Resolution # 2010 - 21

Transmittal Resolution
Capital Improvements Element Update
Rockdale County, Georgia

WHEREAS, the Rockdale County Board of Commissioners adopted a Capital Improvements Element (CIE) as part of its Comprehensive Plan and has amended said CIE annually; and

WHEREAS, the proposed amended CIE was prepared in accordance with the "Development Impact Fee Compliance Requirements" and the "Minimum Planning Standards and Procedures for Local Comprehensive Planning" adopted by the Board of Community Affairs pursuant to the Georgia Planning Act of 1989, and duly advertised Public Hearings were held on October 14, 2010, and October 28, 2010 in the County Commission Assembly Hall at 901 Main Street, Conyers.

NOW THEREFORE BE IT RESOLVED, that the Board of Commissioners of Rockdale County, Georgia does hereby submit the Capital Improvements Element Update of the Rockdale County Comprehensive Plan attached hereto as Exhibit "A" and incorporated by this reference to the Georgia Department of Community Affairs and the Atlanta Regional Commission for Regional and State review, as per the requirements of the Development Impact Fee Compliance Requirements.

Adopted this 28th day of October, 2010

Rockdale County, Georgia
Board of Commissioners

By: _____
Richard A. Oden, Chairman

By: _____
Oz Nesbitt, Sr., Commissioner Post I

By: _____
JaNice Van Ness, Commissioner Post II

Attest:

By: _____
Jennifer Rutledge, County Clerk

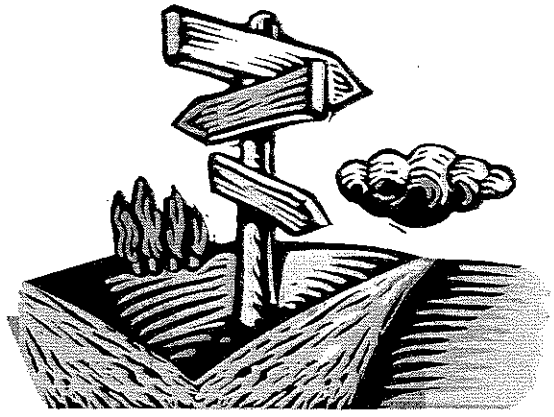
Approved as to form:

By: _____
Qadar A. Baig, County Attorney

Capital Improvements Element

An Amendment to the

Rockdale County Comprehensive Plan



DRAFT for ADOPTION – September 20, 2010

ROSS+associates

urban planning & plan implementation

Exhibit "A"

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Capital Improvements Element

An Amendment to the Rockdale County Comprehensive Plan

Introduction

The purpose of a Capital Improvements Element (CIE) is to establish where and when certain new capital facilities will be provided within a jurisdiction and how they may be financed through an impact fee program. As required by the Development Impact Fee Act, and defined by the Department of Community Affairs in its *Development Impact Fee Compliance Requirements*, the CIE must include the following for each category of capital facility for which an impact fee will be charged:

- the designation of **service areas** - the geographic area in which a defined set of public facilities provide service to development within the area;
- a **projection of needs** for the planning period of the adopted Comprehensive Plan;
- the designation of **levels of service** (LOS) - the service level that will be provided;
- a **schedule of improvements** listing impact fee related projects and costs for the first five years after plan adoption; and
- a description of **funding sources** proposed for each project during the first five years of scheduled system improvements.

System improvements expected to commence or be completed over the coming five years are also shown in the Short-Term Work Program (STWP). The STWP affects new and previously planned capital projects for the upcoming five-year period, beginning with the current year.

Categories for Assessment of Impact Fees

To assist in paying for the high costs of expanding public facilities and services to meet the needs of projected growth and to ensure that new development pays a reasonable share of the costs of public facilities, Rockdale County has developed this CIE for the categories of libraries, parks, public safety facilities (fire protection).

Components of the Impact Fee System

The Rockdale County Impact Fee System consists of several components:

- The currently adopted Comprehensive Plan, including future land use assumptions and projected future demands;
- Service area population forecasts, based on population, households, dwelling unit and employment forecasts of the Comprehensive Plan;
- Service area definition and designation;
- Appropriate level of service standards for each impact fee eligible facility category;
- A methodology report, which establishes the impact cost of new growth and development and thus the maximum impact fees that can be assessed;
- This Capital Improvements Element to implement the County's proposed improvements; and
- A Development Impact Fee Ordinance, including an impact fee schedule by land use category.

Population and Employment Forecasts

Population and Employment Forecasts

In order to accurately calculate the demand for expanded services for Rockdale County, new growth and development must be quantified in future projections. These projections include forecasts for population, housing or dwelling units, and employment to the year 2020. These projections provide the base-line conditions from which the level of service calculations are produced. Also, projections are combined to produce what is known as 'day/night population.' This is a method that combines resident population and employees in the county to produce an accurate picture of the total number of persons that rely on certain services, such as law enforcement. The projections used for each public facility category are specified in each public facility chapter. These forecasts are based on the County's current *Comprehensive Plan Update*.

Accurate projections of population, housing units, and employment are important in that:

- Population data and forecasts are used to establish current and future demand for services standards where the Level of Service (LOS) is per capita based.
- Dwelling unit data and forecasts relate to certain service demands that are household based, such as libraries or parks, and are used to calculate impact costs in that the cost is assessed when a building permit is issued. The number of households—defined as *occupied* housing units—is always smaller than the supply of available housing units. Over time, however, each housing unit is expected to become occupied by a household, even though the unit may become vacant during future re-sales or turnovers.
- Employment data is combined with population data to produce 'day/night population' figures. These figures represent the total number of persons receiving services, both in their homes and in their businesses, particularly from 24-hour operations such as fire protection.

Future Growth Projections

Table P-1 **presents the forecasts for county population both inside and outside of Conyers.**

Table P-2 **presents the forecasts for county dwelling units both inside and outside of Conyers.**

Table P-3 **presents the forecasts for "value added" employment both inside and outside of Conyers.**

Table P-4 **presents the forecasts for county "day/night" population both inside and outside of Conyers.**

"Value Added" employment is total employment less agricultural, mining and construction employment. This revision is carried out to drop employment categories that do not normally require a fixed structure, and thus would not be captured in an impact fee program.

The "day/night" population is a combination of the resident (population) projections and employment estimates, and is used to determine level of service standards for facilities that serve both the resident population and business employment. The fire department, for instance, protects one's house whether or not they are at home, and protects stores and offices whether or not they are open for business. Thus, this day/night population is a measure of the total services demanded of a 24-hour provider facility and a fair way to allocate the costs of such a facility among all of the beneficiaries.

Table P-1
Population Forecasts
Rockdale County and Conyers

	Conyers	Remainder of County	Total County
2005	**10,700**	70,300	**81,000**
2006	11,242	71,757	82,999
2007	11,812	73,235	85,047
2008	12,411	74,735	87,146
2009	13,040	76,257	89,297
2010	**13,700**	77,800	**91,500**
2011	13,932	79,596	93,528
2012	14,168	81,433	95,601
2013	14,408	83,312	97,720
2014	14,652	85,234	99,886
2015	**14,900**	87,200	**102,100**
2016	15,189	89,003	104,192
2017	15,483	90,844	106,327
2018	15,783	92,723	108,506
2019	16,089	94,641	110,730
2020	**16,400**	96,600	**113,000**

Figures in **bold** are from Rockdale County *Comprehensive Plan Update* adopted December, 2003. Intervening years interpolated by ROSS+associates based on **average annual rate of change**.

Table P-2
Dwelling Unit Forecast
Rockdale County and Conyers

	Conyers	Remainder of County	Total County
2005	3,958	24,824	28,783
2006	4,170	25,365	29,535
2007	4,393	25,914	30,307
2008	4,627	26,471	31,098
2009	4,874	27,036	31,911
2010	5,135	27,611	32,746
2011	5,218	28,112	33,330
2012	5,302	28,622	33,924
2013	5,388	29,141	34,529
2014	5,474	29,670	35,144
2015	5,563	30,207	35,770
2016	5,666	30,863	36,529
2017	5,771	31,534	37,305
2018	5,878	32,220	38,098
2019	5,987	32,920	38,907
2020	6,098	33,635	39,733

Dwelling unit forecasts based on Rockdale Comprehensive Plan households forecast, adjusted to reflect occupancy rates of 93% in Conyers and 96% in the county.

Table P-3
"Value Added" Employment
Rockdale County and Conyers

	Conyers	Remainder of County	Total County
2005	18,951	24,168	**43,119**
2006	19,434	24,785	44,219
2007	19,930	25,417	45,347
2008	20,439	26,065	46,504
2009	20,960	26,730	47,690
2010	21,494	27,412	**48,906**
2011	22,004	28,063	50,067
2012	22,527	28,729	51,256
2013	23,062	29,411	52,473
2014	23,610	30,109	53,719
2015	24,170	30,824	**54,994**
2016	24,706	31,509	56,215
2017	25,255	32,208	57,463
2018	25,816	32,923	58,739
2019	26,389	33,654	60,043
2020	26,975	34,402	**61,377**

Figures in **bold** are derived from Rockdale County *Comprehensive Plan Update* adopted December, 2003.

"Value Added" employment is total employment less agricultural, mining and construction employment.

City ratio of "value added" employment (43.95%) based on BTS CTPP data, 2000 Census.

Table P-4
Day/Night Population Forecasts
2005 - 2020

	Conyers	Remainder of County	Total County
2005	29,651	94,468	124,119
2006	30,676	96,542	127,218
2007	31,742	98,652	130,394
2008	32,850	100,800	133,650
2009	34,000	102,987	136,987
2010	35,194	105,212	140,406
2011	35,936	107,659	143,595
2012	36,695	110,162	146,857
2013	37,470	112,723	150,193
2014	38,262	115,343	153,605
2015	39,070	118,024	157,094
2016	39,895	120,512	160,407
2017	40,738	123,052	163,790
2018	41,599	125,646	167,245
2019	42,478	128,295	170,773
2020	43,375	131,002	174,377

Day/Night population is the combination of residents and employment.

Service Area Projections

In **Table P-5** the service area forecasts are presented for a single county-wide service area measured in two ways: county-wide dwelling units (which includes library and parks facilities), and county-wide day/night population (fire facilities). These are the figures that will be used in subsequent service category chapters to calculate impact costs and fees.

Table P-5
Service Area Forecasts
2005 - 2020

	County-wide Dwelling Units (Library & Parks)	County-wide Day/Night Population (Fire protection)
2005	28,783	124,119
2006	29,535	127,218
2007	30,307	130,394
2008	31,098	133,650
2009	31,911	136,987
2010	32,746	140,406
2011	33,330	143,595
2012	33,924	146,857
2013	34,529	150,193
2014	35,144	153,605
2015	35,770	157,094
2016	36,529	160,407
2017	37,305	163,790
2018	38,098	167,245
2019	38,907	170,773
2020	39,733	174,377
Net Increase, 2005-2020:	**10,950**	**50,258**

Cost Adjustments

Cost Adjustments

Calculations related to impact fees are made in terms of the 'present value' of past and future amounts of money, including project cost expenditures and credits for future revenue. The Georgia Development Impact Fee Act defines 'present value' as "the current value of past, present, or future payments, contributions or dedications of goods, services, materials, construction, or money." This Section describes the methodologies used to make appropriate adjustments to project cost figures, both past and future, to convert such costs into current dollars, and to determine the present value of future revenue from new development that would be applied as a credit against impact fees.

Calculations for present value (PV) differ when considering past expenditures versus future costs. In both cases, however, the concept is the same – the 'actual' expenditure made or to be made is adjusted to the current year using appropriate rates (an inflation rate for past expenditures and a deflator for future costs). In essence, the present value is considered in light of an alternate investment strategy – a determination of what the same amount of money would be worth if it were invested rather than spent.

Past Expenditures

Past expenditures are considered in impact fee calculations only for previous expenditures for projects that created excess capacity for new development and are being recouped. An expenditure that was made in the past is converted to PV using the inflation rate of money – in this case the Consumer Price Index (CPI). Although this approach ignores the value of technological innovation (i.e., better computers are available today for the same historic prices) and evolving land prices (often accelerated beyond inflation by market pressures), the approach best captures the value of the money actually spent. For instance, it is not important that you can buy a better computer today for the same price that was paid 5 years ago; what is important is the money was spent 5 years ago and what that money would be worth today had it been saved instead of spent.

Table C-1 shows the historic CPI figures going back to 1967. The approach to bring past expenditures up to current dollars (PV) is straight-forward – the year in

Table C-1

Consumer Price Index -- 1967-2009

	CPI* 1967=100%	Examples of Present Value in 2009		
1967	100.00	$100,000		
1968	104.20	104,200		
1969	109.80	109,800		
1970	116.30	116,300		
1971	121.30	121,300		
1972	125.30	125,300		
1973	133.10	133,100		
1974	147.70	147,700		
1975	161.20	161,200		
1976	170.50	170,500		
1977	181.50	181,500		
1978	195.40	195,400		
1979	217.40	217,400		
1980	246.80	246,800		
1981	272.40	272,400		
1982	289.10	289,100		
1983	298.40	298,400		
1984	311.10	311,100		
1985	322.20	322,200		
1986	328.40	328,400		
1987	340.40	340,400		
1988	354.30	354,300		
1989	371.30	371,300		
1990	391.40	391,400	$100,000	
1991	408.00	408,000	104,241	
1992	420.30	420,300	107,384	
1993	432.70	432,700	110,552	
1994	444.00	444,000	113,439	
1995	456.50	456,500	116,633	
1996	469.90	469,900	120,056	
1997	480.80	480,800	122,841	
1998	488.30	488,300	124,757	
1999	499.00	499,000	127,491	
2000	515.80	515,800	131,783	$100,000
2001	530.40	530,400	135,514	102,831
2002	538.80	538,800	137,660	104,459
2003	551.10	551,100	140,802	106,844
2004	565.80	565,800	144,558	109,694
2005	585.00	585,000	149,463	113,416
2006	603.90	603,900	154,292	117,080
2007	621.10	621,100	158,687	120,415
2008	644.95	644,951	164,781	125,039
2009	642.66	$642,658	$164,195	$124,594

*Consumer Price Index data is from the U. S. Department of Labor.

which the expenditure is made is inflated to the current year using the annual CPI figures. For instance, $100 spent in 1967 would require the expenditure of $643 in 2009 just to stay abreast of inflation; the PV of $100 in 1967, therefore, is $643. (Other examples are also shown on the table).

Future Project Costs

In order to determine the present value of a project expenditure that will be made in the future, the Net Present Value (NPV) of the expenditure is determined. To determine the NPV of any project cost, two figures are needed – the future cost of the project anticipated in the year the expenditure will be made, and the net discount rate. Given the current cost of a project, that cost is first inflated into the future to the target expenditure year to establish the estimated future cost. The future cost is then deflated to the present using the net discount rate, which establishes the NPV for the project in current dollars. These two formulas are:

$$\text{Future Cost} = \text{Current Cost} \times (1 + \text{Inflation Rate})^{\text{Year of Expenditure} - \text{Current Year}}$$

$$\text{Net Present Value} = \text{Future Cost} \times (1 + \text{Net Discount Rate})^{\text{Current Year} - \text{Year of Expenditure}}$$

In this section two important adjustments are discussed that are required to convert current costs into future cost figures, and then back into current dollars. First, a cost inflator is examined. This adjustment factor is important in determining the future cost of a project, based on current cost estimates. The cost inflator may be based on anticipated inflation in construction or building costs, or on anticipated inflation in the value of money (for capital projects that do not include a construction component). In essence, costs increase over time. By identifying the appropriate inflation rate that is related to the type of project (building, project construction or nonconstruction), current estimates can be used to predict future costs.

The second cost adjustment is a deflator – the Net Discount Rate – based on potential interest earnings. In essence, the Net Discount Rate represents the amount of money that, if invested instead of spent, would be put 'in the bank' now to grow with interest to pay for future costs when the money is needed. The discount rate is both 'net' of taxes and other administrative costs, and is the most risk-free investment available. For the calculations included in this report, an anticipated rate of 3.00% is used, based on the local government's current experience and anticipated conditions.

Cost Inflators

Three different cost inflators are used in the impact fee calculations, based on the type of project being considered. For infrastructure projects, such as roads or ball fields, a 'construction cost inflator' is used. For projects that require construction of a structure (such as a fire station), a 'building cost inflator' is used as the appropriate inflation rate. For all non-construction types of projects (such as a fire truck), an inflation rate is used that is based on the Consumer Price Index. These different types of inflators are discussed below.

Engineering News Record's Cost Indexes

ENR publishes both a Construction Cost Index (CCI) and a Building Cost Index (BCI) for the Atlanta area that are widely used in the construction industry. Both indexes have a materials and labor component. The components that comprise the CCI are: 200 hours of common labor at the local average of common labor rates, plus 25 cwt of standard structural steel shapes at the fabricated local price, plus 1.128 tons of portland cement at the local price, plus 1,088 board-ft of 2 x 4 lumber at the local price. For calculation of the CCI, costs in 1913 are set at 100. The BCI uses a labor component of 68.38 hours of skilled labor at the average local wage rate, plus fringes, for carpenters, bricklayers and structural ironworkers. The materials component is the same as that used in the CCI, and the BCI is also set at 100 in 1913.

Construction Cost Inflator

Table C-2 uses the example of a calculation of the annual average rate of increase reflected in construction costs. For this analysis, the 1999-2008 period is used as a base time period for an estimate of future construction cost increases due to inflation in labor and materials costs.

Table C-2 shows a construction project that cost $100,000 in 1999, and how much the same project would cost in each subsequent year using the Construction Cost Index published by Engineering News Record for the Atlanta area. Setting the 1999 Construction Cost Index (CCI) at '1.0,' the increase in the CCI as a multiple of 1999 is also shown on the table. The equivalent cost of the same project in each subsequent year is calculated by multiplying the CCI multiplier times $100,000. When the total for all such projects is summed for the 1999-2008 period, the equivalent average annual rate of increase is calculated as the percentage that would produce the same total. This percentage is used in the text of this analysis as the applicable inflator for future construction projects that will begin in years after 2008.

Table C-2

Construction Cost Inflator – CCI

		CCI*		Effect of Inflation	
Year	Amount	1913=100	1998=1.0	CCI	Avg. Rate = 3.879837%
1999	$ 100,000.00	3849.39	1.0000	$ 100,000.00	$ 100,000.00
2000		4105.86	1.0666	$ 106,662.61	$ 103,879.84
2001		4045.52	1.0510	$ 105,095.09	$ 107,910.21
2002		4189.12	1.0883	$ 108,825.55	$ 112,096.94
2003		4374.69	1.1365	$ 113,646.32	$ 116,446.12
2004		4611.31	1.1979	$ 119,793.27	$ 120,964.04
2005		4829.74	1.2547	$ 125,467.67	$ 125,657.25
2006		4893.35	1.2712	$ 127,120.14	$ 130,532.55
2007		5259.37	1.3663	$ 136,628.66	$ 135,597.00
2008		5801.13	1.5070	$ 150,702.58	$ 140,857.94
				$ 1,193,941.89	$ 1,193,941.89

* Construction Cost Index.
Source: *Engineering News Record*, Annual (December) Indices.

Building Cost Inflator

The inflator for future construction costs for buildings is based on ENR's Building Cost Index for each year from 1999 through 2008, and is calculated in the same manner as described above for the Construction Cost Inflator. Table C-3 shows the results.

Table C-3

Building Cost Inflator -- BCI

Year	Amount	BCI* 1913=100	BCI* 1998=1.0	Effect of Inflation BCI	Effect of Inflation Avg. Rate = 3.204070%
1999	$ 100,000.00	2,816.44	1.0000	$ 100,000.00	$ 100,000.00
2000		2,947.56	1.0466	$ 104,655.52	$ 103,204.07
2001		2,928.63	1.0398	$ 103,983.40	$ 106,510.80
2002		2,942.62	1.0448	$ 104,480.12	$ 109,923.48
2003		3,018.37	1.0717	$ 107,169.69	$ 113,445.51
2004		3,321.80	1.1794	$ 117,943.22	$ 117,080.38
2005		3,599.04	1.2779	$ 127,786.85	$ 120,831.71
2006		3,624.54	1.2869	$ 128,692.25	$ 124,703.25
2007		3,624.54	1.2869	$ 128,692.25	$ 128,698.83
2008		3,768.88	1.3382	$ 133,817.16	$ 132,822.43
				$ 1,157,220.46	$ 1,157,220.46

* Building Cost Index.
Source: *Engineering News Record*, Annual (December) Indices.

CPI Inflator

For projects that do not involve construction, only the future value of money needs to be considered (without regard to inflation in labor or materials costs). For this calculation, the Consumer Price Index (CPI) is used, assuming past experience will continue into the foreseeable future.

Table C-4 shows the CPI figures for every year since 1967, with 1967 being 100%. In 2009 the CPI is 642.66% of the 1967 CPI. Thus, an amount of money saved in 1967 would be worth 6.43 times its 1967 face value in 2009, including interest earned and discounted for inflation. The first column under the CPI heading shows the annual CPI percentages. Using 2009 as the base (2009=1.0), the second column under CPI on the table shows the multipliers that would convert an amount of money spent in each year into year 2009 present value dollars.

Using an annual amount of $10,000 as an example, the multipliers yield the figures shown for the CPI on the table under the Present Value heading. Cumulatively, the $430,000 spent over the 1967-2009 period would have a total present value of just over a million dollars. Considering the present value figures for the $10,000 annual expenditures, an 'average' overall inflation rate of about 3.91% yields the same total amount over the same period.

The 42-year average of annual CPI change (the period of 1967-2009) shown on Table C-4 includes years of great variation, and may not be the best indicator of future change. While the historic CPI multipliers reflect major swings in interest and inflation in the past, these rates have moderated considerably in recent years as inflation has become a primary target of federal monetary policy. Looking only at the change in CPI from 1999 to 2009, an average annual inflation rate of about 2.94% best captures the change over that period. This lower inflation rate (compared to the 1967-2009 period) is assumed to be experienced 'on average' in future years, and is used for inflator calculations for future nonconstruction expenditures.

Table C-4

Non-Construction Cost Inflator -- CPI

Based on Historic Consumer Price Index

Year	Amount	CPI 1967=100%*	CPI 2009.=1.0	Present Value CPI	Inflator = 3.90837%	
1967	$ 10,000.00	100.00	6.42658	$ 64,265.80	$ 50,040.50	
1968	10,000.00	104.20	6.16754	61,675.43	48,158.30	
1969	10,000.00	109.80	5.85299	58,529.87	46,346.89	
1970	10,000.00	116.30	5.52586	55,258.64	44,603.62	
1971	10,000.00	121.30	5.29809	52,980.87	42,925.92	
1972	10,000.00	125.30	5.12895	51,289.55	41,311.32	
1973	10,000.00	133.10	4.82838	48,283.85	39,757.45	
1974	10,000.00	147.70	4.35110	43,511.04	38,262.03	
1975	10,000.00	161.20	3.98671	39,867.12	36,822.86	
1976	10,000.00	170.50	3.76926	37,692.55	35,437.82	
1977	10,000.00	181.50	3.54082	35,408.15	34,104.88	
1978	10,000.00	195.40	3.28894	32,889.36	32,822.07	
1979	10,000.00	217.40	2.95611	29,561.09	31,587.51	
1980	10,000.00	246.80	2.60396	26,039.63	30,399.39	
1981	10,000.00	272.40	2.35924	23,592.44	29,255.96	
1982	10,000.00	289.10	2.22296	22,229.61	28,155.54	
1983	10,000.00	298.40	2.15368	21,536.80	27,096.51	
1984	10,000.00	311.10	2.06576	20,657.60	26,077.31	
1985	10,000.00	322.20	1.99459	19,945.93	25,096.45	
1986	10,000.00	328.40	1.95694	19,569.37	24,152.49	
1987	10,000.00	340.40	1.88795	18,879.49	23,244.02	
1988	10,000.00	354.30	1.81388	18,138.81	22,369.73	
1989	10,000.00	371.30	1.73083	17,308.32	21,528.33	
1990	10,000.00	391.40	1.64195	16,419.47	20,718.57	
1991	10,000.00	408.00	1.57514	15,751.42	19,939.27	
1992	10,000.00	420.30	1.52905	15,290.46	19,189.28	
1993	10,000.00	432.70	1.48523	14,852.28	18,467.51	
1994	10,000.00	444.00	1.44743	14,474.28	17,772.88	
1995	10,000.00	456.50	1.40779	14,077.94	17,104.37	
1996	10,000.00	469.90	1.36765	13,676.48	16,461.02	Inflator =
1997	10,000.00	480.80	1.33664	13,366.43	15,841.86	2.94353%
1998	10,000.00	488.30	1.31611	13,161.13	15,245.99	
1999	10,000.00	499.00	1.28789	12,878.92	14,672.53	12,983.49
2000	10,000.00	515.80	1.24594	12,459.44	14,120.65	12,612.25
2001	10,000.00	530.40	1.21165	12,116.48	13,589.52	12,251.62
2002	10,000.00	538.80	1.19276	11,927.58	13,078.37	11,901.30
2003	10,000.00	551.10	1.16614	11,661.37	12,586.45	11,561.00
2004	10,000.00	565.80	1.13584	11,358.40	12,113.02	11,230.43
2005	10,000.00	585.00	1.09856	10,985.61	11,657.41	10,909.31
2006	10,000.00	603.90	1.06418	10,641.79	11,218.93	10,597.37
2007	10,000.00	621.10	1.03471	10,347.09	10,796.95	10,294.35
2008	10,000.00	644.95	0.99644	9,964.45	10,390.84	10,000.00
2009	10,000.00	642.66	1.00000	$ 10,000.00	$ 10,000.00	$ 10,000.00
1967-2009	$ 430,000.00			$1,064,522.33	$1,064,522.33	
2000-2009	$ 100,000.00			$114,341.12		$114,341.12

*Consumer Price Index data is from the U. S. Department of Labor.

NPV Net Discount Rate

The Consumer Price Index is also used in determining the current value of money that will be spent in the future, based on inflation (the Net Present Value). In essence, the approach compares the expenditure to placing the funds in a savings account. That is, if one planned to spend $10,000 in 2012, how much would need to be placed in a savings account now to have $10,000 at that time? Since impact fees deal in public dollars, no deduction for taxes is required in the calculations.

Library Services

Introduction

The Conyers-Rockdale County Library System provides library services through a single library facility, the Nancy Guinn Memorial Library. This library is operated and maintained by financial contributions from the State of Georgia and Rockdale County. The library provides services to all residents of Rockdale County through a variety of information and materials, facilities and programs. The library serves all persons on an equal basis in meeting their educational, recreational, civic, economic and spiritual needs.

Demand for library facilities is almost exclusively related to the county's resident population. Businesses make some use of public libraries for research purposes, but the use is incidental compared to that of the families and individuals who live in the county. Thus, a library services system impact fee is limited to future residential growth.

The library facility in Rockdale has a floor area of 38,035 square feet and currently contains 105,559 collection materials.

Table L-1
Inventory of Library Facilities
2005 Inventory

Facility	Square Feet	Collection Materials
Nancy Guinn Memorial Library	38,035	105,559

Service Area

Materials, facilities and services of the Rockdale County libraries are equally available to the County's population. The entire county is considered a single service district for library services. An improvement in any part of the county increases service to all parts of the county to some extent.

Level of Service

The year 2005 level of service was determined by an inventory of the existing library facility and collection materials, as shown above in **Table L-1**. Level of service calculations, shown in **Table L-2**, determine that the facilities provide 3.6674 collection materials and 1.3214 square feet of library space per dwelling unit to serve the current population.

Table L-2
Year 2005 Level of Service Calculation

Existing Square Feet	2005 Dwelling Units	SF/dwelling unit
38,035	28,783	1.3214

Existing Collection Materials	2005 Dwelling Units	Collection Materials/ dwelling unit
105,559	28,783	3.6674

Forecasts for Service Area

The County has decided to adopt a level of service for library facilities based on the future plans of the Library System, rather than the current LOS. **Table L-3** presents the calculations carried out in order to determine the future service demand for library services in Rockdale County. The 'number of new dwelling units' figures are drawn from Table P-5. By adding the estimated new square feet and collection volumes to the current inventory figures produce the desired inventory in 2020. This figure is then divided by the service population of 2020 (number of dwelling units) to produce a LOS in 2020. Adoption of this level of service requires that the same standard be provided to both existing and new development in the county. Thus an existing deficiency of 4,006 square feet and 39,323 collection materials is identified for 2005. The cost to meet the existing deficiency must be met with funds other than impact fees.

Table L-3

Future Level of Service

Existing SF of Library Space	38,035
SF Added	20,000
Total SF in 2020	58,035
Total SF in 2020	58,035
Dwelling Units in 2020	39,733
SF/Dwelling Unit	**1.460624**
SF/Dwelling Unit	1.460624
Dwelling Units in 2005	28,783
Current Demand in SF	42,041
Current Demand in SF	42,041
Existing SF of Library Space	38,035
Existing Deficiency (SF)	(4,006)

Existing Collection Volumes	105,559
Volumes Added	94,441
Total Volumes in 2020	200,000
Total Volumes in 2020	200,000
Dwelling Units in 2020	39,733
Volumes/Dwelling Unit	**5.033596**
Volumes/Dwelling Unit	5.033596
Dwelling Units in 2005	28,783
Current Demand in Volumes	144,882
Current Demand in Volumes	144,882
Existing Collection Volumes	105,559
Existing Deficiency (Volumes)	(39,323)

*Capital projects based on information provided by the Department.

In **Table L-4** the resulting LOS from Table L-3 is used to calculate future demand in square feet and collection volumes between 2005 and 2020. The additional number of forecasted dwelling units to the year 2020 is multiplied by the level of service to produce the future demand figures. Future growth will demand 15,994 square feet of library space by the year 2020 in order to maintain the level of service, but the existing deficiency of 4,006 square feet means that ultimately 20,000 square feet will be required to meet current and future demand. In the same way, future demand will require the acquisition and retention of Collection Materials Demanded new collection materials, but the existing deficiency of 39,323 collection materials means that 94,441 new volumes will be required.

Table L-4
Future Demand Calculation
New Growth

SF/dwelling unit	Number of New Dwelling Units (2005-20)	SF Demanded by New Growth
1.4606	10,950	15,994
Excess Deficiency		4,006
New SF Demanded		**20,000**

Collection Materials/ dwelling unit	Number of New Dwelling Units (2005-20)	Collection Materials Demanded
5.0336	10,950	55,118
Excess Deficiency		39,323
New Materials Demanded		**94,441**

Table L-5 presents the expected facility demand in an annual format, accompanied by the library facility projects proposed to meet this demand. The currently planned single expansion project is shown. This project could be re-configured to be several smaller new facilities or an expansion of an existing facility. In either case, it is the addition of 15,994 square feet that is impact fee eligible.

Table L-5
Future Library Facility Demand

Year	New Dwelling Units	SF Demanded (annual)	Running Total: SF Demanded*	Project	Net New Square Footage*
2005	*0*	*0*	*4,006*		(4,006)
2006	752	1,098	5,104		
2007	772	1,127	6,232		
2008	792	1,156	7,388		
2009	812	1,187	8,574		
2010	835	1,220	9,794	New library space	10,000
2011	584	853	10,647		
2012	594	868	11,516		
2013	605	883	12,399		
2014	615	899	13,298		
2015	626	914	14,212		
2016	759	1,109	15,321		
2017	776	1,133	16,454	New library space	10,000
2018	793	1,158	17,612		
2019	809	1,182	18,794		
2020	826	1,206	20,000		
	10,950	15,994		**Net New Growth Total:**	**15,994**

*Figures reflect existing deficiency.

Table L-6 presents the figures for collection material demand. Materials demanded by new growth are calculated in the first columns. For collection materials the number of new volumes demanded by new growth that will be retained for at least 10 years is increased by a discard rate of 8.0% for "weeded" volumes. This rate represents the number of volumes "weeded" from the collection in a normal year. By including the weeded volumes, the resulting 'total materials needed' reflects the total number of volumes required annually to maintain the LOS once these non-impact fee eligible volumes are discarded. 55,118 books will be needed to meet the demand of new growth to the year 2020; 94,441 books will be needed to meet the demands of new growth and to remedy the existing deficiency; a total of 98,851 books will need to be purchased to maintain the level of service for new and existing development and to account for discarded volumes.

Table L-6

Future Collection Materials Demanded

Year	New Growth Demand: New Dwelling Units	New Growth Demand: Materials Demanded (annual)*	New Growth Demand: Running Total*	Plus Discarded Materials	Total Materials Needed (annual)*
2005	0	0	39,323	0	39,323
2006	752	3,785	43,108	303	4,088
2007	772	3,885	46,992	311	4,196
2008	792	3,984	50,976	319	4,303
2009	812	4,089	55,066	327	4,416
2010	835	4,205	59,270	336	4,541
2011	584	2,940	62,210	235	3,175
2012	594	2,992	65,202	239	3,231
2013	605	3,045	68,247	244	3,289
2014	615	3,097	71,344	248	3,345
2015	626	3,150	74,493	252	3,402
2016	759	3,822	78,315	306	4,128
2017	776	3,906	82,221	312	4,218
2018	793	3,990	86,210	319	4,309
2019	809	4,073	90,284	326	4,399
2020	826	4,157	94,441	333	4,490
Total for New Growth		55,118		4,410	98,851

*Figures reflect existing deficiency.

Future Costs

The building floor area and new books needed to serve new growth identified in Tables L-5 and L-6 are used to calculate the future cost to meet service demand, as shown in **Tables L-7** and **L-8**. The costs are shown in current dollars, and then adjusted to reflect the net present value. For facility construction (Table L-7), the cost of construction is adjusted to reflect the construction cost inflation factor, before conversion to net present value.[1] Library facility construction cost is based on estimated costs of comparable facilities. Note that a portion of the second library expansion project is not impact feeeligible, in that some of the square footage is required to meet the existing deficiency.

Table L-7
Facility Costs to Meet Future Demand

Year	Project	Square Footage	Cost*	Adjusted Construction Cost**	Const. Cost - Net Present Value**	% for New Growth	New Growth Cost (NPV)
2010	New library space	10,000	$1,650,000	$1,650,000	$1,650,000	59.94%	$988,993
2017	New library space	10,000	$1,650,000	$2,057,604	$1,673,020	100.00%	$1,673,020
		20,000	$3,300,000	$3,707,604	$3,323,020		**$2,662,013**

*Project costs based on an average of $165 per square foot construction cost.

**Adjusted cost is based on building construction cost estimate adjustment (Table C-3); net present value is based on anticipated interest earnings.

In Table L-8, the total number of books needed, from Table L-6, has been annualized to reflect the fact that even though there is a current excess capacity, the County will continue to purchase collection materials every year in order to serve new growth. State aid is calculated based on the historic average of $0.35 per capita per year toward the purchase of collection materials. Collection materials costs are estimated at $29.92 per book. The percentage of the cost attributable for new growth in each year is based on the percentage of total volumes demanded that are attributable to new growth's demand.

[1] For more information on the cost inflator factor and net present value, see the 'Cost Adjustments and Credits' section of this report.

Table L-8

Collection Material Costs to Meet Future Demand

Year	Materials Needed (annual)	Gross Cost*	State Aid**	Net Total Cost	Adjusted Cost (Inflation)***	Net Present Value (Adjusted Cost)***	% for New Growth	New Growth Cost
2005	39,323	$1,176,540.86	($28,350.00)	$1,148,190.86	$1,022,392.88	$1,185,233.55	0.00%	$0.00
2006	4,088	$122,306.28	($29,049.65)	$93,256.63	$85,483.55	$96,212.49	92.59%	$89,080.89
2007	4,196	$125,529.79	($29,766.45)	$95,763.34	$90,365.19	$98,744.48	92.59%	$91,424.87
2008	4,303	$128,753.30	($30,501.10)	$98,252.20	$95,442.81	$101,255.28	92.59%	$93,749.22
2009	4,416	$132,133.87	($31,253.95)	$100,879.92	$100,879.92	$103,906.31	92.60%	$96,212.58
2010	4,541	$135,858.47	($32,025.00)	$103,833.47	$106,889.85	$106,889.85	92.60%	$98,980.32
2011	3,175	$94,985.01	($32,734.80)	$62,250.21	$65,968.85	$64,047.43	92.60%	$59,306.36
2012	3,231	$96,675.29	($33,460.35)	$63,214.94	$68,963.12	$65,004.36	92.60%	$60,196.12
2013	3,289	$98,395.49	($34,202.00)	$64,193.49	$72,092.03	$65,974.42	92.58%	$61,079.43
2014	3,345	$100,085.78	($34,960.10)	$65,125.68	$75,291.78	$66,895.78	92.59%	$61,936.26
2015	3,402	$101,776.06	($35,735.00)	$66,041.06	$78,597.45	$67,798.85	92.59%	$62,776.13
2016	4,128	$123,495.47	($36,467.20)	$87,028.27	$106,623.72	$89,295.68	92.59%	$82,675.62
2017	4,218	$126,187.95	($37,214.45)	$88,973.50	$112,215.60	$91,241.55	92.60%	$84,491.75
2018	4,309	$128,910.36	($37,977.10)	$90,933.26	$118,063.15	$93,200.14	92.60%	$86,299.63
2019	4,399	$131,632.77	($38,755.50)	$92,877.27	$124,136.67	$95,140.42	92.59%	$88,090.57
2020	4,490	$134,355.17	($39,550.00)	$94,805.17	$130,443.30	$97,062.06	92.58%	$89,864.25
	98,851	$2,957,621.92	($542,002.65)	$2,415,619.27	$2,453,849.86	$2,487,902.66		**$1,206,163.99**

*Cost is based on average unit cost of $29.92 per volume.

**State aid is based on the average annual contribution of $0.35 per capita.

***Adjusted cost is based on on CPI adjustment (Table C-4); net present value is based on anticipated interest earnings.

Fire Protection

Introduction

Fire protection is provided by the County to the entire county through seven fire stations and one headquarters facility. The capital value of fire protection services is based upon fire stations, administrative office space, land, and apparatus. Currently, fire protection is provided by facilities with a combined square footage of 39,150, utilizing a total of 15 heavy vehicles. **Table F-1** presents the current inventory of facilities and heavy vehicles in the county. The County plans to add five stations to the system, and to relocate two of the existing stations. Eight new heavy vehicles will be added to the inventory to properly equip the new facilities.

Table F-1
Inventory of Fire Protection Facilities
2005 Inventory

Description	Existing Square Feet	Heavy Vehicles
Fire Stations		
Station 1	8,320	
Station 2	4,000	
Station 3	4,000	
Station 4	4,000	
Station 5	2,660	
Headquarters	3,700	
Station 7	6,300	
Station 8	6,170	
Heavy Vehicles		
Engine		11
Ladder		2
Rescue		1
Tanker		1
	39,150	15

Service Area

Fire protection operates as a coordinated system, with each station backing up the other stations in the system. The backing up of another station is not a rare event; it is the essence of good fire protection planning. All stations do not serve the same types of land uses, nor do they all have the same apparatus. It is the strategic placement of personnel and equipment that is the backbone of good fire protection. Any new station would relieve some of the demand on the other stations. Since the stations would continue to operate as "backups" to the other stations, everyone in the county would benefit by the construction of the new station since it would reduce the "backup" times the station nearest to them would be less available. For these reasons the entire county, both incorporated and unincorporated areas alike, is considered a single service area for the provision

of the fire protection services because all residents and employees within this area have equal access to the benefits of the program.

Level of Service

The level of service for fire protection in Rockdale County is measured in terms of number of heavy vehicles (engines, tankers, rescue units, and air trucks, etc.), and the number of square feet of fire station space, per functional population in the service area. Functional population is used as a measure in that fire protection is a 24-hour service provided continuously to both residences and businesses in the service area. **Table F-2** presents the calculation of the current level of service.

Table F-2
Year 2005 Level of Service Calculation

Existing Square Feet	2005 day/night population	SF/day/night population
39,150	124,119	0.3154

Existing Heavy Vehicles	2005 day/night population	Heavy Vehicles/functional pop
15	124,119	0.000121

Forecasts for Service Area

For the purposes of impact fee calculations the County has determined that seven additional stations or expansions and 8 vehicles will be required to adequately serve the County to the year 2020. In **Table F-3** these figures are used to calculate what the adopted level of service should be to achieve this. This level of service for station space is lower than the current level of service and, if adopted, must be applied equally to current and future development. Under this calculation, there is a current deficiency of 18,967 square feet and 1.37 heavy vehicles.

Table F-3
Future Level of Service

Capital Project*	Estimated New Square Feet	New Heavy Vehicles
Klondike @ Hurst Road Station	8,500	2
Walker Rd Station	8,500	2
Future Station C	8,500	2
Future Station D	8,500	1
Future Station E	8,500	1
Totals	42,500	8

Existing SF of Station Space	39,150
SF Added	42,500
Total SF in 2020	81,650
Total SF in 2020	81,650
Service Population in 2020	174,377
SF/day/night population	**0.468238**
SF/day/night population	0.468238
Service Population in 2005	124,119
Current Demand in SF	58,117
Current Demand in SF	58,117
Existing SF of Station Space	39,150
Existing Deficiency (SF)	(18,967)

Existing Heavy Vehicles	15
Vehicles Added	8
Total Heavy Vehicles in 2020	23
Total Heavy Vehicles in 2020	23
Service Population in 2020	174,377
HV/day/night population	**0.000132**
HV/day/night population	0.000132
Service Population in 2005	124,119
Current Demand in Heavy Vehicles	16
Current Demand in Heavy Vehicles	16
Existing Heavy Vehicles	15
Existing Deficiency (Vehicles)	(1)

*Capital projects based on information provided by the Fire Dept.

The adopted LOS standard is next multiplied by the forecasted day/night population increase to produce the expected future demand in **Table F-4**. The 'day/night population increase' figure is taken from Table P-3. While a total of 23,533 square feet is demanded by new growth, the current deficiency of 18,967 square feet means that a total of 42,500 new square feet need to be added. Likewise, the existing deficiency of 1.37 heavy vehicles results in a net new demand of 8.00 heavy vehicles.

Table F-4
Future Demand Calculation
New Growth

SF/day/night population	Day/night Pop Increase (2005-20)	SF Demanded by New Growth
0.4682	50,258	23,533
	Existing Deficiency	18,967
	Net Demand	**42,500**

Heavy Vehicles/functional pop	Day/night Pop Increase (2005-20)	New Heavy Vehicles Demanded
0.000132	50,258	6.63
	Existing Deficiency	1.37
	Net Demand	**8.00**

Tables F-5 and F-6 provide an annual breakdown of the future demand for stations and equipment following the adopted level of service standards. The facility projects shown in Table F-5 are based on the County's desire to increase the inventory of fire stations in a balanced way; the final projects could be reconfigured, with 42,500 new square feet ultimately required.

Table F-5

Future Fire Protection Facility Projects

Year	Day/night Pop Increase	SF Demanded (annual)	Running Total: SF Demanded*	Project	Net New Square Footage*
2005	*0*	*0*	18,967		(18,967)
2006	3,099	1,451	20,418		
2007	3,176	1,487	21,905		
2008	3,256	1,525	23,430	Klondike @ Hurst Road S	8,500
2009	3,337	1,563	24,993	Walker Rd Station	8,500
2010	3,419	1,601	26,593		
2011	3,189	1,493	28,087		
2012	3,262	1,527	29,614	Future Station C	8,500
2013	3,336	1,562	31,176		
2014	3,412	1,598	32,774	Future Station D	8,500
2015	3,489	1,634	34,407		
2016	3,313	1,551	35,959	Future Station E	8,500
2017	3,383	1,584	37,543		
2018	3,455	1,618	39,161		
2019	3,528	1,652	40,812		
2020	3,604	1,688	42,500		
				Net New Growth Total:	**23,533**

*Figures reflect existing deficiency.

Table F-6
Future Heavy Vehicles Demanded

Year	Day/night Pop Increase	New Vehicles Demanded (annual)*	Actual Net New Vehicles*
2005	*0*	*1.37*	(1.37)
2006	3,099	0.41	
2007	3,176	0.42	
2008	3,256	0.43	2.00
2009	3,337	0.44	2.00
2010	3,419	0.45	
2011	3,189	0.42	
2012	3,262	0.43	2.00
2013	3,336	0.44	
2014	3,412	0.45	1.00
2015	3,489	0.46	
2016	3,313	0.44	1.00
2017	3,383	0.45	
2018	3,455	0.46	
2019	3,528	0.47	
2020	3,604	0.48	
		8.00	6.63

*Figures reflect existing deficiency.

Future Costs

The future facility needs for fire protection can be met through the schedules shown in **Tables F-7** and **F-8**. By 2020, future demand based on square feet per day/night population can be met by the construction of the proposed facilities and the purchase of heavy vehicles. The costs are shown in current dollars, and then adjusted to reflect the net present value. For facility construction (Table F-7), the cost of construction is adjusted to reflect the construction cost inflation factor, before conversion to net present value.[2]

Table F-7
Facility Costs to Meet Future Demand

Year	Project	Square Footage	Cost*	Adjusted Construction Cost**	Const. Cost - Net Present Value**	% for New Growth	New Growth Cost (NPV)
2008	Klondike @ Hurst Road S	8,500	$1,300,000	$1,220,534	$1,294,864	0.00%	$0
2009	Walker Rd Station	8,500	$1,500,000	$1,453,431	$1,497,034	0.00%	$0
2012	Future Station C	8,500	$1,500,000	$1,597,662	$1,505,950	76.86%	$1,157,406
2014	Future Station D	8,500	$1,500,000	$1,701,683	$1,511,923	100.00%	$1,511,923
2016	Future Station E	8,500	$1,500,000	$1,812,476	$1,517,920	100.00%	$1,517,920
		42,500	$7,300,000	$7,785,785	$7,327,690		**$4,187,249**

*Estimated costs based on comparable facilities.

**Adjusted cost is based on building construction cost estimate adjustment (Table C-3); net present value is based on anticipated interest earnings.

[2] For more information on the cost inflator factor and net present value, see the 'Cost Adjustments and Credits' section of this report.

Table F-8

Heavy Vehicle Costs to Meet Future Demand

Year	New Vehicles	Gross Cost*	Adjusted Cost (Inflation)**	Net Present Value (Adjusted Cost)**	% for New Growth	New Growth Cost (NPV)
2008	Heavy Vehicle	$365,000	$344,425	$365,401	0.00%	$0
2008	Heavy Vehicle	$365,000	$344,425	$365,401	62.89%	$229,814
2009	Heavy Vehicle	$365,000	$354,563	$365,200	100.00%	$365,200
2009	Heavy Vehicle	$475,000	$461,418	$475,261	100.00%	$475,261
2012	Heavy Vehicle	$475,000	$503,375	$474,479	100.00%	$474,479
2012	Heavy Vehicle	$475,000	$503,375	$474,479	100.00%	$474,479
2014	Heavy Vehicle	$475,000	$533,445	$473,959	100.00%	$473,959
2016	Heavy Vehicle	$475,000	$565,312	$473,440	100.00%	$473,440
		$3,470,000	$3,610,339	$3,467,619		**$2,966,632**

*Estimated costs based on comparable units.

**Adjusted cost is based on on CPI adjustment (Table C-4); net present value is based on anticipated interest earnings.

Parks & Recreation

Introduction

Public recreational opportunities are available in Rockdale County through a number of parks facilities and programs operated by the County. The County maintains or operates fourteen parks or sports facilities. Demand for recreational facilities is almost exclusively related to the county's resident population. Businesses make some use of public parks for office events, company softball leagues, etc., but the use is minimal compared to that of the families and individuals who live in the county. Thus, the parks and recreation impact fee is limited to future residential growth. Future plans in this public facility category are taken from the *Rockdale County 2006 Parks & Recreation Comprehensive Master Plan.*

Table PR-1
Inventory of Park Land
2005 Inventory

Facility	Park Acreage
Pine Log Park	13.8
Johnson Park	52.0
Milstead Pool	2.5
Parker Road Building	48.0
Earl O'Neal Sports Complex	140.0
Black Shoals Park	650.0
Richardson Park	4.0
DeCastro/Kenwood Park	120.0
First Shady Grove Park	1.0
Lakeview Estates Park	2.0
South Rockdale Community Parl	176.0
J. P. Carr Gym	9.0
Grimes Street Park	1.0
Youth Baseball Assoc. Facility*	52.0
	1,271.3

*Leased by the County.

Service Area

Parks and recreational facilities are made available to the county's population without regard to the political jurisdiction within which the resident lives. In addition, the facilities are provided equally to all residents, and often used on the basis of the programs available, as opposed to proximity of the facility. For instance, children active in the little leagues play games at various locations throughout the county, based on scheduling rather than geography. Other programs are located only at certain centralized facilities, to which any Rockdale County

resident can come. As a general rule, parks facilities are located throughout the county, and future facilities will continue to be located around the county so that all residents will have recreational opportunities available on an equal basis.

Level of Service

Table PR-1 provides an inventory of the acreage of parks under the control of the department in 2005. The 1,271.3 acres of developed parks is equivalent to 44.17 acres per 1,000 dwelling units. The calculation of current parks acreage level of service, as well as the calculation of certain developed components per 1,000 dwelling units, is shown in **Table PR-2**. Note that other categories of components exist in the County inventory; the categories included here reflect future projects to be funded through impact fee collections. Note that the resulting LOS for parks acreage is significantly higher than suggested national standards and existing local standards, without considering the two State parks (a total of 1,012 acres) that also provide passive recreation opportunities to county residents.

Table PR-2
Year 2005 Level of Service Calculation

Total Park Acreage	2005 Dwelling Units	AC/1,000 Dwelling Units
1,271.3	28,783	44.17

Component Type	Current Inventory (2005)	LOS per 1,000 Dwelling Units
Greenway Miles	5.9	0.2050
Ball Fields	23	0.7991
Multi-use Fields	1	0.0347
Football Fields	2	0.0695
Gymns/Centers	4	0.1390
Basketball Courts	7	0.2432
Trails*	3	0.1042
Pavilions/Shelters	7	0.2432
Playgrounds	7	0.2432
Pools	2	0.0695
Tennis Courts	14	0.4864
Restrooms	7	0.2432
Maint. Buildings	7	0.2432

*Includes multi-purpose, walking, and jogging trails.

Forecasts for Service Area

In order to reflect future plans for park components a calculation must be made for situations where specific plans have been developed that result in adoption of a level of service differing from the current LOS. This

planning is based on the projects included in the *Rockdale County 2006 Parks & Recreation Comprehensive Master Plan*. In **Table PR-3** the future LOS for park acreage and components is calculated, based on the number of units to be added between 2005 and 2020. For example, 5 ball fields will be added to the current inventory (23 ball fields) over this period of time, resulting in a future inventory of 28 ball fields. That future inventory figure is divided by the number of dwelling units forecast for 2020 (39,733 units) to calculate the level of service in 2020. The level of service in 2020 is then applied to today's number of dwelling units—calculations shown in **Table PR-4**—in order to calculate current demand and to determine whether a deficiency or excess capacity situation exists. For example, the year 2020 LOS for ball fields is applied to the current number of dwelling units (28,783 units; the same LOS must be provide to existing and new development) to calculate the base year (2005) demand. In this case, 20.3 ball fields are demanded today. Since there are currently 23 ball fields in the county there is an excess capacity, at this level of service, of 2.7 ball fields in 2005. This same calculation is carried out for all categories. Some component categories—football fields, gymnasiums/centers, basketball courts, trails, pavilion/shelters, playgrounds, splash parks, tennis courts, dog parks, restrooms and maintenance buildings—display existing deficiencies.

Table PR-3
Future Level of Service Determination

Category	Current Inventory	Units to be Added (2005-2020)	Adopted Level of S: Total in 2020	Adopted Level of S: Dwelling Units in 2020
Park Acres	1,271.3	157.0	1,428.3	39,733
Greenway Miles	5.9	15.8	21.7	39,733
Ball Fields	23	5	28	39,733
Multi-use Fields	1	5	6	39,733
Football Fields	2	0	2	39,733
Gymnasiums/Centers	4	4	8	39,733
Basketball Courts	7	6	13	39,733
Trails	3	16	19	39,733
Pavilions/Shelters	7	17	24	39,733
Playgrounds	7	12	19	39,733
Pools*	2	0	2	39,733
Outdoor Splash Park	0	1	1	39,733
Tennis Courts	14	20	34	39,733
Restrooms	7	8	15	39,733
Maintenance Buildings	7	3	10	39,733

Source: *Rockdale County 2006 Parks & Recreation Comprehensive Master Plan*.

*"Units to be Added" figure reflects the planned demolition of Milstead Pool and addition of Northw Park pool.

Table PR-4
Current Demand Calculation

Category	LOS per 1,000 Dwelling Units in 2020	Dwelling Units in 2005	Current Demand	Current Inventory	Excess Capacity or Deficiency
Park Acres	35.947	28,783	1,034.7	1,271.3	236.6
Greenway Miles	0.546	28,783	15.7	5.9	(9.8)
Ball Fields	0.705	28,783	20.3	23.0	2.7
Multi-use Fields	0.151	28,783	4.3	1.0	(3.3)
Football Fields	0.050	28,783	1.4	2.0	0.6
Gymnasiums/Centers	0.201	28,783	5.8	4.0	(1.8)
Basketball Courts	0.327	28,783	9.4	7.0	(2.4)
Trails	0.478	28,783	13.8	3.0	(10.8)
Pavilions/Shelters	0.604	28,783	17.4	7.0	(10.4)
Playgrounds	0.478	28,783	13.8	7.0	(6.8)
Pools	0.050	28,783	1.4	2.0	0.6
Outdoor Splash Park	0.025	28,783	0.7	0.0	(0.7)
Tennis Courts	0.856	28,783	24.6	14.0	(10.6)
Restrooms	0.378	28,783	10.9	7.0	(3.9)
Maintenance Buildings	0.252	28,783	7.2	7.0	(0.2)

Table PR-5 shows the future demand in parks acreage and park components based on the adopted LOS standards calculated in Table PR-3. There are existing deficiencies in the categories of football fields, gymnasiums/centers, basketball courts, trails, pavilion/shelters, playgrounds, splash parks, tennis courts, dog parks, restrooms and maintenance buildings (see table PR-4). The increase in dwelling units between 2005 and 2020 is multiplied by the level of service to produce the future demand. The 'new dwelling units' figure is taken from Table P-5.

Table PR-5

Future Demand Calculation

New Growth

AC/1,000 Dwelling Units	Number of New Dwelling Units (2005-20)	Acres Demanded
35.95	10,950	394

Adopted LOS per 1,000 Dwelling Units	New Components Demanded (2000-2020)	
0.546	6.0	Greenway Miles
0.705	7.7	Ball Fields
0.151	1.7	Multi-use Fields
0.050	0.6	Football Fields
0.201	2.2	Gymns/Centers
0.327	3.6	Basketball Courts
0.478	5.2	Trails*
0.604	6.6	Pavilions/Shelters
0.478	5.2	Playgrounds
0.050	0.6	Pools
0.025	0.3	Splash Park
0.856	9.4	Tennis Courts
0.378	4.1	Restrooms
0.252	2.8	Maint. Buildings

*Includes multi-purpose, walking, and jogging trails.

Future Costs

Table PR-6 is a listing of the future capital projects costs for the developed components required in order to meet and maintain the adopted level of service standards. These projects are drawn from the *Rockdale County 2006 Parks & Recreation Comprehensive Master Plan*. Note that the individual project costs include ancillary items required for service delivery, as well as a proportional share of the contingency costs included in the *Plan*. For example, septic systems, parking lots and signage costs are distributed to relevant project costs based on the project's share of total cost of the park improvement. This list includes all planned projects from the *Plan*; the cost to meet existing deficiencies will be broken out since those costs are not impact fee eligible. Note also that the cost of land acquisition is based on adding 157 acres to the current inventory. 130 of these acres are for the Southeast Community Park; 27 acres are for the River Trail right-of-way. Finally, individual projects expected to be funded through the current SPLOST program are identified; these costs will not be included in the impact fee calculation. Project costs that are attributable to projects that are required to meet existing deficiencies are identified. The existing deficiency figure for each category, from Table PR-4, is the basis for this calculation.[3] The final figure in this table represents the County's cost to meet existing deficiencies, and is not eligible for impact fee collection. For facility construction the cost of construction is adjusted to reflect the construction cost inflation factor, before conversion to net present value.[4]

[3] The County could recoup the value of any current excess capacity (as calculated in Table PR-4) but is not doing so at this time.

[4] For more information on the cost inflator factor and net present value, see the 'Cost Adjustments and Credits' section of this report.

Table PR-6
Future Park Projects
Listed by Park

Park	Year	Project	Estimated Cost*	Adjusted Cost (Inflation)***	Net Present Value (Adjusted Cost)***	% for New Growth	New Growth Cost (NPV)
American Legion Fields	2018	Maintenance facility (2,000 sf)	$318,750	$402,015	$317,355	100.0%	$317,355
American Legion Fields**	2007	Restroom/Concession Bldg.	$629,502	$577,032	$630,538	100.0%	$630,538
Black Shoals Park	2012	Pavilion (40 x 50 enclosed)	$531,183	$562,914	$530,601	100.0%	$530,601
Black Shoals Park	2014	Pavilion (50 x 100)	$597,581	$671,109	$596,272	0.0%	$0
Black Shoals Park	2016	Pavilion (40 x 50)	$239,032	$284,480	$238,247	100.0%	$238,247
Black Shoals Park	2011	Natural surface trail	$140,232	$144,360	$140,155	100.0%	$140,155
DeCastro Community	2018	Restroom	$147,007	$185,409	$146,364	0.0%	$0
DeCastro Community	2018	Pavilion	$102,905	$129,787	$102,455	0.0%	$0
DeCastro Community	2018	Natural surface trail	$155,240	$195,792	$154,560	0.0%	$0
Earl O'Neal Sports Complex**	2007	Restroom and Plaza	$359,715	$329,732	$360,307	0.0%	$0
Earl O'Neal Sports Complex	2012	Pavilion	$91,112	$96,555	$91,012	0.0%	$0
Earl O'Neal Sports Complex	2012	Playground structure	$52,064	$55,174	$52,007	100.0%	$52,007
Earl O'Neal Sports Complex	2013	Natural surface trail	$17,181	$18,743	$17,153	100.0%	$17,153
Earl O'Neal Sports Complex	2013	Maintenance pole-barn (2,000 sf)	$175,717	$191,695	$175,428	100.0%	$175,428
Greenway	2018	Dinky Trail (2 miles)	$1,100,000	$1,387,347	$1,095,185	0.0%	$0
Greenway	2018	Black Shoals connector (8 miles)	$8,727,273	$11,007,054	$8,689,070	0.0%	$0
Greenway	2018	Pine Log Trail (2.5 miles)	$900,000	$1,135,102	$896,060	40.0%	$358,424
Greenway	2018	Bonner Park Spur Trail (0.3 miles)	$163,636	$206,382	$162,920	0.0%	$0
Greenway	2013	Rockdale River Trail Phase B (2 miles)	$1,243,000	$1,356,027	$1,240,957	100.0%	$1,240,957
Greenway	2013	Rockdale River Trail Phase D (1 mile)	$596,991	$651,276	$596,010	100.0%	$596,010
Greenway	2013	Rockdale River Trail Phase E (1 mile)	$596,991	$651,276	$596,010	100.0%	$596,010
Greenway	2014	Rockdale River Trail Phase F (1 mile)	$1,337,962	$1,502,588	$1,335,030	100.0%	$1,335,030
Grimes Street	2019	Playground structure (2)	$116,266	$150,954	$115,694	100.0%	$115,694
Johnson Park**	2007	Restroom/Concession/Scorer's Bldg.	$539,573	$494,599	$540,462	100.0%	$540,462
Johnson Park	2013	Pavilion (40 x 50)	$239,032	$260,768	$238,639	0.0%	$0
Johnson Park	2014	10' asphalt trail & crosswalk	$131,304	$147,460	$131,016	0.0%	$0
Johnson Park**	2007	Playground structure	$66,093	$60,584	$66,201	0.0%	$0
Milstead Pool	2013	Playground structure	$64,401	$70,257	$64,295	0.0%	$0
Milstead Pool	2013	Pavilion (20 x 35)	$123,435	$134,659	$123,232	60.0%	$73,939
Milstead Pool	2013	Restroom	$214,670	$234,190	$214,317	10.0%	$21,432

Table PR-6 continued

Northwest Community	2018	Community center (40,000 sf)	$10,195,663	$12,859,024	$10,151,032	20.0%	$2,030,206
Northwest Community	2018	Pool	$1,000,000	$1,261,225	$995,623	0.0%	$0
Northwest Community	2018	10' asphalt trail	$106,250	$134,005	$105,784	100.0%	$105,784
Northwest Community	2018	Multi-use fields (5)	$4,292,911	$5,414,326	$4,274,119	33.7%	$1,439,823
Northwest Community	2018	Tennis courts (4)	$321,968	$406,074	$320,559	0.0%	$0
Northwest Community	2018	Playground structure	$64,394	$81,215	$64,112	20.0%	$12,822
Northwest Community	2018	Pavilions (4 small)	$300,504	$379,003	$299,188	0.0%	$0
Northwest Community	2018	Pavilion (large)	$268,307	$338,395	$267,132	100.0%	$267,132
Northwest Community	2018	Outdoor basketball courts (2)	$75,126	$94,751	$74,797	100.0%	$74,797
Northwest Community	2018	Maintenance building	$321,968	$406,074	$320,559	80.0%	$256,447
Northwest Community	2018	Restroom/Concession Bldg.	$429,291	$541,433	$427,412	0.0%	$0
Oglesby Region	2018	Outdoor education building (2,000 sf)	$1,088,994	$1,373,466	$1,084,227	100.0%	$1,084,227
Oglesby Region	2018	Natural surface trail	$143,747	$181,298	$143,118	20.0%	$28,624
Oglesby Region	2018	12' asphalt trail & bridge	$179,684	$226,622	$178,897	0.0%	$0
Oglesby Region	2018	Pavilion (small)	$190,574	$240,357	$189,740	100.0%	$189,740
Parker Road Community	2009	Tennis complex (12 courts)	$1,538,518	$1,494,526	$1,539,362	78.3%	$1,205,834
Parker Road Community	2010	10' asphalt trail	$77,140	$77,140	$77,140	100.0%	$77,140
Parker Road Community	2013	Outdoor basketball courts (2)	$81,815	$89,255	$81,681	80.0%	$65,345
Pine Log	2012	Pavilion and game courts	$181,023	$191,836	$180,824	100.0%	$180,824
Pine Log**	2007	Restroom	$269,787	$247,300	$270,231	100.0%	$270,231
Pine Log**	2007	Playground structure	$45,256	$41,484	$45,330	100.0%	$45,330
Richardson	2015	Pavilion	$85,048	$98,324	$84,816	0.0%	$0
Richardson	2015	Playground structure	$48,599	$56,185	$48,466	0.0%	$0
S. Rockdale Community	2012	Restroom	$158,406	$167,868	$158,232	100.0%	$158,232
S. Rockdale Community	2012	Playground structure	$45,256	$47,959	$45,206	100.0%	$45,206
S. Rockdale Community	2012	Pavilion	$110,884	$117,508	$110,762	100.0%	$110,762
S. Rockdale Community	2012	Natural surface trail	$167,276	$177,269	$167,093	100.0%	$167,093
Shady Grove	2016	Playground structures (2)	$116,245	$138,346	$115,863	0.0%	$0
Southeast Community	2019	Community center (20,000 sf)	$4,822,142	$6,260,826	$4,798,402	100.0%	$4,798,402
Southeast Community	2019	Gymnasium	incl. w/center	incl. w/center	incl. w/center	0.0%	$0
Southeast Community	2019	Outdoor splash park	$321,476	$417,388	$319,893	30.0%	$95,968
Southeast Community	2019	10' asphalt trail	$106,087	$137,738	$105,565	0.0%	$0
Southeast Community	2019	Playground structure	$64,295	$83,478	$63,979	0.0%	$0
Southeast Community	2019	Tennis courts (4)	$160,738	$208,694	$159,947	0.0%	$0
Southeast Community	2019	Pavilion (small)	$150,022	$194,781	$149,284	0.0%	$0
Southeast Community	2019	Outdoor basketball courts (2)	$75,011	$97,391	$74,642	0.0%	$0

Table PR-6 continued

Southeast Community	2019	Ball fields (5)	$321,476	$417,388	$319,893	100.0%	$319,893
		Subtotal (Park Facilities)	$47,643,732	$57,995,276	$47,470,465		$20,009,305
		Other Land Acquisition (157 acres)	$4,710,000	$4,710,000	$4,710,000	100.0%	$4,710,000
		TOTAL	$52,353,732	$62,705,276	$52,180,465		**$24,719,305**

Source: *Rockdale County 2006 Parks & Recreation Comprehensive Master Plan*.

*Project costs include contingency, design and ancillary costs required to provide service, such as parking lots, septic systems or sewer connections.

**Projects to be included in current SPLOST funding.

***Adjusted cost is based on on CPI adjustment (Table C-4); net present value is based on anticipated interest earnings.

Exemption Policy

Rockdale County recognizes that certain office, retail trade and industrial development projects provide extraordinary benefit in support of the economic advancement of the county's citizens over and above the access to jobs, goods and services that such uses offer in general. To encourage such development projects, the Board of Commissioners may consider granting a reduction in the impact fee for such a development project upon the determination and relative to the extent that the business or project represents extraordinary economic development and employment growth of public benefit to Rockdale County, in accordance with adopted exemption criteria. It is also recognized that the cost of system improvements otherwise foregone through exemption of any impact fee must be funded through revenue sources other than impact fees.