



Land Use Assumptions For Impact Fees

2013 ROADWAY &
WATER/WASTEWATER
FEE UPDATE

MAY 13, 2014

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TABLE OF CONTENTS

FOREWORD	1
PURPOSE	1
Elements of the Land Use Assumptions Report	1
METHODOLOGY	2
Land Use Assumptions Report Elements	2
DATA COLLECTION ZONES AND SERVICE AREAS.....	3-7
Data Collection Zones	3
Service Areas.....	4
Roadway Service Areas	5
Summary of Data	7
BASE YEAR DATA	7-10
Population Growth.....	8
Population Growth Rate	9
Additional Growth Indicators.....	9
Existing Land Use	10
Existing Employment	10
TEN-YEAR GROWTH ASSUMPTIONS.....	11-12
Population 2023.....	11
Employment 2023.....	12
BUILD OUT PROJECTIONS.....	13
Roadway Impact Fee Service Area	
Water/Wastewater Impact Fee Service Area	
SUMMARY	14
APPENDIX A	16-17
Housing, Population & Employment Data	
By Roadway Fee Service Area	16
APPENDIX B	18
Housing, Population & Employment Data	
By Water/Wastewater Impact Fee Service Area	18
APPENDIX C	19-20
Employment Breakdown Data	
By Roadway Impact Fee Service Areas	19
APPENDIX D.....	21
Employment Breakdown Data	
By Roadway Impact Fee Service Areas	21

FORWARD

IMPACT FEES are charges imposed against new development to generate revenue for or recoup the cost of capital facilities (or infrastructure) necessitated by and attributed to new development. These fees are generally implemented to reduce the economic burden of a municipality when addressing the need for adequate capital improvements to accommodate growth.

PURPOSE

Chapter 395, *Financing Capital Improvements Required by New Development in Municipalities, Counties, and Certain Other Local Governments*, of the Texas Local Government Code outlines the process for adopting and updating impact fees for political subdivisions. On April 21, 2008 the City of Rockwall adopted roadway and water/wastewater impact fees per Ordinance No. 08-21. According to the statutory requirements stipulated by the Texas Local Government Code impact fees are required to be updated a minimum of every five (5) years [*§395.052*].

In approaching an update to existing impact fees it is important for a city to assess its growth and employment potential and establish land use assumptions that will guide development for a ten (10) year planning period (i.e. 2013-2023) [*§395.001(5)*]. These land use assumptions form the basis for the preparation of the *Impact Fee Capital Improvement Plan* for water, wastewater and roadway facilities.

In order to determine the need and timing of capital improvements to serve future development, a rational estimate of future growth is required. The purpose of this report is to formulate growth and employment projections based upon assumptions pertaining to the type, location, quantity and timing of future development within the city, and to establish and document the methodology used for preparing these land use assumptions.

ELEMENTS OF THE LAND USE ASSUMPTIONS REPORT

This report contains the following components:

- ☑ Methodology: This component of the report contains the systematic and theoretical analysis of the methods and principals used to prepare the projections and land use assumptions contain within this report.
- ☑ Service Areas and Data Collection Zones: This component provides an explanation of the data collection zones (i.e. Traffic Survey Zones [TSZ]) and the Roadway, Water and Wastewater Impact Fee Service Areas for capital facilities.
- ☑ Base Year Data: This component provides information on population, housing and employment in the City of Rockwall as of 2013 for each capital facility service area.
- ☑ Ten-Year Growth Assumptions: This component provides assumptions with respect to the population, housing and employment for the City of Rockwall in ten (10) years (i.e. 2023). This information is broken out by capital facility service area.
- ☑ Build Out Assumptions: This component provides projections for population, housing and employment under the assumption that the City and its Extraterritorial Jurisdiction (ETJ) are completely developed, or *Built Out*.
- ☑ Summary: This component provides a synopsis of the land use assumptions contained within this report.
- ☑ Appendix: This component contains information that was important in deriving the population, housing and employment projections for 2013-2023.

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.

These land use assumptions and future growth projections take into consideration several factors influencing development patterns. These factors include:

- ☑ The character, type, density and quantity of existing development.
- ☑ The current zoning patterns and anticipated future land uses as established in the Comprehensive Plan (i.e. the *City's Future Land Use Plan Map*).
- ☑ The availability of land to support future expansion of development.
- ☑ The current and historical growth trends of both population and employment within the City.
- ☑ The location and configuration of vacant parcels of land and their ability to support development.
- ☑ The growth of employment utilizing previously established and generally accepted data (i.e. North Central Texas Council of Governments [NCTCOG] 2010 & 2015 Employment Projections).
- ☑ Local knowledge concerning future development projects or anticipated development within the city.

LAND USE ASSUMPTIONS REPORT ELEMENTS

The following is the general methodology that was used for the preparation of this report:

1. Population, housing and employment data was collected from the United States Census Bureau, North Central Texas Council of Governments (NCTCOG), the City of Rockwall Geographical Information Systems (GIS) Department, the City of Rockwall Building Inspection Department and other acceptable sources. This information was then analyzed and used to provide base information for all service areas from which projections could be extrapolated [see *Service Areas and Data Collection Zones*].
2. The base year (i.e. 2013) estimates for housing, population and employment were calculated based on the information collected [see *Base Year Data*].
3. From the base year and the information gathered from various sources a growth rate was established by examining recent building permit information, past growth trends and anticipated development over the next ten (10) years. This growth rate was then applied to each of the impact fee service areas to project the base year data over the ten (10) year planning period (i.e. 2013-2023) [see *Ten Year Growth Assumptions*].
4. After the projections for housing, population and employment were prepared for the ten (10) year planning period city staff made adjustments to account for known or anticipated development activity within the planning periods. In making these adjustments city staff took into consideration the recommendations made within the 2012 Rockwall Comprehensive Plan Update, existing public works data, economic information provided by the Rockwall Economic Development Corporation (REDC) and demographic information provided by the GIS and Building Inspections Departments.
5. Finally, the City's *Build Out* projections for housing, population and employment were calculated by establishing the City's carrying capacity in terms of developable acres and projecting population forward using the previously established Compound Annual Growth Rate (CAGR) to establish a *Build Out Year*. The housing and employment information were then projected to the *Build Out Year* [see *Build Out Projections*].

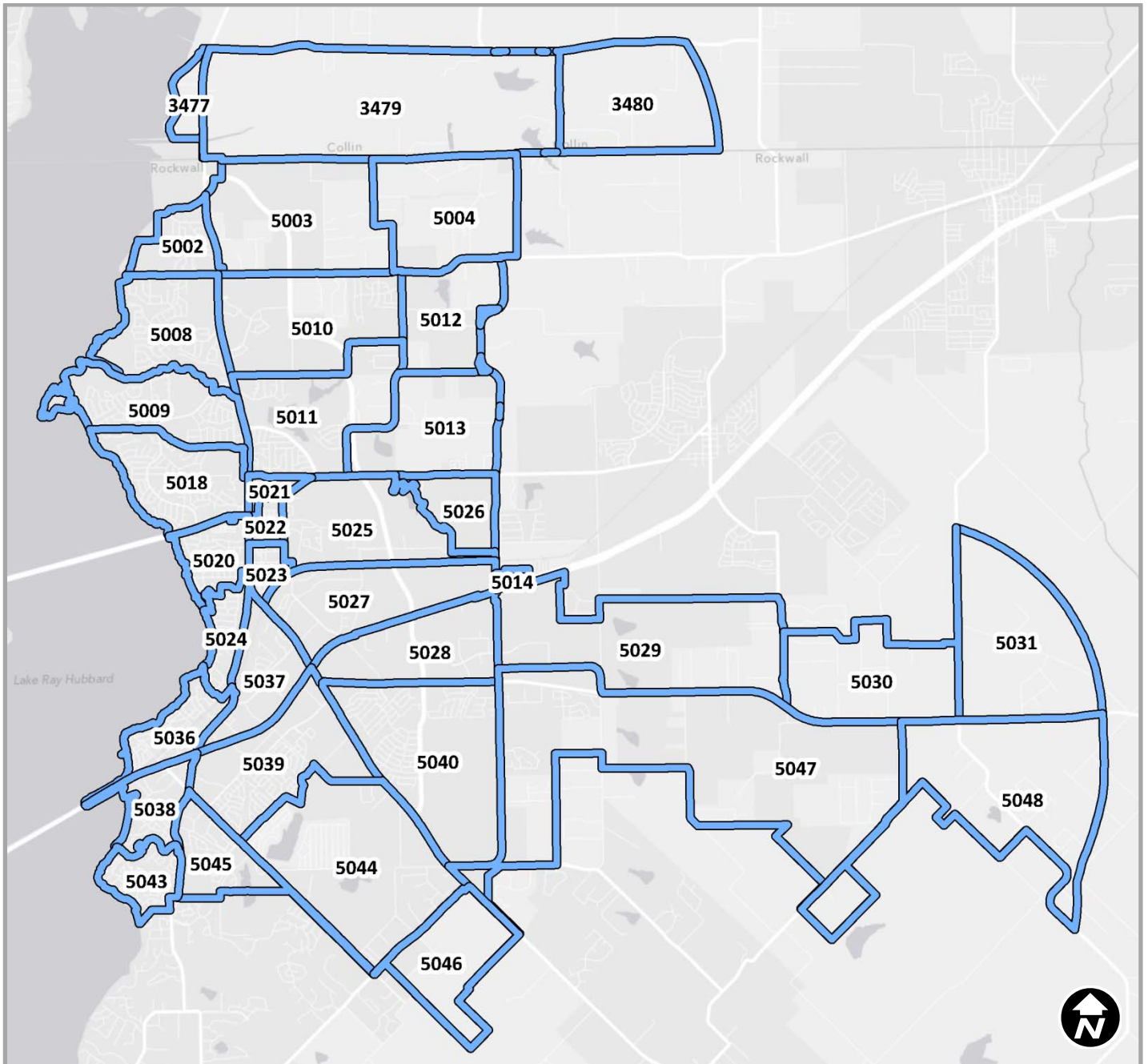
DATA COLLECTION ZONES AND SERVICE AREAS

DATA COLLECTION ZONES

The *Data Collection Zones* used for this study were the North Central Texas Council of Government's (NCTOG's) Traffic Survey Zones (TSZs). A TSZ is a small geographic area developed by the NCTOG to serve as the basis for the regional TransCAD travel demand model and for the purpose of performing various other regional planning activities. TSZ's were originally formulated on the basis of homogeneity and traffic generation potential using major arterials, creeks, railroad lines and other physical boundaries for delineation. It should be noted that several TSZ's were adjusted in the calculations because portions include areas outside of the City limits.

FIGURE 1: TRAFFIC SURVEY ZONES (TSZs)

Note: The TSZs below have been clipped to the Extraterritorial Jurisdiction (ETJ)



SERVICE AREAS

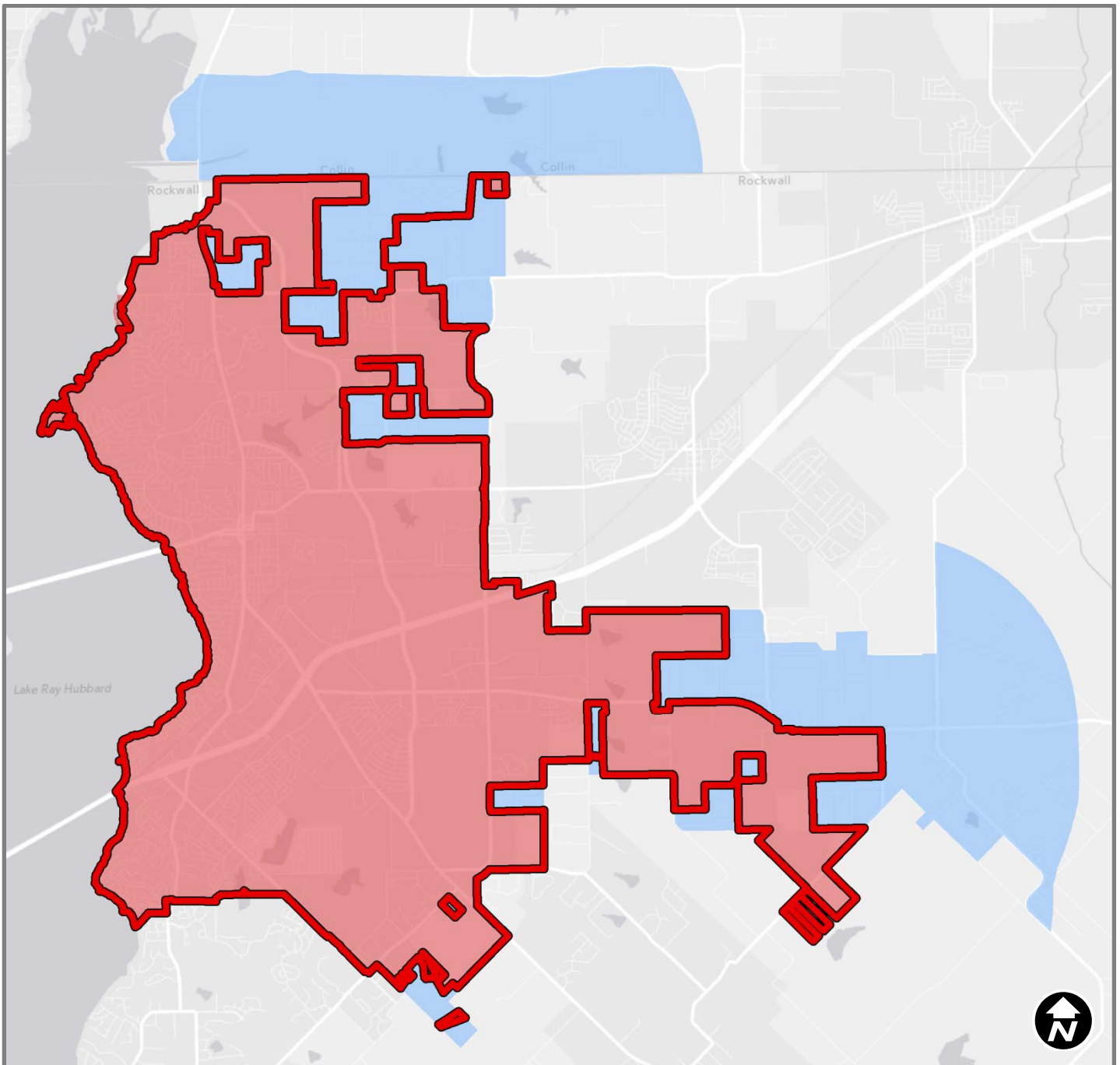
The Texas Local Government Code (TLGC) requires that services areas be established within the corporate boundaries of a political subdivision for the purpose of ensuring that the capital improvements service the areas generating need. The boundaries for impact fees are defined as follows:

Roadway Impact Fees refers to a service area that is limited to the corporate boundaries of a political subdivision or city, and cannot extend into the Extraterritorial Jurisdiction (ETJ) or for a distance exceeding more than six (6) miles. The City of Rockwall is divided into four (4) service areas that are depicted in *Figure 3 on Page 5*.

Water and Wastewater Impact Fees refers to a service area that includes a city's corporate boundaries and Extraterritorial Jurisdiction (ETJ). This service area is depicted in *Figure 4 on Page 6*.

FIGURE 2: CITY OF ROCKWALL CITY LIMITS AND EXTRATERRITORIAL JURISDICTION (ETJ)

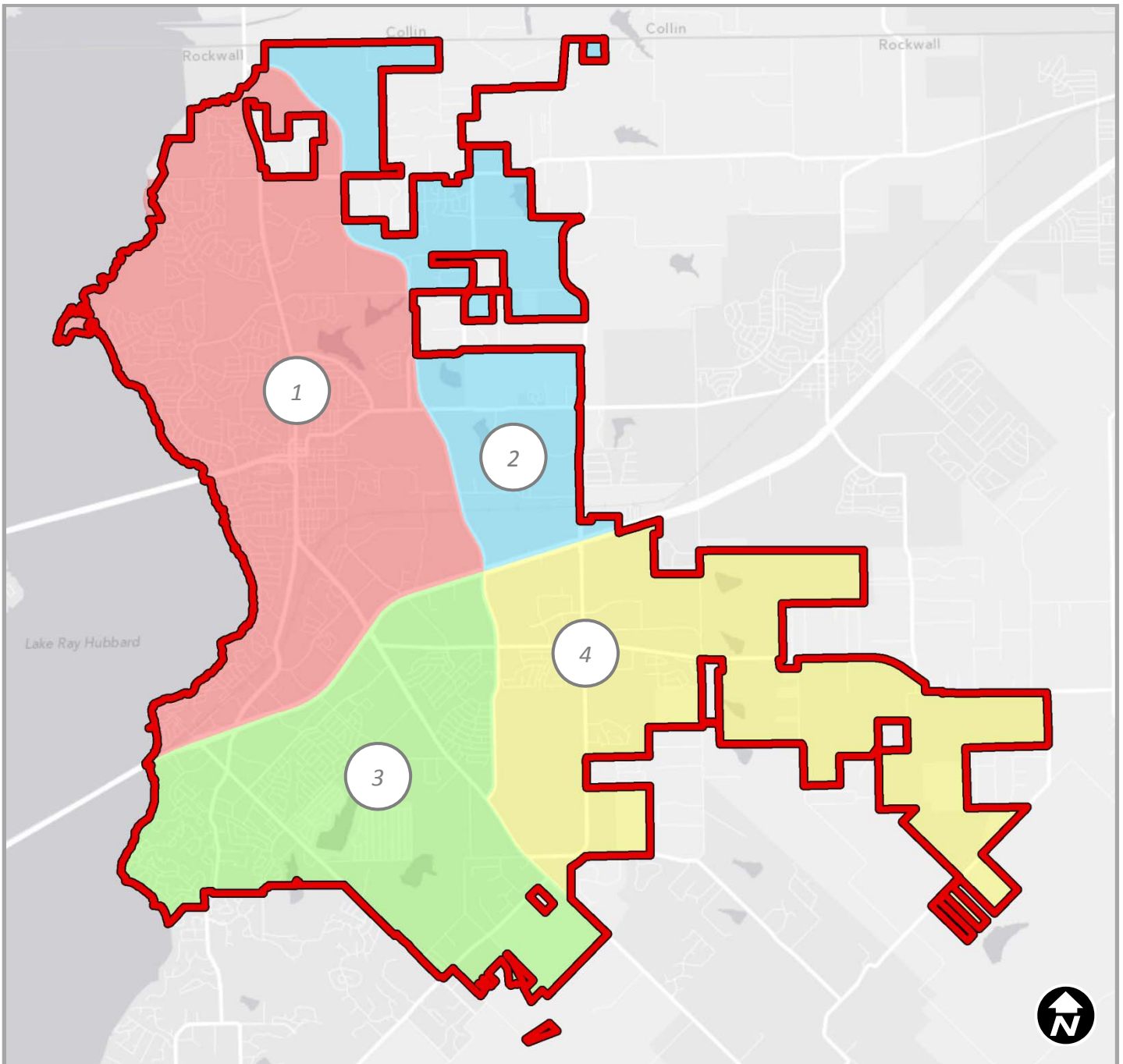
Note: The City Limits of Rockwall are depicted in **RED**. The Extraterritorial Jurisdiction (ETJ) is depicted in **BLUE**.



ROADWAY SERVICE AREAS

FIGURE 3: ROADWAY SERVICE AREAS

This is the derived service area structure for roadway facilities. These service areas conform to the current city limits of the City of Rockwall and are divided by John King Boulevard and Interstate Highway 30.



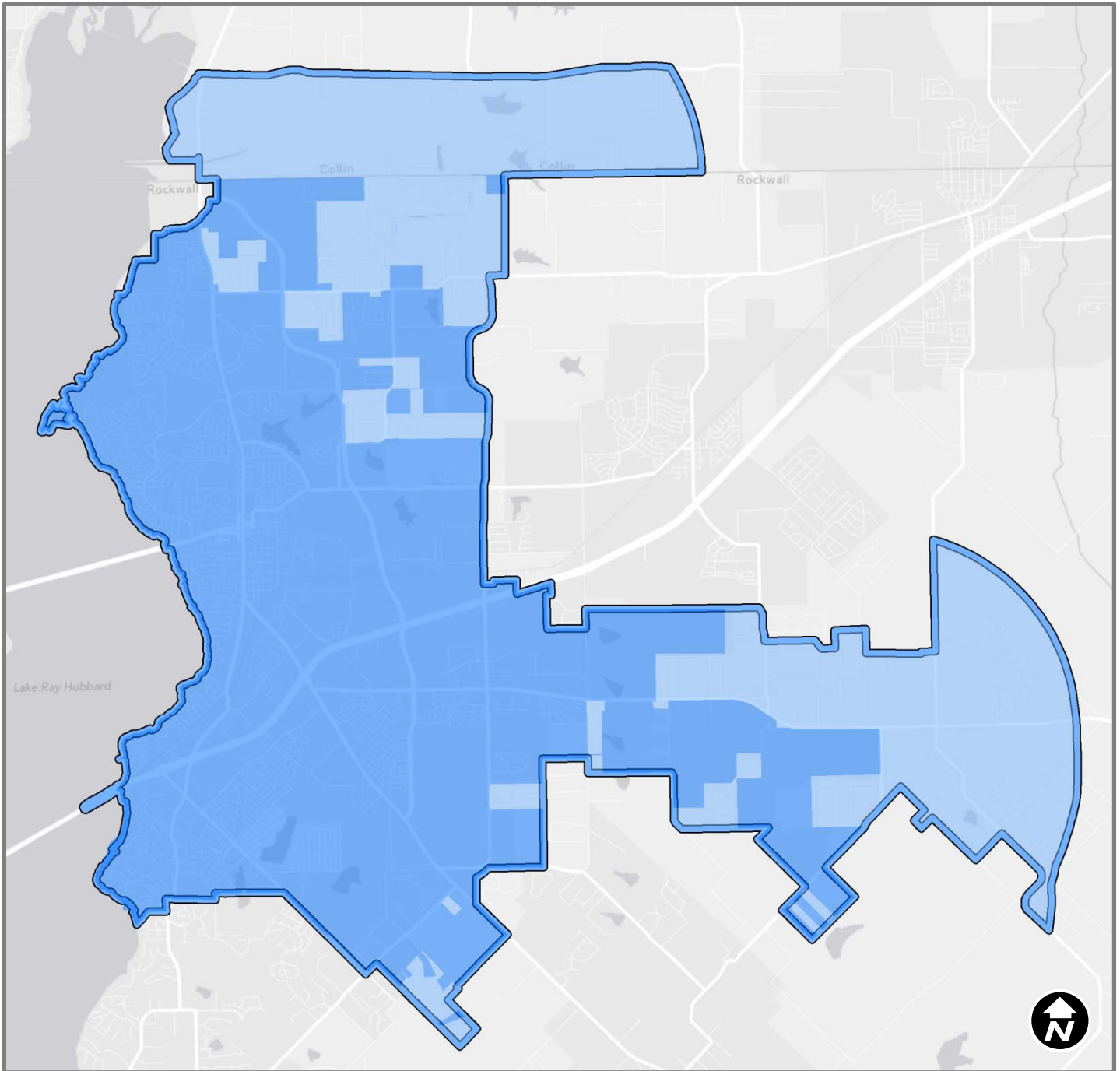
MAP KEY

- RED:** Service Area 1
- BLUE:** Service Area 2
- GREEN:** Service Area 3
- YELLOW:** Service Area 4

WATER/WASTEWATER SERVICE AREA

FIGURE 4: WATER/WASTEWATER SERVICE AREA

This is the derived service area structure for water and waste facilities. This service area conforms to the current city limits of the City of Rockwall and its Extraterritorial Jurisdiction (ETJ).



MAP KEY

BLUE: Service Area

SUMMARY OF DATA

The current database and the database prepared in 2007, along with all future projections, were drafted utilizing the following geographic areas:

- ☑ *Service Area*. The Service Area correlates to the Water, Wastewater and Roadway Service Areas identified in Figures 3 & 4. As previously state the corporate boundaries of the City of Rockwall serve as the limits for the Roadway Service Areas and the Water and Waste Water Service Areas include the corporate boundaries and the Extraterritorial Jurisdiction (ETJ).
- ☑ *Traffic Survey Zone (TSZ)*. A Traffic Survey Zone or *TSZ* are geographic areas established by the North Central Texas Council of Governments (NCTCOG), which are used for data collection purposes.

Additionally, all databases and projections utilized the following variables:

- ☑ *Households (2013)*. Household data includes living units (i.e. *single-family, duplex, multi-family, group home/quarters, etc.*) existing at the end of the calendar year 2012 (*January 1, 2013 to December 31, 2012*). This number was derived using 2010 United States Census data relating to households, residential building permits obtained from the Rockwall Building Inspections Department, and address point data obtained from the Rockwall Geographic Information Systems Department (GIS).
- ☑ *Households (2023)*. This is the projected household data by service area for the year 2023, which represents a ten (10) year growth projection. This information was derived by staff using proper projection techniques.
- ☑ *Population (2013)*. This is the existing population for the base year (i.e. *2013*). This information was calculated utilizing the number of households existing at the end of the calendar year 2012, the occupancy rate and average household size as established by the United State Census Bureau, and the population of all group quarters (i.e. $[\# \text{ of Households} - \text{Vacancy Rate}] \times \text{Household Size} + \text{Group Quarters Population} = \text{Population}$).
- ☑ *Population (2023)*. The projected population by service area for the year 2023, which represents a ten (10) year growth projection. This information was derived by staff using proper projection techniques.
- ☑ *Employment (2013)*. Employment data was aggregated to three (3) employment sectors, which include *Basic, Retail* and *Service* as provided by the North Central Texas Council of Governments (NCTCOG). These service sectors serve as the basis for non-residential trip generation. The following is a summary of these employment sectors followed by corresponding North American Industry Classification System (NAICS) code:
 - *Basic*. Land use activities that produce goods and services such as those that are exported outside the local economy. These include manufacturing, construction, transportation, wholesale trade, warehousing and other industrial uses (NAICS Code: #210000 - #422999).
 - *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. These include uses such as grocery stores, restaurants, etc. (NAICS Code: #440000 - #454390).
 - *Service*. Land use activities which provide personal and professional services. These include such uses as financial, insurance, government, and other professional and administrative offices (NAICS Code #520000 - #928199).
- ☑ *Employment (2023)*. The projected employment data was aggregated to three (3) employment sectors, which include *Basic, Retail* and *Service* as provided by the North Central Texas Council of Governments (NCTCOG). These service sectors were then projected by service area to the year 2023, which represents a ten (10) year growth projection. This information was derived by staff using proper projection techniques.

BASE YEAR DATA

This section documents the methods used to derive the base year data for the City of Rockwall as of January 1, 2013. This *benchmark* information provides a starting point in which to extrapolate the ten (10) year growth assumptions that are presented in the following section (see *Ten-Year Growth Assumptions*).

POPULATION GROWTH

One method of predicting future growth is to examine past growth trends. The City of Rockwall and Rockwall County have experienced robust growth over the past decade (see *Figure 5*). Past growth trends from the United States Census Bureau and the North Central Texas Council of Governments (NCTCOG) were examined in conjunction with building permit data provided from the City of Rockwall Building Inspections Department (this information is summarized in *Figure 6*). The following formula lays out the methodology used to calculate the 2013 population estimate:

$$POP = (NH \times OR) \times AHS + GQP$$

[POP = (14,831 x 0.947) x 2.81 + 325, or POP = 39,817]

WHERE,
 POP = 2013 Population
 NH = Number of Households [14,831 per City of Rockwall]
 OR = Occupancy Rate [94.7 % per US Census Bureau]
 AHS = Average Household Size [2.81185 per US Census Bureau]
 GQP = Group Quarter Population [325 per City of Rockwall]

This population (i.e. 39,817) will serve as the base population for this report.

FIGURE 5: CITY OF ROCKWALL VS. COUNTY OF ROCKWALL [POPULATION]
 MAP KEY: BLUE = ROCKWALL COUNTY; RED = CITY OF ROCKWALL

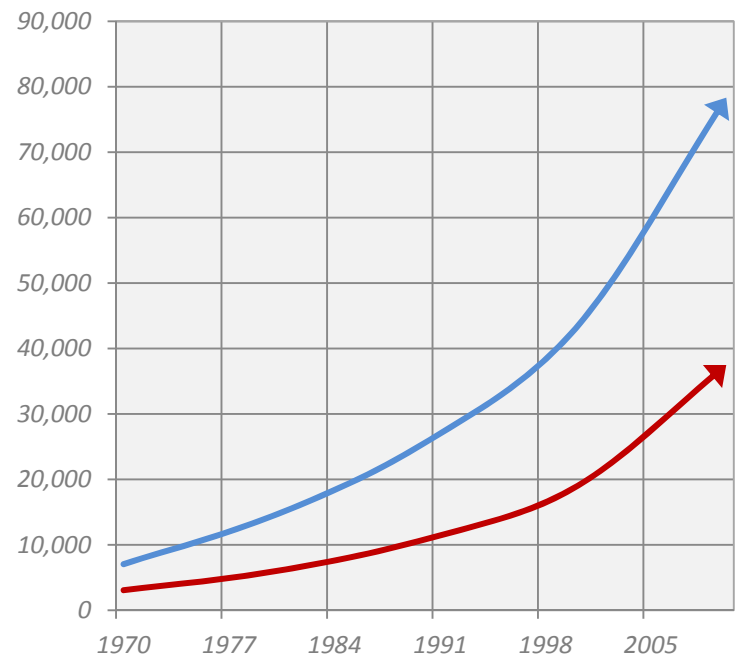
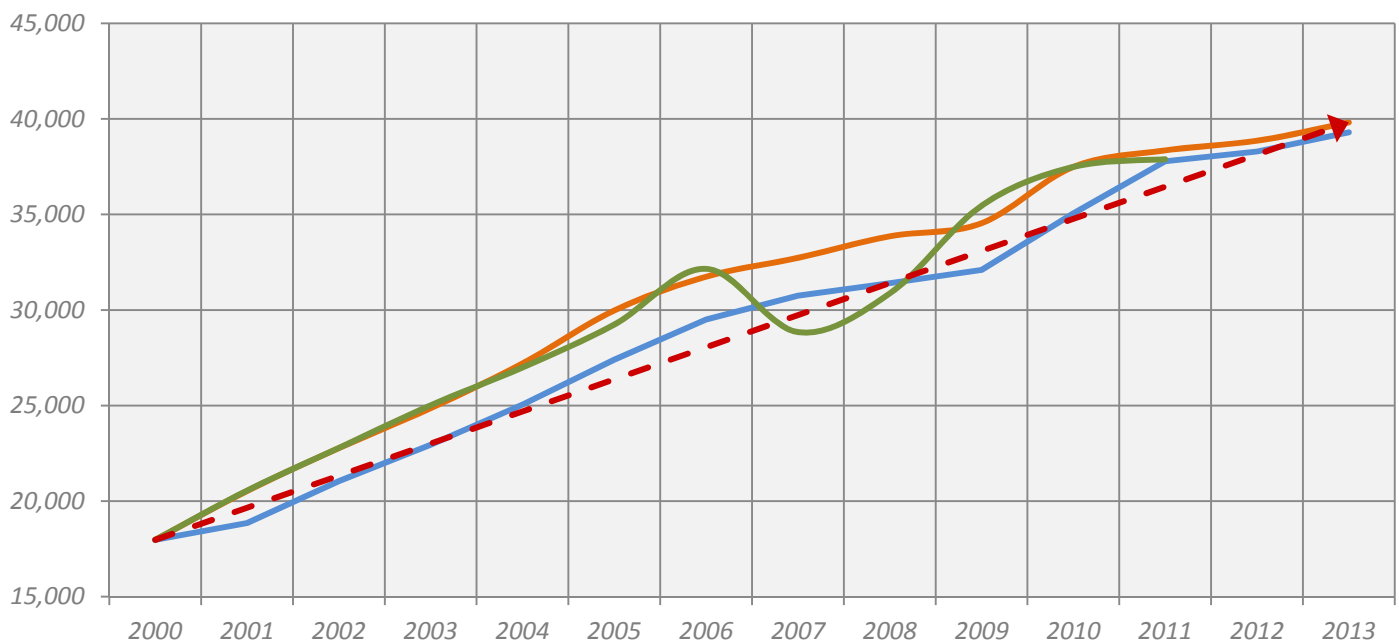


FIGURE 6: POPULATION BY AGENCY 2000 - 2013

MAP KEY: ORANGE = CITY OF ROCKWALL; BLUE = NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS (NCTCOG); GREEN = US CENSUS BUREAU; RED = TREND LINE



POPULATION GROWTH RATE

A *Compound Annual Growth Rate (CAGR)* allows for a general assessment of growth when considering periodic increases and decreases in residential population growths that coincide with changing economic conditions. Various sources were used in establishing the past growth rates. These sources indicate rates of growth change between 3.25% and 4.75% (see *Table 1*). Based upon this data, an analysis of the ten (10) year forecast, and City staff's judgment, a four (4) percent CAGR was determined to be a sufficient assumption for the ten (10) year projection period. The calculated population numbers for all service areas for the years 2013 & 2023 are depicted in *Appendix 'A' & 'B'* of this document.

ADDITIONAL GROWTH INDICATORS

The annual population growth rate has slowed in the city from 10.8% (2000-2005) to 4.6% (2005-2010), and finally decreasing to 2.0% in 2010 (see *Table 1*). The increase/decrease of residential building permits coincides with the fluctuations in growth rates (see *Figure 7*). Recent permit data shows an increase in single-family activity. In fact, in 2013 single family permits (issued from January 1, 2013 to February 28, 2013) were up 70% from the same period in 2012. This recent increase in single family building permits combined with the Texas Water Board's ten (10) year and twenty (20) year County population projections, coupled with an overall sense of market recovery has led the City's staff to comfortably assume that the overall growth for the next ten (10) year period will average four (4) percent. However, it is likely that annual growth will gradually increase from its current two (2) percent rate to a five (5) percent rate near the end of the forecasted period.

TABLE 1: CITY OF ROCKWALL GROWTH RATES

Data Source	Growth Rate (%)
2010 – 2012 US Census ¹	1.81
2007 – 2012 US Census ¹	3.49
2002 – 2012 US Census ¹	5.49
2010 – 2012 Single Family Permits ²	11.2
2007 – 2012 Single Family Permits ²	8.0
2002 – 2012 Single Family Permits ²	-7.5
Texas Water Board 10-Year Growth ³	4.75
Texas Water Board 20-Year Growth ³	3.25
FUTURE GROWTH PROJECTION	4.0

NOTES:

¹: Based on 2002 – 2012 US Census Data

²: Information Provided by the City of Rockwall

³: Texas Water Board 2011 Region 'C' Water Plan

FIGURE 7: HISTORIC SINGLE-FAMILY BUILDING PERMITS DATA

* 2013: January 1, 2013 – March 21, 2013



EXISTING LAND USE

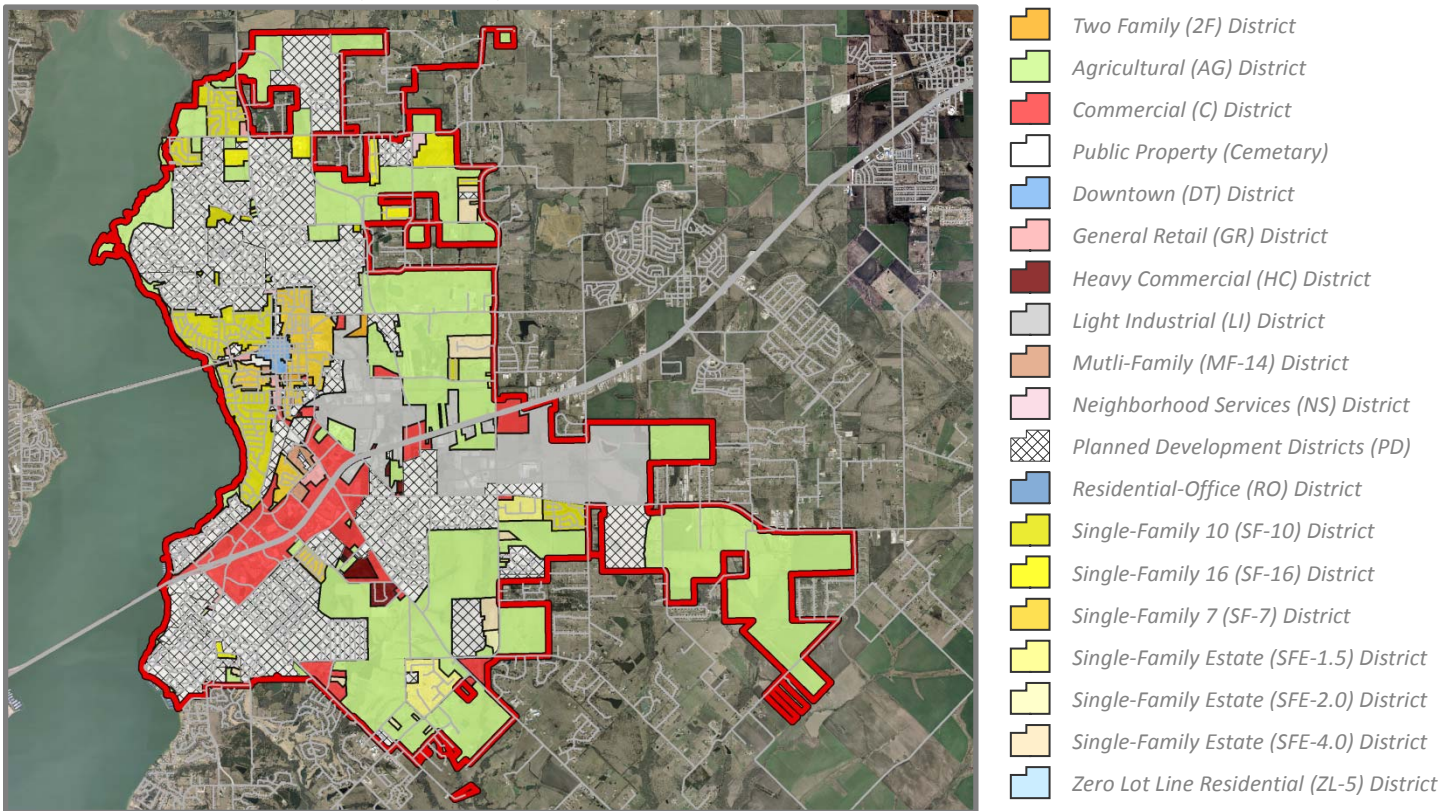
TABLE 2: EXISTING LAND USE ACREAGE

Land Use Category	Acres	% of Total Land	Acres per 100 People
Single Family	6,167	32.4	15.5
Multi-Family	280	1.5	0.7
Manufactured Home	218	1.1	0.5
Parks and Open Space	780	4.1	2.0
Public & Semi-Public	167	0.9	0.4
Office & Retail	617	3.2	1.6
Commercial	1,852	9.7	4.6
Industrial	1,847	9.7	4.6
Agricultural	7,117	37.4	17.9
TOTAL:	19,045	100%	

NOTES: Based on 2013 estimated population of 39,817.

In any evaluation and projection of future land use patterns, a documentation of existing conditions is necessary. An analysis of existing land use patterns was prepared based on a zoning classification inventory of the City (see Table 2). This also serves to document the present physical condition of the City with regard to any infrastructure deficiencies that may exist. The City's Comprehensive Plan will serve as an additional basis for future growth projections. Nearly twenty-five (25%) percent of the City's land area is devoted to Planned Development Districts, which are difficult to define in terms of land use since most of them contain allowances for a mixture of land uses. In addition to current zoning classifications Table 2 also contains estimates of the land use categories permitted within the City's Planned Development Districts.

FIGURE 8: EXISTING LAND USE MAP (ZONING MAP)



EXISTING EMPLOYMENT

The base employment data (i.e. 2013) was calculated by Traffic Survey Zone (TSZ) from employment estimates provided by the North Central Texas Council of Governments (NCTCOG). As TSZ's do not conform to the corporate boundaries of a city, staff made allocations based on the locations of existing land uses and the percentage of the TSZ located within the City Limits/Extraterritorial Jurisdiction (ETJ). Additionally, staff reviewed the 2010 and 2015 NCTCOG employment estimates and applied manual adjustments based on local knowledge of the city and proposed/current development. From this employment data staff determined the Compound Annual Growth Rate (CAGR) and applied it using the linear extrapolation method to the 2010 employment data. This resulted in the 2013 employment data depicted in Appendix 'C' & 'D' of this report.

TEN-YEAR GROWTH ASSUMPTIONS

In this study growth is characterized by two (2) forms: 1) Population (*i.e. residential land use*), and 2) Employment (*i.e. non-residential land use*). To calculate a reasonable growth rate for population and employment it was necessary for staff to make a series of assumptions on which to base the ten (10) year growth projections. These assumptions are summarized as follows:

- ☑ Future growth identified within this study will conform to the Future Land Use Plan depicted in the Comprehensive Plan.
- ☑ The City will be able to finance the necessary improvements to accommodate future growth.
- ☑ School facilities will sufficiently accommodate any identified increases in the population.
- ☑ Densities will conform to the land classifications identified within the Comprehensive Plan and as depicted on the Future Land Use Plan.

The ten (10) year projections are based on the growth rate which was previously discussed and staff’s consideration of past development trends. Tables 3 & 4 detail the ten (10) year projections for households, population and employment for the service areas associated with roadway and water/wastewater impact fees.

TABLE 3: SUMMARY OF TEN-YEAR GROWTH (ALL ROADWAY SERVICE AREAS)

	2013	2023	Increase
Households	14,170	20,989	32.49%
Population	39,817	58,940	32.44%
Total Employment	16,023	23,182	30.88%
Basic	1,521	2,519	39.60%
Service	5,902	8,179	27.84%
Retail	8,600	12,484	31.11%

TABLE 4: SUMMARY OF TEN-YEAR GROWTH (WATER/WASTE WATER SERVICE AREA)

	2013	2023	Increase
Households	15,682	23,171	32.32%
Population	44,066	65,073	32.28%
Total Employment	18,014	25,559	29.52%
Basic	3,148	4,342	27.51%
Service	5,902	8,179	27.84%
Retail	8,964	13,038	31.25%

POPULATION 2023

The City of Rockwall has experienced significant growth since 2000 when the estimated population was 18,000 residents. Today the population is over double the 2000 population at an estimated 39,817. This growth trend is not just evident in the City of Rockwall as the greater Dallas-Fort Worth metropolitan area has become one of the fastest growing regions in the United States both in terms of population and employment. Although local growth has slowed since 2006 all data appears to indicate that this is only a temporary condition as the area’s economy continues to recover from the national housing slump that began in 2008. Using the Compound Annual Growth Rate (CAGR) method staff projects that the population for the City will be 58,939 residents by 2023 (see *Figure 9*).

FIGURE 9: TEN-YEAR POPULATION GROWTH @ A 4% COMPOUND ANNUAL GROWTH RATE

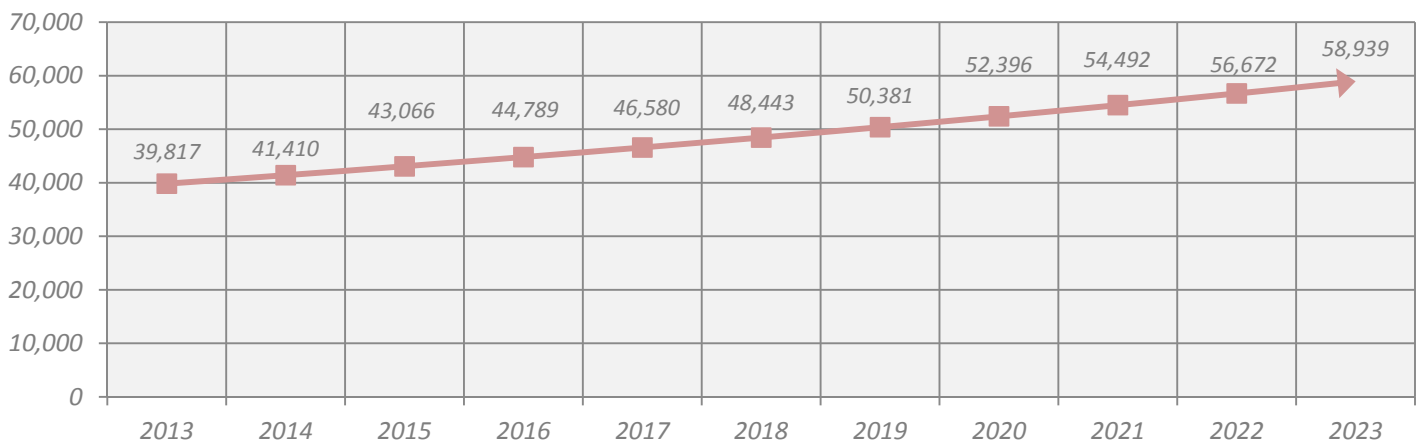
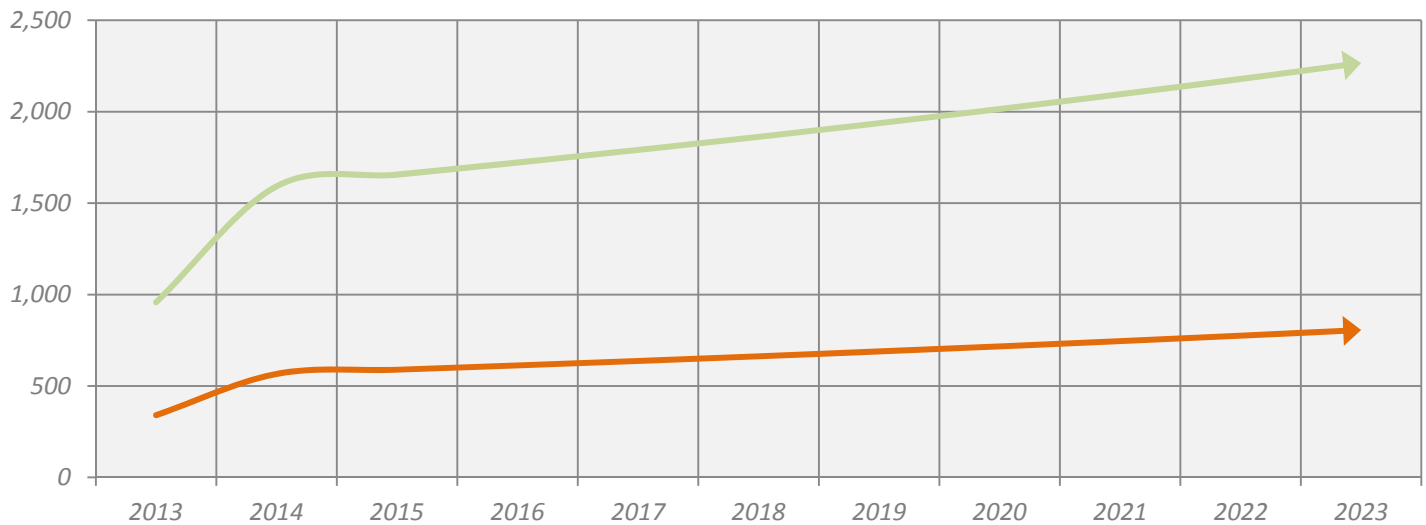


TABLE 5: PROJECTED HOUSEHOLD ESTIMATIONS

Year	Population	New Residents	New Building Permits
2013	39,817	958	360
2014	41,410	1,593	567
2015	43,066	1,656	590
2016	44,789	1,723	613
2017	46,580	1,791	637
2018	48,443	1,863	663
2019	50,381	1,938	690
2020	52,396	2,015	717
2021	54,492	2,096	746
2022	56,672	2,180	776
2023	58,939	2,267	807
Average Number of Annual Permits:			651

In determining this population projection staff utilized residential building permit counts coupled with an assumption that the average people per household was 2.81 (2010 US Census). This figure was used to account for a mixture of multi-family and single family households. Additionally, between 2000 and 2012 the City issued an average of 623 building permits per year; with the highest number of permits topping out at 1,033 in 2005, and the lowest number of building permits issued in 2008 at 150 (see Table 5). From this information staff estimated that the City will issue an average of 651 residential building permits per year over the next ten (10) year period (see Table 5 and Figure 10). This estimate takes into consideration the type of development likely (i.e. single family or multifamily) to occur in a given area.

FIGURE 10: PROJECTED HOUSEHOLD AND BUILDING PERMIT ESTIMATIONS
 MAP KEY: ORANGE = NEW BUILDING PERMITS; GREEN = NEW RESIDENTS



EMPLOYMENT 2023

Employment data for the year 2023 was based upon data provided by the North Central Texas Council of Governments (NCTCOG). NCTCOG has provided employment data by Traffic Survey Zone (TSZ) for 2015 and 2035. After staff’s adjustments for TSZ coverage area and anticipated future development were accounted for, a Compound Annual Growth Rate (CAGR) was derived between the 2015 and 2035 staff-adjusted NCTCOG employment numbers. Linear extrapolation of the CAGR produced the 2023 employment estimates by TSZ as listed in the appendices of this document (see Appendix ‘C’ & ‘D’).

Staff’s assumptions of future growth are confirmed by 2030 data derived from the North Texas 2050 study published by Vision North Texas. The majority of the city is forecasted to have an employment density of greater than 1.7 units per acre, and upwards of 3.5+ units per acre in areas adjacent Interstate Highway 30 (IH-30) and within Rockwall’s Industrial Park (located adjacent to State Highway 276 [SH-276]).

BUILD OUT PROJECTIONS

A *Build Out Projection* for a city (also referred to as the city’s *Carrying Capacity*) is an estimate of the location and density of all potential development, employment and population that a city can support within its future corporate boundaries.

TABLE 6: TOTAL ACREAGE

City Limits	19,046.00
Built Acres	8,322.31
Vacant Acres	8,610.53
Right-of-Way	2,113.37
Extraterritorial Jurisdiction (ETJ)	10,521.60
TOTAL ACRES:	29,567.60

TABLE 7: PROJECTED POPULATION
(AT 4% COMPOUND ANNUAL GROWTH)

Year	Population
2023	58,939
2024	61,296
2025	63,748
2026	66,298
2027	68,950
2028	71,708
2029	74,576
2030	77,560
2031	80,662
2032	83,888
2033	87,244
2034	90,734
2035	94,363
2036	98,138
2037	102,063
2038	106,146
2039	110,391
2040	114,807
2041	119,399
2042	124,175
2043	129,142
2044	134,308
2045	139,680
2046	145,268

Build Out
139,919



ESTABLISHING THE CITY’S POPULATION AT BUILD OUT

In establishing the city’s population at build out staff made the following assumptions:

- All vacant land w/in the City’s corporate boundaries will develop with the maximum density permitted for the current zoning per the Unified Development Code.
- All Agricultural (Ag) District property is assumed to be vacant and will develop at 2.0 units per acre.
- All property within the Extraterritorial Jurisdiction (ETJ) is assumed to be vacant and will be developed in conformance with the Future Land Use Map at the maximum density permitted by the Comprehensive Plan.
- The city’s ETJ is fixed and will not increase in the future.

Taking these assumptions into consideration, staff utilized Geographical Information Systems (GIS) software to calculate all the undeveloped land within the city’s corporate boundaries, including the ETJ (see *Table 6*). Once calculated the acreages were broken down by land use and multiplied by the maximum density permitted for each of the land uses as established within the Unified Development Code and the Comprehensive Plan. These totals were then multiplied by the average people per household [*i.e.* 2.81] (2010 US Census) to establish the population at build out (*i.e.* 139,919). From this point staff projected the population forward using the previously established four (4%) percent Compound Annual Growth Rate (CAGR) [see the *Ten-Year Growth Assumptions* section] until the build out population was reached (see *Table 7*). This established a build out year of 2046. The following formula lays out the methodology used to calculate the numbers:

$$BO = POP + VPOP + EPOP$$

$$[BO = 39,817 + 48,663 + 51,439, \text{ or } BO = 136,657]$$

$$VPOP = \sum [(LU_1 \times D_1) \dots (LU_x \times D_x)] \times AHS \text{ or } VPOP = 48,663$$

$$EPOP = (LDR \times 2.0) + (MDR \times 3.0) + (HDR \times 5), \text{ (i.e. } EPOP = 50,123 + 1,316 + 0) \text{ or } EPOP = 51,439$$

WHERE,

BO = Build Out Population
 POP = 2013 Population (*i.e.* Current Population)
 VPOP = Population of Vacant Land w/in the City Limits
 EPOP = Population of Vacant Land w/in ETJ
 LU = Vacant Available Land (*inside the City Limits*) for a Given Land Use
 D = Maximum Density Permitted for a Given Land Use [Unified Development Code]
 AHS = Average Household Size [2.81185 per US Census Bureau]
 LDR = Low Density Residential Acreage Available in the ETJ
 MDR = Medium Density Residential Acreage Available in the ETJ
 HDR = High Density Residential Acreage Available in the ETJ

SUMMARY

The following is a summary of staff’s findings when preparing the Land Use Assumption Report in preparation for updating the Roadway, Water and Wastewater Impact Fees for 2013:

- ☑ The average annual growth rate as calculated by staff is four (4) percent. This growth rate was established based on data from the US Census, Texas Water Commission, North Texas Council of Governments (NCTCOG), the City and County of Rockwall. Using this growth rate staff projected the following population numbers:
 - The population of the City of Rockwall as of 2013 is 39,817. This is expected to increase by ~32% in the next ten (10) years to an estimated 58,940 by 2023.
 - The population for the City of Rockwall and its Extraterritorial Jurisdiction (ETJ) as of 2013 is 44,066. This is expected to increase by ~32% in the next ten (10) years to an estimated 65,073 by 2023.
- ☑ The estimated employment for the City of Rockwall as of 2013 is 16,023 jobs, with another 1,991 jobs existing within its ETJ. Staff estimates this number to climb to 23,182 jobs within the city limits, and another 2,377 jobs within the ETJ by 2023.
- ☑ Staff has established that there are currently 8,610.53 undeveloped acres of land within the city limits. This represents ~45% of the current land in the City (see *Table 8*). Additionally, the City of Rockwall has access to another 10,521.60 acres of land within its current ETJ (see *Table 9*). At the bottom of this page is a summary of all vacant land by current land use existing within the city’s corporate boundaries and its ETJ (see *Tables 8 & 9*).
- ☑ According to staff estimates the City of Rockwall is expected to be built out in the year 2046, with a total population of 139,919.

TABLE 8: VACANT LAND WITHIN THE CITY LIMITS

ACRES	LAND USE
15.60	= Two Family (2F) District
4,885.31	= Agricultural (AG) District
371.36	= Commercial (C) District
-	= Cemetery
5.62	= Downtown (DT) District
14.11	= General Retail (GR) District
40.01	= Heavy Commercial (HC) District
1,211.71	= Light Industrial (LI) District
0.58	= Multi-Family (MF) District
21.25	= Neighborhood Services (NS) District
1,789.38	= Planned Development Districts (PD)
87.39	= Single Family 10 (SF-10) District
114.60	= Single Family 16 (SF-16) District
40.22	= Single Family 7 (SF-7) District
-	= Single Family Estate 1.5 (SFE-1.5) District
-	= Single Family Estate 2 (SFE-2) District
11.78	= Single Family Estate 4 (SFE-4) District
1.61	= Zero Lot Line 5 (ZL-5) District
8,610.53	= TOTAL VACANT ACRES

TABLE 9: ETJ ACREAGES (FUTURE LAND USE MAP)

ACRES	LAND USE
8,918.65	= Low Density Residential
156.13	= Medium Density Residential
0.00	= High Density Residential
-	= Mixed Use
-	= Downtown District
0.11	= Special Commercial Corridor District
-	= Special District
410.71	= Commercial
-	= Commercial/Industrial
0.10	= Technology/Light Industrial
809.73	= Employment Center
55.62	= Parks and Open Space
0.03	= Cemetery
0.87	= Public Uses
0.17	= Quasi-Public Uses
169.49	= Right-of-Way
10,521.60	= TOTAL ACRES

NOTE: ALL INFORMATION PROVIDED FROM THE GEOGRAPHICAL INFORMATION SYSTEMS (GIS) DEPARTMENT AND IS VALID AS OF DECEMBER 31, 2013.

APPENDICES

APPENDIX A	16-17
Housing, Population & Employment Data	
By Roadway Fee Service Area	16
APPENDIX B	18
Housing, Population & Employment Data	
By Water/Wastewater Impact Fee Service Area	18
APPENDIX C	19-20
Employment Breakdown Data	
By Roadway Impact Fee Service Areas	19
APPENDIX D	21
Employment Breakdown Data	
By Roadway Impact Fee Service Areas	21

APPENDIX A

HOUSING, POPULATION & EMPLOYMENT DATA BY ROADWAY FEE SERVICE AREA

KEY: HU = Housing Units; POP = Population; EMP = Employment; **RED** = Traffic Survey Zone (TSZ) is Split by Roadway Service Area.

SA1 Traffic Survey Zone (2005)	2013 Projections			2023 Projections			Build Out (2046)		
	HU	POP	EMP	HU	POP	EMP	HU	POP	EMP
5002	214	651	96	364	1,105	159	457	1,332	363
5003	43	108	0	757	1,893	210	421	1,181	156
5008	1,128	3,316	91	1,144	3,363	145	1,212	3,552	313
5009	1,105	3,614	154	1,286	4,206	207	1,348	4,296	469
5010	246	685	238	1,162	3,236	460	1,083	3,062	575
5011	743	2,224	89	1,264	3,783	166	1,311	3,789	245
5018	918	2,367	374	1,384	3,569	412	1,345	3,570	875
5020	602	1,454	342	621	1,499	390	618	1,498	854
5021	120	342	127	125	356	140	172	488	299
5022	141	328	206	144	335	220	158	376	486
5023	172	647	507	172	647	528	235	825	1,182
5024	382	1,005	49	393	1,034	57	439	1,164	118
5025	153	432	301	225	634	304	631	1,776	532
5027	140	326	919	140	326	1,652	394	1,059	2,444
5036	677	1,468	666	712	1,544	1,000	687	1,496	2,137
5037	935	1,732	2,161	1,022	1,996	2,449	1,174	2,403	5,375
SUBTOTAL:	7,720	20,697	6,321	10,915	29,525	8,500	11,685	31,867	16,423

SA2 Traffic Survey Zone (2005)	2013 Projections			2023 Projections			Build Out (2046)		
	HU	POP	EMP	HU	POP	EMP	HU	POP	EMP
5003	0	0	0	182	497	210	1,003	2,814	372
5004	2	4	0	20	40	6	1,775	4,985	14
5010	87	287	2	87	287	5	592	1,674	314
5011	50	149	0	48	142	0	188	545	35
5012	58	174	0	145	438	250	966	2,725	541
5013	64	130	0	176	357	87	1,145	3,167	177
5014	1	2	0	1	2	0	1	2	0
5025	120	338	3	85	238	71	363	1,022	306
5026	57	172	12	96	292	22	260	743	50
5027	0	0	13	0	0	13	167	448	1,035
SUBTOTAL:	439	1,256	29	839	2,293	663	6,461	18,126	2,844

SA3 Traffic Survey Zone (2005)	2013 Projections			2023 Projections			Build Out (2046)		
	HU	POP	EMP	HU	POP	EMP	HU	POP	EMP
5028	63	157	1,605	672	1,664	2,209	216	598	2,858
5038	683	1,325	1,130	962	1,984	1,582	1,886	4,706	3,360
5039	1,117	3,257	3,608	1,188	3,465	4,399	1,256	3,647	9,554
5040	1,059	3,747	128	1,059	3,747	261	867	2,739	419
5043	843	1,829	25	901	1,954	25	888	1,955	57
5044	1,014	3,892	720	1,202	4,509	1,247	2,780	8,853	2,783
5045	326	886	1,526	331	900	2,249	347	946	5,076
5046	29	84	0	94	272	0	989	2,781	0
SUBTOTAL:	5,133	15,177	8,743	6,409	18,496	11,972	9,227	26,225	24,108

SA4 Traffic Survey Zone (2005)	2013 Projections			2023 Projections			Build Out (2046)		
	HU	POP	EMP	HU	POP	EMP	HU	POP	EMP
5028	0	0	649	0	0	893	270	748	3,574
5029	5	16	38	5	16	537	993	2,793	1,200
5040	386	1,173	127	1,796	5,458	260	1,587	5,014	768
5047	487	1,498	116	1,025	3,153	357	5,372	15,223	756
SUBTOTAL:	878	2,687	931	2,826	8,627	2,047	8,221	23,780	6,298
TOTAL:	14,170	39,817	16,023	20,989	58,941	23,182	35,594	99,998	49,673

APPENDIX B

HOUSING, POPULATION & EMPLOYMENT DATA BY WATER/WASTEWATER IMPACT FEE SERVICE AREA

KEY: HU = Housing Units; POP = Population; EMP = Employment; RED = Traffic Survey Zone (TSZ) is Split by City Limits or ETJ Boundaries.

SA Traffic Survey Zone (2005)	Projections (2013)			Projections (2023)			Build Out (2046)		
	HU	POP	EMP	HU	POP	EMP	HU	POP	EMP
3477	33	93	-	49	137	-	265	744	-
3479	114	320	365	169	474	554	4,710	13,230	1,264
3480	96	270	-	142	399	-	1,954	5,491	-
5002	214	651	96	364	1,105	159	457	1,332	363
5003	133	360	-	1,072	2,764	420	2,450	6,872	909
5004	96	268	-	159	431	6	1,775	4,985	14
5008	1,128	3,316	91	1,144	3,363	145	1,212	3,552	313
5009	1,105	3,614	154	1,286	4,206	207	1,348	4,296	469
5010	405	1,174	240	1,356	3,822	465	1,996	5,646	1,060
5011	843	2,514	89	1,386	4,132	166	1,809	5,228	339
5012	97	284	-	203	601	250	966	2,725	541
5013	109	257	-	243	545	87	1,145	3,167	177
5014	1	2	-	1	2	-	1	2	-
5018	918	2,367	374	1,384	3,569	412	1,345	3,570	875
5020	602	1,454	342	621	1,499	390	618	1,498	854
5021	120	342	127	125	356	140	172	488	299
5022	141	328	206	144	335	220	158	376	486
5023	172	647	507	172	647	528	235	825	1,182
5024	382	1,005	49	393	1,034	57	439	1,164	118
5025	273	770	304	309	873	374	995	2,798	838
5026	57	172	12	96	292	22	260	743	50
5027	140	326	931	140	326	1,666	561	1,509	3,485
5028	63	157	2,254	672	1,664	3,101	490	1,358	6,485
5029	181	511	38	299	841	537	993	2,793	1,200
5030	135	379	1,286	200	562	1,442	973	2,734	2,927
5031	126	354	243	187	524	272	2,219	6,234	552
5036	677	1,468	666	712	1,544	1,000	687	1,496	2,137
5037	935	1,732	2,161	1,022	1,996	2,449	1,174	2,403	5,375
5038	683	1,325	1,130	962	1,984	1,582	1,886	4,706	3,360
5039	1,117	3,257	3,608	1,188	3,465	4,399	1,256	3,647	9,554
5040	1,445	4,920	256	2,855	9,205	521	2,453	7,754	1,187
5043	843	1,829	25	901	1,954	25	888	1,955	57
5044	1,014	3,892	720	1,202	4,509	1,247	2,780	8,853	2,783
5045	326	886	1,526	331	900	2,249	347	946	5,076
5046	32	92	-	101	291	-	989	2,781	-
5047	745	2,223	116	1,316	3,970	357	5,372	15,223	756
5048	181	509	97	268	753	109	2,418	6,794	221
TOTAL:	15,682	44,066	18,014	23,171	65,073	25,559	49,794	139,920	55,305

APPENDIX C

EMPLOYMENT BREAKDOWN DATA BY ROADWAY IMPACT FEE SERVICE AREAS

KEY: **RED** = Traffic Survey Zone (TSZ) is Split by Roadway Service Area.

SA1		<i>Employment (2013)</i>				<i>Employment (2023)</i>			
<i>Traffic Survey Zone (2005)</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	
5002	0	0	96	96	0	0	159	159	
5003	0	0	0	0	0	105	105	210	
5008	0	50	41	91	0	80	65	145	
5009	0	11	143	154	0	14	193	207	
5010	0	0	238	238	0	0	460	460	
5011	26	63	0	89	48	118	0	166	
5018	213	22	138	374	235	25	152	412	
5020	45	82	216	342	51	93	245	390	
5021	39	41	47	127	44	45	52	140	
5022	10	56	140	206	11	60	150	220	
5023	61	25	421	507	63	26	438	528	
5024	0	49	0	49	0	57	0	57	
5025	54	6	241	301	55	6	243	304	
5027	643	55	220	919	1,157	99	397	1,652	
5036	7	406	253	666	10	610	380	1,000	
5037	0	800	1,361	2,161	0	906	1,543	2,449	
SUBTOTAL:	1,098	1,666	3,557	6,321	1,673	2,245	4,582	8,500	

SA2		<i>Employment (2013)</i>				<i>Employment (2023)</i>			
<i>Traffic Survey Zone (2005)</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	
5003	0	0	0	0	0	105	105	210	
5004	0	0	0	0	0	0	6	6	
5010	0	0	2	2	0	0	5	5	
5011	0	0	0	0	0	0	0	0	
5012	0	0	0	0	0	125	125	250	
5013	0	0	0	0	87	0	0	87	
5014	0	0	0	0	0	0	0	0	
5025	0	0	3	3	0	0	71	71	
5026	0	0	12	12	0	0	22	22	
5027	0	0	13	13	0	0	13	13	
SUBTOTAL:	0	0	29	29	87	230	346	663	

SA3		<i>Employment (2013)</i>				<i>Employment (2023)</i>			
<i>Traffic Survey Zone (2005)</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	
5028	193	1,108	305	1,605	265	1,524	420	2,209	
5038	0	768	362	1,130	0	1,076	506	1,582	
5039	0	1,696	1,912	3,608	0	2,068	2,332	4,399	
5040	0	0	128	128	0	0	261	261	
5043	0	0	25	25	0	0	25	25	
5044	137	0	583	720	237	0	1,010	1,247	
5045	0	153	1,373	1,526	0	225	2,024	2,249	
5046	0	0	0	0	0	0	0	0	
SUBTOTAL:	329	3,724	4,689	8,743	502	4,892	6,577	11,972	

SA4	<i>Employment (2013)</i>				<i>Employment (2023)</i>			
	<i>Traffic Survey Zone (2005)</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>	<i>Total</i>	<i>Basic</i>	<i>Retail</i>	<i>Service</i>
5028	78	448	123	649	107	616	170	893
5029	0	0	38	38	100	0	437	537
5040	0	0	127	127	0	0	260	260
5047	16	64	36	116	50	196	111	357
SUBTOTAL:	94	512	325	931	257	812	978	2,047
TOTAL:	1,521	5,902	8,600	16,023	2,519	8,179	12,484	23,182

APPENDIX D

EMPLOYMENT BREAKDOWN DATA BY ROADWAY IMPACT FEE SERVICE AREAS

KEY: RED = Traffic Survey Zone (TSZ) is Split by City Limits or ETJ Boundaries.

SA Traffic Survey Zone (2005)	Employment (2013)				Employment (2023)			
	Basic	Retail	Service	Total	Basic	Retail	Service	Total
3477	-	-	-	-	-	-	-	-
3479	-	-	365	365	-	-	554	554
3480	-	-	-	-	-	-	-	-
5002	-	-	96	96	-	-	159	159
5003	-	-	-	-	-	210	210	420
5004	-	-	-	-	-	-	6	6
5008	-	50	41	91	-	80	65	145
5009	-	11	143	154	-	14	193	207
5010	-	-	240	240	-	-	465	465
5011	26	63	-	89	48	118	-	166
5012	-	-	-	-	-	125	125	250
5013	-	-	-	-	87	-	-	87
5014	-	-	-	-	-	-	-	-
5018	213	22	138	374	235	25	152	412
5020	45	82	216	342	51	93	245	390
5021	39	41	47	127	44	45	52	140
5022	10	56	140	206	11	60	150	220
5023	61	25	421	507	63	26	438	528
5024	-	49	-	49	-	57	-	57
5025	54	6	244	304	55	6	313	374
5026	-	-	12	12	-	-	22	22
5027	643	55	233	931	1,157	99	410	1,666
5028	271	1,555	428	2,254	372	2,140	589	3,101
5029	-	-	38	38	100	-	437	537
5030	1,286	-	-	1,286	1,442	-	-	1,442
5031	243	-	-	243	272	-	-	272
5036	7	406	253	666	10	610	380	1,000
5037	-	800	1,361	2,161	-	906	1,543	2,449
5038	-	768	362	1,130	-	1,076	506	1,582
5039	-	1,696	1,912	3,608	-	2,068	2,332	4,399
5040	-	-	256	256	-	-	521	521
5043	-	-	25	25	-	-	25	25
5044	137	-	583	720	237	-	1,010	1,247
5045	-	153	1,373	1,526	-	225	2,024	2,249
5046	-	-	-	-	-	-	-	-
5047	16	64	36	116	50	196	111	357
5048	97	-	-	97	109	-	-	109
TOTAL:	3,148	5,902	8,964	18,014	4,342	8,179	13,038	25,559