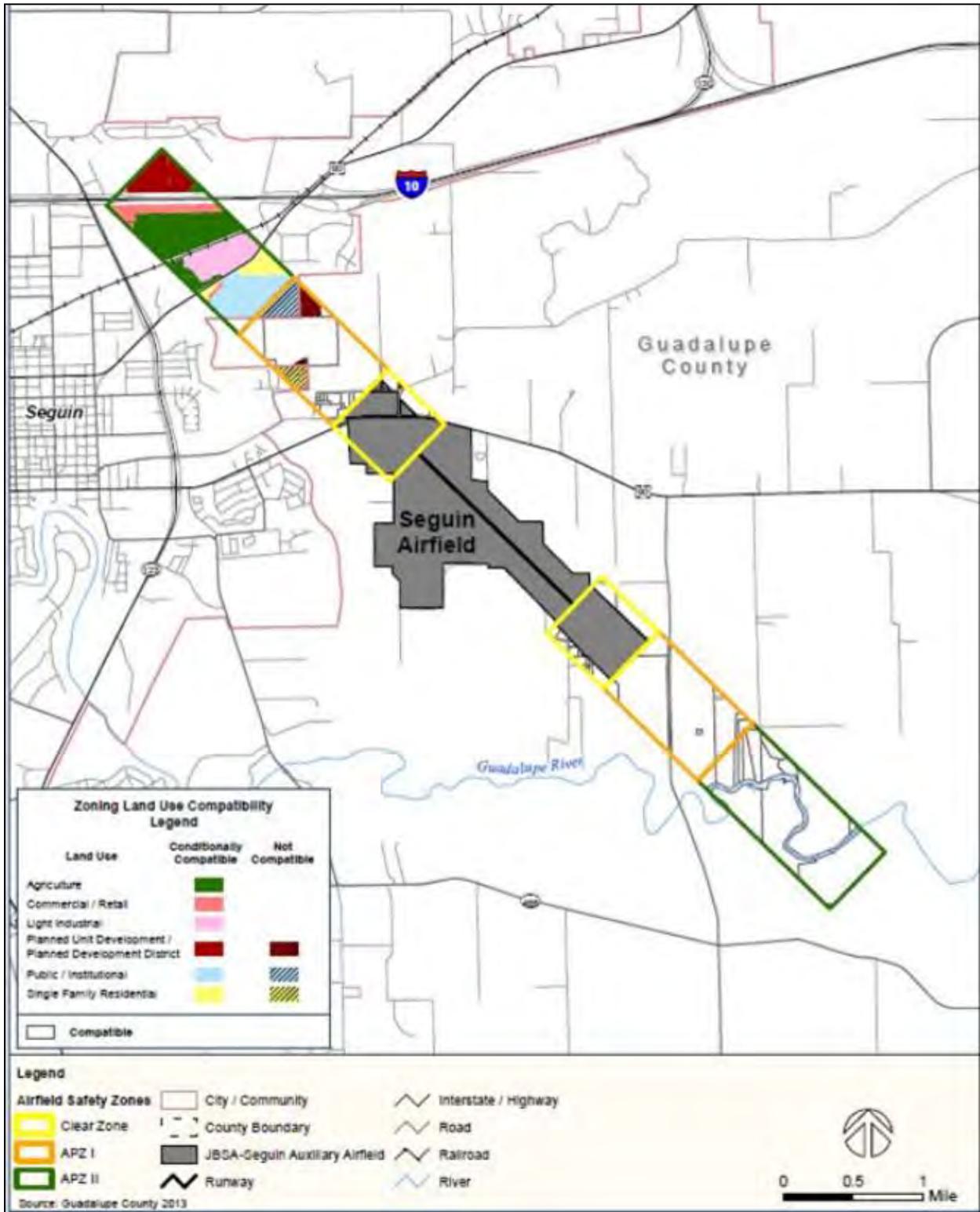
# Randolph Southern Airfield Safety Zone



## Seguin Airfield Noise Contours



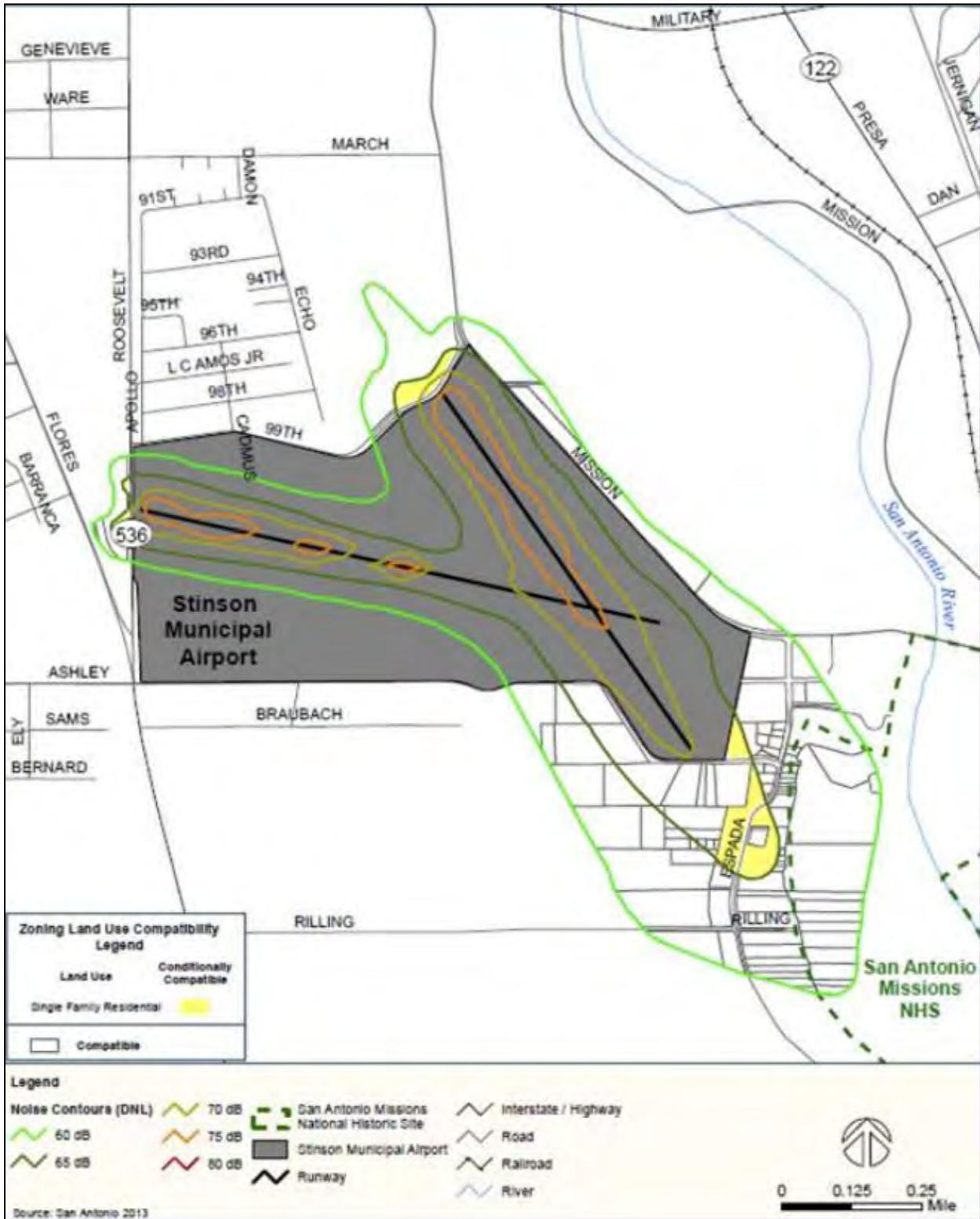
# Seguin Airfield Safety Zones



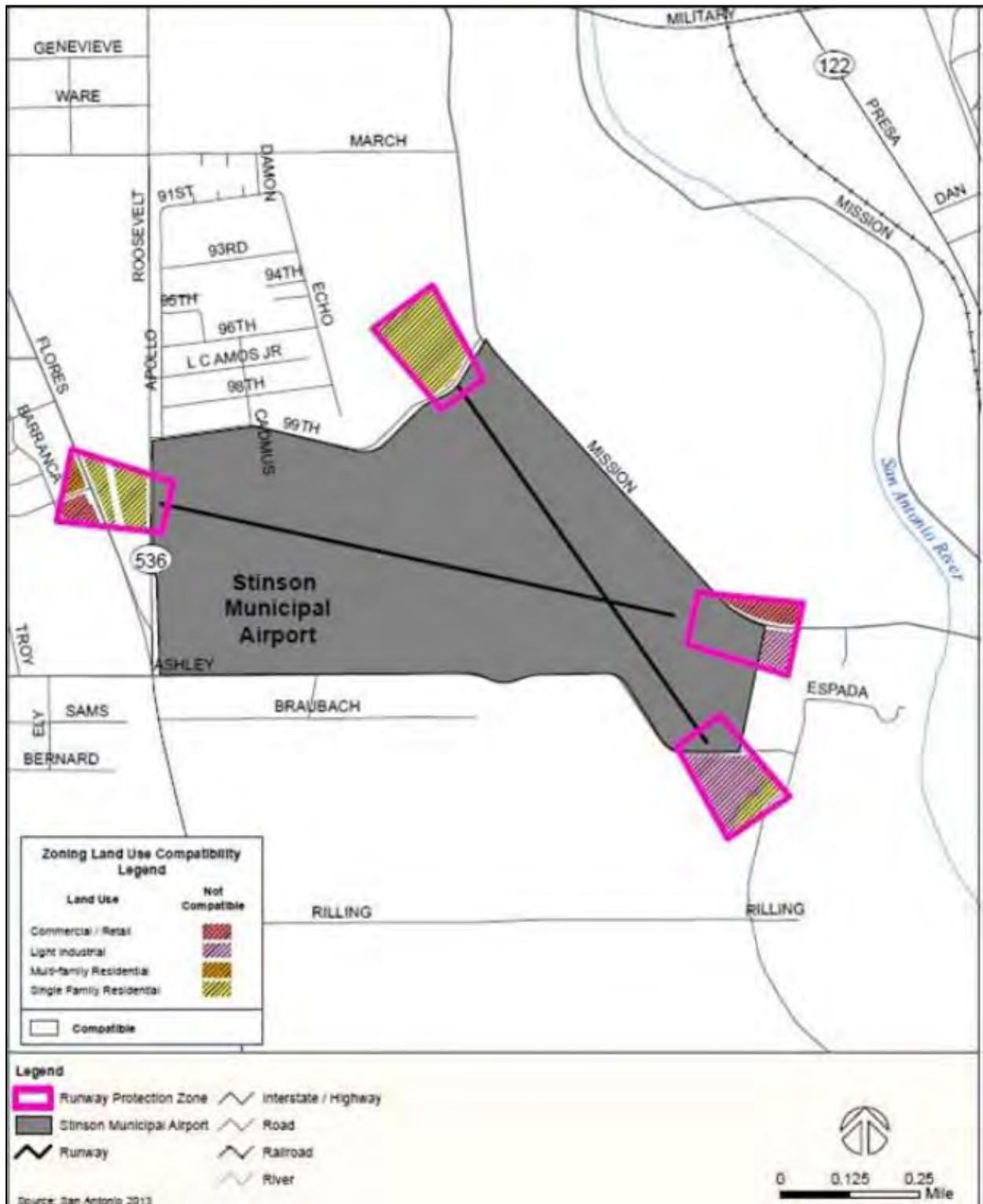
**Seguin Airfield 5-mile BASH Relevancy Area**



# Stinson Municipal Airport Noise Contours



# Stinson Municipal Airport Runway Protection Zones



## Economic Impact – Update Bulletin – of the US Department of Defense in San Antonio, 2009

This publication was published by the City of San Antonio Office of Military Affairs and offers a brief synopsis of the activities related to the 2005 Base Realignment and Closure (BRAC) actions. It states that Fort Sam Houston gained 12,500 new jobs and nearly 10,000 new family members as a result of medical services consolidation at Joint Base San Antonio. Given that several other facilities lost missions, the net gain to the San Antonio area was 8,500 personnel.

## San Antonio Military Economic Impact Study

This study was prepared in 2011 by the SABER Institute for the City of San Antonio's Office of Military Affairs to document the military's economic impact on the community. The study concluded that the military's impact was responsible for:

- Providing a \$27.7 billion economic impact
- Supporting the employment of 189,148 people in the community
- Awarding \$4 billion in local contracts including \$1.5 billion to the SA2020 targeted industries of Aerospace, Biosciences/Healthcare and Information Technology and Cyber Security
- Supporting over 55,000 Department of Defense retirees who reside in the area

## 9.4 Military Stakeholders

Following are just a few of the key military stakeholders in the region. This list does not include Joint Base San Antonio leadership which would vary depending on the mission being discussed.

### City of San Antonio Office of Military Affairs

According to the City's website, the Office of Military Affairs was established in January 2007 with support from the US Department of Defense Office of Economic Adjustment (OEA) to conduct a Growth Management Plan. It has since taken a leadership role in several joint land use studies completed in the region.

### US Department of Defense office of Economic Adjustment

The OEA equips communities with information, procedures, technical and financial assistance related to Base Realignment & Closure, works with communities to minimize the consequences of defense impacts, provides growth management planning assistance to State and local governments, and promotes cooperative planning efforts among military installations and surrounding communities. The OEA was instrumental in founding the City's Office of Military Affairs, as well as funding a growth management plan and several joint land use studies in San Antonio.

### Military Transformation Task Force

The Military Transformation Task Force (MTTF) is a City of San Antonio, Bexar County, and Greater San Antonio Chamber of Commerce initiative to share information and work with the military to enhance mission readiness through a Community-Military Partnership; advocate for the military at a local, state, and national level; and address any impacts that the military may have on our community.

### Texas Military Preparedness Commission

Established in 2003 by the 78th Texas Legislature and placed in the Governor's Office of Economic Development and Tourism in 2009, the mission of the Texas Military Preparedness Commission (TMPC) is to preserve, protect, expand, and attract new military missions, assets, and installations in the state of Texas. Additionally, the TMPC encourages defense related businesses to expand or relocate to Texas. The goal of the TMPC is to make Texas the state of choice for military missions and defense contracts by ensuring the stability of defense communities.

### City Commission on Veterans Affairs

The Commission on Veteran's Affairs is an eleven-member board representing the Mayor and ten City Council Districts. All members must be veterans and may serve no more than three (3) two-year terms. The Commission's mission is to serve the City Council in an advisory capacity on legislative issues affecting the City's military population, both active and retired. It serves as the community's liaison and advocate for veterans' affairs; advises the City Council on issues affecting San Antonio veterans and their families; and makes recommendations for improving services.

## 9.5 Sources

### Publication Sources

"Fort Sam Houston Economic Impact Update," City of San Antonio Office of Military Affairs, March 2009.

"San Antonio Military Economic Impact Study," Strategic Alliance for Business and Economic Research (SABER) Institute, 2011.

"Fort Sam Houston BRAC Transformation," Col. Mary Garr, Commander, US Army Garrison, Fort Sam Houston, March 2010.

"San Antonio BRAC 2005 Growth Management Plan," DiLuzio Group, LLC., September 2008.

"Camp Bullis Joint Land Use Study Final Report," Matrix Design Group, Inc., June 2009.

"Lackland Air Force Base Joint Land Use Study," AECOM, November, 2011.

### Website Sources

[www.samhouston.army.mil](http://www.samhouston.army.mil)

[www.sanantonio.gov/moa](http://www.sanantonio.gov/moa)

[WWW.jbsa-randolphjilus.com](http://WWW.jbsa-randolphjilus.com)