

---

**SECTION 8.  
ECONOMIC IMPACT ANALYSIS**

**MASTER PLAN 2004**

**TOWN OF COPPER CANYON, TEXAS**

---

---

## SECTION 8. ECONOMIC IMPACT ANALYSIS

### Definition, Purpose and Applicability

In an economic impact analysis, *impact* refers to new real estate development, non-residential or residential, and its effect on the existing economic conditions within the town government. For example, and in simple terms, a new residential development within the community represents additional revenue (or benefit) to the community by its responsibility to pay property taxes to the Town. Property tax revenue is used to pay for various public services like operations and maintenance. The relationship between new property tax revenue and the increased usage rate of public services represented by the occupants of new residential development may be analyzed in an economic impact analysis or, more specifically, a cost-benefit analysis.

A cost-benefit analysis will determine if new development represents a financial loss, gain, or a zero sum gain for both parties. To perform this analysis, the rate of future development must be estimated. Creating and analyzing several scenarios based on different rates of new development is perhaps the best way to provide valuable estimations for use and reference in future decision making by the Town. This decision making could consist of, for example, the ability of the Town to project additional revenues for capital expenditures and the resulting reduced pressure to issue debt for these same capital expenditures.

Numerous variables exist within the term “new development” and must be examined. To begin, new development falls into one of two broad categories: residential or non-residential. For Copper Canyon, residential will refer to single family development and town housing development (attached and/or detached). The value of future residential development will be determined primarily on the amount of land available within residential land use districts (as proposed in the Future Land Use Plan) and past assessed values of residential development. Non-residential will refer exclusively to office and retail development and would be estimated based on the amount of land prescribed in the Future Land Use Plan’s Town Center District (PD 1).

Office and retail uses have one major commonality and difference: both create property tax revenue, only retail uses create sales tax revenue. Predicting sales tax revenue, in the case of Copper Canyon, may be done by reviewing sales tax revenue generation of retail uses in neighboring communities. Doing so is appropriate given the similarities in median incomes of these communities (i.e. Highland Village, Flower Mound, etc.) and thus, the similar proportions of income available for retail expenditures. The ability to capture this disposable income and generate sales tax revenue will be largely determined by the success of future retail development within Copper Canyon.

Property tax generation may also be predicted based on the experiences of neighboring communities but is somewhat difficult given a development concept that seeks to provide an alternative to current retail and office development in neighboring communities (i.e. Town Center concept versus “strip” development).

For all new development, scenarios will be created based on two projections: a twenty year period (years 2003-2023) and the ultimate development or “build-out” of the community (no specified time period).

### 8.1 Existing Economic Conditions

Major capital expenditures for the Town in 2003 were the update to the Master Plan and the Chinn Chapel Road improvement (accounted for in “Roads and Drainage” in Table 8.1 below), totaling roughly \$175,000 and to be expensed this budget year. The Town’s ability to generate revenues sufficient to cover capital expenditures allows the Town to address the public service needs of the community without issuing debt or increasing tax rates to do so.

The major income source of the Town is property taxes and is currently charged at \$0.14895 cents per \$100 valuation.<sup>1</sup> Table 8.1 below provides a comparison of property tax rates for area communities and one community outside of Denton County, the Town of Sunnyvale, with similar demographics. Property tax rates are listed from lowest to highest. The Town of Copper Canyon’s rate is less than half the average for the cities presented, significantly limiting the Town’s ability to generate revenues for capital expenditures and general operating expenses as compared to area communities (Table 8.1).

**Table 8.1 Area City Property Tax Rates (2003)**

City	Property Tax Rate (per \$100 valuation)
1. Copper Canyon	0.1490
2. Bartonville	0.1850
3. Double Oak	0.2520
4. Sunnyvale	0.3800
5. Argyle	0.3925
6. Highland Village	0.5696
<b>Average</b>	<b>0.3214</b>

Source: 2003 Tax and Debt Survey. *Texas Town & City*.  
March 2003.

<sup>1</sup> Town of Copper Canyon 2002-2003 budget.

Provided that the average residential dwelling in Copper Canyon is valued at \$253,787 and there are roughly 365 residential units within the community<sup>2</sup>, *the estimated budget for property taxes is \$137,976/annually* (Equation 8.1).

#### Equation 8.1 Estimated Property Tax Revenue

<p>average assessed value x total units = total assessed value <i>or</i>  <math>\\$253,787 \times 365 = \\$92,632,255</math> <i>next,</i>  total assessed value x property tax rate = total property tax revenue <i>or</i>  <math>\\$92,632,255 \times \\$0.14895 \text{ cents per } \\$100 \text{ valuation} = \\$137,976</math></p>
---

Such a calculation provides a basis for projecting future residential development (see Section 8.3) and its associated increases in property tax revenue for the Town.

Table 8.2 below provides an abbreviated version of the Town of Copper Canyon's 2002-2003 budget (as amended 10/13/03) for reference.

**Table 8.2 Copper Canyon Budget, Abbreviated (2002-2003)**

Income Type	Budget	Percent of Total	Expense Type	Budget	Percent of Total
Franchise	105,641	26%	Inter-Gov't Services	91,513	23%
Development/Building Fees	45,390	11%	Personnel/Training Costs	52,331	13%
Sales and Property Tax	200,929	50%	Capital Improvements	38,493	10%
Interest Income	4,471	1%	Road and Drainage	178,434	45%
Administrative	920	0%	Professional Services	31,800	8%
Municipal Court	48,000	12%	Operations/Maintenance	52,520	13%
Reserve Fund Transfer	0	0%	<i>Total</i>	445,091	100%
Road Fund Carry-Over	39,740	10%			
<i>Total</i>	445,091	100%			

A ratio can be given to describe a positive or negative cost/benefit relationship for the Town budget. This relationship, or ratio, describes the Town's ability to fund capital improvements. *A slightly positive relationship of 1.09 shows that the Town is able to generate 9 cents of net*

<sup>2</sup> Denton Central Appraisal District. July 26, 2003.

*revenue per one dollar of expense* based on its current level of service (Equation 8.2). The net revenue may then be dedicated to capital improvements.

#### Equation 8.2 Current Cost/Benefit Ratio\*

**Total Revenues (Benefit) = \$445,091**

**Total Expenditures (all expense types) – Capital Improvements (Cost) = \$406,598**

**REVENUES/EXPENDITURES=BENEFIT/COST= 445,091/406,598 = 1.09**

\*Refer to Table 8.2 Town of Copper Canyon Budget (abbreviated), 2002-2003

#### Per Capita Multiplier

A Per Capita Multiplier method is used to define a unit cost per public service type rendered by the Town for residents and does not address public services rendered to non-residential uses. This multiplier provides a unit cost on a per capita (resident) basis. Table 8.3 and 8.4 provide a breakdown of all expense and income types and their associated per capita multiplier. A sample equation is as follows:

$\$10,000$  (Professional services)/ 500 persons (population) = 20

Therefore, professional services costs, on a per capita basis is \$20 per resident.

**Table 8.3 Per Capita Multiplier for Expense Types  
Copper Canyon (2002-2003)**

Expense Type	Budget	Population*	Per Capita Multiplier (\$)
Inter-Gov't Services	91,513	1,216	75
Personnel/Training Costs	52,331	1,216	43
Capital Improvements	38,493	1,216	32
Road and Drainage	178,434	1,216	147
Professional Services	31,800	1,216	26
Operations/Maintenance	52,520	1,216	43
<b>Total</b>	<b>445,091</b>	<b>1,216</b>	<b>366</b>

\*Population based on 2000 U.S. Census of 1,216 with a 1.2% compounded rate of growth for 2001-03 (per Future Land Use Plan)

**Table 8.4 Per Capita Multiplier for Income Types, Copper Canyon (2002-2003)**

Income Type	Budget	Population*	Per Capita Multiplier (\$)
Franchise	105,641	1,216	87
Dev. And Bldg. Fees	45,390	1,216	37
Sales and Property Tax	200,929	1,216	165
Interest Income	4,471	1,216	4
Administrative	920	1,216	1
Municipal Court	48,000	1,216	39
Reserve Fund Transfer	0	1,216	0
Road Fund Carry-Over	39,740	1,216	33
<b>Total</b>	<b>445,091</b>	<b>1,216</b>	<b>366</b>

## 8.2 Existing Market Conditions, Non-Residential<sup>3</sup>

The outlook for non-residential development (office and retail) along the Copper Canyon section of F.M. 407 is generally positive though the current market is in a “wait and see” period based on a number of issues. The principal issues are lower traffic count numbers, low residential density and lack of utilities (i.e. sewer).

Initial development in the area would need to be significant enough to justify the costs born by the developer for sewer extension. The level of significance would be largely determined by participation on behalf of the local government: the more participation on the part of the local government reduces the intensity of development required to warrant sewer extension costs. Without town participation, initial development would need to probably be a minimum of 30,000 square feet of retail space.

### Office

Office development would most likely be limited to “garden” offices: small one or two story offices suitable to individuals wanting to avoid a long commute such as small dental or law offices and/or similar uses. A market may exist in the future for offices oriented to for-profit regional medical services though a study for such market demand has not been conducted.

<sup>3</sup> Telephone Interviews. Area developers and brokers. November 24-25, 2003.

## Retail

The current market conditions for retail in the F.M. 407 section are approaching supportive levels. An annual TXDOT traffic count conducted in 2002 (2003 not yet published) reported a count of 14,500 vehicles per day for this section. Assuming a 5% annual increase in traffic for areas of steady growth, this count should roughly be 15,225 today.<sup>4</sup> This level is about the minimum requirement for supporting retail development. The level of residential density in the region would also need to be increased, though some exact level of increase is not determined and is subject to other issues like disposable income of market area, general economy and competition. The corner of F.M. 2499 and F.M. 407 would need to be almost fully developed before Copper Canyon becomes the next target for development and begins to be assessed for its potential. Development of this corner will have a positive effect on the ability for Copper Canyon's section of F.M. 407 to attract development.<sup>5</sup>

### 8.3 Future Development and its Economic Impact, Non-Residential

Projecting future non-residential development is important for a number of reasons. For the purposes of this section, it helps a community project property and sales tax revenues in the future (by determining total assessed value and anticipated retail sales revenue). The level and success of commercial development is most often the key determinant of a community's ability to fund capital expenditures. Before retail development can be attracted in the manner proposed in the Master Plan, sewer connections must be established.

To most accurately project the future assessed value of the Town Center District, it is important to locate and analyze a similar existing project. Typical suburban office and retail development found in nearby communities may serve as a guide to understand such issues as land value, leasing rates, assessed values, etc. but is not totally applicable given the unique development concept proposed in the Town Center District. Therefore, the Southlake Town Square project has been chosen for analysis for two principle reasons: a highly similar development concept (highly developed design guidelines, mixed use development with retail below and office above, central gathering area, etc.) and similar demographics, in terms of the level of disposable income of potential visitors (both market study areas would feature a \$100,000 + annual household income). These significant differences exist between the conceptual Town Center District and the Southlake Town Square: 1.) the cost of raw land 2.) residential population and 3.) traffic counts. The City of Southlake is significantly higher in all three areas.

<sup>4</sup> Telephone Interview. Traffic Engineer, TXDOT. November 25, 2003.

<sup>5</sup> Telephone Interviews. Area developers and brokers. November 24-25, 2003.

Figures were not available at this time on the value of raw land along F.M. 407 adjacent to Copper Canyon or, to a lesser extent, Flower Mound. This is in large part due to a lack of utilities that makes land valuation difficult to assess and challenges associated with where utility service would be extended from<sup>6</sup> and any existing engineering/drainage issues that may affect value. The value of this land will become more solidified when the exact expansion of F.M. 407, along the area fronting Copper Canyon, is known. Current plans call for the first widening of F.M. 407 (Segment 1) to occur in 2006-2007 between Briarhill Road and Chinn Chapel Road. This road widening is proposed to be a 4 lane divided roadway with a continuous median.<sup>7</sup> As a point of reference, the assessed non-residential value/square foot in Flower Mound is \$103.56<sup>8</sup> versus \$135.52 for the Southlake Town Square development.

From a market standpoint and the residential density required for retail development, major challenges exist. To the east and along F.M. 407, major retail development is in place and continues to develop, capturing much of the existing and future residential development (or market) along that corridor. A major retail development is in the planning stages at the intersection of F.M. 2499 and F.M. 407 in Highland Village. This development could generate over 300,000 square feet of retail space. The ability of Copper Canyon to capture this market, particularly given the general traffic destination to be eastward toward IH 35 and away from Copper Canyon, would be especially challenging. To the west and along F.M. 407 are the Lantana district and its resulting retail development, both existing and future. Retail development in this area seeks to capture a roughly 20,000 person population (and future population growth) consisting of the communities of the Lantana district, Bartonville, Double Oak and Copper Canyon. To date, the Bartonville Town Center has been halfway completed and is slated to be ultimately 15 acres with 175,000 square feet of retail and office space. Additionally, a Lantana shopping center has been proposed and is awaiting adjustments in the alignment of F.M. 407 (schedule unknown). This project is anticipated to be roughly 200,000 square feet of retail space.

Provided the existing and future retail development in these areas, it is difficult to predict when the sufficient market (i.e. residential density) will exist to support retail development. Table 8.5 below provides assumptions for future population growth, and a potential retail and office market, for area cities and the Lantana District in 2025. Assumptions for build-out of the Lantana District will include 11,000-13,000 persons or roughly 3,500-4,000 dwelling units to occur in

<sup>6</sup> Telephone conversations. Area realtor/developer. October 23, 2003.

<sup>7</sup> Public meeting on the proposed widening of F.M. 407. November 13, 2003.

<sup>8</sup> Town of Flower Mound, Texas. Land Use Assumptions Report, September 2000 by Kimley Horn & Associates, Inc.



roughly 10-12 years.<sup>9</sup> By 2025, it is projected that this population, as a whole, will grow by over 150% to a population level of roughly 50,000 persons.

**Table 8.5 Population Projections, Area Cities (2025)**

City	Population Level		Change	
	2000	2025	Percent	Numerical
Argyle	2,335	11,623	80%	9,288
Bartonville	1,063	3,031	65%	1,968
Copper Canyon	1,230	2,433	49%	1,203
Double Oak	2,188	2,783	21%	595
Highland Village	12,144	18,194	33%	6,050
Lantana District*	1,300	12,000	89%	10,700
<b>Total</b>	<b>18,960</b>	<b>50,064</b>	<b>157%</b>	<b>29,804</b>

Source: U.S. Census, 2000; Demographics report, North Texas Council of Governments

\*Projections based on discussion with Lantana District Representative

### **Assessing Total Non-residential Property Value, 2023 and Ultimate Capacity (Build-Out)**

Referring to Table 8.4 and 8.5, it is assumed that the Bartonville Town Square and the Lantana shopping center will total 375,000 square feet of office and retail space and will adequately serve the four-city area population of roughly 19,000 described in Table 8.5. Assuming that Copper Canyon may capture the additional population projected over the next 20 years, the market may support a similar level of development at approximately 375,000 square feet of office/retail space. Such assumptions are highly dependent on advantageous economics (locally, regionally and nationally), demographics, political climate, existing competition, quality of life issues and other important factors difficult to predict.

The total population at ultimate capacity (a roughly 1,200 person increase over the 2025 projection) will not significantly increase the amount of office/retail development estimated for 2023. Because the population of those cities shown in Table 8.5 is not projected beyond 2025, the amount (and resulting property value) of office/retail development is not projected as such a projection would be unsubstantiated. Per the assumptions stated, *non-residential property tax revenue is projected at \$104,881/annually* (Equation 8.3)

<sup>9</sup> Telephone Interview. Kevin Mercer, Manager; Lantana District. November 12, 2003.

### Equation 8.3 Non-Residential Property Tax Revenue Projected 2023 and Ultimate Capacity (Build-Out)

21 acres (19% of proposed 111 acres) yields 375,000 square feet of office/retail= \$70,413,626  
property value = \$104,881 total annual property tax revenue

54  
75  
12.6

### Sales Tax Revenue Generation, 2023 and at Ultimate Capacity (Build-Out)

Based on the current sales tax rate of 7.25%, with one percent returning to the Town, sales tax revenue is projected at \$337,500/annually (Equation 8.4).

### Equation 8.4 Sales Tax Revenue Projected

- Average retail sales per square foot of Class A space averages \$200 annually
- Potential retail space (375,000 square feet/2 = ground floor retail)= 187,500
- At 90% occupation, retail space occupied is 168,750 square feet
- 168,750 square feet x \$200 = \$33,750,000 gross annual sales revenue
- \$33,750,000 x 1% dedicated sales tax to Town = \$337,500 annual sales tax to the Town

## 8.4 Future Development and its Economic Impact, Residential

Projecting future residential development is important to communities for a number of reasons. For the purposes of this section, it helps communities' project property tax revenues in the future and their financial ability to provide public services to these residences and finance major capital improvement projects such as new roads, public facilities, etc.

### Projecting Total Residential Value in 2023

Estimating population growth over a certain period is the key indicator as to the number of new residential units that may be reasonably anticipated within the community. Referring to Table 4.3 Projected Population Growth, a high growth scenario of 2.4%, compounded annually, is projected over a 20-year period. This rate is closest to the 2.7% growth rate experienced over the 1990-2000 period and acts as the most reasonable assumption for future growth (though significantly higher than the recommended rate of 1.2%).

*property tax revenue from*

The estimate of total assessed value for residential units in the year 2023 is \$263,855 (Equation 8.5).

**Equation 8.5 Assessed Value for Residential Units in 2023**

2023 projected population / average # of persons per dwelling unit = estimated total # of units *or*

1,954 / 2.8 persons = 698 total residential units *or* 333 additional units between 2003-2023 (698-365) *next,*

2003 average assessed value x total units projected = total assessed residential value in 2023 *or*

\$253,787 x 698 = \$1,771,433,200 *next,*

total residential value x current property tax rate = total property tax revenue in 2023 *or*

\$1,771,433,200 x \$0.14895 cents per \$100 valuation = \$263,855

Not adjusting for inflation allows these figures to be assessed using current costs per unit of public service and the ability of the Town to meet future public service needs.



**Projecting Total Residential Value at Ultimate Capacity (Build-Out)**

Referring to Table 4.2 Ultimate Holding Capacity (see Future Land Use Plan), the population at build-out is estimated to be 3,693 persons, or 1,338 total residential units. Therefore, the total residential property tax revenue at ultimate capacity is \$505,785 (Equation 8.6).

**Equation 8.6 Residential Property Tax Revenue at Ultimate Capacity**

2003 average assessed value x total units projected at ultimate capacity = total assessed residential value at ultimate capacity *or*

\$253,787 x 1,338 units = \$3,395,670,000 *next,*

total residential value x current property tax rate = total property tax revenue at ultimate capacity *or*

\$3,395,670,000 x \$0.14895 cents per \$100 valuation = \$505,785

## 8.5 Total Property Value, Non-residential and Residential

Calculating the total property value for both non-residential and residential development provides the basis for projecting property tax revenues in the future and the Town's ability to provide future public services and finance capital improvement projects.

### Total Property Value, Non-Residential and Residential, in 2023

Using the data described in Sections 8.3 and 8.4, total property tax revenue in 2023 is \$2,161,047,700 (Equation 8.7).

#### Equation 8.7 Total Property Tax Revenue in 2023

total non-residential property value + total residential property value =  
total property value in 2023

or

$$\$389,614,570 + 1,771,433,200 = \$2,161,047,700$$

### Total Property Value, Non-Residential and Residential, at Ultimate Capacity (Build-Out)

Using the data described in Sections 8.3 and 8.4, total property value at ultimate capacity is \$3,785,284,500/annually (Equation 8.8).

#### Equation 8.8 Property Value at Ultimate Capacity

total non-residential property value + total residential property value =  
total property value at ultimate capacity or

$$\$389,614,570 + \$3,395,670,000 = \$3,785,284,500$$

## 8.6 Projecting Other Future Income and Expenses, Residential

Projecting other future income and expenses associated with new residential development assumes that current levels of service are sufficient, that the costs and revenues associated with all public services remains constant and that economies of scale, though they may exist to

various extents for some services, are difficult to predict and may complicate rather than add value to this projection. Generally, expenses on a per capita basis rise with population increases and their associated demands for increased levels of service. Furthermore, residential property tax revenue will generally have a positive relationship with operational and maintenance expenses. This positive relationship is better and improves somewhat with a generally higher average assessed value for all residential units within the community (see Per Capita Multiplier, Section 8.1). Beyond this essentially break-even relationship, revenues from commercial properties (sales and property tax) are the key contributor for capital expenditures (see Section 8.3 Future Development and its Economic Impact, Non-residential).

It is important to note that Copper Canyon currently operates using minimal municipal staff. Volunteerism and a relatively low demand for public services have allowed the Town to operate effectively while keeping taxes low. As the Town grows, it will become increasingly difficult to maintain the desired level of service on a “status quo” budget and tax rate. It will be difficult to maintain its current low tax rate and add services.