

SCHERTZ ROADWAY IMPACT FEE

LAND USE ASSUMPTIONS

FINAL REPORT

Prepared for:

City of Schertz



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1.0 PURPOSE

Chapter 395 of the Texas Local Government Code prescribes the process by which cities in Texas must formulate impact fees. An initial step in the impact fee development process is the establishment of land use assumptions which address growth and development for a ten-year planning period (TLGC Section 395.001(5)) for the years 2017-2027. These land use assumptions, which also include population and employment projections, will become the basis for the preparation of capital improvement plans for roadway facilities.

Statutory requirements mandate that impact fees be updated (at least) every five years. This report, in conjunction with the roadway capital improvements plan, form the initial key components of an impact fee program.

To assist the City of Schertz in determining the need and timing of capital improvements to serve future development, a reasonable estimation of future growth is required. The purpose of this report is to formulate growth and development projections based upon assumptions pertaining to the type, location, quantity and timing of various future land uses within the community and to establish and document the methodology used for preparing the growth and land use assumptions.

1.1 LAND USE ASSUMPTIONS REPORT ELEMENTS

This report contains the following components:

- **Methodology** - Explanation of the general methodology used to prepare the land use assumptions.
- **Data Collection Zones and Service Area** - Explanation of data collection zones (traffic analysis zones), and division of the city into impact fee service areas for roadway facilities.
- **Historical Data** – Information on historic population trends for Schertz and Guadalupe, Bexar, and Comal Counties.
- **Base Year Data** - Information on population, employment, and land use for Schertz as of 2015 for each roadway service area.
- **Ten-Year Growth Assumptions** - Population and employment growth assumptions for ten years by impact fee service area.
- **Summary** - Brief synopsis of the land use assumptions report.

2.0 METHODOLOGY

Based upon the growth assumptions and the capital improvements needed to support growth, it is possible to develop an impact fee structure which fairly allocates improvement costs to growth areas in relationship to their impact upon the entire infrastructure system. The data in this report has been formulated using reasonable and generally accepted planning principles for the preparation of impact fee systems in Texas.

These land use assumptions and future growth projections take into consideration several factors influencing development patterns, including the following:

- The character, type, density, and quantity of existing development
- Anticipated future land use (City's Future Land Use Plan Map);
- Availability of land for future expansion;
- Current and historical growth trends of population and development within the city;
- Location and configuration of vacant land;
- Growth of employment per the Alamo Area Metropolitan Planning Organization (AAMPO);
- Known or anticipated development projects within the city, as identified by City Staff.

A series of work tasks were undertaken in the development of this report and are described below:

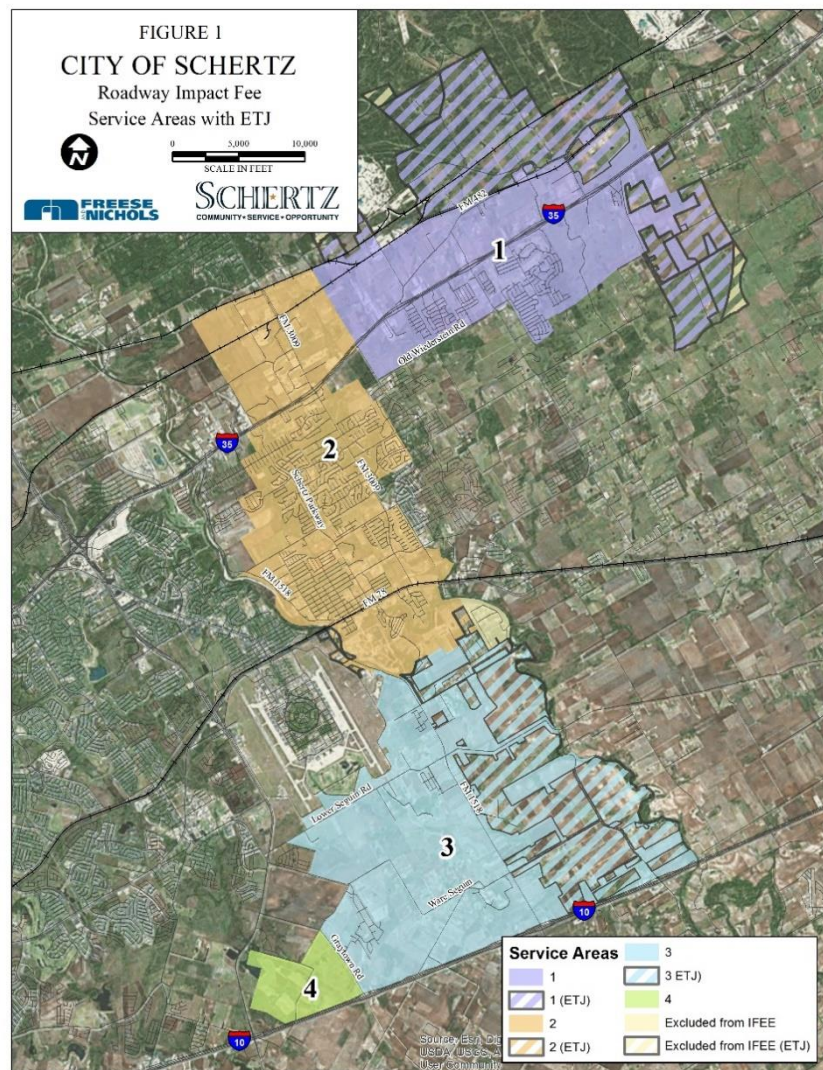
1. A kick-off meeting was held to describe the general methodological approach in the study.
2. Current data of population and housing was collected from the city and other acceptable sources to serve as a basis for future growth.
3. A base year (2017) estimate was developed using city building permit data, U.S. Census and periodic population, household occupancy and household size data, and employment data from AAMPO.
4. A growth rate was determined based upon an analysis of data from recent building permit data, Texas Development Water Board, past growth trends and anticipated development to occur over the next ten-year planning period. A compound annual growth rate of 3.5% is recommended for the planning period.
5. A ten-year projection (2027) was prepared using the recommended growth rate, Staff input, and consideration of the future allocation of population and employment in the AAMPO regional traffic forecast model. Finally, adjustments were then made to consider known or anticipated development activity within the ten-year planning period.

6. Base and ten-year demographics were prepared for the various roadway service areas which, in turn, correlate with the current municipal limits of Schertz.

3.0 ROADWAY SERVICE AREAS

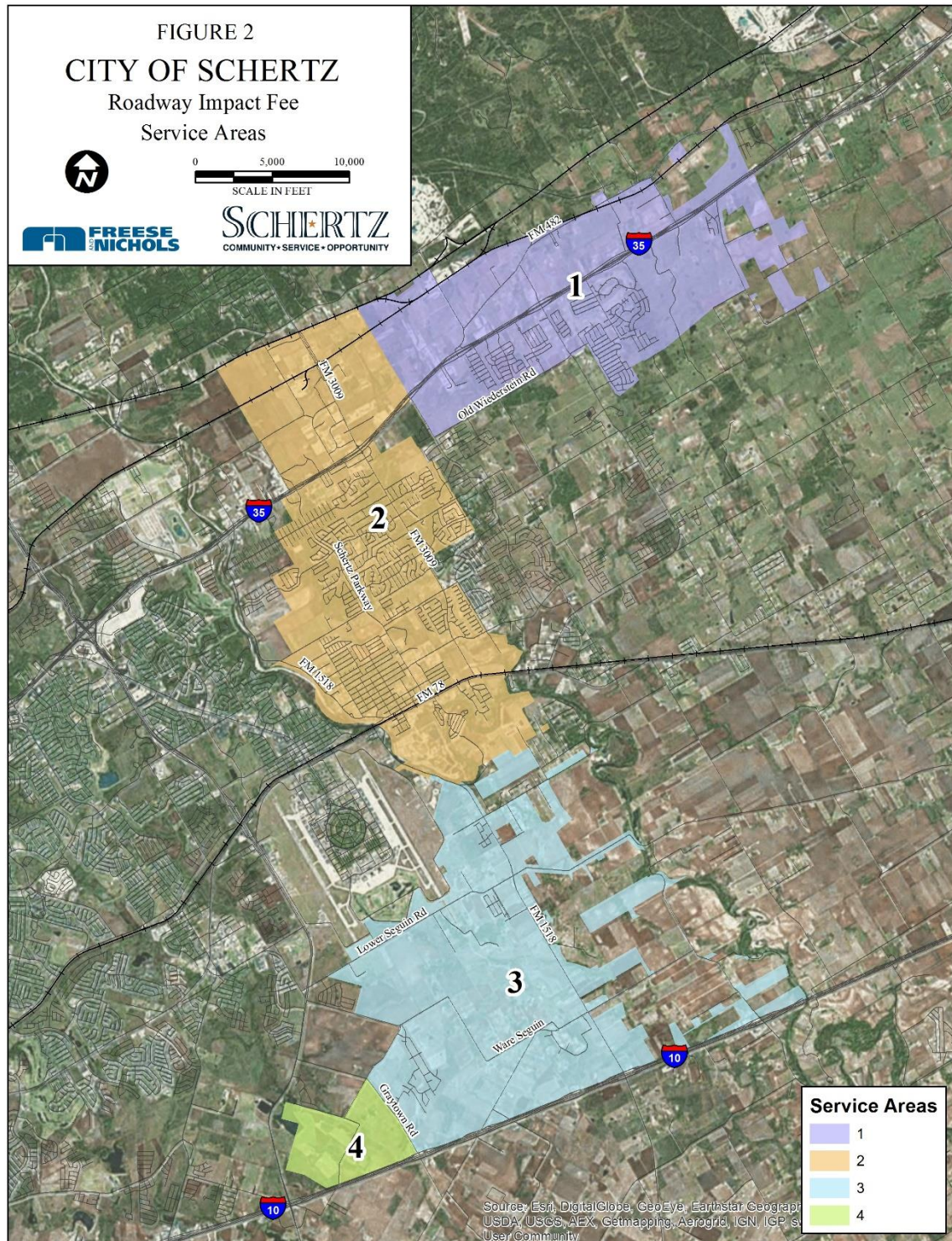
Service areas are required by State Law to define the area served by the Roadway Impact program. Chapter 395 requires that service areas be defined to ensure that facility improvements are located in proximity to the area that is generating needs. Roadway service areas are different from water/wastewater impact fee service areas in that roadway service areas can consider only current city limits but not the extra-territorial jurisdiction (ETJ) while water/wastewater service areas can include both the city limits and ETJ. This is primarily because roadway networks are "open" systems to both local and regional use as opposed to a defined limit of service that is provided within water and wastewater systems. The result is that new development can only be assessed an impact fee based on the cost of necessary capital improvements within that service area.

Chapter 395 stipulates that roadway service areas be limited to a six-mile maximum dimension, but must be limited to within the current city limits. Although the roadway service areas only recognize current municipal limits, an analysis including the ETJ was conducted in order to consider long-term coverage of the ultimate corporate boundaries relative to the six-mile maximum for the impact fee program. **Figure 1** illustrates the roadway impact fee service areas within the ETJ.



3.1 ROADWAY SERVICE AREAS

Figure 2 illustrates the derived service area structure for roadway facilities. These service areas conform to the current city limits of Schertz.



3.2 DATA FORMAT

The existing database, as well as the future projections, was formulated according to the following format and categories:

Service Area Correlates to the roadway service areas identified on the attached map. The city limits serve as the roadway service area boundary.

Housing Units (2017) All living units including single-family, duplex, multi-family and group quarters existing at the middle of 2017. The number of existing housing units has been estimated for the base year (2017) population estimate.

Housing Units (2027) Projected housing units by service zone for the year 2027 (ten-year growth projections).

Population (2017) Existing estimated population for the base year (2017).

Population (2027) Projected population by service zone for the year 2027 (ten-year growth projection).

Employment (2017-27) Employment data is aggregated to three employment sectors and include Basic, Retail and Service, as provided by AAMPO. These service sectors serve as the basis for nonresidential trip generation. The following details which types of businesses fall within each of the three sectors.

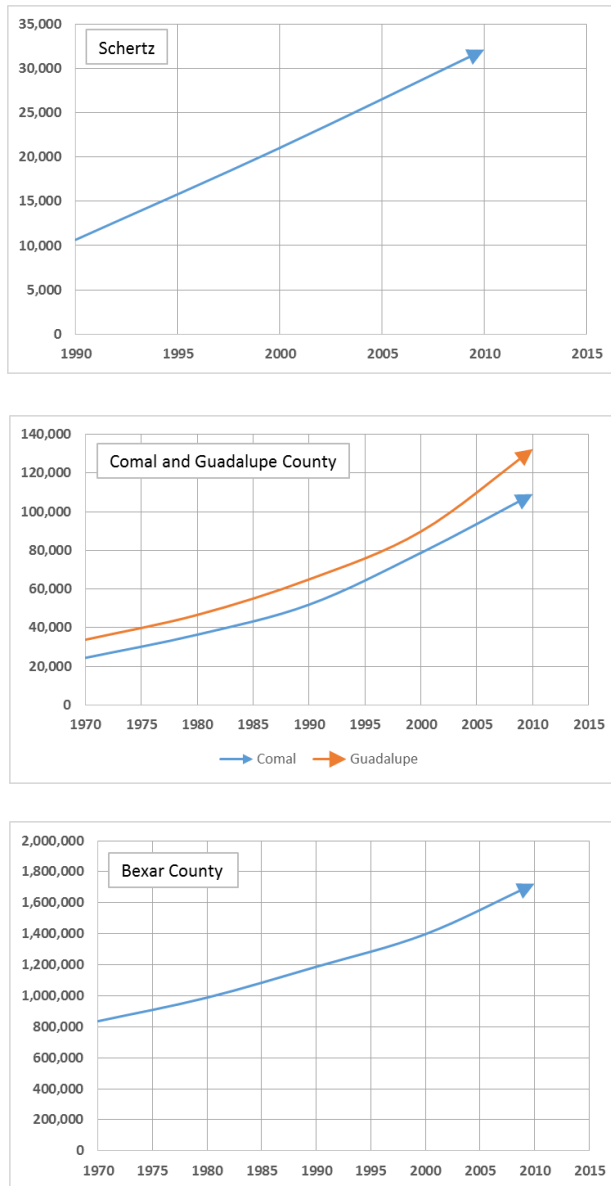
Service -- Land use activities which provide personal and professional services such as financial, insurance, government, and other professional and administrative offices.

Retail -- Land use activities which provide for the retail sale of goods that primarily serve households and whose location choice is oriented toward the household sector such as grocery stores, restaurants, etc.

Basic -- Land use activities that produce goods and services such as those that are exported outside the local economy; manufacturing, construction, transportation, wholesale trade, warehousing and other industrial uses.

AAMPO prepares employment estimates at the Traffic Analysis Zone (TAZ) level, but some adjustments were needed to consider areas within the limits of the city.

Figure 3: Historic Population Growth; City of Schertz, Comal County and Guadalupe County, and Bexar County



4.0 HISTORICAL DATA

Schertz is located approximately 16 miles northeast of downtown San Antonio and lies in Guadalupe, Bexar, and Comal Counties. Over the past several years, the Alamo Area region has experienced steady population and employment growth.

Figure 3 depicts the historic population growth for the City of Schertz and Comal, Guadalupe, and Bexar Counties. Comal and Guadalupe Counties have maintained steady growth over the last 40 years with compound annual growth rates (CAGR) around 3.5 percent. Meanwhile, Bexar County, which encompasses the City of San Antonio has maintained a slower growth rate of 1.8 percent.

The City of Schertz's population statistics begin in 1990. Between 1990 and 2010, population growth was steady with a CAGR between 3.5 and 4.5 percent. All indicators suggest that the city and regional population growth will continue in the near future.

5.0 BASE YEAR DATA

This section provides information and documents the data used to derive the 2017 base year population estimate for the City of Schertz.

5.1 POPULATION GROWTH

One method of predicting future growth is looking at past growth. Schertz has experienced steady growth over the past decade. Past growth trends from the U.S. Census were examined in conjunction with single family building permit data from the city (**Figure 4**).

The city estimates a 2016 population estimate of 39,453 residents in Schertz using the U.S. Census Intercensal population data of previous years.

5.2 POPULATION GROWTH RATE

A compound annual growth rate (CAGR) allows for a general assessment of growth, considering periodic increases and decreases in residential population growth coinciding with changing economic conditions. Various sources were used to derive past growth rates (**Table 1**). These sources indicated rates of growth between 2.6 and 4.1 percent. Based upon this data, analysis

Figure 4: Schertz Population Growth Trends

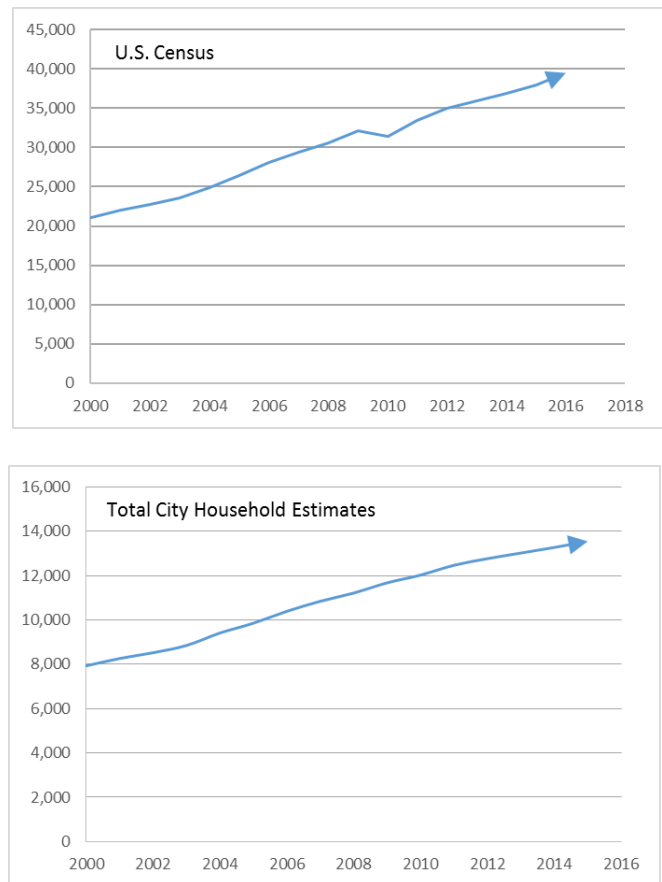


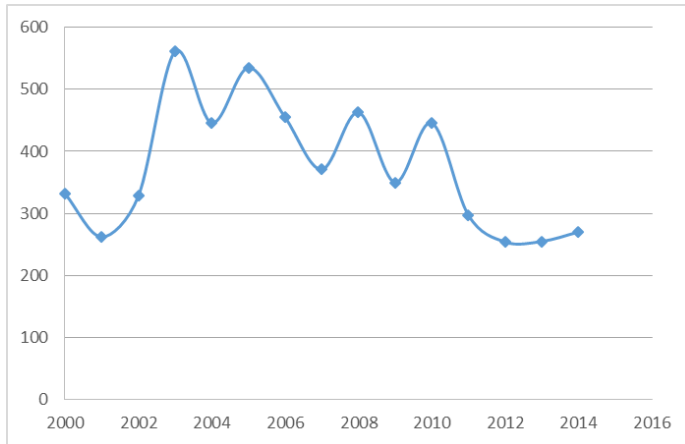
Table 1: Growth Rates

Source	Growth
Building Permit (5-Year)	2.6%
Building Permit (10-Year)	3.5%
U.S. Census (5-Year)*	3.4%
U.S. Census (10-Year)**	3.5%
City Projections (Low)	2.6%
City Projections (Mid)	3.4%
City Projections (High)	4.1%
Future Growth Projection	3.5%

*CAGR Based on 2011-2016 Intercensal Data

**CAGR Based on 2006-2016 Intercensal Data

Figure 5: Historic New Building Permits



Source: City of Schertz Building Permits

Table 2. Regional Growth Comparison

Year	TWDB	Parks Plan	City Projections
2020	43,083	44,505	45,000
2030	57,899	57,330	60,000
2040	69,106	70,155	67,500
2050	80,370	-	75,000

of 10-year forecasts, and City Staff input, a 3.5 percent compound annual growth rate was determined to be an appropriate assumption for the 10-year study period. It is believed to account for periods of rapid and stable growth expected to occur in the future. This rate was recommended by the Schertz Capital Improvements Advisory Committee on May 13, 2015.

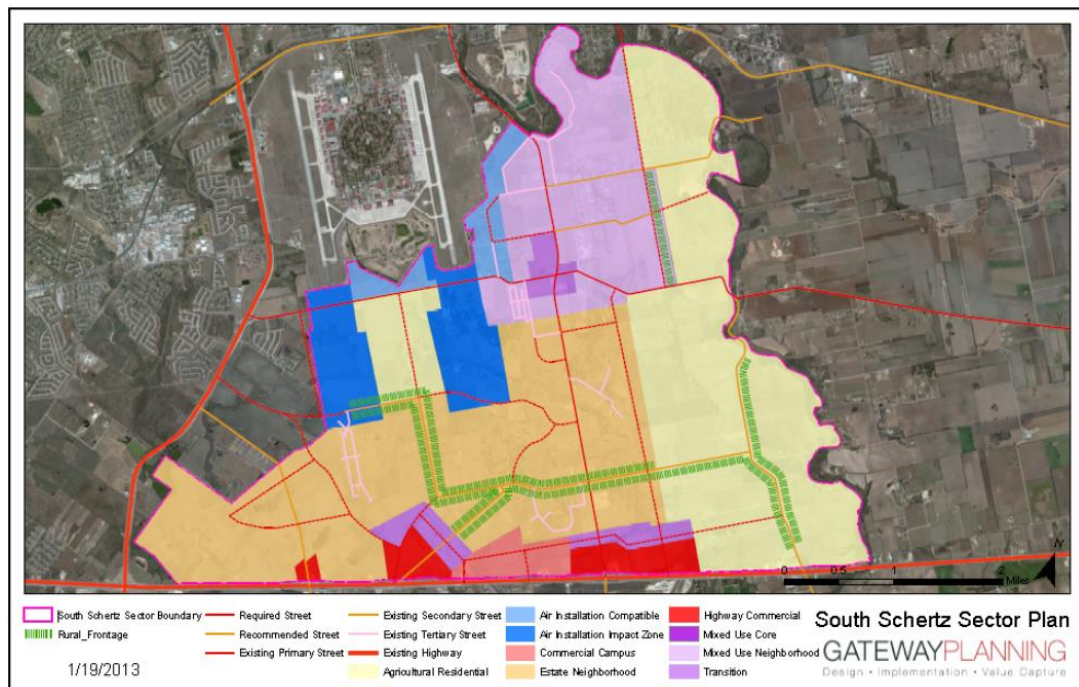
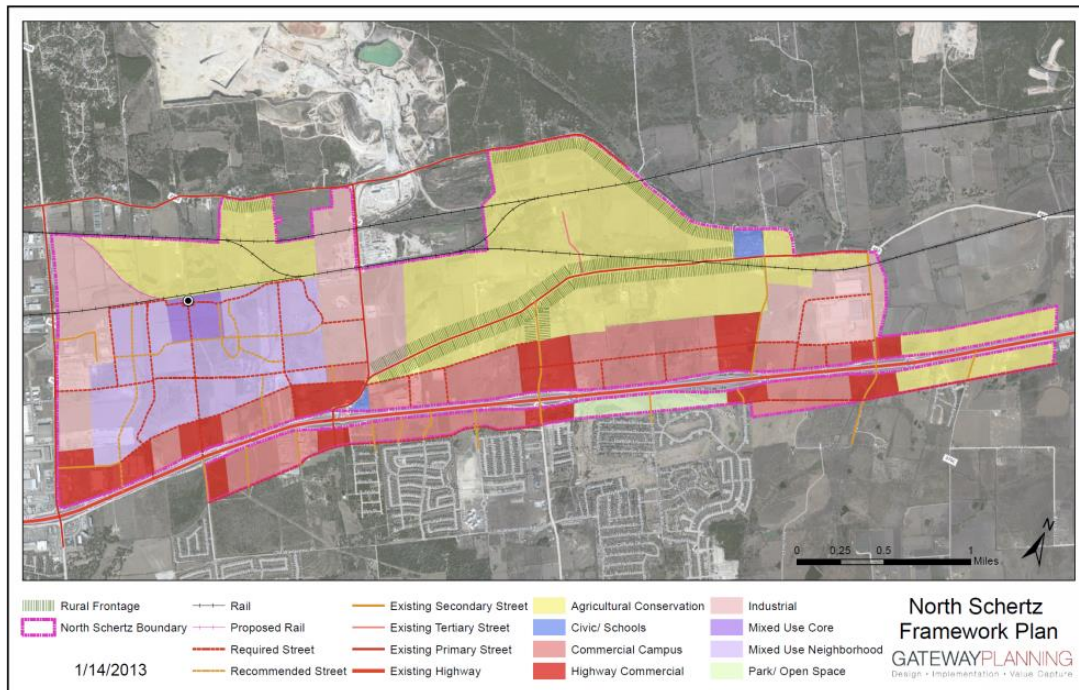
5.3 ADDITIONAL GROWTH INDICATORS

Residential building permit data is also an indicator of recent growth trends. Cumulative single family residential building permits issued since 2000 are shown in **Figure 5**. Annual single family residential building permits are shown to the left, depicting the overall trend in annual permits. Although building permits issued decreased after 2003, the issuance has remained steady over the last few of years. From 2011 to 2016, the trend shows a rate that will maintain permit issuance and growth in the future.

Local population projections shown in **Table 2** indicate that growth will continue in Schertz in the future. These population projections from the Texas Water Development Board (TWDB), City of Schertz Parks Plan and City of Schertz Population Projections indicate robust growth is likely and will continue for the next 35 years.

5.4 EXISTING LAND USE

In any evaluation and projection of future land use patterns, a documentation of existing conditions is essential. Analysis of existing land use patterns was prepared based on Schertz's 2013 Sector Plan and 2002 Comprehensive Plan, which includes current city limits and the ETJ. This also serves to document the present physical condition of the city with regard to any infrastructure deficiencies that may exist.

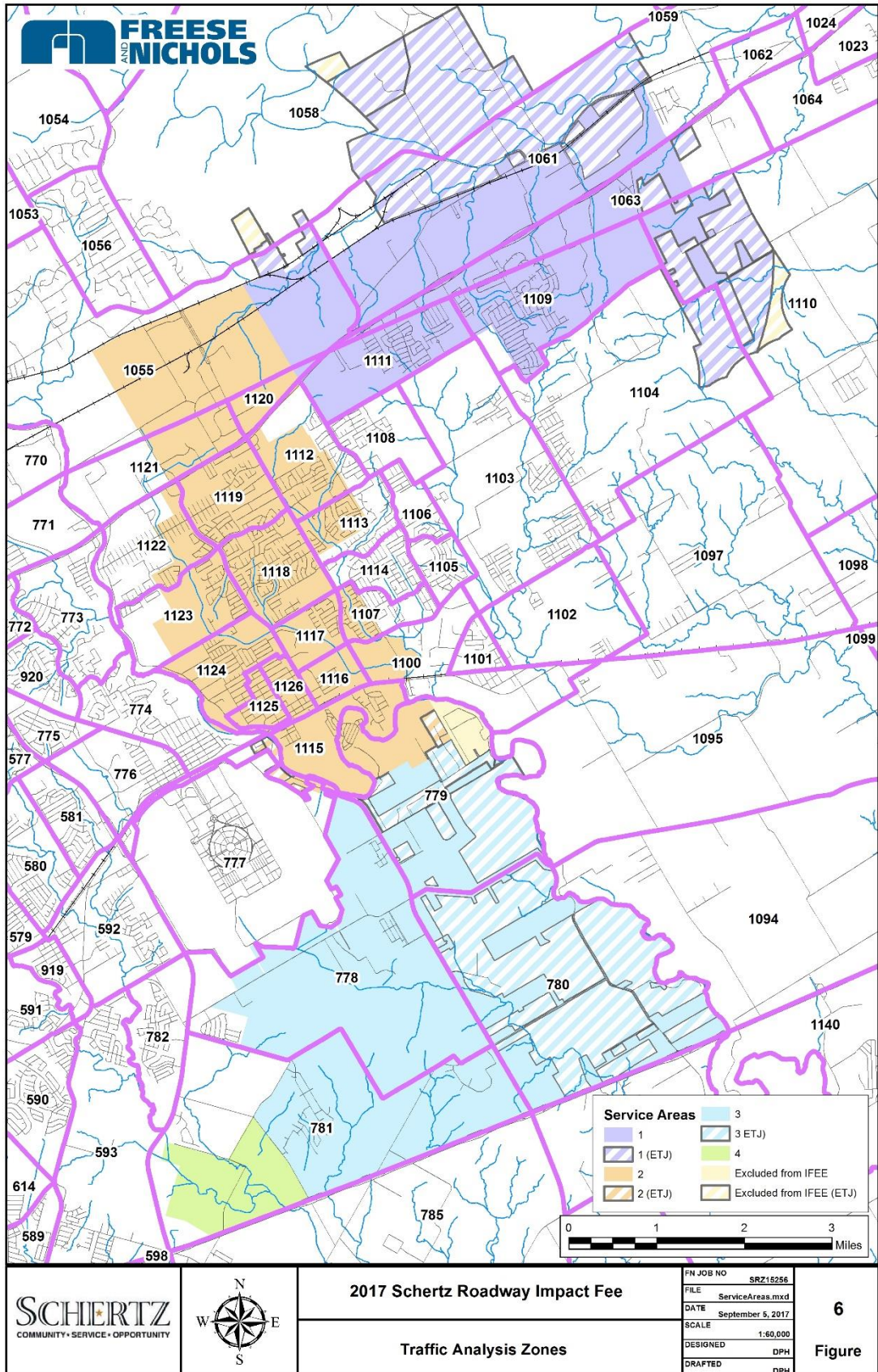


5.5 2017 EMPLOYMENT

2017 base employment was calculated using data from AAMPO. This information provided a breakout of employment by Traffic Analysis Zone (TAZ) for 2010. **Figure 6** shows the location of the TAZs in each service area. For assumption purposes, these numbers were grown uniformly with specific adjustments made to TAZs to match estimates provided by the city. It is important to note that the TAZs do not follow city limits in some locations, so adjustments were made based on the locations of existing land uses and upon the percentage of each TAZ located within city limits. AAMPO employment data was categorized as basic, retail, and service (see page 6 for a description of the employment categories). Using this data, the total employment could be found for basic, retail and service businesses in each service area (SA). **Table 3** details 2017 employment within Schertz's city limits for each TAZ.

Table 3. 2017 Employment by Service Area

SA	TAZ	2017			
		Basic	Retail	Service	Total
1	1055	359	29	109	497
	1061	573	88	277	938
	1063	75	40	119	234
	1120	62	149	26	237
	1111	49	101	66	216
	1109	0	61	21	82
	1110	2	0	0	2
	Total	1,120	468	618	2,206
2	1055	728	60	132	920
	1121	1,266	256	490	2,012
	1120	249	597	102	948
	1122	18	65	10	93
	1119	187	575	270	1,032
	1112	4	211	123	338
	1113	2	4	50	56
	1118	29	226	249	504
	1123	11	0	26	37
	1124	343	62	171	576
	1117	19	51	682	752
	1107	0	8	30	38
	1125	22	4	97	123
	1126	22	50	186	258
	1116	83	55	61	199
	1100	138	33	54	225
	1115	166	190	118	474
	779	0	2	0	2
	Total	3,287	2,449	2,851	8,587
3	779	26	38	6	70
	778	9	0	32	41
	780	144	30	0	174
	781	53	40	30	123
	Total	232	108	68	408
4	781	0	0	0	0
	Total	0	0	0	0
Total		4,639	3,025	3,537	11,201



6.0 TEN-YEAR GROWTH ASSUMPTIONS

Projected growth has been characterized in two forms: population and employment. A series of assumptions were made to arrive at reasonable growth rates for population and employment. The following assumptions have been made as a basis from which ten-year projections could be initiated.

- Future land uses will occur based on similar trends of the past and consistent with the Future Land Use Plan Map,
- The city will be able to finance the necessary improvements to accommodate growth,
- School facilities will accommodate increases in population, and
- Densities will be as projected in the Sector Plans.

The ten-year projections are based upon the 3.5 percent growth rate discussed earlier and considers past trends of the city. This rate corresponds with the historical average growth rate and the amount of growth expected over the next ten years. **Table 4** details the ten-year population projection.

Table 4. Year 2017 and 2027 Service Area Population and Dwelling Units

Service Area	2017		2027	
	Dwelling Units	Population	Dwelling Units	Population
1	3,300	9,239	4,361	12,211
2	10,100	28,280	11,489	32,169
3	1,003	2,809	4,448	12,454
4	4	11	24	68
	14,407	40,339	20,322	56,902

6.1 POPULATION 2027

The city has experienced steady growth over the past decade. The city's 2000 population stood at just over 18,000 residents. By the end of the decade, Schertz's population neared 32,000 in 2010 and a current 2017 estimate of 40,339. Although population estimates from the ETJ cannot be taken into account when calculating land use assumptions, the growing population within the ETJ should be monitored as the city plans its future. Using a 3.5 percent compound annual growth rate, the projected 2027 population for the city is 56,902 (Figure 7).



Figure 7: Ten-Year Population Growth Projection

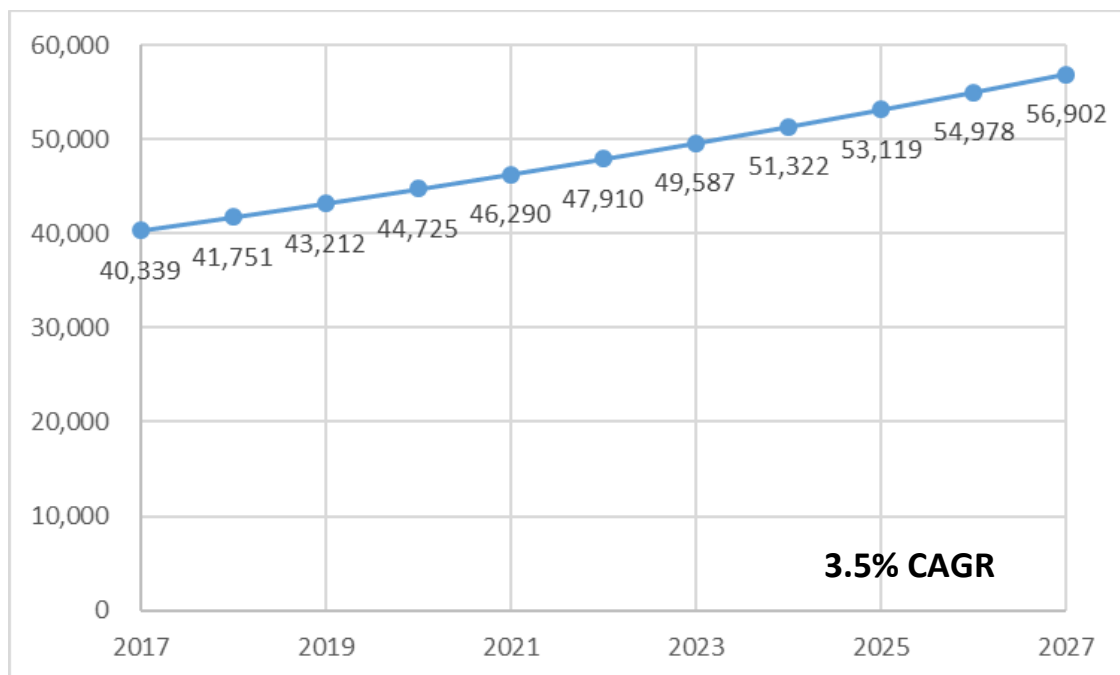
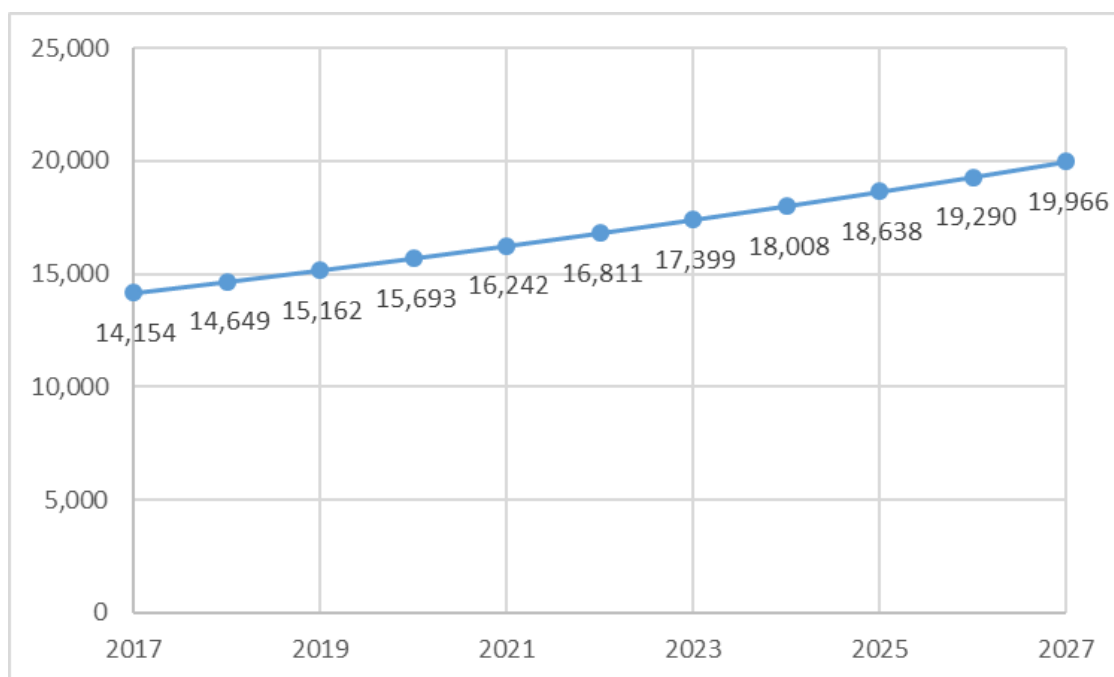


Table 5: Projected Dwelling Unit Estimations

Year	Dwelling Units	New Building Permits
2017	14,154	-
2018	14,649	495
2019	15,162	513
2020	15,693	531
2021	16,242	549
2022	16,811	568
2023	17,399	588
2024	18,008	609
2025	18,638	630
2026	19,290	652
2027	19,966	675

Avg. No. of Annual Permits: 581

Building permit calculations were derived using the U.S. Census information of 2.85 persons per household and base year population estimate. Between 2004 and 2014, the city issued an average of 377 building permits a year with the highest number of permits, 535, being issued in 2005 and the lowest number of permits, 254, issued in 2012. The city may average 581 new dwelling units a year over the next ten-year period (**Table 5** and **Figure 8**). This average number is reflective of the type of construction which would likely occur based upon population projections and are accounting for both single-family and multi-family construction.

Figure 8: Projected Dwelling Unit Estimations

An additional factor affecting overall population growth within Schertz is the construction of The Crossvine, a planned development in the southern sector of Schertz east of FM 1518. The master plan for this area includes between 2,300 and 2,400 single-family homes.

The Crossvine Development



The City has been reviewing its Comprehensive Plan and Future Land Use Plan in the area to the west of the Crossvine. This area is south of Randolph Air Force Base and is impacted by restrictions based on the Air Impact Compatible Use Zones (AICUZ) as outlined in the Joint Base San Antonio (JBSA) Randolph Joint Land Use Study (JLUS). The recently updated JBSA Randolph JLUS recommends significantly reduced residential densities for this area. Additionally, a lack of sewer capacity and concerns about allowing septic systems on half acre lots will likely reduce densities in this area from what is designated on the Future Land Use Plan. As sewer capacity is provided to the area to the east of FM 1518 pressure for corresponding increases in densities will likely continue to be experienced. Continuing residential development pressure in the northern part of Schertz, along IH-35 as well as pressure along IH-35 from New Braunfels in the north will impact the distribution of development, resulting in population and employment growth, around the City.

6.2 EMPLOYMENT 2027

Employment data for the year 2027 was based upon data provided by AAMPO and the City of Schertz. Data from AAMPO in the years 2025 and 2040 was used to interpolate the projected year 2027. The data was then adjusted to match growth rate and allocation expectations by the City. The 2027 employment by TAZ as listed in **Table 6**.

It is important to note that TAZs do not follow city limits. City Staff input was received to verify employment assumptions in each TAZ regarding known or anticipated development to occur, projections of future land use needs and employee projections within each TAZ located within city limits. The employment numbers in **Table 6** show the derived employment of each TAZ within Schertz's municipal boundary. Over 5,000 jobs are forecasted to be added to the city over the ten-year planning period and represents an increase of 45 percent. This increase corresponds to an annual growth rate of 3.8 percent.

Table 6. 2025 Employment by Service Area

SA	TAZ	2027			
		Basic	Retail	Service	Total
1	1055	800	63	244	1,107
	1061	740	105	560	1,405
	1063	149	73	245	467
	1120	53	103	49	205
	1111	41	332	28	401
	1109	0	58	38	96
	1110	31	51	49	131
	Total	1,814	785	1,213	3,812
2	1055	1,623	229	647	2,499
	1121	1,432	288	493	2,213
	1120	212	413	197	822
	1122	80	29	4	113
	1119	530	647	191	1,368
	1112	45	237	205	487
	1113	7	10	54	71
	1118	39	451	271	761
	1123	281	0	28	309
	1124	266	56	156	478
	1117	17	211	494	722
	1107	0	57	24	81
	1125	55	37	95	187
	1126	53	74	147	274
	1116	94	50	79	223
	1100	123	32	51	206
	1115	150	139	124	413
	779	31	36	10	77
	Total	5,038	2,996	3,270	11,304
3	779	72	83	24	179
	778	29	0	26	55
	780	394	121	42	557
	781	102	136	82	320
	Total	597	340	174	1,111
4	781	0	0	20	20
	Total	0	0	20	20
Total		7,449	4,121	4,677	16,247

7.0 SUMMARY

- The existing 2017 population for Schertz stands at approximately 40,339 persons, with an existing estimated employment of 11,201 jobs.
- An average annual growth rate of 3.5 percent was used to calculate the Schertz ten-year growth projections. This growth rate is based upon the State Water Board Projections, the Parks Plan, City forecasts, historical U.S. Census data, as well as Building Permit information received from the City.
- Ten-year (2027) population growth is forecasted to be 56,902 persons, with an employment of 16,247 jobs.

Table 7. Land Use Assumptions 2017-2027 Summary

	2017	2027	Total Increase	Annual Growth Rate
Population				
Schertz Total	40,339	56,902	16,563	3.5%
Service Area 1	9,239	12,211	2,972	2.8%
Service Area 2	28,280	32,169	3,889	1.3%
Service Area 3	2,809	12,454	9,645	16.1%
Service Area 4	11	68	57	20.0%
Dwelling Units				
Schertz Total	14,407	20,322	5,915	3.5%
Service Area 1	3,300	4,361	1,061	2.8%
Service Area 2	10,100	11,489	1,389	1.3%
Service Area 3	1,003	4,448	3,445	16.1%
Service Area 4	4	24	20	20.0%
Employment				
Schertz Total	11,201	16,247	5,046	3.8%
Service Area 1	2,206	3,812	1,606	5.6%
Basic	1,120	1,814	694	4.9%
Retail	468	785	317	5.3%
Service	618	1,213	595	7.0%
Service Area 2	8,587	11,304	2,717	2.8%
Basic	3,287	5,038	1,751	4.4%
Retail	2,449	2,996	547	2.0%
Service	2,851	3,270	419	1.4%
Service Area 3	408	1,111	703	10.5%
Basic	232	597	365	9.9%
Retail	108	340	232	12.2%
Service	68	174	106	9.9%
Service Area 4	0	20	20	-
Basic	0	0	0	-
Retail	0	0	0	-
Service	0	20	20	-

