

LAND USE ASSUMPTIONS

for

IMPACT FEES

City of Rockwall, Texas

DRAFT

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July 2007

LAND USE ASSUMPTIONS FOR IMPACT FEES

PURPOSE

Chapter 395 of the Texas Local Government Code prescribes the process by which cities in Texas must formulate development impact fees. *The initial process is the establishment of land use assumptions.* These land use assumptions, which include population and employment projections, will become the basis for the preparation of impact fee capital improvement plans for water, wastewater, and roadway facilities.

To assist the City of Rockwall 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.

ELEMENTS OF THE LAND USE ASSUMPTIONS REPORT

This report contains the following components:

- I. **Methodology** -- Explanation of the general methodology used to prepare the land use assumptions.
- II. **Data Collection Zones and Service Area Maps (Plates 1, 2 and 3)** -- Explanation of data collection zones (traffic survey zones), and division of the City into impact fee service areas for water facilities, wastewater facilities, and roadways.
- III. **Base Year Data** -- Information on population and employment for Rockwall as of 2007 for each capital facility service area.
- IV. **Ten-Year Growth Assumptions** -- Population and employment growth assumptions for ten years by impact fee service areas.
- V. **Ultimate Population Projection** -- Projections which reflect a completely developed condition based upon the City's ultimate "build-out" scenario.
- VI. **Summary** -- Brief synopsis of the land use assumptions report.

I. 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 base data and projections in this report have 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, including the following:

- The character, type, density, and quantity of existing development
- Existing zoning patterns
- Anticipated future land use (as shown on the City's Future Land Use Plan)
- Availability of land for future expansion
- Current and historical growth trends within the City
- Employment and population absorption rates
- Physical holding capacity of the City
- Known or anticipated development projects

Following is the general methodology used for the preparation of this report:

1. Establish impact fee service areas for roadway, water and wastewater facilities (see Section II -- Data Collection Zones and Service Area Maps).
2. Collect/determine benchmark data on population, employment, and land use as of 2007 (see Section III -- Base Year Data).
3. Project population and employment growth for ten years by impact fee service area (see Section IV -- Ten-Year Growth Assumptions).
4. Project the ultimate population for a fully developed City (see Section V -- Ultimate Population Projection).

More detailed discussion for each of the above is contained within the respective sections.

II. DATA COLLECTION ZONES & SERVICE AREA MAPS

Data Collection Zones

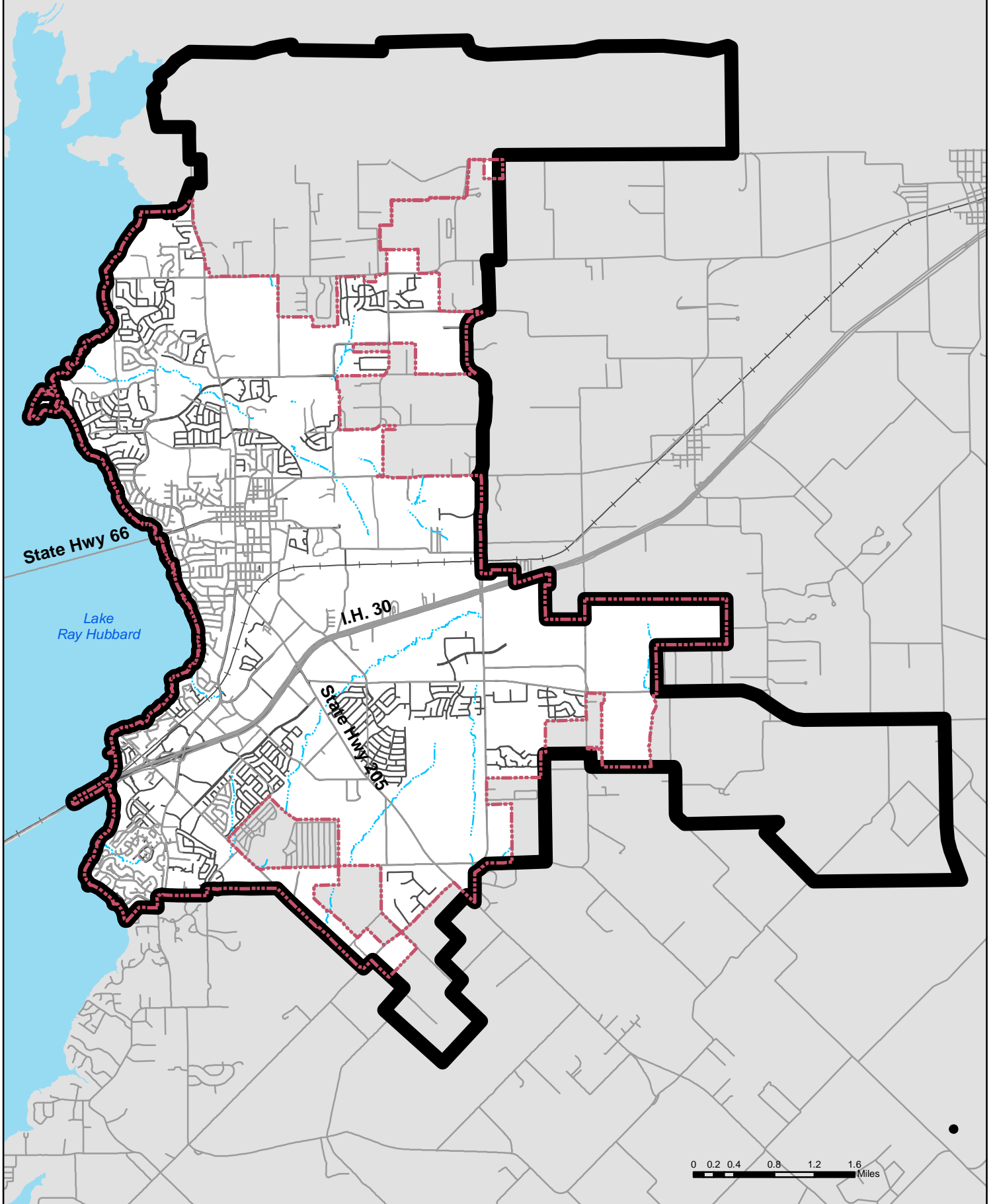
The data collection zones used for the land use assumptions are based upon small geographic areas known as traffic survey zones (TSZs). A traffic survey zone is a type of data collection zone that was established by the North Central Texas Council of Governments (NCTCOG) for all areas within the region, including areas within the corporate City Limits of Rockwall. These zones are based upon the areas used by NCTCOG for transportation modeling. Traffic survey zones were originally formulated on the basis of homogeneity and traffic generation potential using major arterials, creeks, railroad lines and other physical boundaries for delineation. Since part of the data needed for the calculation of roadway impact fees is required to be compiled by TSZs, the land use assumptions are compiled by the same traffic survey zones as those used by NCTCOG or combinations thereof. The Traffic Survey Zone Map is a standardized map available at the NCTCOG office. These traffic survey zones are aggregated into different areas to form service areas for roadway impact fees.

Service Area Maps

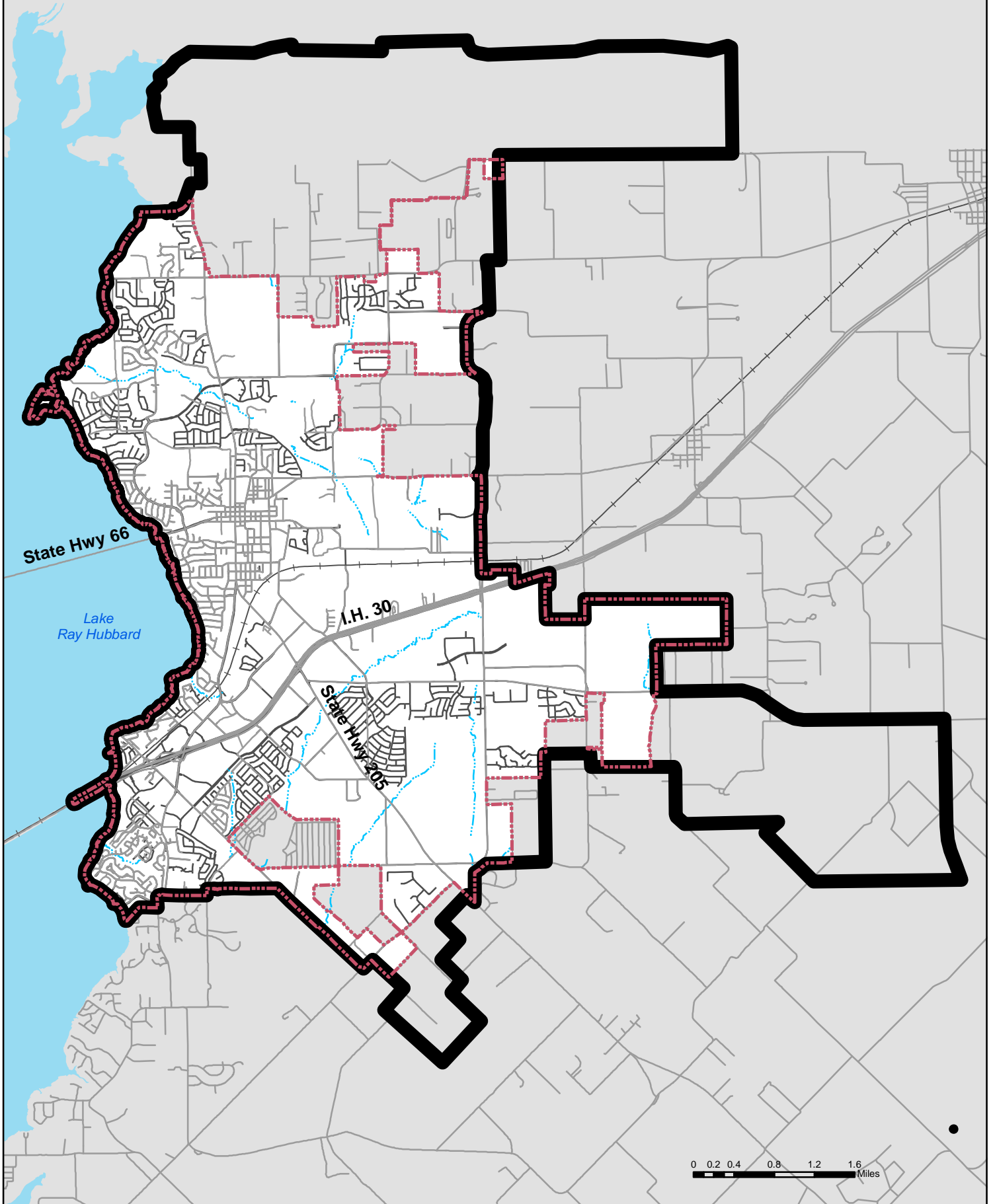
Plates 1, 2 and 3 show the proposed service zones for water, wastewater and roadway facilities. **Plates 1 and 2** show the proposed service areas for water and wastewater facilities. The boundary for these facilities is the existing City Limits and the City's CCN-approved area (that is, the area certified by the Texas Commission on Environmental Quality, TCEQ, to which the City can provide water and wastewater service). **Plate 3**, entitled "Service Areas for Roadway Impact Fees", show the four service areas for roadway facilities. All of the roadway service area boundaries encompass several traffic survey zones. The capital improvement plans and impact fees will be prepared as separate documents for water, wastewater, and roadway facilities.

Service Areas for Water Impact Fees

Plate 1

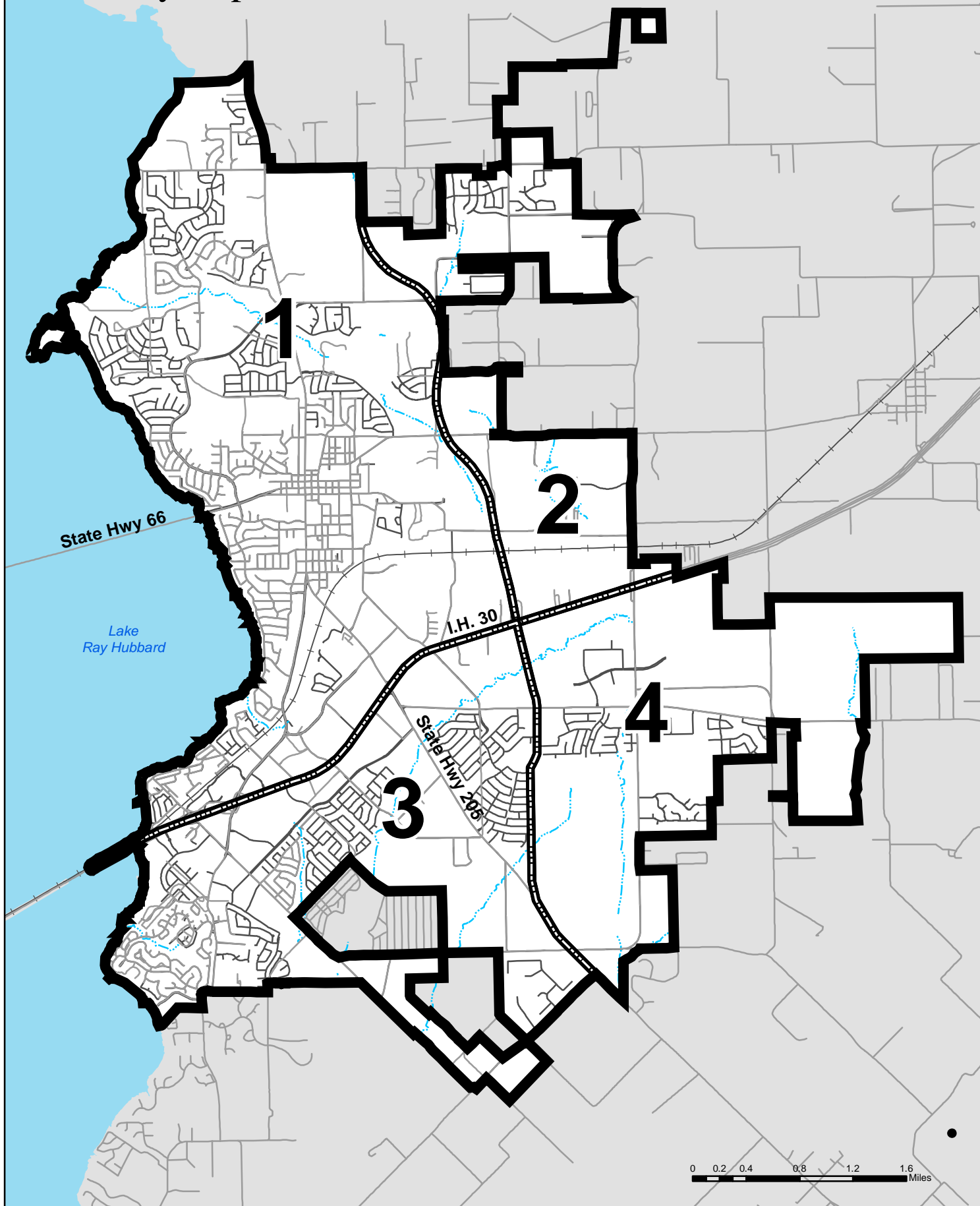


Service Areas for Wastewater Impact Fees



Service Areas for Roadway Impact Fees

Plate 3



Data Format

The existing base data, as well as the future projections, were formulated according to the following format and categories:

Service Area	Correlates to the proposed roadway, water and wastewater service areas identified on the attached maps.
Traffic Survey Zone/TSZ	Geographic areas established by the NCTCOG which are used for data collection purposes and termed TSZs within this report.
Housing Units (2007)	All living units including single-family, duplex, multi-family and group quarters. The number of existing housing units has been shown for the base year (January 1, 2007).
Housing Units (2017)	Projected housing units by service zone for January 2017 (ten-year growth projections).
Population (2007)	Existing population for the base year (January 2007).
Population (2017)	Projected population by service zone for the year 2017 (ten-year growth projections).
Employment (2007, 2017)	<p>Three classifications were used for employment and compiled for each roadway service area:</p> <ul style="list-style-type: none"> ▪ <u>Basic</u> (old SIC Code #1000 to #5199)* -- 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. ▪ <u>Service</u> (old SIC Code #6000 to #9999)* -- Land use activities which provide personal and professional services such as financial, insurance, government, and other professional administrative offices. ▪ <u>Retail</u> (old SIC Code #5200 to #5999)* -- 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. <p>* The United States office of Management and budget no longer uses the SIC system but NCTCOG has not converted to the new NAICS system.</p>

III. BASE YEAR DATA

This section documents the City’s historical growth trends and data from the base year of January 1, 2007. This “benchmark” information provides a starting basis of data for the ten-year growth assumptions that will be presented within the following section.

Population Growth

One method of predicting future growth is looking at past growth. The historical populations for Rockwall (City limits) from 1980 are shown below:

YEAR	POPULATION
1980	5,939
1990	10,486
2000	17,976
2007 ⁽¹⁾	30,871
Source: U.S. Census	
⁽¹⁾ Estimate by Dunkin, Sefko & Associates, Inc.	

The 2007 population estimate shown above was derived using the following formula:

12,547 housing units * 0.932 occupancy rate = 11,694 occupied dwelling units
11,694 occupied dwelling units * an average of 2.64 persons per household = 30,872 persons
January 2007 estimated population of 30,871

Another method of predicting future growth is to examine the number of residential building permits issued per year and determine possible trends for future years. **Table 1** below, shows residential building permits issued during a ten-year period, from 1997 through 2006.

TABLE 1 RESIDENTIAL BUILDING PERMITS City of Rockwall, Texas			
Year	Building Permits	Year	Building Permits
1997	294	2002	852
1998	523	2003	772
1999	535	2004	892
2000	669	2005	679
2001	874	2006	337
Ten-Year Average 1997 - 2006			643
Five-Year Average 2002 - 2006			706
Source: City of Rockwall Planning Department			

For the purposes of documenting changes in population, land use, density, and intensity, the data format to be used as a basis to formulate the land use assumptions will be principally population and employment. Appendix “A” shows the existing base data for both traffic survey zones and for each proposed roadway service area. **Table 2A** represents a summary of existing population and employment within the existing City Limits of Rockwall, the area corresponds to the roadway service areas. **Table 2B** represents a summary of existing population and employment within the water and wastewater service areas, this includes all of the City Limits and extends out into portions of the ETJ.

Table 2A 2007 POPULATION & EMPLOYMENT Existing City Limits	
Housing Units ⁽¹⁾	12,547
Population	30,871
Total Employment	13,439
<i>Basic Employment</i>	<i>3,315</i>
<i>Retail Employment</i>	<i>3,572</i>
<i>Service Employment</i>	<i>6,552</i>
Source: Dunkin, Sefko & Associates, Inc. (1) Estimated from housing counts & building permit data	

Table 2B 2007 POPULATION & EMPLOYMENT Water and Wastewater Service Area	
Housing Units ⁽¹⁾	14,127
Population	34,819
Total Employment	13,489
<i>Basic Employment</i>	<i>3,365</i>
<i>Retail Employment</i>	<i>3,572</i>
<i>Service Employment</i>	<i>6,552</i>
Source: Dunkin, Sefko & Associates, Inc. (1) Estimated from housing counts & building permit data	

IV. TEN-YEAR GROWTH ASSUMPTIONS

Growth is characterized in two forms: population (residential land use) and employment (nonresidential land use). 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 as identified on the Future Land Use Plan
- 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 Comprehensive Plan.

The ten-year projections, or land use assumptions, are based upon the establishment of a reasonable growth rate which is based upon past trends or other considerations. An approximate 5.0 percent average annual growth rate was determined to be a reasonable rate at which Rockwall could be expected to grow. The historical average annual growth rate has generally been higher, but a 5.0 percent rate represents a rate which corresponds more closely with the amount of growth which is expected over the next ten years and is consistent with NCTCOG and school district projections. Considering the historical growth rate, which has experienced a recent decline, and the historical development of lots within residential subdivisions, it was determined that these past trends, when combined with anticipated development projects, were deemed reasonable indications of future growth potential. Based upon this assumption, and upon building permit data, it is projected that a yearly average of approximately 800 residential dwelling units per year could be constructed over the next ten years. A household size of 2.75 persons per household and an occupancy rate of 93.2 percent were used to calculate the future population. Using a future growth rate of approximately 800 residential building permits per year, a population of approximately 50,300 people was projected for the ten-year growth period (for the year 2017). This rate would generate a population increase of about 2,000 persons per year. The following shows the formula that was used to calculate the ten-year growth assumptions:

$800 \text{ dwelling units} * 0.932 \text{ occupancy rate} = 746 \text{ occupied dwelling units/year}$
$746 \text{ occupied dwelling units/year} * 2.75 \text{ persons per household} =$ approximately 2,000 persons/year
$2,000 \text{ persons/year} * 10 \text{ years} =$ approximately 20,000 persons growth over ten years
$30,872 \text{ existing 2007 population} + 20,000 \text{ persons growth} =$ approximately 50,300 persons

This rate, which generally reflects an approximate 5.0 percent average annual growth rate, was determined to be a reasonable rate at which Rockwall could be expected to grow.

Appendices A and B show ten-year growth projections for population and employment for each data traffic survey zone. **Table 3** and **Table 4** show a summary of the ten-year population and employment projections for the Roadway Service Area (Rockwall City Limits).

Roadway Service Area	2007			2017		
	Housing Units	Households	Population	Housing Units	Households	Population
1	7,741	7,215	18,833	10,322	9,620	25,135
2	219	204	561	1,198	1,117	3,105
3	3,925	3,658	9,776	6,078	5,665	15,096
4	664	619	1,701	2,711	2,527	6,949
Totals	12,549	11,696	30,871	20,309	18,929	50,285

Source: Dunkin, Sefko & Associates, Inc.

Roadway Service Area	Basic Employment		Retail Employment		Service Employment		Total Employment	
	2007	2017	2007	2017	2007	2017	2007	2017
1	2,855	3,213	1,675	3,128	4,618	5,908	9,148	12,249
2	0	181	0	82	54	488	54	751
3	136	501	1,792	3,531	1,611	2,659	3,539	6,691
4	324	588	105	256	269	1,352	698	2,196
Totals	3,315	4,483	3,572	6,997	6,552	10,407	13,439	21,900

Source: Dunkin, Sefko & Associates, Inc.

Table 5 shows a summary of the ten-year population projections of the Water and Wastewater Service Areas.

Table 5 TEN-YEAR POPULATION PROJECTIONS BY WATER AND WASTEWATER SERVICE AREA City of Rockwall, Texas						
	2007			2017		
	Housing Units	Households	Population	Housing Units	Households	Population
Service Area	14,129	13,169	34,819	21,889	20,402	54,206
Source: Dunkin, Sefko & Associates, Inc.						

V. ULTIMATE POPULATION PROJECTION

An ultimate, or holding capacity, land use and population projection was also established. Based upon the remaining developable vacant land within Rockwall, densities as recommended on the Future Land Use Plan, and densities of anticipated development projects were applied. The ultimate holding capacity for the City of Rockwall (corresponding to the roadway service area) is expected to be approximately 58,800 persons.

The ultimate holding capacity for the portion of the water and wastewater service areas which are located outside of the City limits is expected to be approximately 29,630 persons. The holding capacity was calculated using the following formula:

$5,932 \text{ vacant acres} * 2.0 \text{ dwelling units per acre} = 11,864 \text{ housing units}$
$11,864 \text{ housing units} * 93.2\% \text{ occupancy rate} = 11,057 \text{ households}$
$11,057 \text{ households} * 2.68 \text{ persons per household} =$ approximately 29,630 people

VI. SUMMARY

- The 2007 population of Rockwall’s City Limits is approximately 30,871 persons, and the existing estimated employment is 13,439 jobs.
- The 2007 population for the portion of the water and wastewater service areas which are located outside the City limits is approximately 3,950 persons.
- An average annual growth rate of 5.0 percent was used to calculate the Rockwall ten-year growth projections.
- The ten-year (2017) growth projection of the roadway service area is 50,300 persons, and the ten-year employment projection is 21,900 jobs.
- The ultimate population of Rockwall City limits is expected to be approximately 58,800 persons.
- The ultimate population of Rockwall’s water and wastewater service areas outside the City limits is approximately 29,630 persons.

APPENDICES

DATA FORMAT FOR APPENDICES “A” AND “B”

The land use assumptions database (Appendices “A” and “B”), as well as future projections, were formulated according to the following format and categories:

Appendix "A" - Ten-Year Population Projections

Roadway Service Area	Correlates to the roadway service areas identified on Plate 3 .
2007 Households	Households represent all occupied dwelling units in 2007.
2007 Population	The 2007 calculated population for each TSZ.
2017 Households	Occupied dwelling units per TSZ in 2017.
2017 Population	The 2017 projected population tabulated for each TSZ and roadway service area.
Traffic Survey Zone (TSZ)	Traffic survey zones previously established by the NCTCOG for data collection purposes, and termed TSZs in this report.

Appendix "B" - Ten-Year Employment Projections

Roadway Service Area	Correlates to the roadway service areas identified on Plate 3 .
Employment	<p>Three classifications were used for employment and compiled for each roadway service area:</p> <p>BASIC (SIC Code #1000 to 5199) -- land use activities that produce goods and services such as those exported outside the local economy; manufacturing, construction, transportation, wholesale trade, ware-housing and other industrial uses.</p> <p>RETAIL (SIC Code #5200 to 5999) -- land use activities which provide for the retail sale of goods that primarily serve households, and whose location choice is oriented to the household sector such as grocery stores, restaurants, etc.</p> <p>SERVICE (SIC Code #6000 to 9999) -- land use activities which provide personal and professional services such as financial, insurance, government, and other professional administrative offices.</p>
Total Employment	The total of the Basic, Retail and Service employment categories.

APPENDIX "A"							
POPULATION PROJECTIONS							
Roadway Service Area							
Traffic Survey Zone	Roadway Service Area	2007		2017		Ultimate	
		Households	Population	Households	Population	Households	Population
5002	1	163	448	292	802	486	1,336
5003	1	0	0	0	0	0	0
5008	1	1,008	2,772	1,072	2,948	1,072	2,948
5009	1	988	2,718	1,285	3,534	1,285	3,534
5010*	1	143	394	619	1,701	1,237	3,403
5011*	1	658	1,810	862	2,370	1,436	3,949
5018	1	871	2,396	1,140	3,136	1,267	3,484
5020	1	569	1,459	584	1,498	584	1,498
5021	1	117	321	117	321	117	321
5022	1	156	428	156	429	156	428
5023	1	172	474	196	539	196	538
5024	1	352	969	387	1,065	387	1,065
5025*	1	100	275	548	1,505	729	2,002
5027*	1	15	41	15	41	15	41
5036	1	701	1,838	701	1,837	701	1,838
5037	1	1,202	2,490	1,646	3,409	1,829	3,788
Subtotal		7,215	18,833	9,620	25,135	11,497	30,173
5004	2	0	0	0	0	103	283
5010*	2	0	0	262	720	524	1,440
5011*	2	100	275	139	382	139	382
5012	2	23	64	286	790	572	1,580
5013	2	3	8	121	364	242	727
5014	2	0	0	0	0	0	0
5025*	2	26	71	26	71	26	71
5026	2	47	129	278	766	309	851
5027*	2	5	14	5	12	5	14
Subtotal		204	561	1,117	3,105	1,920	5,348

Traffic Survey Zone	Roadway Service Area	2007		2017		Ultimate	
		Households	Population	Households	Population	Households	Population
5028*	3	0	0	461	1,229	512	1,366
5038	3	622	1,430	950	2,161	1,041	2,393
5039	3	1,119	3,077	1,305	3,589	1,305	3,589
5040*	3	1,000	2,750	1,000	2,750	1,000	2,750
5043	3	591	1,625	678	1,865	679	1,868
5044	3	96	263	800	2,200	865	2,379
5045	3	225	618	341	938	341	938
5046	3	5	13	130	364	144	404
Subtotal		<i>3,658</i>	<i>9,776</i>	<i>5,665</i>	<i>15,096</i>	<i>5,887</i>	<i>15,687</i>
5028*	4	3	7	3	7	3	7
5029	4	0	0	0	0	0	0
5040*	4	311	855	1,387	3,815	1,496	4,115
5047	4	305	839	1,137	3,127	1,263	3,474
Subtotal		<i>619</i>	<i>1,701</i>	<i>2,527</i>	<i>6,949</i>	<i>2,762</i>	<i>7,596</i>
TOTAL		11,696	30,871	18,929	50,285	22,066	58,804
* Traffic Survey Zone is split by Roadway Service Area Boundary							

APPENDIX "B"													
EMPLOYMENT PROJECTIONS													
Roadway Service Area													
Traffic Survey Zone	Roadway Service Area	2007				2017				Ultimate			
		Basic	Retail	Service	Total	Basic	Retail	Service	Total	Basic	Retail	Service	Total
5002	1	0	0	70	70	0	31	85	116	0	62	104	166
5003	1	0	0	0	0	0	0	0	0	0	0	0	0
5008	1	0	39	31	71	0	70	48	118	0	70	48	118
5009	1	0	8	111	119	0	39	145	184	0	39	145	184
5010*	1	0	0	100	100	0	20	117	137	0	93	167	260
5011*	1	38	92	0	130	38	92	0	130	38	92	0	130
5018	1	331	34	213	578	331	100	213	644	331	158	280	769
5020	1	100	192	498	790	100	254	548	902	100	254	548	902
5021	1	85	90	103	278	85	90	103	278	85	90	103	278
5022	1	14	81	205	300	14	81	205	300	14	81	205	300
5023	1	50	20	336	406	50	51	370	471	50	51	370	471
5024	1	0	96	0	96	0	96	0	96	0	96	0	96
5025*	1	213	18	966	1,197	271	18	1,098	1,387	444	18	1,871	2,333
5027*	1	2,021	161	708	2,889	2,321	443	1,112	3,876	2,500	1,561	3,304	7,365
5036	1	3	138	86	227	3	454	321	778	3	854	421	1,278
5037	1	0	706	1,191	1,897	0	1,289	1,543	2,832	0	1,359	1,543	2,902
Subtotal		2,855	1,675	4,618	9,148	3,213	3,128	5,908	12,249	3,565	4,878	9,109	17,552
5004	2	0	0	0	0	0	0	0	0	0	62	34	96
5010*	2	0	0	2	2	0	20	20	40	0	124	69	193
5011*	2	0	0	0	0	0	0	0	0	0	31	17	48
5012	2	0	0	0	0	0	0	0	0	0	31	34	65
5013	2	0	0	0	0	0	0	0	0	0	0	0	0
5014	2	0	0	0	0	0	0	0	0	0	0	0	0
5025*	2	0	0	10	10	30	0	90	120	231	0	915	1,146
5026	2	0	0	0	0	0	0	0	0	0	0	0	0
5027*	2	0	0	42	42	151	62	378	591	479	62	1,918	2,459
Subtotal		0	0	54	54	181	82	488	751	710	310	2,987	4,007

Traffic Survey Zone	Roadway Service Area	2007				2017				Ultimate			
		Basic	Retail	Service	Total	Basic	Retail	Service	Total	Basic	Retail	Service	Total
5028*	3	94	573	159	826	199	751	494	1,444	312	1,288	1,332	2,932
5038	3	0	618	286	904	0	1,053	520	1,573	0	1,053	520	1,573
5039	3	0	566	643	1,209	78	1,178	903	2,159	231	2,121	1,430	3,782
5040*	3	0	0	50	50	13	151	178	342	13	187	201	401
5043	3	0	5	30	35	0	5	30	35	0	5	30	35
5044	3	42	0	178	220	211	62	108	381	539	62	178	779
5045	3	0	30	265	295	0	331	426	757	0	1,430	1,053	2,483
5046	3	0	0	0	0	0	0	0	0	0	0	0	0
Subtotal		<i>136</i>	<i>1,792</i>	<i>1,611</i>	<i>3,539</i>	<i>501</i>	<i>3,531</i>	<i>2,659</i>	<i>6,691</i>	<i>1,095</i>	<i>6,146</i>	<i>4,744</i>	<i>11,985</i>
5028*	4	320	89	210	619	398	89	811	1,298	808	89	2,086	2,983
5029	4	0	0	0	0	150	0	300	450	1,673	0	6,433	8,106
5040*	4	0	0	50	50	0	117	91	208	0	187	151	337
5047	4	4	16	9	29	40	50	150	240	143	171	629	944
Subtotal		<i>324</i>	<i>105</i>	<i>269</i>	<i>698</i>	<i>588</i>	<i>256</i>	<i>1,352</i>	<i>2,196</i>	<i>2,624</i>	<i>447</i>	<i>9,299</i>	<i>12,370</i>
TOTAL		3,315	3,572	6,552	13,439	4,483	6,997	10,407	21,887	7,994	11,781	26,139	45,914
* Traffic Survey Zone is split by Roadway Service Area Boundary													