Impact Fee Analysis

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-OVERVIEW-

The City of Siloam Springs has retained TischlerBise to prepare a impact fee study. This report documents the data, methodology, and results of the impact fee study. Impact fees are one-time payments used to fund system improvements needed to accommodate development. As documented in this report, the methods used to calculate impact fees in this study are intended to satisfy all legal requirements governing such fees, including provisions of the U. S. Constitution.

Impact fees for Siloam Springs are proportionate and reasonably related to the capital facility service demands of new development. The written analysis of each impact fee methodology and the cash flow analysis, establish that impact fees are necessary to achieve an equitable allocation of costs in comparison to the benefits received. Impact fee methodologies also identify the extent to which newly developed properties are entitled to various types of credits to avoid potential double payment of capital costs. Specifically, the impact fees categories contained in this report include the following infrastructure categories:

- Fire
- Police
- Parks
- Roads

LEGAL FRAMEWORK

U. S. Constitution. Like all land use regulations, development exactions, including impact fees, are subject to the Fifth Amendment prohibition on taking of private property for public use without just compensation. Both state and federal courts have recognized the imposition of impact fees on development as a legitimate form of land use regulation, provided the fees meet standards intended to protect against regulatory takings. To comply with the Fifth Amendment, development regulations must be shown to substantially advance a legitimate governmental interest. In the case of impact fees, that interest is in the protection of public health, safety, and welfare by ensuring that development is not detrimental to the quality of essential public services.

There is little federal case law specifically dealing with impact fees, although other rulings on other types of exactions (e.g. land dedication requirements) are relevant. In one of the most important exaction cases, the U. S. Supreme Court found that a government agency imposing

exactions on development must demonstrate an "essential nexus" between the exaction and the interest being protected (See *Nollan v. California Coastal Commission,* 1987). In a more recent case (*Dolan v. City of Tigard, OR,* 1994), the Court ruled that an exaction also must be "roughly proportional" to the burden created by development. However, the *Dolan* decision appeared to set a higher standard of review for mandatory dedications of land than for monetary exactions such as impact fees.

IMPACT FEE CALCULATION METHODOLOGY

Any one of several legitimate methods may be used to calculate impact fees. The choice of a particular method depends primarily on the service characteristics and planning requirements for the facility type being addressed. Each method has advantages and disadvantages in a particular situation, and to some extent they are interchangeable, because they all allocate facility costs in proportion to the needs created by development.

Reduced to its simplest terms, the process of calculating impact fees involves only two steps: determining the cost of development-related capital improvements, and allocating those costs equitably to various types of development. In practice, though, the calculation of impact fees can become quite complicated because of the many variables involved in defining the relationship between development and the need for facilities. The following paragraphs discuss three basic methods for calculating impact fees and how those methods can be applied.

Plan-Based Impact Fee Calculation. The plan-based method allocates costs for a specified set of improvements to a specified amount of development. The improvements are identified by a facility plan and the development is identified by a land use plan. In this method, the total cost of relevant facilities is divided by total demand to calculate a cost per unit of demand. Then, the cost per unit of demand is multiplied by the amount of demand per unit of development (e.g. dwelling units or square feet of building area) in each category to arrive at a cost per unit of development.

The plan-based method is often the most workable approach where actual service usage is difficult to measure (as is the case with administrative facilities), or does not directly drive the need for added facilities (as is the case with fire stations). It is also useful for facilities, such as streets, where capacity cannot always be matched closely to demand. This method is relatively inflexible in the sense that it is based on the relationship between a particular facility plan and a particular land use plan. If either plan changes significantly, the fees should be recalculated.

Cost Recovery Impact Fee Calculation. The rationale for the cost recovery approach is that new development is paying for its share of the useful life and remaining capacity of facilities from which new growth will benefit. To calculate a impact fee using the cost recovery approach, facility cost is divided by ultimate number of demand units the facility will serve.

Incremental Expansion Impact Fee Calculation. The incremental expansion method documents the current level-of-service (LOS) for each type of public facility in both quantitative and qualitative measures, based on an existing service standard such as square feet per capita or park acres per capita. The level-of-service standards are determined in a manner similar to the current replacement cost approach used by property insurance companies. However, in contrast to insurance practices, Siloam Springs will not use the funds for renewal and/or replacement of existing facilities. Rather, the City will use the impact fee revenue to expand or provide additional facilities, as needed, to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments, with LOS standards based on current conditions in the community.

Figure 1 shows the methodologies used to calculate impact fees for the City of Siloam Springs.

Figure 1. Summary of Proposed Fee Methods and Cost Components

Type of Public Facility	Incremental Expansion	Plan Based	Cost Allocation
Police	▪ Stations ▪ Vehicles/Equipment	Not applicable	Calls for Service
Fire	▪ Stations ▪ Apparatus	Not applicable	Calls for Service
Parks	▪ Park Land ▪ Park Improvements ▪ Vehicles/Equipment	Not applicable	100% Residential
Roads	▪ Arterial Roads	Not applicable	Vehicle Miles of Travel

Figure 2 provides a schedule of the *justifiable impact fees* for Siloam Springs. For residential impact, fees will be assessed per housing unit. For nonresidential impact, fees will be assessed per square feet of floor area. The City may adopt fees that are less than the amounts shown. However, a reduction in impact fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures and/or a decrease in the City's LOS standards.

Figure 2. Schedule of Justifiable Impact Fees

	Police	*Fire*	*Parks*	*Roads*	*TOTAL*
Residential	**Per Housing Unit**				
Single Family	$193	$387	$1,316	$1,614	**$3,510**
Multifamily	$160	$319	$1,087	$1,112	**$2,678**
Mobile Home	$212	$423	$1,440	$842	**$2,917**
Nonresidential	**Per Square Foot**				
820 Com / Shop Ctr 25,000 SF or less	$1.61	$0.50		$6	**$7.94**
820 Com / Shop Ctr 25,001-50,000 SF	$1.40	$0.43		$5	**$6.89**
820 Com / Shop Ctr 50,001-100,000 SF	$1.17	$0.38		$4	**$5.77**
820 Com / Shop Ctr 100,001-200,000 SF	$1.00	$0.33		$4	**$4.95**
820 Com / Shop Ctr 200,001-400,000 SF	$0.85	$0.30		$3	**$4.22**
710 Office / Inst 10,000 SF or less	$0.59	$0.67		$2	**$3.62**
710 Office / Inst 10,001-25,000 SF	$0.48	$0.62		$2	**$3.01**
710 Office / Inst 25,001-50,000 SF	$0.41	$0.59		$2	**$2.62**
710 Office / Inst 50,001-100,000 SF	$0.35	$0.56		$1	**$2.29**
720 Medical-Dental Office	$0.94	$0.61		$4	**$5.31**
610 Hospital	$0.46	$0.51		$2	**$2.79**
770 Business Park	$0.33	$0.47		$1	**$2.13**
110 Light Industrial	$0.18	$0.35		$1	**$1.25**
140 Manufacturing	$0.10	$0.27		$0	**$0.77**
150 Warehousing	$0.13	$0.19		$1	**$0.84**
Other Nonresidential					
320 Lodging (per room)	$147	$107		$1	**$254**
565 Day Care (per student)	$117	$24		$0	**$141**
620 Nursing Home (per bed)	$62	$54		$0	**$116**

All costs in the impact fee calculations are given in current dollars with no assumed inflation rate over time. Necessary cost adjustments can be made as part of the recommended annual evaluation and update of impact fees. One approach is to adjust for inflation in construction costs by means of an index like the one published by Engineering News Record (ENR). This index could be applied against the calculated impact fees. If cost estimates change significantly, the fees should be recalculated.

-DEVELOPMENT AND DEMAND DATA-

Both existing and planned development must be addressed as part of the nexus analysis required to support the establishment of impact fees. This chapter of the report organizes and correlates information on existing and planned development to provide a framework for the impact fee analysis contained in subsequent chapters of the report. The information in this chapter forms a basis for establishing levels of service, analyzing facility needs, and allocating the cost of capital facilities between existing and future development and among various types of new development.

Data on land use employed in this study are based on information obtained from the City of Siloam Springs. Demographic data used in this study are based on information obtained from the 2000 U.S. Census, 2006 Special Census (conducted at the request of the City), ESRI/InfoUSA, Institute of Transportation Engineers and the Urban Land Institute.

BACKGROUND AND SETTING

Situated in the Ozarks, the City of Siloam Springs is located on the western border of Arkansas with Oklahoma on the other side. The City is located in Benton County, just to the west of the I-540 corridor, which is home to Bentonville and Fayetteville.

According to a special census conducted in April 2006 by the U.S. Census Bureau, the latest population count for Siloam Springs is 13,990 persons. This special census also reported that the current number of housing units is 5,521. To estimate the City's population as of January 1, 2007, TischlerBise multiplied building permits (201) issued in 2006 by the persons per housing unit figure of 2.38 from the 2006 special census to estimate a 2007 population of 14,469 and housing unit total of 5,722. These results show an increase of nearly 1,590 housing units in Siloam Springs since 2000, an average of approximately 265 units per year. The City expects the growth rate to continue for the foreseeable future.

STUDY AREA AND TIME FRAME

The study area for the impact fee analysis is the existing City limits. Data on future development used in this study represents the amount of additional development expected in the study area through 2026. The impact fees calculated in this study are based on the amount and type of projected development and the fees are calculated in terms of current dollars. Development may occur sooner or later than projected, but the rate and timing of development do not affect the fee calculations except in rare cases where fee revenue will be used to repay debt issued to fund capital facilities. If that situation arises in this study, it will be discussed in the fee analysis for a particular type of facility.

DATA SOURCES

Data on existing and future development available for use in this study are:

- Dwelling units by type (single-family, multi-family and mobile home/other)
- Population
- Employment
- Nonresidential building area
- Average daily weekday vehicle trips

DEMAND VARIABLES AND IMPACT FACTORS

In calculating impact fees, the relationship between facility needs and development must be quantified in cost allocation formulas. Certain measurable attributes of development (e.g., population) are used in those formulas as *"demand variables"* that reflect the impact of different types and amounts of development on the demand for specific public services and facilities. Demand variables are selected either because they directly measure service demand or because they are reasonably correlated with that demand.

For example, the service standard for parks in a community is typically defined as a ratio of park acreage to population. As population grows, more parks are needed to maintain the desired standard. Logically, then, population is an appropriate yardstick for measuring the impacts of development on the need for additional parks.

Each demand variable has a specific value per unit of development for each land use category. Those values may be referred to as *demand factors* or *impact factors*. Each demand variable has a specific value per unit of development for each land use category. Those values may be referred to as *demand factors* or *impact factors*. For example, on average for the City, the persons per dwelling unit generates 2.38 persons (US Census data). Consequently, the persons per housing unit factor for a single-family unit is 2.50 persons. Other land use categories would

have different impact factors. Some of the impact factors used in this study are based on widely-accepted standards (e.g., trip generation rates), while others are based on local conditions (e.g., population).

The specific demand variables used in this study are discussed below.

Population per Unit of Development. Persons per housing unit are an important demographic factor that helps account for variations in service demand by type of housing. Because population is tied to residential development, the value of this variable for all nonresidential land uses is zero. The best data currently available to calculate this differentiation is the US Census Summary File 3 sample dataset. However, due to recent growth, the City requested a special census be conducted. It took place in April 2006 and the final results were released in September. According to these special census results, Siloam Springs had 5,521 total housing units and 4,911 households. The results also indicate a total of 13,166 persons residing in these housing units as of April 2006. This results in an average, for all housing units, of 2.38 persons per housing unit. This is shown in Figure 3 below.

After reviewing the detailed persons per housing unit data, TischlerBise recommends using the following three residential categories in the impact fee calculations: 1) Single Family (includes detached and attached one-unit dwellings); 2) Multifamily, and 3) Mobile Homes. A differentiation by type of housing is necessary to make residential impact fees proportionate and reasonably related to the demand for public facilities.

Figure 3. Persons Per Unit

Dwelling Unit Type	Total Housing Units	Occupied Housing Units	Population	Persons Per Housing Unit	Household Vacancy Rate	Distribution of Housing Units
Single Family[1]	3,648	3,245	9,118	2.50	11.05%	66.1%
Multifamily[2]	1,602	1,425	3,307	2.06	11.05%	29.0%
Mobile Home	271	241	741	2.73	11.05%	4.9%
Total	**5,521**	**4,911**	**13,166**	**2.38**	**11.05%**	**100.0%**
		Group Quarters	*824*			
		Total	*13,990*			

Source: U.S. Census Bureau; 2006 special census results.

[1]Includes 1 unit detached and attached (townhomes)

[2]Includes 2 (duplex) to 50+ units

Employment Building Area Ratios and Trip Generation Rates. In addition to data on residential development, the calculation of impact fees requires data on nonresidential construction in Siloam Springs. To convert projections to gross floor area of nonresidential development in employment, TischlerBise will use average square feet per employee

multipliers. The multipliers shown in Figure 4 are derived from national data published by the Institute of Transportation Engineers (ITE) and the Urban Land Institute (ULI). For some types of impact fees, the number of employees per thousand square feet (KSF) will be used to differentiate fees by type of nonresidential development.

The shaded rows are the four nonresidential prototypes that will be used to convert the current number of jobs into nonresidential floor area. The prototype for goods production is light industrial (warehousing was used in the Bentonville analysis prepared by TischlerBise, but discussions with Siloam Springs suggest light industrial is more appropriate for the City). The prototype for commercial service jobs is a shopping center with 100,000 square feet of floor area (used in the Bentonville analysis). Office and institutional development in Siloam Springs is typically located in small-scale buildings. Therefore, a general office building, averaging 10,000 square feet of floor area and the government office building category, are suitable prototypes for future office and institutional development (50,000 was used in Bentonville analysis).

Figure 4. Employee Building Area Ratios and Trip Generation Data

Land Use	Wkdy Trip Ends Per 1,000 Sq Ft (1)	Wkdy Trip Ends Per Employee (1)	Emp Per 1,000 Sq Ft	Sq Ft Per Emp (2)
Commercial / Shopping Ctr (820)				
25K gross leasable area	110.32	na	3.33	300
50K gross leasable area	86.56	na	2.86	350
100K gross leasable area	67.91	na	2.50	400
200K gross leasable area	53.28	na	2.22	450
400K gross leasable area	41.80	na	2.00	500
General Office (710)				
10K gross floor area	22.66	5.06	4.48	223
25K gross floor area	18.35	4.43	4.14	241
50K gross floor area	15.65	4.00	3.91	256
100K gross floor area	13.34	3.61	3.70	271
Institutional				
Government Office Building (730)	68.93	11.95	5.77	173
Day Care Center (565)	79.26	31.19	2.54	394
School (Averaged)	12.65	16.56	0.76	1,309
Industrial				
Business Park (770)***	12.76	4.04	3.16	317
Mini-Warehouse (151)	2.50	56.28	0.04	22,512
Light Industrial (110)	6.97	3.02	2.31	433
Warehousing (150)	4.96	3.89	1.28	784
Manufacturing (140)	3.82	2.13	1.79	558

1) Trip Generation, Institute of Transportation Engineers, 2003.

2) Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.

*** According to ITE, a Business Park is a group of flex-type buildings served by a common roadway system. The tenant space includes an average mix of 20-30% office/commercial and 70-80% industrial/warehousing.

CURRENT AND FUTURE CITY DEVELOPMENT BASE

The following provides the demographic data and development projections that TischlerBise will use in the impact fee analysis for the City of Siloam Springs. As noted above, the data will serve in the study as the basis for measuring the increased demand for services in the future, establishing levels of service provided by the City, as well as allocating the cost of capital facilities between existing and future development and among various types of new development.

Figure 5 provides population, housing unit, and employment data for the 2007 to 2026 time period. The following pages provide a discussion of the assumptions and data used to generate the data in Figure 5.

Figure 5. City of Siloam Springs Growth Indicators

	2007	2011	2016	2021	2026	2007 to 2026 Total Increase	2007 to 2026 Annual Increase
Population[1]	14,469	16,835	19,995	23,154	26,314	11,845	623
Employment[2]	7,011	8,310	9,933	11,557	13,180	6,169	325
Housing Units[3]	5,722	6,782	8,107	9,432	10,757	5,035	265
Service Population[4]	21,480	25,145	29,928	34,711	39,494	18,014	948
Nonresidential Space[5]	2,460,785	2,975,550	3,556,884	4,138,218	4,719,551	2,258,767	118,882

[1]Population projection based on the 2006 special census (population and housing units)and building permit activity in 2006. Projections are based on projected housing units, current occupancy rates (to derive households), and persons per housing unit from the 2006 special census data.

[2]Employment projections based on the 2005 job estimates (ESRI) and 2005 jobs to housing ratio of 1.27.

[3]Housing units projections based on the 2006 preliminary special census and the permit data (provided by the City) for 2000-2006.

[4] Service population is the sum of the City's population and employment.

[5] Data derived from square per employee multipliers published by Institute of Transportation Engineers (2003).

Housing Units. Figure 5 above shows that the number of housing units in Siloam Springs is projected to increase from 5,722 units in 2007 to over 10,750 by 2026, an increase of approximatly 88 percent. The housing projection is based on the number of current units and historical trends in building permit data since 2000. The average annual number of residential permits from 2000 to 2007 was 265.

Population. The existing population estimate that is used in this analysis is an estimate as of January 1, 2007. This estimate was made using the April 2006 estimate of 13,990 persons prepared by the United States Census Bureau in a special census requested by the City. To this was added the population associated with additional building permits in 2006 (201 units multiplied by 2.38 persons per housing unit), for an estimated population of 14,469. This figure includes 824 persons in group quarters (removed for the persons per unit calculation, but used overall as part of the service population of the City in the impact fee calculations). Table 5 above shows that Siloam Springs's 2026 population is projected to be almost 26,315 residents, an increase of more than 11,845 residents between 2006 and 2026. This result is comparable to the projected increases the City developed using an annexation study. The City determined a possible (maximum) increase to 2026 of 16,600 persons if land around the City is annexed. The more conservative figures developed for the impact fee study would leave the option of other land uses for the annexed areas other than strictly residential. The projection method (of four developed) TischlerBise used in this study was selected as most appropriate since, as noted, it is most consistent with the City's projections and is based on historical growth over the past six years.

Nonresidential Floor Space. Figure 6 below shows that the estimated total nonresidential floor area in Siloam Springs in 2007 is approximately 2.5 million square feet. This estimate is based on the nonresidential prototypes shown previously in Figure 4. Both tables were used in the analysis to convert the square feet per employee (far right column of Figure 4) into

nonresidential floor area by type, as the City was unable to provide estimated floor areas for these specific land uses. The estimate of 2.5 million square feet is based on the the number of jobs currently in the City and the nonresidential prototypes shown in Figure 4. For example, the retail/commercial percent of employment (47.2 percent) is multiplied by total jobs (7,011) to arrive at the total number of jobs attributed to retail. This figure is then multiplied by the square feet of space needed per job (i.e., "square feet per employee"—400, in this case) to arrive at the estimated current nonresidential floor area in Siloam Springs for retail/commercial (1.3 million square feet).

Figure 6. Estimate of Employment and Nonresidential Floor Area

	2007 Employment*	Percent of Employment	Square Feet per Employee#	2006 Non-Res Floor Area##
Retail/Commerical				
Retail Trade	2,562			
Hotel/Lodging	35			
Other Services	534			
Automotive Services	63			
Entertainment	112			
Subtotal	3,306	47.2%	400	1,322,000
Office				
Finance/Ins./Real Estate	367			
Health Services	628			
Legal Services	20			
Subtotal	1,015	14.5%	223	226,000
Institutional				
Government/Institutional	972			
Subtotal	972	13.9%	173	168,000
Goods Production				
Agriculture	165			
Construction	190			
Manufacturing	407			
Wholesale Trade	840			
Comm, Trans, & Utilities	116			
Subtotal	1,718	24.5%	433	744,000
Total	7,011	100.0%		2,460,000

*Employment by development type based on employment data by industry obtained from ESRI/InfoUSA

#Square feet per employee calculated from trip rates except for Shopping Center data, which are derived from the Urban Land Institute's Development Handbook and Dollars and Cents of Shopping Centers.

##Calculated using estimated square feet per employee, percent of employment, and total jobs.

Employment. In 2007, there were 7,011 jobs in Siloam Springs according to the information published by ESRI/InfoUSA. This estimate was matched with the number of housing units in 2006 to derive a job to housing ratio of 1.23 jobs for each housing unit in Siloam Springs. To project the number of jobs in the City to 2026, this ratio was multiplied by the projected number of housing units. However, should the housing units not increase as predicted, then the projected number of jobs is likely too high. For example, in 2011 the projected number of housing units is currently 6,782. Multiplied by the current ratio of 1.23, the number of projected jobs is 8,310.

Vehicle Trips. Future residential and nonresidential development in Siloam Springs will have an impact on the City's road system due to the additional vehicle trips that will be generated by such development. Using the housing and nonresidential floor space data discussed above, additional trips and peak hour PM trips were calculated so that vehicle trip data can be used as a demand unit to measure the impact of development in the City. Figure 7 provides an estimate for 2007 of total vehicle trips and peak hour PM trips in the City of Siloam Springs. The vehicle trip projections were derived by applying trip generation rates published by the Institute of Transportation Engineers to the 2007 estimates of housing units and nonresidential floor space in the City. For nonresidential space, the same four prototype developments used to estimate floor space were used to estimate trips and peak hour trips, combining office and institutional.

Since each trip includes both an origin and destination point, it should be noted that the trip generation rates must be adjusted to avoid double counting of the number of trips generated. This adjustment is shown in Figure 7. The retail/commercial factor is specific to the size of the building, whereas all other nonresidential development has a trip adjustment factor of 50 percent. For residential development the 50 percent factor was adjusted using Census Journey-to-Work data to more accurately reflect residential trips. The residential trip factor is shown as 55 percent.

Figure 7. Estimate of Current Daily and PM-Peak Hour Vehicle Trips

2007 Peak Hour Trips (City of Siloam Springs)

Development Type	Units[1]	2007 Units	Peak Hr Trips per Unit[2]	Adjustment Factor[3]	Adj. Pk Hr per Unit	2007 Peak Hr Trips
Residential						
Single Family Detached	DU	3,734	1.02	55%	0.56	2,095
Multi-Family Residential	DU	1,712	0.62	55%	0.34	584
Mobile Home	DU	276	0.60	55%	0.33	91
Non-Residential						
Commercial	KSF	1,322	6.26	33%	2.07	2,731
Office/Institutional	KSF	394	9.00	50%	4.50	1,773
Industrial	KSF	744	1.08	50%	0.54	402
Total						7,675

[1] DU = dwelling units and KSF = per 1,000 square feet of nonresidential floor area

[2] Trip Generation, Institute of Transportation Engineers, 2003.

[3] Based on the ITE data in Table VII-1 of the 5th edition of Trip Generation, the best trendline correlation between pass-by trips and floor area is a power curve. The equation used to derive the pass-by trip percentage is 116.63 x (KSF ^ -0.2254).

2007 Average Daily Trips (City of Siloam Springs)

Development Type	Units[1]	2007 Units	Avg Daily Trips per Unit[2]	Adjustment Factor[3]	Adj. ADT per Unit	2007 ADT Trips
Residential						
Single Family Detached	DU	3,734	9.57	55%	5.26	19,654
Multi-Family Residential	DU	1,712	6.59	55%	3.62	6,205
Mobile Home	DU	276	4.99	55%	2.74	757
Non-Residential						
Commercial	KSF	1,322	67.91	33%	22.41	29,626
Office/Institutional	KSF	394	22.66	50%	11.33	4,464
Industrial	KSF	744	6.97	50%	3.49	2,593
Total						63,300

[1] DU = dwelling units and KSF = per 1,000 square feet of nonresidential floor area

[2] Trip Generation, Institute of Transportation Engineers, 2003.

[3] Based on the ITE data in Table VII-1 of the 5th edition of Trip Generation, the best trendline correlation between pass-by trips and floor area is a power curve. The equation used to derive the pass-by trip percentage is 116.63 x (KSF ^ -0.2254).

SUMMARY OF PROJECTION INFORMATION

Figure 8 summarizes the development data and projections that will be used in subsequent chapters for Siloam Springs's impact fee study. The figures indicate the following:

- Based on the projection methodologies discussed above, 5,035 new residential units are projected to be constructed in Siloam Springs between 2007 and 2026, an 88 percent increase over the City's current housing stock. On an annual basis, this projection converts to an average of 265 new housing units per year.

- The projected residential development will have an impact on Siloam Springs's population, with the City expected to add over 11,845 new residents between 2007 and 2026.

- The residential development will drive employment growth in Siloam Springs over the study period, assuming that the City's current ratio of jobs to occupied housing units remains stable. It is anticipated that nearly 6,170 new jobs will be added in the City between 2007 and 2026.

- The consultant estimates that there is approximately 2.46 million square feet of nonresidential floor area in Siloam Springs in 2007. Between 2007 and 2026, it is expected that the City could add approximately 2.3 million square feet of nonresidential space, with the largest share of this space being for retail/commercial uses.

Figure 8. City of Siloam Springs Development Projections, 2006-2026

Demand Variable	2007	2011	2016	2021	2026	Numerical Change 2007-26	Annual Increase
Population							
Population	14,469	16,835	19,995	23,154	26,314	11,845	623
Housing Units	5,722	6,782	8,107	9,432	10,757	5,035	265
Housing Units							
Single Family	3,734	4,426	5,290	6,155	7,020	3,286	173
Multi-Family	1,712	2,029	2,426	2,822	3,218	1,506	79
Mobile Home	276	327	391	455	519	243	13
Total Units	5,722	6,782	8,107	9,432	10,757	5,035	265
Vacancy Rate	11.0%	11.0%	11.0%	11.0%	11.0%		
Employment							
Total Employment	7,011	8,310	9,933	11,557	13,180	6,169	325
Jobs to Housing Ratio	1.23	1.23	1.23	1.23	1.23		
Percent Retail / Commercial	47%	47%	47%	47%	47%		
Percent Office / Inst	28%	28%	28%	28%	28%		
Percent Industrial	25%	25%	25%	25%	25%		
Nonresidential Space (000's)							
Retail / Commercial	1,322	1,567	1,874	2,180	2,486	1,164	61
Office / Instit	394	546	649	752	855	461	24
Industrial	744	917	1,089	1,261	1,434	689	36
Total	2,461	3,031	3,612	4,193	4,775	2,314	122
Average Daily Vehicle Trips							
Residential	26,617	31,547	37,711	43,874	50,037	23,421	1,233
Nonresidential	36,683	44,511	53,139	61,766	70,393	33,710	1,774
Total	63,300	76,059	90,849	105,640	120,431	57,131	3,007

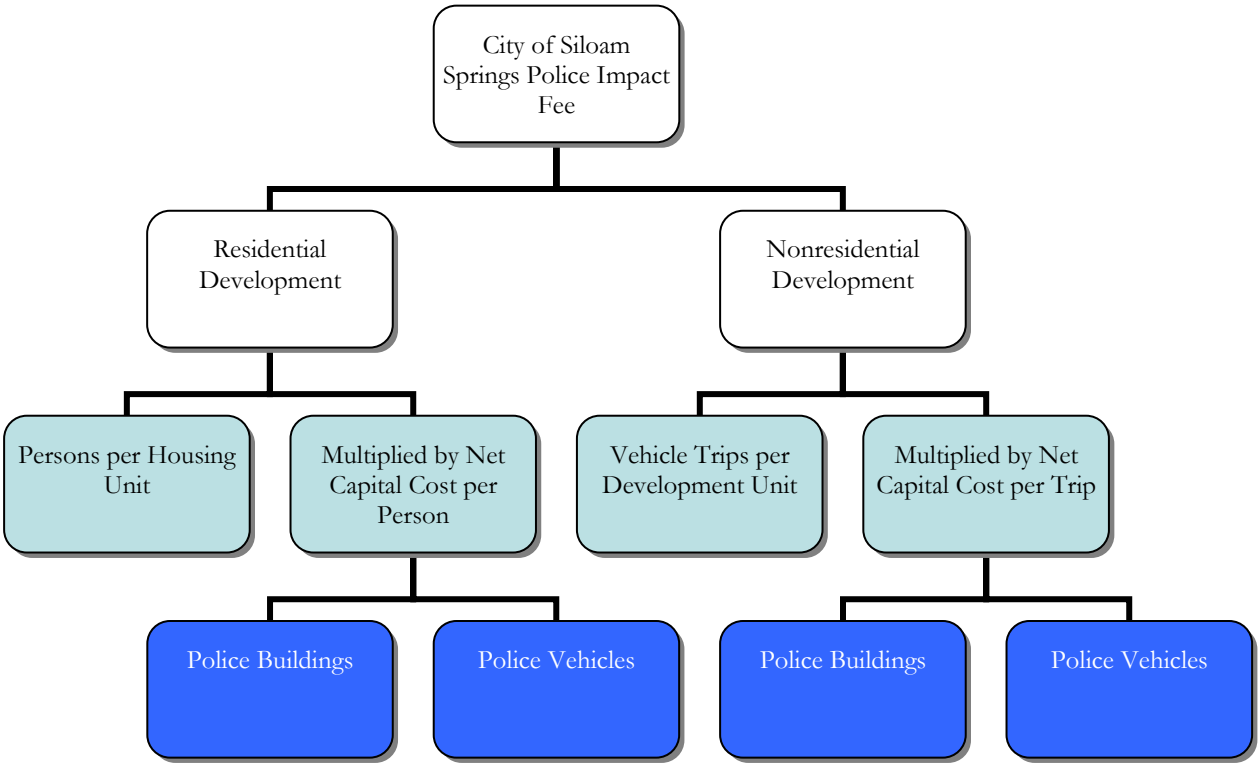
-POLICE-

METHODOLOGY

The police impact fee is calculated using an incremental expansion methodology and includes components for buildings and vehicles. As shown in Figure 9, the police impact fee uses different demand indicators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to a proportionate fee amount by type of housing, based on the number of persons per housing unit.

For nonresidential impact fees, TischlerBise recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are used for nonresidential development because vehicle trips are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse development. Office and institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for public safety from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, will not accurately reflect the demand for service. For example, if employees per thousand square feet were used as the demand indicator, police impact fees would be too high for office and institutional development because offices typically have more employees per 1,000 square feet than retail uses. If floor area were used as the demand indicator, police impact fees would be too high for industrial development.

Figure 9. Police Impact Fee Methodology



PROPORTIONATE SHARE FACTORS

To allocate police capital costs, local calls for police services were analyzed to determine the residential and nonresidential proportionate share factors for the police impact fees. In calendar year 2005, the City of Siloam Springs Police Department handled 8,726 incidents of which 6,187 were tied to a residential or nonresidential address (2,539 calls were traffic related). Of the 6,187 calls, 63 percent were to nonresidential properties while the other 37 percent were to residential properties—see Figure 10. This call distribution indicates a 37 percent/63 percent split between residential and nonresidential uses. For the impact fee analysis, this call distribution split is used to allocate police capital costs between nonresidential and residential uses.

Figure 10. Proportionate Share Factors for Police

	2005	
Responses to Residential Locations	2,286	37%
Responses to Nonresidential Locations	3,901	63%
Subtotal	6,187	
Responses to Accidents and Other Locations	2,539	
TOTAL#	8,726	

Source: City of Siloam Springs Police Department

#Department provided total calls for service during 2005 and percentages of the total allocated to land type, including accidents. The percentages were figured from data collected over a two week period from April 24, 2006 to May 7, 2006.

Average weekday vehicle trip ends are from the reference book, Trip Generation, published by the Institute of Transportation Engineers (ITE, 2003). A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). Trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. For all types of nonresidential development except commercial, the trip adjustment factor is 50%. For commercial / shopping center development, the trip adjustment factor ranges from 24-41% depending on the floor area of the development. The trip adjustment factor is less than 50% because retail uses attract vehicles as they pass by on arterial and collector roads.

For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For a small-size shopping center of 50,000 square feet of floor area, the ITE manual indicates that on average 39% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 61% of attraction trips have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 61% multiplied by 50%, or approximately 31% of the trip ends. The data contained in the Trip Generation Handbook (2004) indicates there is an inverse relationship between shopping center size and pass-by trips. Therefore, appropriate trip adjustment factors have been calculated for each category of shopping center size used in the police impact fee calculations. Figure 11 below summarizes average nonresidential weekday vehicle trip factors.

Figure 11. Average Daily Vehicle Trip Factors for Nonresidential Development

Average Weekday Vehicle Trip Ends per 1,000 Sq Ft	
820 Com / Shop Ctr 25,000 SF or less	110.32
820 Com / Shop Ctr 25,001-50,000 SF	86.56
820 Com / Shop Ctr 50,001-100,000 SF	67.91
820 Com / Shop Ctr 100,001-200,000 SF	53.28
820 Com / Shop Ctr 200,001-400,000 SF	41.80
710 Office / Inst 10,000 SF or less	22.66
710 Office / Inst 10,001-25,000 SF	18.35
710 Office / Inst 25,001-50,000 SF	15.65
710 Office / Inst 50,001-100,000 SF	13.34
720 Medical-Dental Office	36.13
610 Hospital	17.57
770 Business Park	12.76
110 Light Industrial	6.97
140 Manufacturing	3.82
150 Warehousing	4.96
Average Weekday Vehicle Trip Ends	
320 Lodging (per room)	5.63
565 Day Care (per student)	4.48
620 Nursing Home (per bed)	2.37
Trip Adjustment Factors	
Com / Shop Ctr 25,000 SF or less	28%
Com / Shop Ctr 25,001-50,000 SF	31%
Com / Shop Ctr 50,001-100,000 SF	33%
Com / Shop Ctr 100,001-200,000 SF	36%
Com / Shop Ctr 200,001-400,000 SF	39%
All Other Nonresidential	50%

LEVEL OF SERVICE

LAW ENFORCEMENT SPACE INCREMENTAL EXPANSION COMPONENT

Figure 12a lists the current inventory of law enforcement space in the City of Siloam Springs. As Figure 12a indicates, the City currently has law enforcement space totaling 18,427 square feet. When the current inventory (18,427 square feet) is compared to the current demand base, the resulting level of service standards are .047 square feet per person and .032 square feet per nonresidential vehicle trip. According to information provided by City staff, the current replacement cost of replicating the existing law enforcement facilities at $130 a square foot.

To derive the cost per demand unit, the current asset value ($2,395,510) is multiplied by the proportionate share factors for each type of land use and then divided by the respective demand units for each. For example, the cost per person of $61.18 is derived by multiplying the current asset value ($2,395,510) by 37%, then dividing by the current population estimate (14,469). A similar calculation is used for nonresidential development.

Figure 12a. Police Space Incremental Expansion Level-of-Service Standards

Current Facilities	Square Feet[1]	Cost per Square Foot	Total Replacement Value#
Police functions	11,978		$1,557,082
Court	3,685		$479,102
Jail	2,764		$359,327
Total	18,427	$130	$2,395,510

	Proportionate Share	2007 Demand Units	Cost per Demand Unit
Residential	37%	14,469 Persons	$ 61.18
Nonresidential	63%	36,683 Nonres Veh Trips	$ 41.17
Sq Ft Per Person 0.47			
Sq Ft Per Nonres Trip 0.32			

[1]Source: Siloam Springs Police Department
#Cost for new construction provided by Siloam Springs staff.

POLICE VEHICLES AND EQUIPMENT INCREMENTAL EXPANSION COMPONENT

The cost per demand unit for police vehicles and equipment is derived using an incremental expansion approach. Vehicle and equipment costs shown at the top of Figure 12b are based on information provided by the City on the cost of replacing existing vehicles and/or equipment in the department's inventory. As shown in Figure 12b, the estimated replacement costs totals $642,867.

In order to determine the cost per demand unit for police vehicles, the total estimated replacement cost ($642,867) is multiplied by the residential and nonresidential proportionate share factors. The resulting residential proportionate share ($237,562) is then divided by the current population estimate (14,469) for a cost per demand unit of $16.42 per person. For nonresidential development, the proportionate share ($642,866) is divided by the current estimate of average daily nonresidential vehicle trips (36,683), for a cost per demand unit of $11.05 per vehicle trip.

Figure 12b. Police Vehicles Incremental Expansion Level-of-Service Standards

Vehicle Type	# of Units[1]	Replacement Cost Per Unit[1]	Total Replacement Value
Ford Crown Victoria (fully equipped)	21	$24,327	$510,867
Chevy (unmarked detective)	1	$22,000	$22,000
Dodge Intrepid (unmarked detective)	5	$22,000	$110,000
Total	27		$642,867

Development Type	Proportionate Share	2007 Demand Units	Cost per Demand Unit
Residential	37%	14,469 Persons	$16.42
Nonresidential	63%	36,683 Nonres Veh Trips	$11.05

Residential LOS Vehicles per 1,000 Persons	0.69
Nonresidential LOS Vehicles per 1,000 Vehicle Trips	0.46

CREDITS

At present, the City of Siloam Springs does not have any outstanding bonded debt related to the construction of police facilities and/or vehicles. Therefore, a credit for existing bond financing is not applicable to this impact fee.

MAXIMUM JUSTIFIABLE IMPACT FEE FOR POLICE

Figure 13 provides a summary of the level-of-service standards used to calculate the police impact fees. As discussed previously, police impact fees are calculated for both residential and nonresidential land uses. As shown in the bottom of Figure 13, the capital cost per demand unit for residential land uses is $77.60 per person. The cost per demand unit for nonresidential units is $52.22 per nonresidential vehicle trip.

Figure 13. Police Impact Fee Variables

Residential and Nonresidential Demand Indicators	***Standards:***	
Persons Per Housing Unit		
Single Family	2.50	
Multifamily	2.06	
Mobile Home	2.73	
Average Weekday Vehicle Trip Ends per 1,000 Sq Ft		
820 Com / Shop Ctr 25,000 SF or less		110.32
820 Com / Shop Ctr 25,001-50,000 SF		86.56
820 Com / Shop Ctr 50,001-100,000 SF		67.91
820 Com / Shop Ctr 100,001-200,000 SF		53.28
820 Com / Shop Ctr 200,001-400,000 SF		41.80
710 Office / Inst 10,000 SF or less		22.66
710 Office / Inst 10,001-25,000 SF		18.35
710 Office / Inst 25,001-50,000 SF		15.65
710 Office / Inst 50,001-100,000 SF		13.34
720 Medical-Dental Office		36.13
610 Hospital		17.57
770 Business Park		12.76
110 Light Industrial		6.97
140 Manufacturing		3.82
150 Warehousing		4.96
Average Weekday Vehicle Trip Ends		
320 Lodging (per room)		5.63
565 Day Care (per student)		4.48
620 Nursing Home (per bed)		2.37
Trip Adjustment Factors		
Com / Shop Ctr 25,000 SF or less		28%
Com / Shop Ctr 25,001-50,000 SF		31%
Com / Shop Ctr 50,001-100,000 SF		33%
Com / Shop Ctr 100,001-200,000 SF		36%
Com / Shop Ctr 200,001-400,000 SF		39%
All Other Nonresidential		50%

Demand Unit Cost Factors	Per Person	Per Trip
Incremental Expansion Component for Station	$ 61.18	$ 41.17
Incremental Expansion Component for Vehicles	$ 16.42	$ 11.05
Impact Fee Study	$ 1.76	$ 0.91
Capital Cost Per Demand Unit	**$ 77.60**	**$ 52.22**

Figure 14 contains a schedule of the impact fees for police. For residential land uses, persons per housing unit (2.50 for a single family unit) are multiplied by the capital cost per person ($77.60), for an impact fee per unit of $193. For ease of administration, impact fees for most types of nonresidential development will be imposed per square foot of floor area. For example, a commercial shopping center greater than 50,000 square feet, but less than 100,000 square feet, generates 67.91 trip ends per 1,000 square feet of floor area. This average daily vehicle trips per 1,000 square feet (67.91) is then multiplied by the trip adjustment factor (33%) and the capital cost per vehicle trip ($52.22). The final step is to divide by the scaling factor of 1,000 to yield a fee of $1.17 per square foot of floor area.

Figure 14. Police Impact Fee Schedule

Residential	Per Housing Unit	
Single Family	$193	
Multifamily	$160	
Mobile Home	$212	
Nonresidential		Per Square Foot
820 Com / Shop Ctr 25,000 SF or less		$1.61
820 Com / Shop Ctr 25,001-50,000 SF		$1.40
820 Com / Shop Ctr 50,001-100,000 SF		$1.17
820 Com / Shop Ctr 100,001-200,000 SF		$1.00
820 Com / Shop Ctr 200,001-400,000 SF		$0.85
710 Office / Inst 10,000 SF or less		$0.59
710 Office / Inst 10,001-25,000 SF		$0.48
710 Office / Inst 25,001-50,000 SF		$0.41
710 Office / Inst 50,001-100,000 SF		$0.35
720 Medical-Dental Office		$0.94
610 Hospital		$0.46
770 Business Park		$0.33
110 Light Industrial		$0.18
140 Manufacturing		$0.10
150 Warehousing		$0.13
Other Nonresidential		
320 Lodging (per room)		$147.00
565 Day Care (per student)		$116.97
620 Nursing Home (per bed)		$61.88

CASH FLOW FOR POLICE INFRASTRUCTURE

Figure 15 indicates projected police impact fee revenue and growth-related capital costs for the next five years. Impact fees should yield approximately $244,000 over the next five years, or $49,000 in average annual revenue. To accommodate the projected annual increase in housing units and nonresidential building area will require approximately 4,325 additional square feet of Police space. The growth-related cost of additional space is approximately $562,000. Police vehicles will cost approximately $151,000.

The cash flow summary provides an indication of the impact fee revenue and expenditures necessary to meet the demand for public facilities from new development within Siloam Springs. As Figure 15 indicates, there is projected to be a deficit of approximately $40,000 that the City will have to fund from general revenue. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs. See Development and Demand Data chapter for discussion of the development projections that drive the cash flow analysis.

Figure 15. Projected Cash Flow - Police

(Current $ in thousands) Fiscal Year=>	1 2008	2 2009	3 2010	4 2011	5 2012	Cum. Total*	Average Annual
REVENUES							
Police Fee-SFD	$33	$33	$33	$33	$33	**$167**	**$33**
Police Fee-MF	$13	$13	$13	$13	$13	**$63**	**$13**
Police Fee-MH/Other	$3	$3	$3	$3	$3	**$13**	**$3**
Subtotal-Residential Impact Fees	***$49***	***$49***	***$49***	***$49***	***$49***	***$244***	***$49***
Police Fee-Commercial	$62	$61	$61	$61	$61	**$307**	**$61**
Police Fee-Office/Instit.	$42	$12	$12	$12	$12	**$90**	**$18**
Police Fee-Industrial	$6	$6	$6	$6	$6	**$31**	**$6**
Subtotal-Nonresidential Impact Fees	***$110***	***$80***	***$80***	***$80***	***$80***	***$429***	***$86***
TOTAL-POLICE IMPACT FEES	***$158***	***$129***	***$129***	***$129***	***$129***	***$673***	***$135***
CAPITAL EXPENDITURES							
Police Headquarters Space	$123	$110	$110	$110	$110	**$562**	**$112**
Police Vehicles	$33	$29	$29	$29	$29	**$151**	**$30**
TOTAL-POLICE EXPENDITURES	*$157*	*$139*	*$139*	*$139*	*$139*	***$713***	***$143***
NET SURPLUS (DEFICIT)						**($40)**	**($8)**
NET CASH FLOW - POLICE							
Annual Surplus (or Deficit)	$2	($11)	($11)	($11)	($11)	**($40)**	**($8)**
Cumulative Surplus (or Deficit)	$2	($9)	($19)	($30)	($40)		

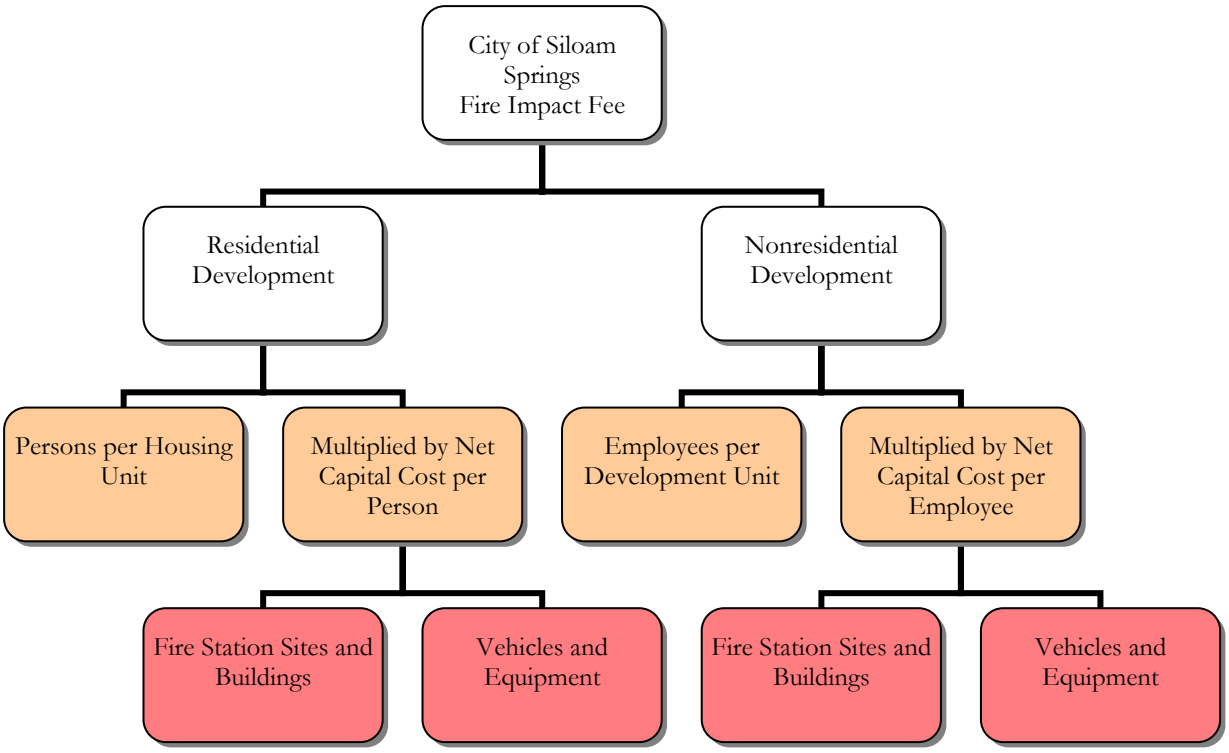
*Based on projected development. See Figure 8 for supporting data

-FIRE AND EMERGENCY MEDICAL-

METHODOLOGY

The City of Siloam Springs provides fire protection and emergency medical services for the City, as well as parts of Benton County and Oklahoma. The fire impact fee is based on the incremental expansion cost of buildings and vehicles. As shown in Figure 16, the fire impact fee uses different demand indicators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to a proportionate fee amount by type of housing, based on the number of persons per housing unit. Nonresidential impact fees are determined per employee and then converted to a per square foot cost.

Figure 16. Fire & Emergency Medical Impact Fee Methodology



PROPORTIONATE SHARE FACTORS

The most accurate source for determining demand for fire and emergency medical services is calls for service generated by residential and nonresidential land uses. Since the Siloam Springs Fire Department also responds to calls for service outside the City limits (County and

Oklahoma), the proportionate share factors are based only on calls within the City. The City provided data on calls for fire and EMS by land use for calendar year 2005 (the City also provided data on 542 calls which could not be attributed to a land use; they have not been included in this analysis). TischlerBise used this call data to determine the proportionate share factors shown in Figure 17. This data indicated the City of Siloam Springs Fire Department responded to a total of 2,772 calls, of which 1,386 were with City limits. Of the calls that can be attributed to known land uses, 574, or 68 percent, are for residential, while the remaining 32 percent are for nonresidential uses.

Figurer 17. Proportionate Share Factors for Fire/EMS

		2005		
		Total	Within City	%
Responses to Residential Locations		1,148	574	68%
Responses to Nonresidential Locations		541	271	32%
	Subtotal	1,689	845	100%
Other Calls for Service*		1,083	542	
	TOTAL	2,772	1,386	

Source: City of Siloam Springs Fire Department

* Includes highway-related calls and calls to undetermined land uses.

LEVEL OF SERVICE

FIRE STATION INCREMENTAL EXPANSION COMPONENT

As discussed above, the fire impact fees are derived using the incremental expansion approach for buildings and apparatus, based on the current 2006 level of service. Siloam Springs has a fire headquarters and two substations. The costs for the stations are derived using the site acreage, building floor area and estimated construction costs, provided by the City. The costs for the apparatus are based on the current inventory and replacement costs. As noted above, only 50 percent of the calls for service are within the City limits. As such, only 50 percent of the costs can be accounted for here as being attributable to City residents.

As Figure 18 indicates, the City currently has 31,000 square feet of fire station space. According to information provided by City staff, the current replacement cost of replicating the existing fire stations is estimated at $130 a square foot, which results in a replacement value of $4,030,000. However, as discussed above only 50 percent of the fire station replacement value can be included in the impact fee calculation due to the fact that 50 percent of fire station demand is from outside the City limits.

To derive the cost per demand unit, the reduced replacement value ($2,015,000) is multiplied by the proportionate share factors for each type of land use and then divided by the respective demand units for each. For example, the cost per person of $94.66 is derived by multiplying the City's share of the cost ($2,015,000) by 68%, then dividing by the 2007 population estimate (14,469). A similar calculation is used for nonresidential development. This is shown below in Figure 18.

Figure 18. Fire and EMS Building Level-of-Service Standards

Current Facilities	Square Feet	Replacement Value-Buildings
Headquarters	14,000	$1,820,000
Station 2	10,000	$1,300,000
Station 3	7,000	$910,000
Total	31,000	$4,030,000

	Proportionate Share	2007	Cost per Demand Unit*
Residential	68%	14,469 Persons[1]	$94.66
Nonresidential	32%	7,011 Jobs[2]	$92.06

#Cost estimate provided by Siloam Springs staff. Estimated at $130 a square foot.

*According to the Department only 50 percent of the call for service demand is within City limits.

[1]Special census results for April 2006 with construction activity in 2006 added.

[2]Employment by development type based on employment data obtained from ESRI/InfoUSA.

As Figure 19 indicates, the City's three fire stations occupy 3.67 acres of land. According to information provided by City staff, the current cost to purchase an acre of land for a fire station is estimated at $20,000 an acre, which results in a replacement value of $73,400. However, as discussed above only 50 percent of the land replacement value can be included in the impact fee calculation due to the fact that 50 percent of fire station demand is from outside the City limits.

To derive the cost per demand unit, the reduced replacement value ($36,700) is multiplied by the proportionate share factors for each type of land use and then divided by the respective demand units for each. For example, the cost per person of $1.72 is derived by multiplying the City's share of the cost ($36,700) by 68%, then dividing by the 2007 population estimate (14,469). A similar calculation is used for nonresidential development. This is shown below in Figure 19.

Figure 19. Fire and EMS Land Level-of-Service Standards

Current Facilities	Acres	Replacement Value-Land
Headquarters	3.00	$60,000
Station 2	0.33	$6,600
Station 3	0.34	$6,800
Total	3.67	$73,400

	Proportionate Share	2007 Demand Units	Cost per Demand Unit*
Residential	68%	14,469 Persons[1]	$1.72
Nonresidential	32%	7,011 Jobs[2]	$1.68

#Cost estimate provided by Siloam Springs staff. Estimated at $20,000 an acre.

*According to the Department only 50 percent of the call for service demand is within City limits.

[1]Special census results for April 2006 with construction activity in 2006 added.

[2]Employment by development type based on employment data obtained from ESRI/InfoUSA.

FIRE STATION INCREMENTAL EXPANSION COMPONENT

The cost per demand unit for fire apparatus is derived using an incremental expansion approach. Vehicle and equipment costs shown at the top of Figure 20 are based on information provided by the City on the cost of replacing existing vehicles and/or equipment in the department's inventory. As shown in Figure 20, the estimated replacement costs totals $1,168,600. This replacement value reflects 50 percent reduction due to 50 percent of fire and emergency service demand originating outside the City limits.

In order to determine the cost per demand unit for fire apparatus, the total estimated replacement cost ($1,168,600) is multiplied by the residential and nonresidential proportionate share factors. The resulting residential proportionate share ($794,288) is then divided by the current population estimate (14,469) for a cost per demand unit of $54.90 per person. For nonresidential development, the proportionate share ($374,311) is divided by the current estimate of average daily nonresidential vehicle trips (7,011), for a cost per demand unit of $53.39 per vehicle trip.

Figure 20. Fire and EMS Apparatus Level-of-Service Standards

Vehicle Type	# of Units[1]	Replacement Cost Per Unit[1]	Total Cost*
Crown Victoria	1	$21,000	$10,500
Dodge Ram	1	$24,000	$12,000
Chevy Pickup	1	$24,000	$12,000
Jeep Cherokee	1	$20,000	$10,000
Ford F150	2	$20,000	$20,000
Ford F350/450 Ambulance	4	$126,000	$252,000
Ford Rescue Truck	1	$150,000	$75,000
Water Trailer	1	$2,000	$1,000
Hazmat Trailer	1	$6,000	$3,000
Chevy 1 Ton 4x4	1	$65,000	$32,500
Jeep Truck 4x4	1	$65,000	$32,500
Ford Quick Attack	1	$75,000	$37,500
Ladder Truck	1	$650,000	$325,000
Pumper	3	$190,000	$285,000
Tanker	1	$120,000	$60,000
Mower	1	$1,200	$600
Total	22		$1,168,600

Development Type	Proportionate Share	2007	Cost per Demand Unit
Residential	68%	14,469 Persons[2]	$54.90
Nonresidential	32%	7,011 Jobs	$53.39

[1]Source: Siloam Springs Fire Department

[2]Source: April 2006 Special Census results with construction activity in 2006 added.

*According to the Department only 50 percent of the call for service demand is within City limits.

CREDITS

At present, the City of Siloam Springs does not have any outstanding bonded debt related to the construction of fire facilities and/or apparatus. Therefore, a credit for existing bond financing is not applicable to this impact fee.

MAXIMUM JUSTIFIABLE FIRE/EMS IMPACT FEE

Input variables for fire impact fees are shown in Figure 21. As discussed previously, fire impact fees are calculated for both residential and nonresidential land uses. As shown in the bottom of Figure 21, the capital costs per demand unit are $154.87 per person and $150.21 per employee.

Figure 21. Fire & EMS Impact Fee Variables

Residential and Nonresidential Demand Indicators	*Standards:*	
Persons Per Housing Unit		
Single Family	2.50	
Multifamily	2.06	
Mobile Home	2.73	
Employees Per 1,000 Square Feet		
820 Com / Shop Ctr 25,000 SF or less		3.33
820 Com / Shop Ctr 25,001-50,000 SF		2.86
820 Com / Shop Ctr 50,001-100,000 SF		2.50
820 Com / Shop Ctr 100,001-200,000 SF		2.22
820 Com / Shop Ctr 200,001-400,000 SF		2.00
710 Office / Inst 10,000 SF or less		4.48
710 Office / Inst 10,001-25,000 SF		4.14
710 Office / Inst 25,001-50,000 SF		3.91
710 Office / Inst 50,001-100,000 SF		3.70
720 Medical-Dental Office		4.05
610 Hospital		3.38
770 Business Park		3.16
110 Light Industrial		2.31
140 Manufacturing		1.79
150 Warehousing		1.28
Other Nonresidential		
320 Lodging (per room)		0.71
565 Day Care (per student)		0.16
620 Nursing Home (per bed)		0.36
Level Of Service	Per Person	Per Employee
Incremental Expansion Component-Fire Stations	$ 94.66	$ 92.06
Incremental Expansion Component-Land	$1.72	$1.68
Incremental Expansion Component-Fire Apparatus	$ 54.90	$ 53.39
Impact Fee Study	$ 3.59	$ 3.08
Capital Cost Per Demand Unit	**$ 154.87**	**$ 150.21**

Figure 22 contains a schedule of the fire impact fees for Siloam Springs. To derive the impact fee for a single-family unit, multiply the average number of persons per housing unit by the capital cost per person for fire stations and apparatus. For example, 2.50 persons per unit multiplied by $154.87 per person results in a fire impact fee of $387. In a similar manner, the fee for nonresidential development is the product of employees per development unit and the cost per employee, all divided by 1,000.

Figure 22. Fire and EMS Impact Fee Schedule

Residential	Per Housing Unit	
Single Family	$387	
Multifamily	$319	
Mobile Home	$423	
Nonresidential		Per Square Foot
820 Com / Shop Ctr 25,000 SF or less		$0.50
820 Com / Shop Ctr 25,001-50,000 SF		$0.43
820 Com / Shop Ctr 50,001-100,000 SF		$0.38
820 Com / Shop Ctr 100,001-200,000 SF		$0.33
820 Com / Shop Ctr 200,001-400,000 SF		$0.30
710 Office / Inst 10,000 SF or less		$0.67
710 Office / Inst 10,001-25,000 SF		$0.62
710 Office / Inst 25,001-50,000 SF		$0.59
710 Office / Inst 50,001-100,000 SF		$0.56
720 Medical-Dental Office		$0.61
610 Hospital		$0.51
770 Business Park		$0.47
110 Light Industrial		$0.35
140 Manufacturing		$0.27
150 Warehousing		$0.19
Other Nonresidential		
320 Lodging (per room)		$106.65
565 Day Care (per student)		$24.03
620 Nursing Home (per bed)		$54.07

CASH FLOW FOR FIRE/EMS INFRASTRUCTURE

Figure 23 indicates projected Fire and EMS impact fee revenue and growth-related capital costs for the next five years. Impact fees should yield approximately $753,000 over the next five years, or $151,000 in average annual revenue. To accommodate the projected annual increase in housing units and nonresidential building area will require approximately 6,665 additional

square feet of Fire/EMS space. The growth-related cost of additional space is approximately $1.17 million. Fire/EMS apparatus will cost approximately $251,000.

The cash flow summary provides an indication of the impact fee revenue and expenditures necessary to meet the demand for public facilities from new development within Siloam Springs. As Figure 23 indicates, there is projected to be a deficit of approximately $423,000 that the City will have to fund from general revenue. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs. See Development and Demand Data chapter for discussion of the development projections that drive the cash flow analysis.

Figure 23. Projected Cash Flow – Fire and EMS

(Current $ in thousands) Fiscal Year=>	1 2008	2 2009	3 2010	4 2011	5 2012	Cum. Total*	Average Annual
REVENUES							
Fire/EMS Fee-SFD	$67	$67	$67	$67	$67	**$335**	**$67**
Fire/EMS Fee-MF	$25	$25	$25	$25	$25	**$126**	**$25**
Fire/EMS Fee-MH/Other	$5	$5	$5	$5	$5	**$27**	**$5**
Subtotal-Residential Impact Fees	***$98***	***$98***	***$98***	***$98***	***$98***	***$488***	***$98***
Fire/EMS Fee-Commercial	$21	$20	$20	$20	$20	**$102**	**$20**
Fire/EMS Fee-Office/Instit.	$47	$14	$14	$14	$14	**$103**	**$21**
Fire/EMS Fee-Industrial	$12	$12	$12	$12	$12	**$60**	**$12**
Subtotal-Nonresidential Impact Fees	***$80***	***$46***	***$46***	***$46***	***$46***	***$265***	***$53***
TOTAL-FIRE/EMS IMPACT FEES	***$178***	***$144***	***$144***	***$144***	***$144***	***$753***	***$151***
CAPITAL EXPENDITURES							
Fire/EMS Stations	$159	$191	$191	$191	$191	**$924**	**$185**
Apparatus	$43	$52	$52	$52	$52	**$251**	**$50**
TOTAL-FIRE/EMS EXPENDITURES	*$202*	*$243*	*$243*	*$243*	*$243*	***$1,176***	***$235***
NET SURPLUS (DEFICIT)						**($423)**	**($85)**
NET CASH FLOW - FIRE/EMS							
Annual Surplus (or Deficit)	($24)	($100)	($100)	($100)	($100)	**($423)**	**($85)**
Cumulative Surplus (or Deficit)	($24)	($124)	($224)	($323)	($423)		

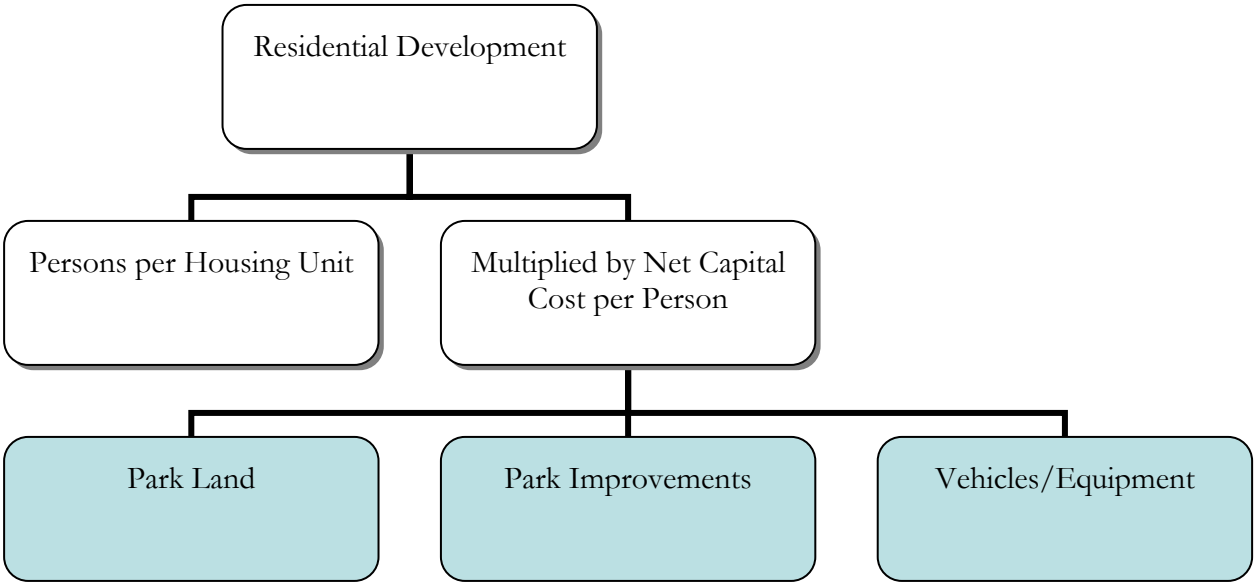
*Based on projected development. See Figure 8 for supporting data

-PARKS-

METHODOLOGY

Siloam Springs' park impact fee is based on the incremental expansion cost methodology, shown in Figure 24. Park fees will enable the City to maintain its current level of service for city land, citywide park improvements and vehicles and equipment as the City grows. Cost components are allocated 100 percent to residential development. All park and recreation facilities included in the impact fees have a citywide service area. Impact fee revenue collected using this methodology may not be used to replace or rehabilitate existing improvements.

Figure 24. Parks Impact Fee Methodology



LEVEL OF SERVICE

PARK LAND AND IMPROVEMENTS

Figure 25 lists the current inventory of parks in the City of Siloam Springs. As Figure 25 indicates, the City currently has a park land inventory totaling 146.8 acres. When the current inventory (146.8 acres) is compared to the current population estimate (14,469), the resulting level of service standard is 10.1 acres per 1,000 residents, which includes City Lake's 130 acres (excludes 50 acres of water). According to information provided by City staff, the current cost of purchasing a "typical" acre of land for parks is estimated at $20,000, which results in a land value of $2,936,000. To determine the cost per demand unit to be used in the impact fee, the

replacement value of land ($2,936,000) is divided by the current population estimate (14,469), for a cost per demand unit of $202.92 per person.

Figure 25 also lists current improvements at City of Siloam Springs parks, which total $4,298,070. The total value of park improvements is based on the inventory of park improvements provided by City staff. As discussed above, the value of park improvements is allocated 100% to residential development. Dividing the total improvement value ($4,298,070) by the current population estimate (14,469) results in a cost per demand unit of $297.05 per person.

Figure 25. Parks Improvements Level-of-Service Standards

	Henry Park	*Twin Springs*	*City Park*	*Family Aquatic Center*	*LaZBoy*	*City Lake*	*Total Units*	*Unit Price*	*Cost of Improvements*
Acreage	5	0.5	1.3	1.5	8.5	130	146.8	$ 20,000	*$ 2,936,000*
Pavilion Small	1	1	0	3	0	0	5	$ 15,000	$ 75,000
Pavilion Large	1	0	0	0	0	0	1	$ 25,000	$ 25,000
Gazebos	0	1	1	0	0	0	2	$ 30,000	$ 60,000
Benches & Tables	17	6	6	24	1	0	54	$ 1,500	$ 81,000
Decorative Lighting	20	6	6	0	36	0	68	$ 2,000	$ 136,000
Playground	2	0	0	0	2	0	4	$ 125,000	$ 500,000
Ball Fields	0	0	0	0	10	0	10	$ 70,000	$ 700,000
Tennis Courts	2	0	0	0	0	0	2	$ 30,000	$ 60,000
Basketball Courts	4	0	0	0	0	0	4	$ 20,000	$ 80,000
Volleyball Courts	3	0	0	0	0	0	3	$ 12,000	$ 36,000
Focal Point Public Art	0	1	0	0	0	0	1	$ 80,000	$ 80,000
Community Building#	0	0	1	0	0	0	1	$ -	$ 1,833,070
Miscellaneous*	$170,000	$37,000	$85,000	$85,000	$255,000	$0	$0		$ 632,000
						*Total***	*155*		*$ 4,298,070*

* Miscellaneous improvements include costs for parking lots, meeting rooms, restrooms, landscaping, lighting, and irrigation for the total park site.

**Includes miscellaneous improvements, but not land costs of $2.9 million.

***Special census results for April 2006 with 2006 construction added.

#Provided by City staff.

Population in 2007***	14,469
Acres per 1,000 residents	10.1
Improvements cost per acre	$29,300
Improvements per capita	$297.05
Land cost per capita	$202.92

VEHICLES AND EQUIPMENT

Figure 26 documents the City's existing inventory of vehicles and equipment used by the parks and recreation department. The inventory and cost of the vehicles and equipment represent the City's current level of service. To derive the cost per demand unit, the current asset value ($314,000) is divided by the current population estimate (14,469) for a cost per demand unit of $21.70 per person.

Figure 26. Parks Vehicles and Equipment Standards

Vehicle Type	Replacement Cost Per Unit[1]	# of Units[1]	Total Cost
Jeep	$20,000	1	$20,000
Chevy Pickup	$22,000	4	$88,000
Ford Pickup	$22,000	2	$44,000
Chevy Dump Truck	$35,000	1	$35,000
Kawasaki Mule	$10,000	1	$10,000
Dodge Dakota	$22,000	1	$22,000
Tractor	$35,000	1	$35,000
Mower	$15,000	2	$30,000
Trailer	$15,000	2	$30,000
Total		15	$314,000

Development Type	Proportionate Share	2007 Demand Units[2]	Cost per Demand Unit
Residential	100%	14,469 Persons	$21.70

[1]Source: Siloam Springs Parks and Recreation Department

[2]Special census results for April 2006 with construction activity in 2006 added.

CREDITS

At present, the City of Siloam Springs does not have any outstanding bonded debt related to the construction of parks and recreation facilities and/or vehicles. Therefore, a credit for existing bond financing is not applicable to this impact fee.

MAXIMUM JUSTIFIABLE IMPACT FEE FOR PARKS

Figure 27 provides a summary of the level-of-service standards used to calculate impact fees for parks and recreation, as well as a schedule of the impact fees. Impact fees are calculated for residential land uses only. As shown, the capital cost per demand unit is $526.87 per person. To calculate the fee, persons per housing unit (2.50 for a single family unit) is multiplied by the capital cost per demand unit ($543.79), for a impact fee per unit of $1,316.

Figure 27. Parks Impact Fee Schedule

	Standards:	
Residential Demand Indicators (Persons Per Housing Unit)		
Single Family		2.50
Multifamily		2.06
Mobile Home		2.73
Demand Unit Cost Factors		
Incremental Expansion Cost for Land	$	202.92
Incremental Expansion Cost for Improvements	$	297.05
Incremental Expansion Cost for Vehicles and Equipment	$	21.70
Impact Fee Study	$	5.20
Capital Cost Per Demand Unit	**$**	**526.87**
Impact Fee Per Housing Unit		
Single Family Detached		$1,316
Multifamily		$1,087
Mobile Home		$1,440

CASH FLOW FOR PARKS INFRASTRUCTURE

Figure 28 indicates projected Parks impact fee revenue and growth-related capital costs for the next five years. Impact fees should yield approximately $1.66 million over the next five years, or $332,000 in average annual revenue. To accommodate the projected annual increase in population will require an additional 30 acres of park land based on current levels of service. The growth-related cost of the additional acreage is approximately $606,000. Another 887,000 will need to be spent on improvement to maintain current levels of service. Additional vehicle will cost approximately $65,000.

The cash flow summary provides an indication of the impact fee revenue and expenditures necessary to meet the demand for public facilities from new development within Siloam Springs. As Figure 28 indicates, there is projected to be a surplus of approximately $103,000 at the end of the five year period. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs. See Development and Demand Data chapter for discussion of the development projections that drive the cash flow analysis.

Figure 28. Projected Cash Flow – Parks

(Current $ in thousands)	Fiscal Year=>	1 2008	2 2009	3 2010	4 2011	5 2012	Cum. Total*	Average Annual
REVENUES								
Parks Fee-SFD		$228	$228	$228	$228	$227	**$1,138**	**$228**
Parks Fee-MF		$86	$86	$86	$86	$86	**$431**	**$86**
Parks Fee-MH/Other		$18	$18	$18	$19	$18	**$92**	**$18**
TOTAL-PARKS IMPACT FEES		***$332***	***$332***	***$332***	***$332***	***$332***	***$1,661***	***$332***
CAPITAL EXPENDITURES								
Land		$95	$128	$128	$128	$128	**$606**	**$121**
Improvements		$139	$187	$187	$187	$187	**$887**	**$177**
Vehicles		$10	$14	$14	$14	$14	**$65**	**$13**
TOTAL-PARKS EXPENDITURES		*$244*	*$328*	*$328*	*$328*	*$328*	***$1,558***	***$312***
NET SURPLUS (DEFICIT)							**$103**	**$21**
NET CASH FLOW - PARKS								
Annual Surplus (or Deficit)		$88	$4	$4	$4	$4	**$103**	**$21**
Cumulative Surplus (or Deficit)		$88	$92	$95	$99	$103		

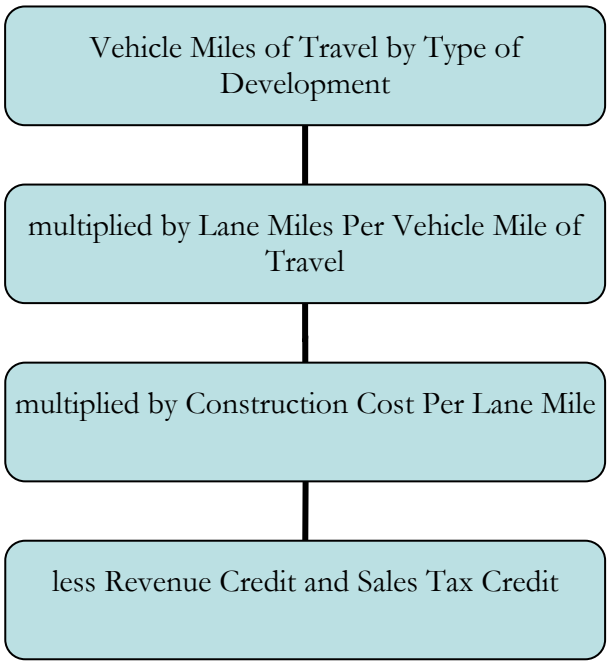
*Based on projected development. See Figure 8 for supporting data

-ROADS-

METHODOLOGY

The impact fees for transportation were derived using the incremental expansion methodology. As shown in Figure 29, weekday vehicle trip ends and trip length adjustments by type of development are multiplied by the number of trips to arrive at the arterial vehicle miles of travel (VMT). Using the change in VMT over time as a function of increased demand, the annual average lane-miles needed to maintain current level-of-service is figured. The VMT approach is also used to calculate support vehicles and equipment costs, and support facility costs. This approach calculates how much infrastructure is needed to support new development. It calculates an average vehicle mile of travel (VMT) for each type of land use and determines how much it will cost per VMT to provide that amount of infrastructure, namely lane miles.

Figure 29: Transportation Impact Fee Methodology



LEVEL -OF-SERVICE

VEHICLE MILES OF TRAVEL

VMT is the product of the number of vehicle trips multiplied by the average trip length. Vehicle trips are discussed below. To derive average trip length in the City of Siloam Springs

requires an inventory of current lane miles and a lane capacity standard. Each of these components is discussed in turn.

Vehicle Trips Associated with Development in the City of Siloam Springs

Vehicle trips are average weekday vehicle trip ends from the reference book, Trip Generation, 7th Edition, published by the Institute of Transportation Engineers (ITE) in 2003, discussed previously in the Development and Demand Data section. A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate road development fees, trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. For all nonresidential development except commercial/shopping center development, the trip adjustment factor is 50 percent. As documented in the Fifth Edition of Trip Generation (see Table VII-1 of the 5th edition, 1991), there is an inverse relationship between shopping center size and pass-by trips. Therefore, appropriate trip adjustment factors have been calculated according to shopping center size. (See Figure 30.) For commercial/shopping center development (ITE code 820), the trip adjustment factor is less than 50 percent because retail uses attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For a small-size shopping center of 50,000 square feet of floor area, the ITE manual indicates that on average 48 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 52 percent of attraction trips have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 52 percent multiplied by 50 percent, or approximately 26 percent of the trip ends.

Figure 30: Commercial/Shopping Center Trip Rates and Pass-By Adjustments

			Weekday - 2003 Data	
			Shopping Centers (ITE 820)	
Floor Area (thousands)	Shp Ctr Pass-by Trips*	Shp Ctr Trip Adj Factor	Trip Ends	Rate/KSF
25	56.46%	22%	2,758	110.32
50	48.29%	26%	4,328	86.56
100	41.31%	29%	6,791	67.91
200	35.33%	32%	10,656	53.28
400	30.22%	35%	16,720	41.80
600	27.58%	36%	21,762	36.27

Source: Trip Generation, Institute of Transportation Engineers, 2003

*Based on the ITE data in Table VII-1 of the 5th edition of Trip Generation, the best trendline correlation between pass-by trips and floor area is a power curve. The equation used to derive the pass-by trip percentage is 116.63 x (KSF^-0.2254).

The relationship between development units in the City of Siloam Springs over the next five years and travel demand is documented in the following two Figures. Figure 31 summarizes the input variables to be used in the analysis. The variables with light blue shading are ITE trip rates and adjustment factors.[1] The variables with yellow shading are factors from the National Personal Transportation Survey (NPTS) data (see the section below on Average Trip Length Adjustment by Type of Land Use for further discussion), and the green shaded average trip length is calculated by TischlerBise. Both are discussed below. The purple shaded variables were provided to TischlerBise by the City and are discussed below as well.

Figure 31: Input Variables for Road Impact Fee

Single Family VTE per Unit	9.57
Multifamily VTE per Unit	6.59
All Other Housing VTE per Unit	4.99
Retail/Comm VTE/KSF*	67.91
Office Weekday VTE/KSF**	22.66
Goods Production VTE/KSF***	6.97
Retail/Comm Trip Adj Factor	33%
All Other Nonres Trip Adj	50%
Residential Trip Adj Factor	55%
Residential Trip Length	122%
Commercial Trip Length	68%
Other Nonres Trip Length	75%
Capacity Per Lane	4,100
Avg Miles/Trip	3.20
Cost per Lane-Mile	$814,000

VTE = Vehicle Trip End
*Trip rate per 1,000 sf for 100,000 sf retail/commercial shopping center
**Trip rate per 1,000 sf for 10,000 sf office
***Trip rate per 1,000 sf for light industrial

LANE MILES

Vehicular travel within Siloam Springs requires a system of controlled access roads, major and minor arterials, major and minor collectors, major access roads, and local streets provided by the State of Arkansas and the City of Siloam Springs. However, the impact fee analysis and amounts are based solely on minor arterial roads. Discussions with City staff indicate that major arterials are the responsibility of the State and that the City is not likely to make capacity

[1] Trip rates used in this analysis are intended to be averages for prototypical development in the City. Actual traffic demand may vary according to specific land uses.

expansions on its collector roads. Based on data provided by the City from its pavement management database, the City has a total of 45.18 lane miles of minor arterials. (See Figure 32.)

Figure 32: Minor Arterials Length and Lane Mile Summary

	Length (mi)	Lane Miles
Minor Arterials	15.06	45.18

Source: City of Siloam Springs

LANE CAPACITY

The road impact fees are based on a lane capacity standard of 4,100 vehicles per lane, which is an average day volume for a three-lane, minor arterial street operating at level of service "C."

AVERAGE TRIP LENGTH

The average trip length is determined through a series of iterations using spreadsheet software because the VMT calculations include the same adjustment factors used in the impact fee calculations (i.e., commercial pass-by adjustment and average trip length adjustment by type of land use (see below)). Knowing current vehicle trips, lane-miles currently accommodating the existing travel and lane capacity, it is possible to derive the average trip length. TischlerBise determined the average trip length on City minor arterials to be 3.20 miles. The basic formula for calculating the average trip length is to multiply the lane miles by the capacity and divide by the number of trips.

AVERAGE TRIP LENGTH ADJUSTMENT BY TYPE OF LAND USE

The average trip length is weighted to account for trip length variation by type of land use. As documented by the National Personal Transportation Survey (see Table 5 in the 1999 publication by Federal Highway Administration) vehicle trips from residential development, for home-based work trips, social and recreational purposes, are approximately 122 percent of the average trip length. Conversely, shopping trips associated with commercial development are roughly 68 percent of the average trip length while other nonresidential development typically account for trips that are 75 percent of the average trip length.

COST PER LANE MILE

The cost per lane mile assumption was provided by City staff, based on two recent bids the City has received for road construction projects. According to the information provided by the City, the cost per lane mile is $814,000.

ROAD IMPROVEMENTS INCREMENTAL EXPANSION COMPONENT

Figure 33 below shows projected travel demand based on the input variables above. Development projections at the top of the figure are multiplied by the input variables from the previous table to yield average weekday travel demand on roads the City will need to contribute funding for. (The demographic data shown at the top of Figure 33 was discussed previously in the Development and Demand Date section.) Trip generation rates and trip adjustment factors convert projected development into average weekday vehicle trips, shown in the center, boxed, portion of the figure. For example, in the year 2011 the projected 4,599 detached housing units will produce 24,206 weekday trips (4,599 x 9.57 x 50% = 24,206).

Figure 33: Roads Capacity Needs Based on Future Demand

Year =>	Base	1	2	3	4	5
Siloam Springs, AR	2007	2008	2009	2010	2011	2012
DEMAND DATA						
SINGLE FAMILY UNITS	3,734	3,907	4,080	4,253	4,426	4,599
MULTIFAMILY UNITS	1,712	1,791	1,871	1,950	2,029	2,108
MOBILE HOME UNITS	276	289	301	314	327	340
RETAIL/COMM KSF	1,322	1,384	1,445	1,506	1,567	1,629
OFFICE KSF	394	464	485	505	526	546
GOODS PRODUCTION KSF	744	779	813	848	882	917
SF TRIPS	*19,654*	*20,565*	*21,475*	*22,386*	*23,296*	*24,206*
MF TRIPS	*6,205*	*6,493*	*6,780*	*7,067*	*7,354*	*7,642*
MH TRIPS	*757*	*792*	*827*	*862*	*897*	*932*
RETAIL/COMM TRIPS	*29,626*	*31,008*	*32,380*	*33,753*	*35,125*	*36,498*
OFFICE/INST TRIPS	*4,464*	*5,260*	*5,493*	*5,726*	*5,958*	*6,191*
GOODS PRODUCTION TRIPS	*2,593*	*2,714*	*2,834*	*2,955*	*3,075*	*3,195*
TOTAL TRIPS	*63,300*	*66,832*	*69,790*	*72,748*	*75,706*	*78,664*
MINOR ARTERIAL VMT	185,314	195,337	203,983	212,629	221,275	229,921
MINOR ARTERIAL LN MI	45.20	47.6	49.8	51.9	54.0	56.1
ANL MINOR ARTERIAL LN MI		2.4	2.2	2.1	2.1	2.1
ANL MINOR ARTERIAL ROAD COST		$1,954,000	$1,791,000	$1,709,000	$1,709,000	$1,709,000
LN MI PER 10,000 VMT	2.44	2.44	2.44	2.44	2.44	2.44

This incremental expansion method documents the current level-of-service (LOS) of the system, based on an existing service standard (provided by the City to be LOS C, or 4,100 vehicle trip capacity per arterial lane). Using this method, the City will use the fee revenue to expand or provide additional capacity, as needed, to accommodate new development and *to maintain the current LOS*. An incremental expansion method is best suited for improvements that will be made in regular increments, with LOS standards based on current conditions in the community. Further, it indirectly provides the City with a plan, calculating how many lane-miles will need to be constructed each year to maintain the LOS provided existing residents. Figure 33 shows the expected future demand on the City's road system. The City has confirmed that the current

system has 45.18 arterial lane-miles. Thus, maintaining the current LOS builds off the current system demands.

CREDITS

The City has a one-cent sales tax of which 80% of the revenue received is pledged for transportation projects. Therefore, to ensure that future development doesn't pay twice for road capacity, once through the impact fee and again through sales tax, TischlerBise has included a one-cent sales tax credit per unit of vehicle miles of travel (VMT). As shown below in Figure 34, the projected sales tax revenue stream is divided by the projected increase in VMT over the next ten years to arrive at a credit per VMT of $112..38. A net present value calculation is then made at a discount rate of 4.5% for a net present value of $112.38.

Figure 34: One-Cent Sales Tax Credit Per VMT

FY	*Actual Revenue**	*Dedicated Transportation Portion (80%)*	*Projected Arterial VMT***	*Credit Per VMT*
2007	$2,639,683	$2,111,746	185,314	$11.40
2008	$2,771,667	$2,217,334	195,337	$11.35
2009	$2,910,251	$2,328,200	203,983	$11.41
2010	$3,055,763	$2,444,610	212,629	$11.50
2011	$3,208,551	$2,566,841	221,275	$11.60
2012	$3,368,979	$2,695,183	229,921	$11.72
2013	$3,537,428	$2,829,942	238,567	$11.86
2014	$3,714,299	$2,971,439	247,213	$12.02
2015	$3,900,014	$3,120,011	255,859	$12.19
2016	$4,095,015	$3,276,012	264,505	$12.39
Total	$33,201,649	$26,561,319		$117.44
			Discount Rate	4.5%
			Net Present Value	$112.38

*Projection based on annual increase of 5%

**VMT is from Figure 28

MAXIMUM JUSTIFIABLE ROADS IMPACT FEE

Figure 35 provides a summary of the components and costs used in the calculation of the roads impact fee. The factors used in the calculation of these fees, commonly known as trip generation rates, are from the reference book *Trip Generation*, published by the Institute of Transportation Engineers (ITE). For development types not shown below, Siloam Springs staff may use the most appropriate rates from the ITE manual, or rates from approved local transportation studies.

Table 35: Road Impact Fee Component Summary

INPUT VARIABLES	Residential	Commercial/ Shopping Centers	Other Nonres
Residential			
Weekday Vehicle Trips per Housing Unit			
Single Family	9.57		
Multifamily	6.59		
Mobile Home	4.99		
Nonresidential			
Weekday Vehicle Trips per 1,000 Square Feet			
820 Com / Shop Ctr 25,000 SF or less		110.32	
820 Com / Shop Ctr 25,001-50,000 SF		86.56	
820 Com / Shop Ctr 50,001-100,000 SF		67.91	
820 Com / Shop Ctr 100,001-200,000 SF		53.28	
820 Com / Shop Ctr 200,001-400,000 SF		41.8	
710 Office / Inst 10,000 SF or less			22.66
710 Office / Inst 10,001-25,000 SF			18.35
710 Office / Inst 25,001-50,000 SF			15.65
710 Office / Inst 50,001-100,000 SF			13.34
720 Medical-Dental Office			36.13
610 Hospital			17.57
770 Business Park			12.76
110 Light Industrial			6.97
140 Manufacturing			3.82
150 Warehousing			4.96
Average Weekday Vehicle Trip Ends			
320 Lodging (per room)			5.63
565 Day Care (per student)			4.48
620 Nursing Home (per bed)			2.37
Trip Adjustment Factors	50%		50%
Com / Shop Ctr 25,000 SF or less		28%	
Com / Shop Ctr 25,001-50,000 SF		31%	
Com / Shop Ctr 50,001-100,000 SF		33%	
Com / Shop Ctr 100,001-200,000 SF		36%	
Com / Shop Ctr 200,001-400,000 SF		39%	
Level of Service			
Minor Arterial Cost Summary			
Average Trip Length (miles)	3.20	3.20	3.20
Average Trip Length Adjustment	122%	68%	75%
Construction Cost Per Lane Mile	$814,000	$814,000	$814,000
Lane Capacity (Vehicles)	4,100	4,100	4,100
Capital Cost for an Average Trip Length	**$775.09**	**$432.02**	**$476.49**
Credit Summary			
Average Trip Length (miles)	3.20	3.20	3.20
Average Trip Length Adjustment	122%	68%	75%
Credit Per Minor Arterial VMT	($112.38)	($112.38)	($112.38)
One Cent Sales Tax Credit for Average Trip Length	**($438.75)**	**($244.55)**	**($269.72)**
Impact Fee Study	$1.04	$1.04	$1.04
Total Capital Cost for an Average Trip Length	**$337.38**	**$188.51**	**$207.81**

Figure 36 contains the schedule of roads fees for Siloam Springs. The fees are calculated by multiplying the weekday vehicle trip end by the corresponding trip adjustment factor and then multiplying by the total capital cost per VMT. For example, to arrive at the single family fee of $1,614, the single family VTE (9.57) is multiplied by the residential trip adjustment factor (50%) and is then multiplied by the net capital cost per trip ($337.38).

Figure 36: Road Impact Fee Schedule

Residential	Per Housing Unit		
Single Family	$1,614		
Multifamily	$1,112		
Mobile Home	$842		
Nonresidential		Per Square Foot	
820 Com / Shop Ctr 25,000 SF or less		$5.82	
820 Com / Shop Ctr 25,001-50,000 SF		$5.06	
820 Com / Shop Ctr 50,001-100,000 SF		$4.22	
820 Com / Shop Ctr 100,001-200,000 SF		$3.62	
820 Com / Shop Ctr 200,001-400,000 SF		$3.07	
710 Office / Inst 10,000 SF or less		$2.35	
710 Office / Inst 10,001-25,000 SF		$1.91	
710 Office / Inst 25,001-50,000 SF		$1.63	
710 Office / Inst 50,001-100,000 SF		$1.39	
720 Medical-Dental Office		$3.75	
610 Hospital		$1.83	
770 Business Park		$1.33	
110 Light Industrial		$0.72	
140 Manufacturing		$0.40	
150 Warehousing		$0.52	
Other Nonresidential			
320 Lodging (per room)			$0.58
565 Day Care (per student)			$0.47
620 Nursing Home (per bed)			$0.25

CASH FLOW FOR ROADS

Figure 37 indicates projected Road impact fee revenue and growth-related capital costs for the next five years. Impact fees should yield approximately $3.48 million over the next five years, or $697,000 in average annual revenue. To accommodate the projected annual increase in housing units and nonresidential building area will require approximately 12.2 lane miles of additional minor arterial capacity. The growth-related cost of additional space is approximately $8.87 million.

The cash flow summary provides an indication of the impact fee revenue and expenditures necessary to meet the demand for public facilities from new development within Siloam Springs. As Figure 37 indicates, there is projected to be a deficit of approximately $5.3 million

that the City will have to fund from general revenue. A primary reason for this deficit is the fact that the impact fee methodology includes a credit to account one-cent sales tax revenue that will also be used for road construction. To the extent the rate of development either accelerates or slows down, there will be a corresponding change in the impact fee revenue and capital costs. See Development and Demand Data chapter for discussion of the development projections that drive the cash flow analysis.

Figure 37. Projected Cash Flow – Roads

(Current $ in thousands)	Fiscal Year=>	1 2008	2 2009	3 2010	4 2011	5 2012	Cum. Total*	Average Annual
REVENUES								
Road Fee-SFD		$279	$279	$279	$279	$279	**$1,396**	**$279**
Road Fee-MF		$88	$88	$88	$88	$88	**$441**	**$88**
Road Fee-MH/Other		$11	$11	$11	$11	$11	**$54**	**$11**
Subtotal-Residential Impact Fees		***$378***	***$378***	***$378***	***$378***	***$378***	***$1,891***	***$378***
Road Fee-Commercial		$223	$221	$221	$221	$221	**$1,109**	**$222**
Road Fee-Office/Instit.		$165	$48	$48	$48	$48	**$359**	**$72**
Road Fee-Industrial		$25	$25	$25	$25	$25	**$125**	**$25**
Subtotal-Nonresidential Impact Fees		***$414***	***$295***	***$295***	***$295***	***$295***	***$1,593***	***$319***
TOTAL-ROAD IMPACT FEES		***$792***	***$673***	***$673***	***$673***	***$673***	***$3,483***	***$697***
CAPITAL EXPENDITURES								
Minor Arterial Road Capacity		$1,954	$1,791	$1,709	$1,709	$1,709	**$8,872**	**$1,774**
TOTAL-ROAD EXPENDITURES		*$1,954*	*$1,791*	*$1,709*	*$1,709*	*$1,709*	***$8,872***	***$1,774***
NET SURPLUS (DEFICIT)							**($5,389)**	**($1,078)**
NET CASH FLOW - ROADS								
Annual Surplus (or Deficit)		($1,162)	($1,118)	($1,036)	($1,036)	($1,036)	**($5,389)**	**($1,078)**
Cumulative Surplus (or Deficit)		($1,162)	($2,280)	($3,317)	($4,353)	($5,389)		

*Based on projected development. See Figure 8 for supporting data

-IMPLEMENTATION AND ADMINISTRATION-

All costs in the impact fee calculations are given in current dollars with no assumed inflation rate over time. Impact fees should be periodically evaluated and updated to reflect recent data. One approach is to adjust for inflation in construction costs by means of an index like the one published in the Engineering News Record (ENR), published by the McGraw-Hill Companies. This index could be applied against the calculated impact fee. If cost estimates or demand indicators change significantly the City should redo the fee calculations.

TischlerBise recommends accounting procedures to ensure impact fee revenue is spent to substantially benefit new development. Monies received should be placed in a separate fund and accounted for separately and may only be used for the types of system improvements used to derive the impact fees. Interest earned on monies is the separate impact fee account should be credited to this fund.

SERVICE AREAS

To ensure substantial benefit to new development paying impact fees, TischlerBise and Siloam Springs have evaluated collection and expenditure zones for infrastructure that may have distinct service areas. In Siloam Springs, impact fees for police, fire, parks and roads infrastructure will benefit new development throughout the entire city. Therefore, it is reasonable for Siloam Springs to collect and spend impact fees on a citywide basis.

NONRESIDENTIAL DEVELOPMENT CATEGORIES

Nonresidential development categories are based on land use classifications from the book Trip Generation (ITE, 1997). A summary description of each development category is provided below.

> ***Shopping Center*** (820) – A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center provides on-site parking facilities sufficient to serve its own parking demands. Shopping centers may contain non-merchandizing facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs and recreational facilities. In addition to the integrated unit of shops in one building or enclosed around a mall, many shopping centers include out-parcels. For smaller centers without an enclosed mall or peripheral buildings, the Gross Leasable Area (GLA) may be the same as the Gross Floor Area (GFA) of the building.

General Office (710) – A general office building houses multiple tenants including, but not limited to, professional services, insurance companies, investment brokers and tenant services such as banking, restaurants and service retail facilities. In the impact fees study, this category is used as a proxy for institutional uses that may have more specific land use codes.

Business Park (770) – Business parks consist of a group of flex-type buildings served by a common roadway system. The tenant space lends itself to a variety of uses, with the rear side of the building usually served by a garage door. The tenant space includes a variety of uses with an average mix of 20 to 30 percent office/commercial and 70 to 80 percent industrial/warehousing.

Light Industrial (110) – Light industrial facilities usually employ fewer than 500 persons and have an emphasis on activities other than manufacturing. Typical light industrial activities include, but are not limited to printing plants, material-testing laboratories and assembling of data processing equipment.

Warehousing (150) – Warehouses are primarily devoted to the storage of materials.

Manufacturing (140) – In manufacturing facilities, the primary activity is the conversion of raw materials or parts into finished products.

For development types not shown above, Siloam Springs staff may use the most appropriate rates from the ITE manual, or rates from approved local transportation studies or observed data.

In addition to the actual production of goods, manufacturing facilities may have office, warehouse, research and associated functions, inflation in construction costs by means of an index like the one published by Engineering News Record (ENR). This index could be applied against the calculated impact fee. If cost estimates change significantly the City should redo the fee calculations.