
DEVELOPMENT IMPACT FEE STUDY

City of Boulder, Colorado



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Prepared By:

TischlerBise
Fiscal, Economic & Planning Consultants

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4701 SANGAMORE ROAD | SUITE S240 | BETHESDA, MD 20816

T: 800.424.4318 | F: 301.320.4860

80 ANNANDALE ROAD | PASADENA, CA 91105-1404

T: 818.790.6170 | F: 818.790.6235

WWW.TISCHLERBISE.COM

EXECUTIVE SUMMARY

OVERVIEW

The City of Boulder retained TischlerBise to prepare an impact fee study for various infrastructure categories. This report updates the Development Excise Tax (DET) study prepared in 1996 when the firm was known as Tischler & Associates, Inc. Although the City currently has development excise taxes in place, it was the City's desire to have the current excise tax methodologies updated with an impact fee approach, thereby giving the City the option to adopt impact fees and/or revise the current development excise taxes.

Impact fees are one-time payments used to fund system improvements needed to accommodate development. This report documents the data, methodology, and results of the impact fee calculations. 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 and the Colorado Development Impact Fee Act. The following infrastructure categories have been developed with methodologies that meet the requirements to be adopted as impact fees.

- Library
- Parks and Recreation
- Human Services
- Municipal Services
- Police
- Fire

IMPACT FEE SUMMARY

As documented in this report, impact fees for the City of Boulder are proportionate and reasonably related to the capital facility service demands of new development. The written analysis of each impact fee methodology, 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. An impact fee represents new growth's proportionate share of capital facility needs. By law, impact fees can only be used for *capital* improvements, not operating or maintenance costs. Impact fees are subject to legal standards, which require fulfillment of three key elements: need, benefit and proportionality. First, to justify a fee for public facilities, it must be demonstrated that new development will create a **need** for capital improvements. Second, new development must derive a **benefit** from the payment of the fees (i.e., in the form of public facilities constructed within a reasonable timeframe). Third, the fee paid by a particular type of development should not exceed its **proportional** share of the capital cost for system improvements.

TischlerBise documented appropriate demand indicators by type of development. Specific capital costs have been identified using local data and costs. This report includes summary tables indicating the specific factors used to derive the impact fees. These factors are referred to as level of service, or infrastructure standards.

Methodologies and Approach

There are three basic *methods* used to calculate impact fees. The **incremental expansion method** documents the current level of service for each type of public facility, in both quantitative and qualitative measures. The intent is to use revenue collected to expand or provide additional facilities, as needed to accommodate new development, based on the current cost to provide capital improvements. The **plan-based method** is commonly used for public facilities that have adopted plans or engineering studies to guide capital improvements, such as utility systems. A third approach, known as the **cost recovery method**, is based on the rationale that new development is paying for its share of the useful life and remaining unused capacity of an existing facility. All three methodologies are employed for the fees included in this study and are described further in this report in the respective fee chapter. A summary is provided in Figure 1 showing the methodologies, infrastructure components, and allocations used to calculate impact fees for the City of Boulder.

Figure 1. Summary of Proposed Fee Methods and Infrastructure Components

Type of Public Facility	Incremental Expansion	Plan Based	Cost Recovery	Cost Allocation
<i>Library</i>	▪ Collection Materials	Not applicable	▪ Library Space	100% Residential
<i>Parks and Recreation</i>	▪ Park Improvements ▪ Recreation Space ▪ Parks and Rec Admin & Support Facilities	Not applicable	Not applicable	100% Residential
<i>Human Services</i>	▪ Human Service Space	Not applicable	Not applicable	100% Residential
<i>Municipal Services</i>	▪ Government Space	Not applicable	Not applicable	Functional Population
<i>Police</i>	▪ Station Space	▪ Communications Center	Not applicable	Functional Population
<i>Fire</i>	▪ Stations ▪ Apparatus	Not applicable	Not applicable	Calls for Service

Credits

A general requirement common to impact fee methodologies is the evaluation of *credits*. Two types of credits should be considered, **future revenue credits** and **site-specific credits**. Revenue credits may be necessary to avoid potential double payment situations arising from a one-time impact fee plus the payment of other revenues (e.g., property taxes) that may also fund growth-related capital improvements. Because new development may provide front-end funding of infrastructure, there is a potential for double payment of capital costs due to future payments on debt for public facilities. This type of credit is included for Library, Parks and Recreation, and Human Services.

The second type of credit is a **site-specific credit** for system improvements that have been included in the impact fee calculations. Policies and procedures related to site-specific credits for system improvements should be addressed in the ordinance that establishes the development fees. However, the general concept is that developers may be eligible for site-specific credits only if they provide system improvements that have been included in the impact fee calculations. Project improvements normally required as part of the development approval process are not eligible for credits against impact fees.

Maximum Allowable Impact Fees by Type of Land Use

The impact fees calculated for the City of Boulder represent the highest amount feasible for each type of applicable land use, or *maximum allowable* amounts, which represents new growth's proportionate share of the cost for the appropriate capital facilities. Figures 2, 3, and 4 provide schedules of the *maximum allowable impact fees* by type of land use. For residential impact, fees will be imposed according to square feet of finished floor area. For nonresidential development, fees will be assessed per square feet of floor area or unique demand indicators such as the number of rooms in a hotel. 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 level of service standards.

Development excise taxes for single-family residential development are currently imposed by type of housing with no variation by size of unit. For comparison of the proposed impact fees with the current DET, the row with grey shading at the top of the following table indicates proposed impact fee amounts for the average size unit. The current DET amount and proposed increase per housing unit are on the right side of the table.

Figure 2. Summary of Maximum Allowable Impact Fees for Single Family Residential

		MAXIMUM ALLOWABLE IMPACT FEES								
		<i>Library</i>	<i>Parks & Recreation</i>	<i>Human Services</i>	<i>Municipal Facilities</i>	<i>Police</i>	<i>Fire</i>	<i>TOTAL</i>	Current DET	Proposed
									Less	Increase
<i>Single Family</i>	<i>Per Housing Unit</i>								Transportation	
<i>Average Size</i>		\$441	\$3,022	\$142	\$269	\$283	\$201	\$4,358	\$3,568.48	\$789.52
<i>Square Feet</i>										
900 or less		\$192	\$1,314	\$62	\$117	\$123	\$87	\$1,895		
1,000		\$222	\$1,524	\$72	\$135	\$143	\$101	\$2,197		
1,100		\$249	\$1,708	\$80	\$152	\$160	\$113	\$2,462		
1,200		\$274	\$1,877	\$88	\$167	\$176	\$124	\$2,706		
1,300		\$296	\$2,032	\$96	\$181	\$190	\$135	\$2,930		
1,400		\$317	\$2,175	\$102	\$193	\$204	\$144	\$3,135		
1,500		\$337	\$2,309	\$109	\$205	\$216	\$153	\$3,329		
1,600		\$355	\$2,434	\$115	\$217	\$228	\$161	\$3,510		
1,700		\$372	\$2,552	\$120	\$227	\$239	\$169	\$3,679		
1,800		\$389	\$2,662	\$125	\$237	\$249	\$177	\$3,839		
1,900		\$404	\$2,767	\$130	\$246	\$259	\$184	\$3,990		
2,000		\$418	\$2,866	\$135	\$255	\$269	\$190	\$4,133		
2,100		\$432	\$2,961	\$139	\$263	\$277	\$196	\$4,268		
2,200		\$445	\$3,051	\$144	\$272	\$286	\$202	\$4,400		
2,300		\$458	\$3,137	\$148	\$279	\$294	\$208	\$4,524		
2,400		\$470	\$3,220	\$152	\$287	\$302	\$214	\$4,645		
2,500		\$482	\$3,299	\$155	\$294	\$309	\$219	\$4,758		
2,600		\$493	\$3,375	\$159	\$300	\$316	\$224	\$4,867		
2,700		\$503	\$3,448	\$163	\$307	\$323	\$229	\$4,973		
2,800		\$514	\$3,518	\$166	\$313	\$330	\$234	\$5,075		
2,900		\$524	\$3,586	\$169	\$319	\$336	\$238	\$5,172		
3,000		\$533	\$3,652	\$172	\$325	\$342	\$242	\$5,266		
3,100		\$542	\$3,715	\$175	\$331	\$348	\$247	\$5,358		
3,200		\$551	\$3,777	\$178	\$336	\$354	\$251	\$5,447		
3,300		\$560	\$3,836	\$181	\$342	\$360	\$255	\$5,534		
3,400		\$569	\$3,894	\$184	\$347	\$365	\$259	\$5,618		
3,500		\$577	\$3,950	\$186	\$352	\$370	\$262	\$5,697		
3,600		\$585	\$4,005	\$189	\$357	\$375	\$266	\$5,777		
3,700		\$593	\$4,058	\$191	\$361	\$380	\$269	\$5,852		

Development excise taxes for multifamily residential development are currently imposed by type of housing with no variation by size of unit. For comparison of the proposed impact fees with the current DET, the row with grey shading at the top of the following table indicates proposed impact fee amounts for the average size unit. The current DET amount and proposed increase per housing unit are on the right side of the table.

Figure 3. Summary of Maximum Allowable Impact Fees for Multifamily Residential

MAXIMUM ALLOWABLE IMPACT FEES								Current DET Less Transportation	Proposed Increase
							TOTAL		
<i>Library</i>	<i>Parks & Recreation</i>	<i>Human Services</i>	<i>Municipal Facilities</i>	<i>Police</i>	<i>Fire</i>				
<i>Multifamily</i>	<i>Per Housing Unit</i>								
Average Size	\$307	\$2,102	\$99	\$187	\$197	\$230	\$3,122	\$2,380.54	
<i>Square Feet</i>									
600	\$202	\$1,388	\$65	\$123	\$130	\$151	\$2,059		
700	\$245	\$1,681	\$79	\$149	\$157	\$183	\$2,494		
800	\$282	\$1,934	\$91	\$172	\$181	\$211	\$2,871		
900	\$315	\$2,158	\$102	\$192	\$202	\$236	\$3,205		
1,000	\$344	\$2,357	\$111	\$210	\$221	\$257	\$3,500		
1,100	\$370	\$2,538	\$120	\$226	\$238	\$277	\$3,769		
1,200	\$395	\$2,703	\$127	\$241	\$253	\$295	\$4,014		
1,300	\$417	\$2,855	\$134	\$254	\$267	\$312	\$4,239		
1,400	\$437	\$2,996	\$141	\$267	\$281	\$327	\$4,449		
1,500	\$456	\$3,127	\$147	\$278	\$293	\$342	\$4,643		
1,600	\$474	\$3,249	\$153	\$289	\$304	\$355	\$4,824		

Currently, development excise taxes for nonresidential development are imposed per square foot of floor area with no variation by type of development. To make the proposed impact fees proportionate to the demand for infrastructure, TischlerBise used trip generation rates or jobs per demand unit to vary the impact fees by type of development. With this change in methodology, proposed fee amounts for retail and office development will increase. As shown in Figure 4, proposed impact fees for and industrial and warehouse development are less than the current development excise taxes.

Figure 4. Summary of Maximum Allowable Impact Fees for Nonresidential

ITE Code	Maximum Allowable Impact Fees				Current DET Less Transportation	Proposed Increase (Decrease)	
	Municipal Facilities	Police	Fire	TOTAL			
<i>Nonresidential (per Square Foot of Floor Area)</i>							
820	Retail / Restaurant	\$0.13	\$0.44	\$0.35	\$0.92	\$0.686	\$0.23
770	Business Park	\$0.15	\$0.10	\$0.09	\$0.34	\$0.686	(\$0.35)
710	Office	\$0.18	\$0.15	\$0.52	\$0.85	\$0.686	\$0.16
610	Hospital	\$0.16	\$0.14	\$0.45	\$0.75	\$0.686	\$0.06
520	School	\$0.04	\$0.07	\$0.12	\$0.23	\$0.686	(\$0.46)
151	Mini-Warehouse	\$0.00	\$0.02	\$0.00	\$0.02	\$0.686	(\$0.67)
150	Warehousing	\$0.06	\$0.04	\$0.04	\$0.14	\$0.686	(\$0.55)
110	Light Industrial	\$0.11	\$0.05	\$0.07	\$0.23	\$0.686	(\$0.46)
<i>Other Nonresidential (per unique demand indicator)</i>							
620	Nursing Home (per bed)	\$17	\$19	\$48	\$84		
565	Day Care (per student)	\$7	\$17	\$21	\$45		
320	Lodging (per room)	\$21	\$47	\$59	\$127		

INTRODUCTION TO IMPACT FEES

DEFINITION

Impact fees, also known as development or development impact fees, are one-time payments used to fund capital improvements necessitated by new growth. Impact fees have been utilized by local governments in various forms for at least fifty years. Impact fees do have limitations, and should not be regarded as the total solution for infrastructure financing needs. Rather, they should be considered one component of a comprehensive portfolio to ensure adequate provision of public facilities with the goal of maintaining current levels of service in a community. Any community considering impact fees should note the following limitations:

- Impact fees can only be used to finance capital infrastructure and cannot be used to finance ongoing operations and/or maintenance costs;
- Impact fees cannot be deposited in the local government's General Fund. The funds must be accounted for separately in individual accounts and earmarked for the capital expenses for which they were collected; and
- Impact fees cannot be used to correct existing infrastructure deficiencies unless there is a funding plan in place to correct the deficiency for all current residents and businesses in the community.

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.

FINDINGS

There are three requirements for impact fees that are closely related to “rational nexus” or “reasonable relationship” requirements enunciated by a number of state courts. Although the term “dual rational nexus” is often used to characterize the standard by which courts evaluate the validity of impact fees under the U.S. Constitution, we prefer a more rigorous formulation that recognizes three elements: “impact or need,” “benefit,” and “proportionality.” The dual rational nexus test explicitly addresses only the first two, although proportionality is reasonably implied, and was specifically mentioned by the U.S. Supreme Court in the *Dolan* case. The reasonable relationship language of the statute is considered less strict than the rational nexus standard used by many courts. Individual elements of the nexus standard are discussed further in the following paragraphs.

Demonstrating an Impact. All new development in a community creates additional demands on some, or all, public facilities provided by local government. If the supply of facilities is not increased to satisfy that additional demand, the quality or availability of public services for the entire community will deteriorate. Impact fees may be used to recover the cost of development-related facilities, but only to the extent that the need for facilities is a consequence of development that is subject to the fees. The *Nollan* decision reinforced the principle that development exactions may be used only to mitigate conditions created by the developments upon which they are imposed. That principle clearly applies to impact fees. In this study, the impact of development on improvement needs is analyzed in terms of quantifiable relationships between various types of development and the demand for specific facilities, based on applicable level-of-service standards.

Demonstrating a Benefit. A sufficient benefit relationship requires that facility fee revenues be segregated from other funds and expended only on the facilities for which the fees were charged. Fees must be expended in a timely manner and the facilities funded by the fees must serve the development paying the fees. However, nothing in the U.S. Constitution or the State enabling legislation requires that facilities funded with fee revenues be available *exclusively* to development paying the fees. In other words, existing development may benefit from these improvements as well.

Procedures for the earmarking and expenditure of fee revenues are typically mandated by the State enabling act, as are procedures to ensure that the fees are expended expeditiously or refunded. All of these requirements are intended to ensure that developments benefit from the fees they are required to pay. Thus, an adequate showing of benefit must address procedural as well as substantive issues.

Demonstrating Proportionality. The requirement that exactions be proportional to the impacts of development was clearly stated by the U.S. Supreme Court in the *Dolan* case (although the relevance of that decision to impact fees has been debated) and is logically necessary to establish a proper nexus. Proportionality is established through the procedures used to identify development-related facility costs, and in the methods used to calculate impact fees for various types of facilities and categories of development. The demand for facilities is measured in terms of relevant and measurable attributes of development. For example, the need for school improvements is measured by the number of public school-age children generated by development.

METHODOLOGIES AND CREDITS

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 can be interchangeable, because each allocates facility costs in proportion to the needs created by development.

Reduced to its simplest terms, the process of calculating impact fees involves two main steps: (1) determining the cost of development-related capital improvements and (2) 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 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 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., housing units or square feet of building area) in each category to arrive at a cost per specific unit of development (e.g., single family detached unit).

Cost Recovery or Buy-In 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 already built or land already purchased from which new growth will benefit. This methodology is often used for closed systems that were oversized such as sewer and water facilities.

Incremental Expansion 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 student). This approach ensures there are no existing infrastructure deficiencies or surplus capacity in infrastructure. New development is only paying its proportionate share for growth-related infrastructure. 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, the fee revenues would not be for renewal and/or replacement of existing facilities. Rather, revenue will be used 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.

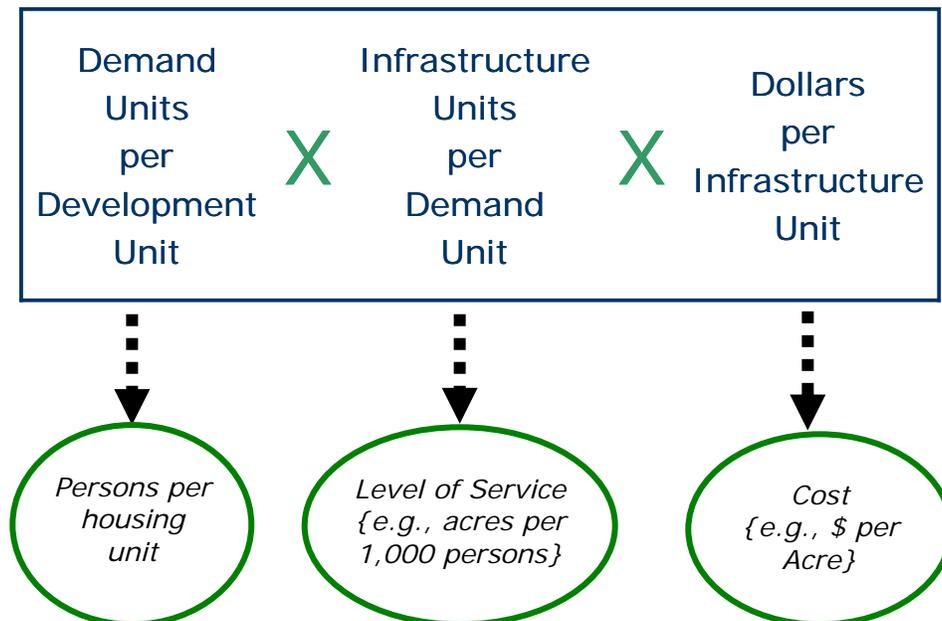
Credits. Regardless of the methodology, a consideration of “credits” is integral to the development of a legally valid impact fee methodology. There are two types of “credits” each with specific, distinct characteristics, but both of which should be addressed in the development of impact fees. The first is a credit due to possible double payment situations. This could occur when contributions are made by the property owner toward the capital costs of the public facility covered by the impact fee. This type of credit is integrated into the impact fee calculation. The second is a credit toward the payment of a fee for dedication of public sites or improvements provided by the developer and for which the facility fee is imposed. This type of credit is addressed in the administration and implementation of a facility fee program.

CONCEPTUAL IMPACT FEE FORMULA

In contrast to development exactions, which are typically referred to as project-level improvements, impact fees fund growth-related infrastructure that will benefit multiple development projects, or even the entire jurisdiction. The basic steps in a generic impact fee formula are illustrated in Figure 5. The first step (see the left box) is to determine an appropriate demand indicator, or service unit, for the particular type of infrastructure. The demand/service indicator measures the number of demand or service units for each unit of

development. For example, an appropriate indicator of the demand for parks is population growth and the increase in population can be estimated from the average number of persons per housing unit. The second step in the generic impact fee formula is shown in the middle box below. Infrastructure units per demand unit are typically called “Level of Service” (LOS) standards. In keeping with the park example, a common LOS standard is park acreage per thousand people. The third step in the generic impact fee formula, as illustrated in the right box, is the cost of various infrastructure units. To complete the park example, this part of the formula would establish the cost per acre for park development.

Figure 5. General Impact Fee Steps

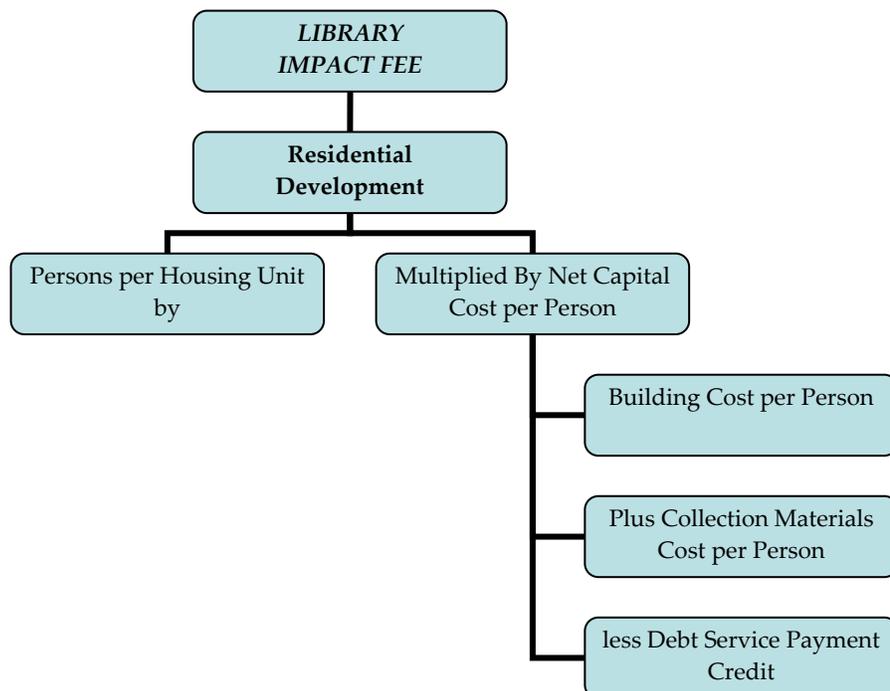


LIBRARY IMPACT FEES

METHODOLOGY

The Library impact fee calculation uses the cost recovery and incremental expansion methodologies. Components of the Library fee include costs for Library buildings and materials included in the Library's collections. The Library system current consists of a Main Library and three branch locations, which are anticipated to serve new development for the foreseeable future. A cost recovery approach is used to calculate new growth's fair share of the City's costs for this facility. *However, since the City has only three years remaining on debt service payments for the most recent library capacity expansion, TischlerBise recommends that the cost recovery component for Library space be eliminated once this debt is retired. If at some point in the future the City decides to construct an additional branch or expand existing facilities, the impact fee methodology and amount should be revised to reflect this change.* An incremental approach is used for collection materials. All costs are allocated 100 percent to residential development. Figure 6 diagrams the general methodology used to calculate the Library Impact Fee. It is intended to read like an outline, with lower levels providing a more detailed breakdown of the impact fee components. The impact fee is derived from the product of persons per housing unit (by type of unit) multiplied by the net capital cost per person. The boxes in the next level down indicate detail on the components included in the fee.

Figure 6. Library Impact Fee Methodology Chart



LIBRARY LEVEL OF SERVICE STANDARDS AND COSTS***Library Building Cost Recovery Component***

The City of Boulder Library System consists of a Main Library and three branch locations. Total library system square footage totals 113,614 square feet. As noted above, at this time the City does not anticipate expanding the Library System. Because the Library System currently has remaining capacity, levels of service are based on projected population in 2030, per discussions with the City. Costs are based on current City replacement values using a cost recovery methodology where new development is buying into remaining capacity of existing facilities.

Figure 7 provides levels of service and costs for the City of Boulder Library System. According to information provided by the City, the Library System has an asset value of \$18,682,862 reflecting facilities owned by the City. When this is compared to the projected population in 2030 (118,500), the cost per demand unit is \$157 per person.

Figure 7. Library Level of Service Standards and Cost Factors

<i>Buildings</i>	<i>Square Feet</i>	<i>Cost/SF*</i>	<i>Current Value</i>
Main Library	92,164	\$183	\$16,866,012
Meadows Branch	7,800	leased	
Reynolds Branch	9,650	\$129	\$1,244,850
Carnegie Branch	4,000	\$143	\$572,000
TOTAL	113,614		\$18,682,862
	Projected Population in 2030		118,500
	Cost per Person		\$157

* City of Boulder Property Schedule, January 2008.

Library Collection Materials Incremental Expansion

The Library System's collection includes adult and juvenile books, electronic/audio books, music, videos, and periodicals. The total number of current units is 364,931 with a total replacement value of approximately \$6.6 million. Based on the current estimated City population of 103,100, this equates to a level of service of \$63 per person. Figure 8 provides detail on the current inventory and average unit costs for each type of material. Unit costs were provided to TischlerBise by City staff.

Figure 8. Library Collection Materials Level of Service Standards

<i>Collection Materials</i>	<i># of units</i>	<i>Unit Price**</i>	<i>Current Value</i>
Books	292,959	\$16	\$4,687,000
Electronic/Audio Books	44,553	\$34	\$1,515,000
Music CDs	13,978	\$12	\$168,000
Videos	12,754	\$13	\$166,000
Periodicals	687	\$60	\$41,000
TOTAL	364,931		\$6,577,000
	Projected Population in 2008		103,100
	Cost per Person		\$63

** City of Boulder Library Staff.

CREDIT EVALUATION

As discussed previously, the City has outstanding debt for Library improvements that will be retired through property taxes. Because of this, TischlerBise recommends that a credit be included in the impact fee for future debt service payments on this General Obligation debt. New residential development in the City of Boulder that will pay Library impact fees will also contribute to future debt service payments paid from property tax revenue, therefore a credit is necessary.

City staff provided debt service schedules for the current outstanding Library debt. To account for the time value of money, annual principal payments per capita are discounted using a net present value formula based on an estimated average interest rate. Figure 9 shows the credit calculation based on the projected debt service payments starting in fiscal year 2009 through the remainder of the bond's term. The debt is allocated 100 percent to residential development. The applicable net present value of the credit is \$28 per person. This will be subtracted from the gross capital cost per demand unit to derive a net capital cost per person in calculating the maximum supportable fee.

Figure 9. Credit for Future Library Debt Service Payments

<i>Year</i>	<i>Total Principal and Interest</i>	<i>Population</i>	<i>Debt Payment Per Capita</i>
2009	\$1,079,000	103,754	\$10.40
2010	\$1,074,000	104,413	\$10.29
2011	\$1,073,000	105,076	\$10.21
		Discount APR	6%
		Present Value	\$28

SUMMARY OF FACTORS FOR LIBRARY IMPACT FEE

Infrastructure standards used to calculate the Library impact fees are shown in the boxed area of Figure 10. Impact fees for Libraries are based on household size for two types of residential units: single-family units (includes single family detached, single family attached, and manufactured homes) and all other units. Level of service standards are based on costs per person for Library buildings and collection materials as described in the previous sections and summarized below. Each cost component of the impact fee is shown as a cost per person. The debt service payment credit (\$28) is then subtracted from the gross capital cost per person to determine the net capital cost per person for residential development (i.e., \$192 per person).

Figure 10. Library Impact Fee Level-of-Service Standard Summary

<i>Standards:</i>	
<i>Persons Per Housing Unit</i>	
Single Family (SFD, SFA & MH)	2.3
All Other Types	1.6
<i>Level Of Service</i>	<u>Per Person</u>
Building Cost	\$157
Collection Cost	\$63
Debt Service Credit	(\$28)
Net Capital Cost	\$192

MAXIMUM ALLOWABLE IMPACT FEES FOR LIBRARIES

Figure 11 shows the schedule of maximum allowable impact fees for Libraries in Boulder. The amounts are calculated by multiplying the persons per housing unit for each unit type and size by the net capital cost per person. For example, for the average single family unit, the persons per housing unit of 2.3 is multiplied by the net capital cost of \$192 (from the previous table) for an impact fee amount of \$441 per single family housing unit and \$307 per unit for all other types of units. Number of persons by square feet of finished floor area is discussed further in the Appendix.

Figure 11. Library Maximum Allowable Impact Fees

<i>Square Feet</i> (finished floor area)	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>
Wt Avg	2.30	1.60	\$441	\$307
600	1.00	1.06	\$192	\$202
700	1.00	1.28	\$192	\$245
800	1.00	1.47	\$192	\$282
900	1.00	1.64	\$192	\$315
1,000	1.16	1.79	\$222	\$344
1,100	1.30	1.93	\$249	\$370
1,200	1.43	2.06	\$274	\$395
1,300	1.55	2.17	\$296	\$417
1,400	1.66	2.28	\$317	\$437
1,500	1.76	2.38	\$337	\$456
1,600	1.85	2.47	\$355	\$474
1,700	1.94		\$372	
1,800	2.03		\$389	
1,900	2.11		\$404	
2,000	2.18		\$418	
2,100	2.25		\$432	
2,200	2.32		\$445	
2,300	2.39		\$458	
2,400	2.45		\$470	
2,500	2.51		\$482	
2,600	2.57		\$493	
2,700	2.62		\$503	
2,800	2.68		\$514	
2,900	2.73		\$524	
3,000	2.78		\$533	
3,100	2.83		\$542	
3,200	2.87		\$551	
3,300	2.92		\$560	
3,400	2.96		\$569	
3,500	3.01		\$577	
3,600	3.05		\$585	
3,700	3.09		\$593	

PARKS AND RECREATION IMPACT FEES

METHODOLOGY

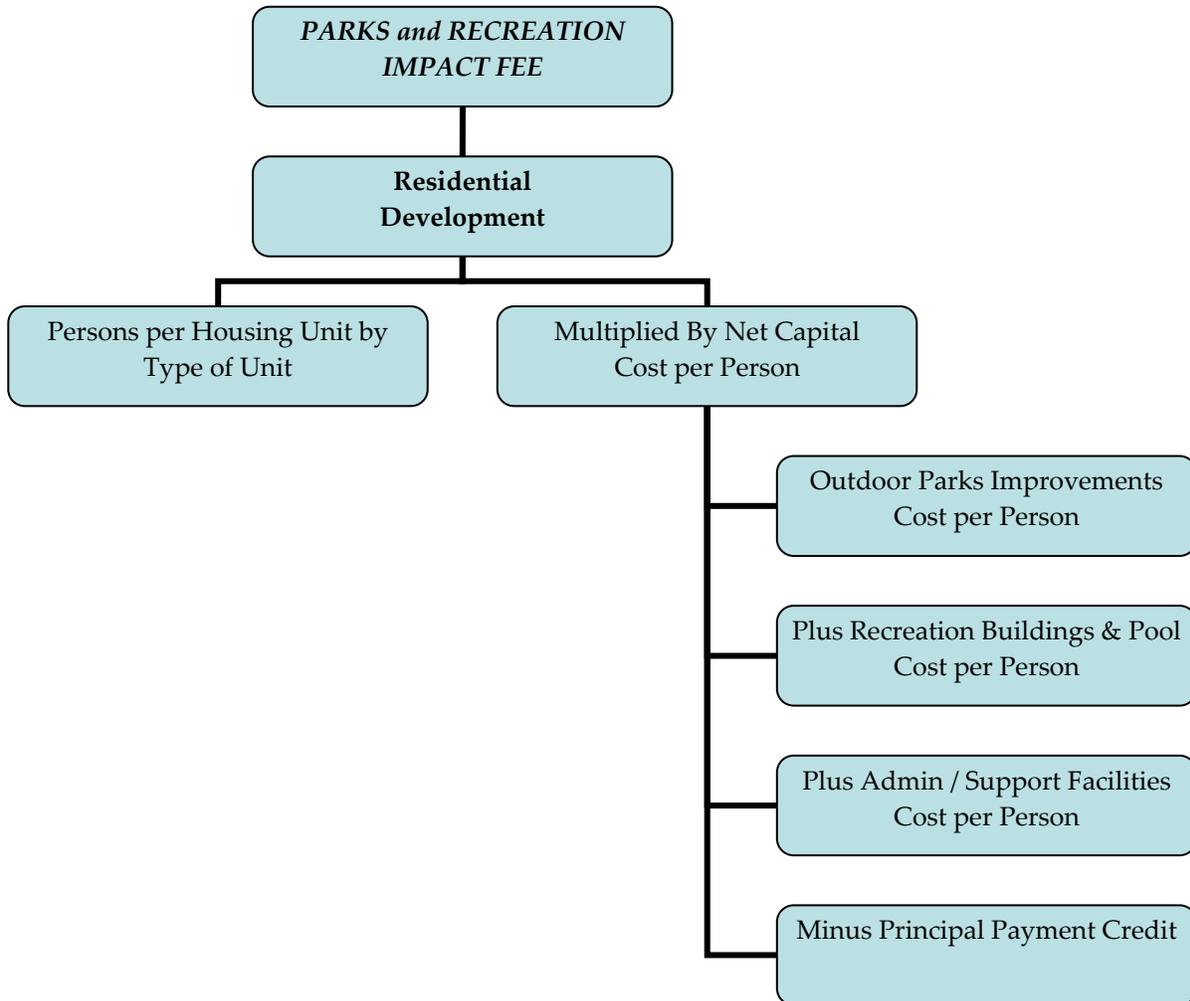
The City of Boulder Parks and Recreation Impact Fee is derived using an incremental expansion methodology. Parks and Recreation impact fees should only be assessed on residential development. Three main components are included in the fee calculation: Outdoor Park Improvements, Recreation Facilities and Pools, and Administrative/Support Facilities. Outdoor Park Improvements include facilities that are community-level facilities serving the entire city, including larger Neighborhood Parks with athletic fields or other improvements that draw patrons throughout Boulder. Additional land for parks is not included because the City has an inventory of parkland on which it intends to make improvements with impact fees. According to the 2006 Master Plan for Parks and Recreation, the system's current park acreage exceeds the department's guidelines established for park acreage per 1,000 residents, as well as meets the guidelines for Boulder's projected population at build-out.¹ Therefore, land is not included as a fee component.

Also included in the fee calculation are Recreation Facilities and Pools. The City's Recreation facilities serve a citywide population and the City expects to expand those types of facilities as well. Finally, Parks and Recreation Administrative / Support Facilities are included. All facility costs are allocated 100 percent to residential development. Smaller-scale recreation amenities are excluded because they serve more limited areas, which would require implementation of multiple service areas and are not recommended due to higher administrative costs and limited revenue generated by sub-areas.

Figure 12 diagrams the general methodology used to calculate the Parks and Recreation Impact Fee. It is intended to read like an outline, with lower levels providing a more detailed breakdown of the impact fee components. The impact fee is derived from the product of persons per housing unit (by type) multiplied by the net capital cost per person. The boxes in the next level down indicate detail on the components.

¹ *Parks and Recreation Master Plan, 2006* (p. 23)

Figure 12. Parks and Recreation Impact Fee Methodology Chart



PARKS & RECREATION LEVEL OF SERVICE STANDARDS AND COSTS

Outdoor Park Improvements

The Outdoor Park component of the Parks and Recreation impact fees are based on the City's current inventory of existing citywide parks. The demand base for the City's park facilities is population. Levels of service are based on the current amount of infrastructure provided for the existing population. Outdoor Park Improvements include facilities that are community-level facilities serving the entire City, such as City, Community, and larger Neighborhood

Parks with athletic fields or other recreational amenities that draw from a citywide service area. The Park impact fee component is based on the incremental expansion methodology, consistent with the City's plans to make improvements to undeveloped parks. Natural lands and neighborhood parks smaller than East Mapleton (i.e. less than 7.6 acres) are excluded from the impact fees. Figure 13 provides an inventory of Outdoor Park improvements with current unit prices. Park improvements have an average cost of approximately \$272,000 per acre, which falls within the 2006 Park Master Plan's range of estimated costs for park improvements (see page 20). On a per capita basis, park improvements cost \$1,003 for each additional resident in Boulder. City staff provided unit prices for each type of improvement. Miscellaneous costs equal \$220,000 per acre, which include such items as lighting, paving (parking lots, sidewalks), site work, irrigation, and landscaping.

Figure 13. Outdoor Park Improvements Level of Service Standards and Cost Factors

Site	Improved Acres	Public Restroom	Playground	Tennis or Basketball	Ballfields	Multiuse Fields*	Soccer Fields**
Foothills Community Park	65.5	1	3		2	2	
East Boulder Community Park	53.6		1	2	2	2	
Pleasantview	52.0	1					9
Harlow Platts Community Park	50.5		1	4		2	
Gerald Stazio	42.0	3	1		7		
Scott Carpenter	16.8	1	1		1		
Tantra	16.8		1				
Chautauqua	14.8	1	1	1			
Valmont City Park	13.0						1
North Boulder	12.5	1	1		1	1	
Park East	11.3		1	1			
Martin	8.3	1	1	2	1	1	
Elks	7.9				1		
Crestview	7.7		1				
East Mapleton Ballfields	7.6	1	1		3		
TOTAL	380.3	10.0	14.0	10.0	18.0	9.0	9.0
Unit Price =>		\$235,000	\$300,000	\$60,000	\$285,000	\$90,000	\$750,000
Current Value =>		\$2,350,000	\$4,200,000	\$600,000	\$5,130,000	\$810,000	\$6,750,000

Itemized Improvements	\$19,840,000
Other Site Improvements***	\$83,666,000
Total Improvements	\$103,506,000
Improvements Cost per Acre	\$272,000
Population in 2008	103,100
Improvements Cost per Person	\$1,003

* Fields are an average of 1.5 acres and are open, unlined, and unprogrammed

** Soccer fields are high quality, sand-based turf fields and MLS sized.

*** Estimated @ \$220,000 per acre for irrigation, landscaping, parking, and minor improvements (see page 20 Parks and Recreation Master Plan, 2006).

Recreation Buildings and Pools

The Recreation Buildings and Pools component of the Parks and Recreation impact fee is based on the current square footage and current value of recreational facilities serving the City. As shown in Figure 14, total square footage for the City's recreational facilities is 162,695 square feet. The incremental expansion approach is used as the City plans to maintain the current level of service to accommodate new development. Total estimated current value of these facilities is approximately \$29.6 million, or \$286 for each additional resident in Boulder.

Figure 14. Recreation Buildings and Pools Level of Service Standards and Cost Factors

Facility#	Facility Name	Address	Bldg Sq Ft	Total Location Value*
055	East Boulder Recreation Ctr (77% of total)**	5660 SIOUX DR	42,648	\$ 6,383,404
054	North Boulder Recreation Center	3170 BROADWAY	62,166	\$ 8,268,808
053	South Boulder Recreation Center	1350 GILLASPIE	35,603	\$ 5,746,072
512	Scott Carpenter Pool	30th & Arapahoe		\$ 3,026,055
061 A	SCOTT CARPENTER LOCKER ROOMS	30TH & ARAPAHOE	5,886	\$ 856,078
061 B	SCOTT CARPENTER PARK FILTER BUILDING	30TH & ARAPAHOE	500	\$ 76,693
514	SPRUCE POOL	2040 21ST STREET		\$ 1,209,246
062	Spruce Pool Bath House/Filter	2102 Spruce Street	1,810	\$ 278,478
038	Salberg Studio	19TH & ELDER	1,125	\$ 98,979
060	Pottery Lab	1010 AURORA	2,565	\$ 295,648
063	BOULDER RESERVOIR (all bldgs)	5152 NORTH 51ST	9,742	\$ 1,666,142
TOTAL			162,045	\$ 29,571,744

Population in 2008 103,100

Cost per Person \$286

* Source: City Property Schedule (2008) for building and contents.

** Facility also houses Senior Center; square footage and value shown is for Recreation Center portion.

Parks and Recreation Administration and Support Facilities

Also included in the fee calculation is a component for Administrative and Support Facilities based on the current square footage and current value of facilities serving the City. As shown in Figure 15, total square footage for the City's Parks and Recreation support facilities is 66,143 square feet. The incremental expansion approach is used as the City plans to maintain the current level of service to accommodate new development. Total estimated current value of these facilities is approximately \$4.2 million. These factors yield a cost of \$41 to accommodate each additional resident in Boulder.

Figure 15. Administrative and Support Facilities Level of Service Standards and Cost Factors

Facility#	Facility Name	Address	Bldg Sq Ft	Total Location Value*
004	Iris Center	3198 BROADWAY	16,372	\$ 1,817,388
042	Park Operations Building	5200 PEARL ST	10,073	\$ 955,016
040	Tantra Park Maintenance Shop	585 TANTRA DR	3,062	\$ 265,225
059	Stazio Ballfields Maintenance Shop	2445 Stazio Drive	5,150	\$ 333,324
061 E	SCOTT CARPENTER ATHLETICS OFFICE	30TH & ARAPAHOE	1,052	\$ 125,309
243	Valmont Storage Building	5325 Valmont	30,434	\$ 733,890
TOTAL			66,143	\$ 4,230,151

Population in 2008 103,100

Cost per Person \$41

* Source: City Property Schedule (2008)

CREDIT EVALUATION

The City has outstanding debt for parks and recreation improvements, namely for the East Boulder Recreation Center, that will be retired through property taxes. Because of this, TischlerBise recommends that a credit be included in the impact fee for future principal payments on this General Obligation debt. New residential development in the City of Boulder that will pay Parks impact fees will also contribute to future principal payment from property tax revenue.

City staff provided the amount of current outstanding Parks and Recreation debt. To account for the time value of money, annual principal payments per capita are discounted using a net present value formula based on an estimated average interest rate. Figure 16 shows the credit calculation based on the projected principal and interest payments starting in fiscal year 2009 through the remainder of the bonds' term. The debt is allocated 100 percent to residential development. The applicable net present value of the credit is \$16 per person. This will be subtracted from the gross capital cost per demand unit to derive a net capital cost per person in calculating the maximum supportable fee.

Figure 16. Credit for Future Principal Payments on Parks and Recreation Debt

Year	E Bldr Center	Total Principal and Interest*	Population	Debt Payment Per Capita
2009	\$602,000	\$463,540	103,754	\$4.47
2010	\$602,000	\$463,540	104,413	\$4.44
2011	\$602,000	\$463,540	105,076	\$4.41
2012	\$602,000	\$463,540	105,743	\$4.38
			Discount APR	6%
			Present Value	\$16

* Recreation Ctr portion of debt is 77% of total; remainder is Senior Center (in Human Services)

SUMMARY OF FACTORS FOR PARKS AND RECREATION IMPACT FEE

Infrastructure standards used to calculate the Park and Recreation impact fees are shown in Figure 17. Impact fees for Parks and Recreation are based on household size for two types of residential units: single-family units (includes single family detached, single family attached, and manufactured homes) and all other units. Level of service standards are based on current costs per person for Outdoor Park improvements, Recreation Buildings and Pools, and Administrative and Support Facilities, as described in the previous sections. Each cost component of the impact fee is shown as a cost per person. The debt service payment credit (\$16) is then subtracted from the gross capital cost per person to determine the net capital cost per person for residential development (i.e., \$1,314 per person).

Figure 17. Parks and Recreation Impact Fee Level-of-Service Standard Summary

		Standards:
Persons Per Housing Unit		
	Single Family (SFD, SFA & MH)	2.3
	All Other Types	1.6
Level Of Service		
		<u>Per Person</u>
	Outdoor Park Improvements	\$1,003
	Recreation Buildings & Pools	\$286
	Support Facilities	\$41
	Credit for Existing Debt	(\$16)
	Net Capital Cost	\$1,314

MAXIMUM ALLOWABLE IMPACT FEES FOR PARKS AND RECREATION

Figure 18 shows the schedule of maximum allowable impact fees for Parks and Recreation in Boulder. The amounts are calculated by multiplying the persons per housing unit for each unit type and size by the net capital cost per person. For example, the average single family unit with 2.3 persons, multiplied by the net capital cost of \$1,314 (from the previous table), yields an impact fee of \$3,022 per single family housing unit. Number of persons by square feet of finished floor area is discussed further in the Appendix.

Figure 18. Parks and Recreation Maximum Allowable Impact Fees

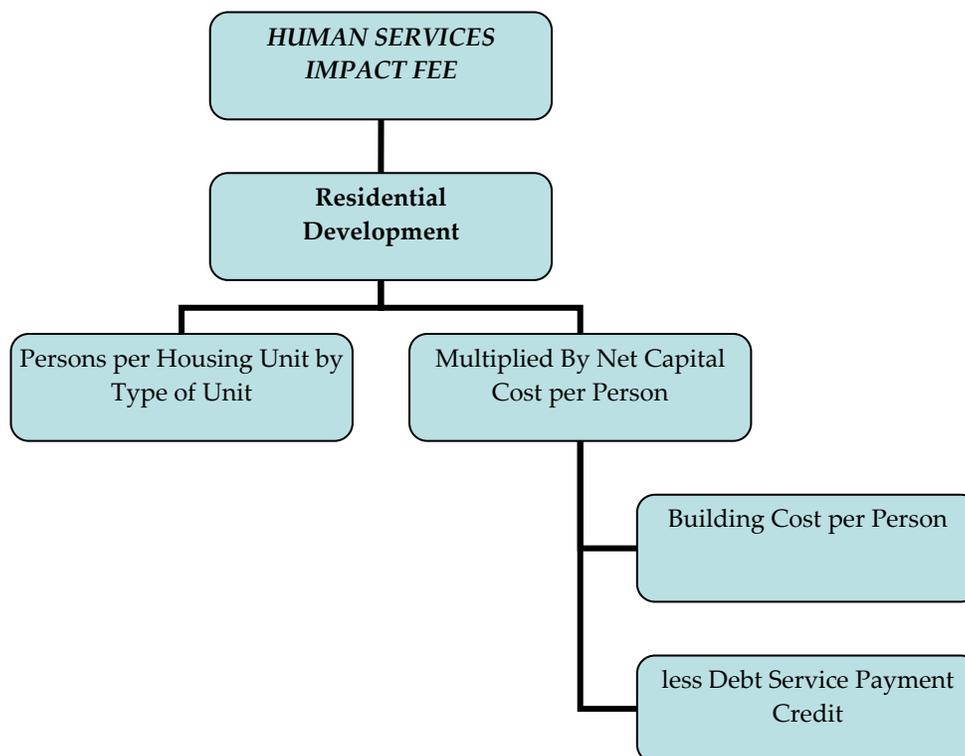
<i>Square Feet</i> (finished floor area)	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>
Wt Avg	2.30	1.60	\$3,022	\$2,102
600	1.00	1.06	\$1,314	\$1,388
700	1.00	1.28	\$1,314	\$1,681
800	1.00	1.47	\$1,314	\$1,934
900	1.00	1.64	\$1,314	\$2,158
1,000	1.16	1.79	\$1,524	\$2,357
1,100	1.30	1.93	\$1,708	\$2,538
1,200	1.43	2.06	\$1,877	\$2,703
1,300	1.55	2.17	\$2,032	\$2,855
1,400	1.66	2.28	\$2,175	\$2,996
1,500	1.76	2.38	\$2,309	\$3,127
1,600	1.85	2.47	\$2,434	\$3,249
1,700	1.94		\$2,552	
1,800	2.03		\$2,662	
1,900	2.11		\$2,767	
2,000	2.18		\$2,866	
2,100	2.25		\$2,961	
2,200	2.32		\$3,051	
2,300	2.39		\$3,137	
2,400	2.45		\$3,220	
2,500	2.51		\$3,299	
2,600	2.57		\$3,375	
2,700	2.62		\$3,448	
2,800	2.68		\$3,518	
2,900	2.73		\$3,586	
3,000	2.78		\$3,652	
3,100	2.83		\$3,715	
3,200	2.87		\$3,777	
3,300	2.92		\$3,836	
3,400	2.96		\$3,894	
3,500	3.01		\$3,950	
3,600	3.05		\$4,005	
3,700	3.09		\$4,058	

HUMAN SERVICES IMPACT FEES

METHODOLOGY

The Human Services impact fee calculation uses the incremental expansion methodology. Components of the Human Services fee include costs for Senior Centers and the Children, Youth and Family Center. All costs are allocated 100 percent to residential development. Figure 19 diagrams the general methodology used to calculate the Human Services Impact Fee. It is intended to read like an outline, with lower levels providing a more detailed breakdown of the impact fee components. The impact fee is derived from the product of persons per housing unit (by type of unit) multiplied by the net capital cost per person. The boxes in the next level down indicate detail on the components included in the fee.

Figure 19. Human Services Impact Fee Methodology Chart



HUMAN SERVICES LEVEL OF SERVICE STANDARDS AND COSTS

The incremental expansion methodology is used to calculate the Human Services impact fee. The first step of the analysis determines the current level of service (LOS) being provided to existing development. The second step involves determining the cost per person to provide the current LOS.

Figure 20 lists the current inventory of Human Services space in the City of Boulder. As shown, the City currently has Human Services space totaling 33,842 square feet. The current value for Human Services buildings and contents is from the City's 2008 Property Schedule. Because the City anticipates having to acquire land in the future to expand Human Services facilities, land and site improvement costs are included in the current costs shown. City staff estimates that 40 percent should be added to building costs to account for land and site improvement, raising the current value to approximately \$6.9 million. To derive the cost per demand unit, the current asset value is divided by the current City population (103,100), for a cost per demand units of \$66.71 per person.

Figure 20. Human Services Level of Service Standards and Cost Factors

<i>Building</i>	<i>Square Feet*</i>	<i>Cost/SF*</i>	<i>Current Value</i>
West Senior Center	16,188	\$199	\$3,218,000
Children, Youth & Family Center	5,215	\$214	\$1,117,000
East Senior Center	12,439	\$204	\$2,543,000
TOTAL	33,842		\$6,878,000
	Year-round Population in 2008		103,100
	Cost per Person		\$66.71

* Source: City Property Schedule (2008) for building and contents; land and site improvements are included (additional 40% over building cost, per City of Boulder)

CREDIT EVALUATION

As discussed previously, the City has outstanding debt for Human Services improvements that will be retired through property taxes. Because of this, TischlerBise recommends that a credit be included in the impact fee for future debt service payments on this General Obligation debt. New residential development in the City of Boulder that will pay Human Services impact fees will also contribute to future debt service payments paid from property tax revenue.

City staff provided debt service schedules for the current outstanding Human Services debt. To account for the time value of money, annual principal payments per capita are discounted using a net present value formula based on an estimated average interest rate. Figure 21 shows the credit calculation based on the projected debt service payments starting in fiscal year 2009 through the remainder of the bond's term. The debt is allocated 100 percent to residential development. The applicable net present value of the credit is \$4.59 per person. This will be subtracted from the gross capital cost per demand unit to derive a net capital cost per person in calculating the maximum supportable fee.

Figure 21. Credit for Outstanding Human Services Debt Service Payments

<i>Year</i>	<i>E Bldr Center</i>	<i>Total Principal and Interest*</i>	<i>Population</i>	<i>Debt Payment Per Capita</i>
2009	\$602,000	\$138,460	103,754	\$1.33
2010	\$602,000	\$138,460	104,413	\$1.33
2011	\$602,000	\$138,460	105,076	\$1.32
2012	\$602,000	\$138,460	105,743	\$1.31
Discount APR				6%
Present Value				\$4.59

* Senior Center portion of debt is 23% of total; remainder is Recreation

SUMMARY OF FACTORS FOR HUMAN SERVICES IMPACT FEE

Infrastructure standards used to calculate the Human Services impact fees are shown in the boxed area of Figure 22. Impact fees for Human Services are based on household size for two types of residential units: single-family units (includes single family detached, single family attached, and manufactured homes) and all other units. Level of service standards are based on current costs per person for Human Services buildings as described in the previous sections and summarized below. Each cost component of the impact fee is shown as a cost per person.

The total capital cost per person is the sum of the boxed items on the figure for buildings and collections materials. As shown, the debt service payment credit (\$4.59) is then subtracted from the gross capital cost per person to determine the net capital cost per person for residential development (i.e., \$62.12 per person).

Figure 22. Human Services Impact Fee Level-of-Service Standard Summary

<i>Standards:</i>	
<i>Persons Per Housing Unit</i>	
Single Family (SFD, SFA & MH)	2.3
All Other Types	1.6
<i>Level Of Service</i>	<u>Per Person</u>
Human Services Buildings	\$66.71
Credit for Existing Debt	(\$4.59)
Net Capital Cost	\$62.12

MAXIMUM ALLOWABLE IMPACT FEES FOR HUMAN SERVICES

Figure 23 shows the schedule of maximum allowable impact fees for Human Services in Boulder. The amounts are calculated by multiplying the persons per housing unit for each unit type and size by the net capital cost per person. For example, for the average single family detached unit, the persons per housing unit of 2.3 is multiplied by the net capital cost of \$62.12 (from the previous table) for an impact fee amount of \$142 per single family housing unit. Number of persons by square feet of finished floor area is discussed further in the Appendix.

Figure 23. Human Services Maximum Allowable Impact Fees

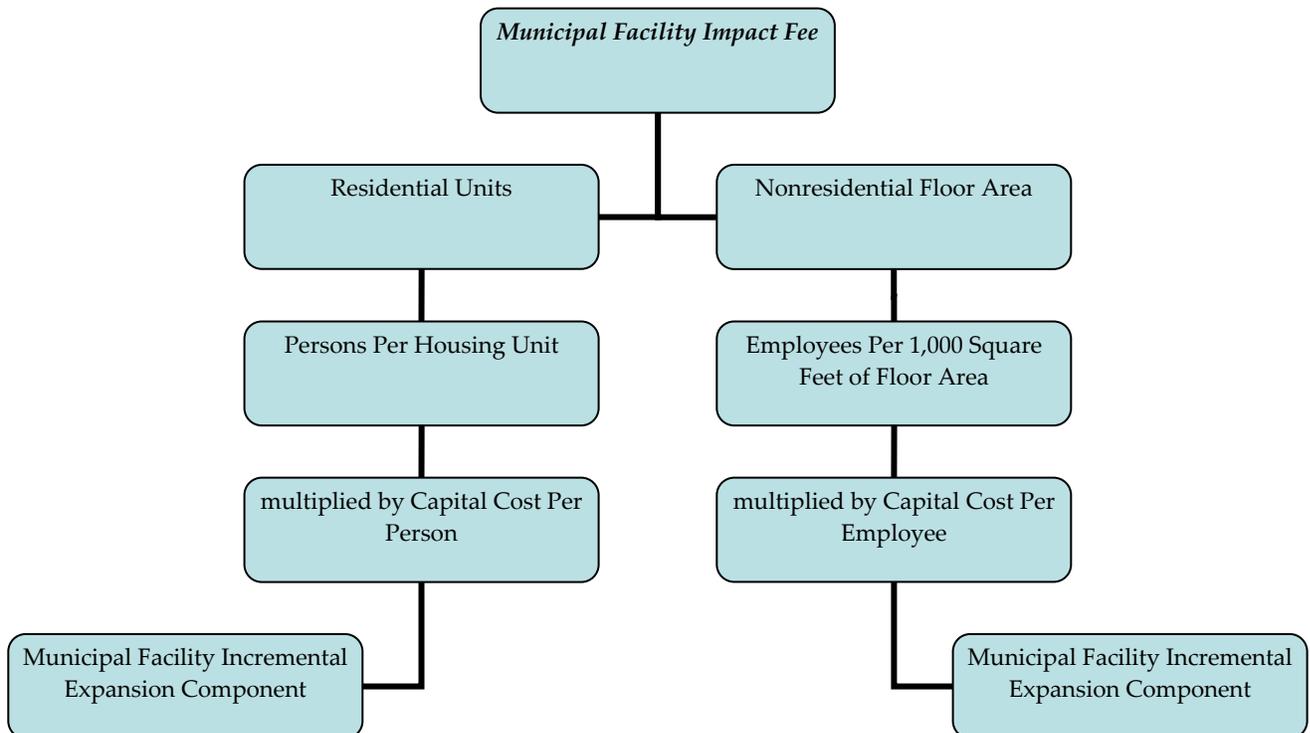
<i>Square Feet</i> (finished floor area)	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>	<i>Single Family</i> (SFD, SFA & MH)	<i>All Other</i> <i>Types</i>
Wt Avg	2.30	1.60	\$142	\$99
600	1.00	1.06	\$62	\$65
700	1.00	1.28	\$62	\$79
800	1.00	1.47	\$62	\$91
900	1.00	1.64	\$62	\$102
1,000	1.16	1.79	\$72	\$111
1,100	1.30	1.93	\$80	\$120
1,200	1.43	2.06	\$88	\$127
1,300	1.55	2.17	\$96	\$134
1,400	1.66	2.28	\$102	\$141
1,500	1.76	2.38	\$109	\$147
1,600	1.85	2.47	\$115	\$153
1,700	1.94		\$120	
1,800	2.03		\$125	
1,900	2.11		\$130	
2,000	2.18		\$135	
2,100	2.25		\$139	
2,200	2.32		\$144	
2,300	2.39		\$148	
2,400	2.45		\$152	
2,500	2.51		\$155	
2,600	2.57		\$159	
2,700	2.62		\$163	
2,800	2.68		\$166	
2,900	2.73		\$169	
3,000	2.78		\$172	
3,100	2.83		\$175	
3,200	2.87		\$178	
3,300	2.92		\$181	
3,400	2.96		\$184	
3,500	3.01		\$186	
3,600	3.05		\$189	
3,700	3.09		\$191	

MUNICIPAL FACILITIES IMPACT FEES

METHODOLOGY

The Municipal Facilities impact fees are based on an incremental expansion approach. Components of the fee include additional building space that will be expanded as the City's population and employment base increases. As illustrated in Figure 24, capital costs are allocated to both residential and nonresidential development. Residential factors are calculated on a per person basis, and converted to an impact fee amount per housing unit using average persons per housing unit by unit type. Nonresidential development fees are based on a capital cost per employee, where such costs are typically multiplied by the number of employees per 1,000 square feet of nonresidential floor area.

Figure 24. Municipal Facilities Impact Fee Methodology Chart



PROPORTIONATE SHARE FACTORS

The proportionate share factors shown in Figure 25 are used to allocate capital costs to residential and nonresidential development. The analysis is based on demographic data from the City of Boulder and the U.S. Census 2006 American Community Survey. For residential development, the proportionate share factor is based on estimated person hours of non-working residents, plus the non-working hours of resident workers. For resident workers, two-thirds of a day (i.e., 16 hours) is allocated to residential demand. Time spent at work (i.e., 8 hours) is allocated to nonresidential development. In 2006, the U.S. Census Bureau estimated that 36,309 City of Boulder residents also worked in the City. Therefore, total jobs include 60,659 non-resident workers that commute into Boulder for work. Based on estimated person hours, the cost allocation for residential development is 72 percent while nonresidential development accounts for 28 percent of the demand for municipal facilities.

Figure 25. Proportionate Share Factors for Municipal Facilities Impact Fees

	<u>Demand Units in 2006</u>	<u>Annualized Avg Hours per Day</u>	<u>Person Hours</u>
Residential			
Year-Round Population*	101,918		
Persons Not Working	51,796	24	1,243,104
Workers Living in Boulder**	50,122		
Residents Working in Boulder**	36,309	16	580,944
Residents Working Outside Boulder**	13,813	16	221,008
		Residential Subtotal	2,045,056
			72%
Nonresidential			
Jobs Located in Boulder*	96,968		
Residents Working in Boulder**	36,309	8	290,472
Non-Resident Workers in 2006	60,659	8	485,272
		Nonresidential Subtotal	775,744
			28%
		TOTAL	<u><u>2,820,800</u></u>

* City of Boulder estimates.

** Table B08008, 2006 American Community Survey.

MUNICIPAL FACILITIES LEVEL OF SERVICE STANDARDS AND COSTS

The incremental expansion methodology is used to calculate the Municipal Facilities impact fee. The first step of the analysis determines the current Level of Service (LOS) being provided to existing development. The second step involves determining the cost per person and job to provide this LOS.

Figure 26 lists the current inventory of municipal government space in the City of Boulder. As shown, the City currently has municipal facilities space totaling 70,748 square feet. The current value for general government buildings and contents is from the City's 2008 Property Schedule. Because the City anticipates having to acquire land in the future for Municipal Facilities, land and site improvement costs are included in the current costs. City staff estimates that 40 percent should be added to building costs to account for these costs. As indicated in Figure 26, the estimated current value is approximately \$16.8 million.

To derive the cost per demand unit, the current asset value is multiplied by the proportionate share factors for each type of land use and then divided by the respective demand units. For example, the cost per person of \$117.13 is derived by multiplying the current asset value (\$16,773,000) by 72%, then dividing by the current population estimate (103,100). The same approach is used for nonresidential development to derive a cost per job.

Figure 26. Municipal Facilities Level of Service Standards and Cost Factors

<i>Building</i>	<i>Building SF*</i>	<i>Cost/SF*</i>	<i>Current Value</i>
Municipal Building	23,657	\$237	\$5,597,000
Atrium	12,329	\$259	\$3,193,000
Park Central	20,910	\$241	\$5,035,000
New Britain	13,852	\$213	\$2,948,000
TOTAL	70,748		\$16,773,000
	Proportionate Share	2008 Demand Units	Cost per Demand Unit
Residential	72%	103,100 Population	\$117.13
Nonresidential	28%	97,750 Jobs	\$48.04

* Source: City Property Schedule (2008) for building and contents;
land and site improvements are included (additional 40% over building cost, per City of Boulder)

CREDIT EVALUATION

The City does not have any outstanding property tax-backed debt for municipal facility improvements, therefore no credit is required.

RESIDENTIAL IMPACT FEES FOR MUNICIPAL FACILITIES

Figure 27 provides the schedule of residential impact fee by finished floor area for residential development. Capital cost per person, multiplied by persons per housing unit, yields the impact fee for municipal facilities.

Figure 27. Municipal Facilities Maximum Supportable Residential Schedule

<i>Level Of Service</i>	<u>Per Person</u>
Office Buildings and Land Cost	\$117.13

<i>Square Feet</i> <i>(finished floor area)</i>	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family</i> <i>(SFD, SFA & MH)</i>	<i>All Other Types</i>	<i>Single Family</i> <i>(SFD, SFA & MH)</i>	<i>All Other Types</i>
Wt Avg	2.30	1.60	\$269	\$187
600	1.00	1.06	\$117	\$123
700	1.00	1.28	\$117	\$149
800	1.00	1.47	\$117	\$172
900	1.00	1.64	\$117	\$192
1,000	1.16	1.79	\$135	\$210
1,100	1.30	1.93	\$152	\$226
1,200	1.43	2.06	\$167	\$241
1,300	1.55	2.17	\$181	\$254
1,400	1.66	2.28	\$193	\$267
1,500	1.76	2.38	\$205	\$278
1,600	1.85	2.47	\$217	\$289
1,700	1.94		\$227	
1,800	2.03		\$237	
1,900	2.11		\$246	
2,000	2.18		\$255	
2,100	2.25		\$263	
2,200	2.32		\$272	
2,300	2.39		\$279	
2,400	2.45		\$287	
2,500	2.51		\$294	
2,600	2.57		\$300	
2,700	2.62		\$307	
2,800	2.68		\$313	
2,900	2.73		\$319	
3,000	2.78		\$325	
3,100	2.83		\$331	
3,200	2.87		\$336	
3,300	2.92		\$342	
3,400	2.96		\$347	
3,500	3.01		\$352	
3,600	3.05		\$357	
3,700	3.09		\$361	

NONRESIDENTIAL IMPACT FEES FOR MUNICIPAL FACILITIES

Figure 28 shows the schedule of maximum allowable impact fees for nonresidential development. For nonresidential land uses, such as a retail establishment, the number of employees per 1,000 square feet (2.86) is multiplied by the capital cost per employee (\$48.04), for an impact fee of \$0.13 per square foot.

Figure 28. Municipal Facility Maximum Supportable Nonresidential Schedule

<i>Level Of Service</i>	<i>Per Employee</i>
Office Buildings and Land Cost	\$48.04

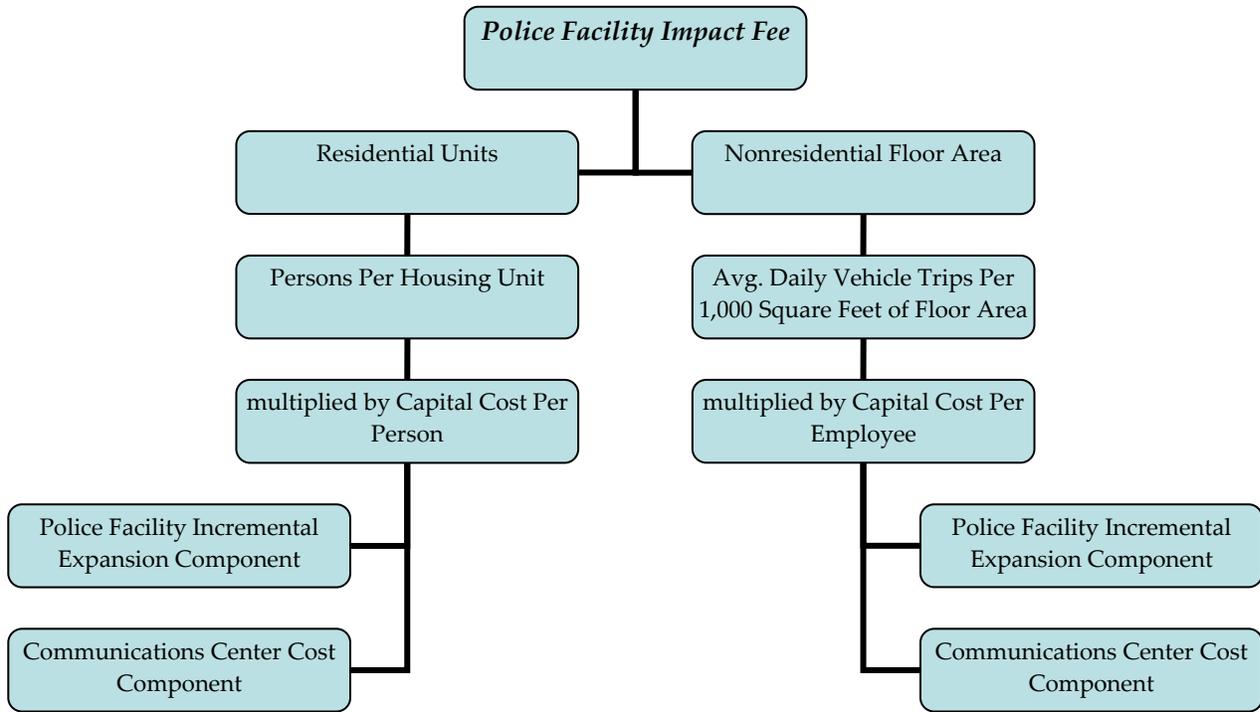
<i>ITE Code</i>	<i>Employees Per 1,000 Square Feet</i>	<i>Impact Fee per Square Foot</i>	
<i>Nonresidential (Floor Area)</i>			
820	Retail / Restaurant	2.86	\$0.13
770	Business Park	3.16	\$0.15
710	Office	3.91	\$0.18
610	Hospital	3.38	\$0.16
520	School	0.92	\$0.04
151	Mini-Warehouse	0.04	\$0.00
150	Warehousing	1.28	\$0.06
110	Light Industrial	2.31	\$0.11
<i>Other Nonresidential (Unique Demand Indicator)</i>			
620	Nursing Home (per bed)	0.36	\$17
565	Day Care (per student)	0.16	\$7
320	Lodging (per room)	0.44	\$21

POLICE IMPACT FEES

METHODOLOGY

The Police impact fee is calculated using a combination of the incremental expansion and plan based methodologies. An incremental expansion approach is used for Police Station space, while a plan based approach is used for planned Communication Center space. Because the Colorado State Impact Fee Act requires that infrastructure included in the fee calculation have a useful life of over 5 years, police cars are not eligible for impact fee funding. As shown in Figure 29, 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. 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 Police services 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 29. Police Facilities Impact Fee Methodology Chart



PROPORTIONATE SHARE FACTORS

The preferred method for determining proportionate share factors is through an analysis of calls for Police service data by residential and nonresidential land use. Unfortunately, this data was not available for this impact fee study. Lacking calls for service data, the next best determiner of the demand for Police services is through functional population. This analysis is shown below in and is used to allocate capital costs to residential and nonresidential development.

The analysis is based on demographic data from the City of Boulder and the U.S. Census 2006 American Community Survey. For residential development, the proportionate share factor is based on estimated person hours of non-working residents, plus the non-working hours of resident workers. For resident workers, two-thirds of a day (i.e., 16 hours) is allocated to residential demand. Time spent at work (i.e., 8 hours) is allocated to nonresidential development. In 2006, the U.S. Census Bureau estimated that 36,309 City of Boulder residents also worked in the City. Therefore, total jobs include 60,659 non-resident

workers that commute into Boulder for work. Based on estimated person hours, the cost allocation for residential development is 72 percent while nonresidential development accounts for 28 percent of the demand for municipal facilities. Details are shown in Figure 30.

Figure 30. Proportionate Share Factors for Police Impact Fees

	<u>Demand Units in 2006</u>	<u>Annualized Avg Hours per Day</u>	<u>Person Hours</u>
Residential			
Year-Round Population*	101,918		
Persons Not Working	51,796	24	1,243,104
Workers Living in Boulder**	50,122		
Residents Working in Boulder**	36,309	16	580,944
Residents Working Outside Boulder**	13,813	16	221,008
		Residential Subtotal	2,045,056
			72%
Nonresidential			
Jobs Located in Boulder*	96,968		
Residents Working in Boulder**	36,309	8	290,472
Non-Resident Workers in 2006	60,659	8	485,272
		Nonresidential Subtotal	775,744
			28%
		TOTAL	<u>2,820,800</u>

* City of Boulder estimates.

** Table B08008, 2006 American Community Survey.

POLICE FACILITIES LEVEL OF SERVICE STANDARDS AND COSTS

The Police impact fee is calculated using the incremental expansion and plan based methodologies. The incremental expansion approach is used for Police station space and administration and a plan based approach is used for planned Communications Systems improvements. For the incremental component, the first step of the analysis determines the current LOS being provided to existing development. The second step involves determining the cost per person and per nonresidential vehicle trip to provide this LOS.

The top portion of Figure 31 lists the current inventory of Police space in the City of Boulder. As shown, the City currently has Police space totaling 69,178 square feet. To determine the total current asset value for Police space, City of Boulder staff provided current values for each facility included in the inventory through the 2008 City Property Schedule. Because the City anticipates having to acquire land in the future for Police facilities, land and site

improvement costs are included in the current costs. City staff estimates that 40 percent should be added to building costs to account for these costs. As indicated in Figure 31, the estimated current value is approximately \$17.3 million.

To derive the cost per demand unit for the incremental portion of the fee, the current asset value (\$17,268,000) 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 \$120.59 is derived by multiplying the current asset value (\$17,268,000) by 72 percent, then dividing by the current population estimate (103,100). The same approach is used for nonresidential development to derive a cost per trip.

For the Communications System Improvements, a plan-based methodology is used and is based on the estimated cost less committed and earmarked funds from the federal government and 911 fees. The improvements are anticipated to serve development through 2030. Based on the net capital cost to the City of \$449,000 and projected population and vehicle trips to nonresidential development in 2030, the per capita cost is \$2.72 and the cost per trip is \$0.35.

Figure 31. Police Facilities Level of Service Standards and Cost Factors

Incremental Expansion Cost of Police Buildings

	<i>Bldg Sq Ft</i>	<i>Cost per SF*</i>	<i>Current Value</i>
Headquarters	47,115	\$290	\$13,654,000
Training Ctr / Firing Range Addition	16,000	\$199	\$3,181,000
Police Storage (only building cost)	4,763	\$91	\$433,000
Downtown Mall Annex	850	leased	
University Hill Annex	450	leased	
TOTAL			69,178
			\$17,268,000
	Proportionate Share	2008 Demand Units	Cost per Demand Unit
Residential	72%	103,100 persons	\$120.59
Nonresidential	28%	295,181 nonres trips	\$16.37

* Source: City Property Schedule (2008) for building and contents; land and site improvements are included (additional 40% over building cost, per City of Boulder)

Plan-Based Cost of Communications System Improvements

Boulder Police Communications Center**	\$1,900,000		
Less BRE TSA and DHS Grant Funding**	(\$1,451,000)		
Net Capital Cost		\$449,000	
	Proportionate Share	2030 Demand Units	Cost per Demand Unit
Residential	72%	118,500 persons	\$2.72
Nonresidential	28%	354,577 nonres trips	\$0.35

** Source: Boulder Police Department

CREDIT EVALUATION

At present, the City of Boulder does not have any outstanding property-tax backed bonded debt related to the construction of Police facilities. Therefore, a credit for existing bond financing is not applicable to this impact fee.

MAXIMUM ALLOWABLE RESIDENTIAL IMPACT FEE FOR POLICE

Figure 32 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. The capital cost per demand unit for residential land uses is \$123.31 per person. The number of persons per housing unit (by type of size) is discussed further in the Appendix.

Figure 32. Police Impact Fee Schedule for Residential Development

<i>Police Facilities Level Of Service</i>	<u>Per Person</u>
Headquarters & Annex Cost	\$120.59
Communications System Cost	\$2.72
Net Capital Cost	\$123.31

<i>Square Feet</i> <i>(finished floor area)</i>	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family (SFD, SFA & MH)</i>	<i>All Other Types</i>	<i>Single Family (SFD, SFA & MH)</i>	<i>All Other Types</i>
Wt Avg	2.30	1.60	\$283	\$197
600	1.00	1.06	\$123	\$130
700	1.00	1.28	\$123	\$157
800	1.00	1.47	\$123	\$181
900	1.00	1.64	\$123	\$202
1,000	1.16	1.79	\$143	\$221
1,100	1.30	1.93	\$160	\$238
1,200	1.43	2.06	\$176	\$253
1,300	1.55	2.17	\$190	\$267
1,400	1.66	2.28	\$204	\$281
1,500	1.76	2.38	\$216	\$293
1,600	1.85	2.47	\$228	\$304
1,700	1.94		\$239	
1,800	2.03		\$249	
1,900	2.11		\$259	
2,000	2.18		\$269	
2,100	2.25		\$277	
2,200	2.32		\$286	
2,300	2.39		\$294	
2,400	2.45		\$302	
2,500	2.51		\$309	
2,600	2.57		\$316	
2,700	2.62		\$323	
2,800	2.68		\$330	
2,900	2.73		\$336	
3,000	2.78		\$342	
3,100	2.83		\$348	
3,200	2.87		\$354	
3,300	2.92		\$360	
3,400	2.96		\$365	
3,500	3.01		\$370	
3,600	3.05		\$375	
3,700	3.09		\$380	

MAXIMUM ALLOWABLE NONRESIDENTIAL IMPACT FEES FOR POLICE

Figure 33 contains a schedule of the Police impact fees for nonresidential development. For example, a retail establishment generates an average of 86.56 vehicle trips per 1,000 square feet on an average weekday. To account for pass-by trips, the trip adjustment rate of 31 percent is multiplied by the capital cost per nonresidential vehicle trip (\$16.72), for an impact fee of \$0.44 per square foot.

Figure 33. Police Maximum Nonresidential Schedule

<i>Police Facilities Level Of Service</i>	<i>Per Employee</i>
Headquarters & Annex Cost	\$16.37
Communications System Cost	\$0.35
Net Capital Cost	\$16.72

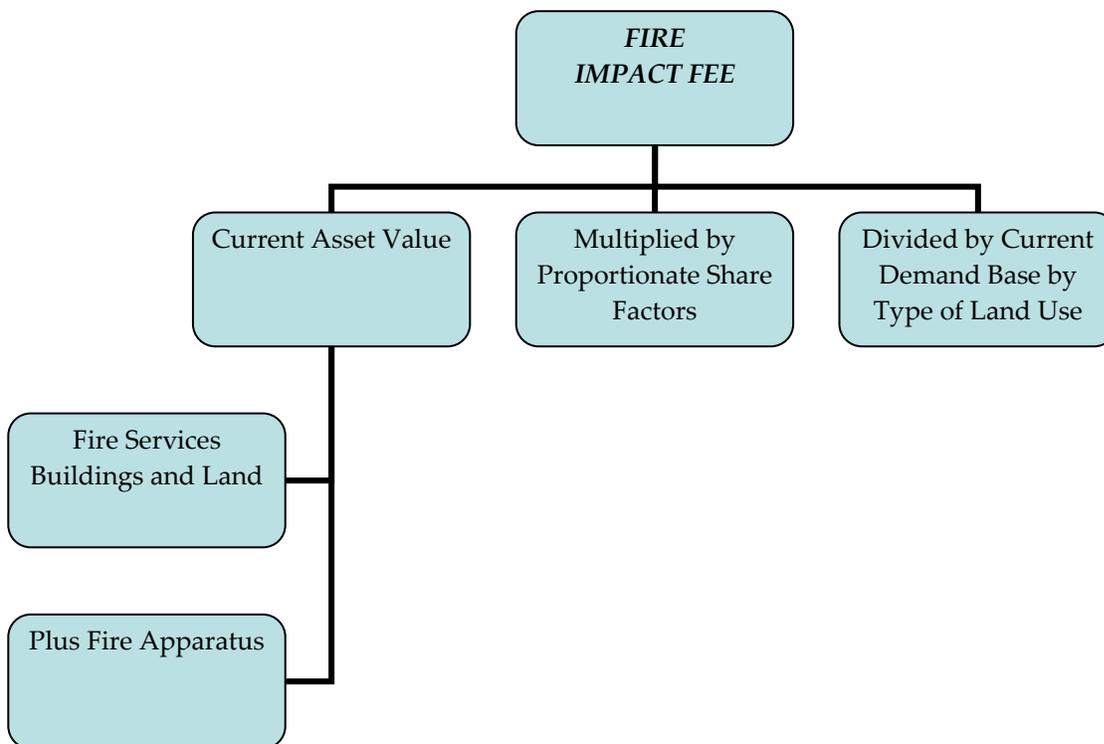
<i>ITE Code</i>	<i>Wkdy Veh Trip Ends per 1,000 Sq Ft</i>	<i>Trip Adjustment Factors</i>	<i>Impact Fee per Square Foot</i>	
<i>Nonresidential (Floor Area)</i>				
820	Retail / Restaurant	86.56	31%	\$0.44
770	Business Park	12.76	50%	\$0.10
710	Office	18.35	50%	\$0.15
610	Hospital	17.57	50%	\$0.14
520	School	14.49	33%	\$0.07
151	Mini-Warehouse	2.50	50%	\$0.02
150	Warehousing	4.96	50%	\$0.04
110	Light Industrial	6.97	50%	\$0.05
<i>Other Nonresidential (Unique Demand Indicator)</i>				
620	Nursing Home (per bed)	2.37	50%	\$19
565	Day Care (per student)	4.48	24%	\$17
320	Lodging (per room)	5.63	50%	\$47

FIRE IMPACT FEES

The City of Boulder Fire impact fee is based on the incremental expansion cost of Fire Services facilities and Fire apparatus. This methodology will allow for the greatest flexibility, as the City plans to expand Fire facilities in the next few years, but at this time is not sure if this will take the form of an additional station or a relocation and expansion of an existing station. Due to requirement of the Colorado Impact Fee Act that capital facilities have useful lives of over five years, only heavy apparatus (e.g., engines, rescue trucks) is included.

As shown in Figure 34, the Fire impact fee is calculated using proportionate share factors that are based on actual calls for service to specific types of land uses. Because of the availability of detailed calls for service data by type of land use, the calculation of the Fire impact fees is slightly different from the other categories. For example, Fire calls for service data indicates that 24.7 percent of Fire calls are to single family housing units. Therefore, 24.7 percent of the Fire costs are allocated to single family housing units, which are then divided by the current number of single family housing units to determine the impact fee.

Figure 34. Fire Impact Fee Methodology Chart



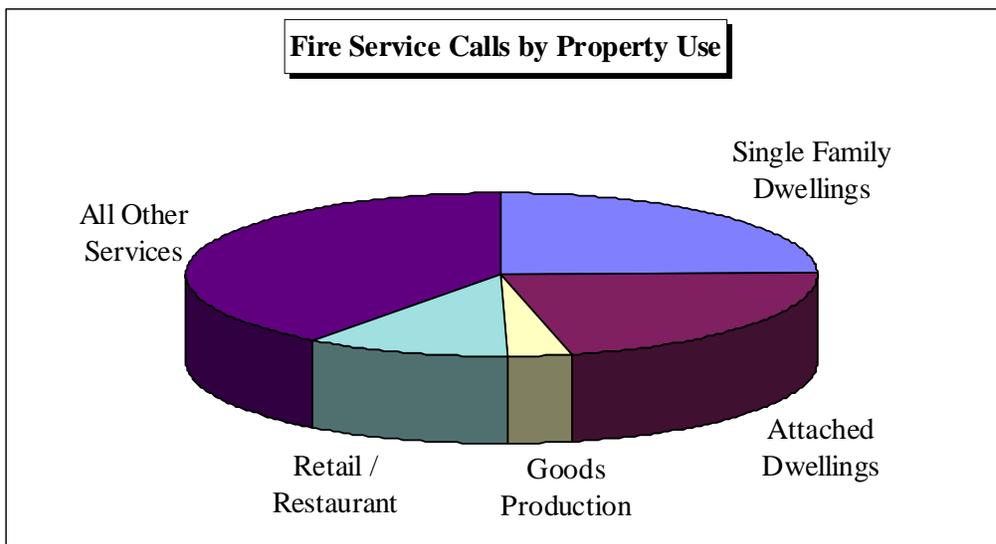
PROPORTIONATE SHARE FACTORS

The most accurate source for determining demand for Fire services and facilities is calls for service generated by residential and nonresidential land uses. The City provided data on Fire call incidents by land use for calendar year 2007. TischlerBise used this call data to determine the proportionate share factors shown in Figure 35. This data indicated that the City responded to 6,116 calls to known land uses. The data further indicates the number and percentage of calls to specific land uses. For example, 656 calls were to retail/restaurant uses, which represent 10.7 percent of total calls. Proportionate share factors are shown below.

Figure 35. Fire Proportionate Share Factors

	<i>Incidents</i>	
Single Family Dwellings	1,510	24.7%
Attached Dwellings	1,320	21.6%
Goods Production	205	3.4%
Retail / Restaurant	656	10.7%
All Other Services	2,425	39.7%
Subtotal	6,116	

Source: Boulder Fire Department calls by property use in 2007.



FIRE LEVEL OF SERVICE STANDARDS AND COSTS*Fire Service Facilities Incremental Expansion Cost Component*

As discussed above, the Fire impact fees are derived using the incremental expansion approach for buildings and land, based on the current 2008 level of service. As shown in Figure 36, the City of Boulder has seven fire stations, headquarters, and a training center. The costs for the stations and headquarters are from the 2008 City Property Schedule. Also because the City anticipates having to acquire land in the future for Fire facilities, land and site improvement costs are included at 40 percent of building cost, per the City. The Training Center cost shown below reflects the current cost to the City to replace the existing facility, which is slated to be relocated from its existing site to a new location. It should be noted that the relocated facility (and cost) does not reflect any excess capacity to accommodate new growth, and therefore represents the City's current level of service. As Figure 36 indicates, the City currently has 49,823 square feet of Fire Services space. The current value of the existing fire stations, including land and site improvements, is estimated at \$12,580,613.

Figure 36. Fire Station Inventory and Costs

	<i>Sq Ft</i>	<i>Current Value*</i>
Station One	7,941	\$1,903,626
Station Two	4,757	\$936,188
Station Three	6,160	\$1,060,018
Station Four	3,498	\$688,572
Station Five	3,716	\$776,558
Station Six	3,435	\$810,629
Station Seven	5,081	\$1,286,872
Fire Headquarters	5,235	\$1,518,150
Training Center	10,000	\$3,600,000
TOTAL	49,823	\$12,580,613

* Source: City Property Schedule (2008) for building and contents; land and site improvements are included (additional 40% over building cost, per City of Boulder)

Fire Apparatus Incremental Expansion Component

The Fire impact fees also use an incremental expansion approach for Fire apparatus, based on the current 2008 level of service. Current replacement costs for the City's inventory of Fire apparatus (with a minimum 5-year useful life) are shown in Figure 37 and were provided by the City. As shown in Figure 37, the estimated current value totals \$8.2 million.

Figure 37. Fire Apparatus Inventory and Costs

<i>Item</i>	<i>Units</i>	<i>\$/Unit</i>	<i>Current Value</i>
Fire Engines (Pumpers)	7	\$585,755	\$4,100,285
Fire Engines (Telesquirts)	3	\$770,000	\$2,310,000
Ladder Truck	1	\$900,000	\$900,000
Rescue Truck	1	\$195,000	\$195,000
Wild-Land Truck (Type 6)	2	\$100,000	\$200,000
Wild-Land Truck (Type 3)	2	\$250,000	\$500,000
TOTAL	16	\$512,830	\$8,205,285

Source: City of Boulder Fire Department

CREDIT EVALUATION

At present, the City of Boulder does not have any outstanding property-tax backed bonded debt related to the construction of Fire facilities. Therefore, a credit for existing bond financing is not applicable to this impact fee.

SUMMARY OF FACTORS FOR FIRE IMPACT FEE

Factors used to calculate Fire impact fees are shown in the boxed area of Figure 38. Current values for Fire Services Buildings and Apparatus are summarized at the top of the figure. Proportionate share factors by type of land use as described earlier are summarized in the middle section followed by current demand base data for housing units by type and nonresidential floor area by type of development.

Figure 38. Fire Impact Fee Level-of-Service Standard Summary

		<i>Standards:</i>	
Current Value			
Fire Services Buildings & Land		\$12,580,000	
Fire Apparatus		\$8,205,000	
Total		\$20,785,000	
Proportionate Share Factors			
Single Family (SFD, SFA & MH)		24.7%	
All Other Residential		21.6%	
Goods Production		3.4%	
Retail / Restaurant		10.7%	
All Other Services		39.7%	
Demand Base in 2008			
	Housing Units	Persons per HU	
Single Family	25,445	2.3	
All Other	19,440	1.6	
	Square Feet	Employees per Sq Ft	
Goods Production	16,090,000	0.00128	
Retail / Restaurant	6,160,000	0.00286	
All Other Services	25,820,000	0.00231	
Maximum Supportable Impact Fee			
<u>Residential</u>			
	<i>Per Housing Unit</i>	<i>Per Person</i>	
Single Family (SFD, SFA & MH)	\$201	\$87.39	
All Other Types	\$230	\$143.75	
<u>Nonresidential</u>			
	<i>Per Square Foot</i>	<i>Per Employee</i>	
Goods Production	\$0.04	\$31.25	
Retail / Restaurant	\$0.36	\$125.87	
All Other Services	\$0.31	\$134.19	

MAXIMUM ALLOWABLE IMPACT FEES FOR FIRE

Figure 39, shows the schedule of maximum allowable fire impact fees for residential development. To determine the cost per demand unit, total estimated costs are multiplied by the appropriate proportionate share factors by type of land use and then divided by the applicable demand factor. For example for a single family unit, the total current value of Fire facilities of \$20,785,000 is multiplied by the single family proportionate share of 24.7 percent and then divided by the current estimated number of single family units (25,445) for a cost per single family unit of \$201, or \$87.39 per person.

Figure 39. Fire Impact Fee Schedule for Residential Development

<i>Fire Facilities Level Of Service</i>	<u>Per Person</u>
Single Family (SFD, SFA, & MH)	\$87.39
All Other Types	\$143.75

<i>Square Feet</i> <i>(finished floor area)</i>	<i>Persons per Housing Unit</i>		<i>Impact Fee per Housing Unit</i>	
	<i>Single Family</i> <i>(SFD, SFA & MH)</i>	<i>All Other Types</i>	<i>Single Family</i> <i>(SFD, SFA & MH)</i>	<i>All Other Types</i>
Wt Avg	2.30	1.60	\$200	\$230
600	1.00	1.06	\$87	\$151
700	1.00	1.28	\$87	\$183
800	1.00	1.47	\$87	\$211
900	1.00	1.64	\$87	\$236
1,000	1.16	1.79	\$101	\$257
1,100	1.30	1.93	\$113	\$277
1,200	1.43	2.06	\$124	\$295
1,300	1.55	2.17	\$135	\$312
1,400	1.66	2.28	\$144	\$327
1,500	1.76	2.38	\$153	\$342
1,600	1.85	2.47	\$161	\$355
1,700	1.94		\$169	
1,800	2.03		\$177	
1,900	2.11		\$184	
2,000	2.18		\$190	
2,100	2.25		\$196	
2,200	2.32		\$202	
2,300	2.39		\$208	
2,400	2.45		\$214	
2,500	2.51		\$219	
2,600	2.57		\$224	
2,700	2.62		\$229	
2,800	2.68		\$234	
2,900	2.73		\$238	
3,000	2.78		\$242	
3,100	2.83		\$247	
3,200	2.87		\$251	
3,300	2.92		\$255	
3,400	2.96		\$259	
3,500	3.01		\$262	
3,600	3.05		\$266	
3,700	3.09		\$269	

The cost per employee for nonresidential development, multiplied by the number of employees per demand unit, yields the fire impact by type of nonresidential development. For example, retail/restaurant development averages 2.86 employees per 1,000 square feet of floor area. At a capital cost of \$125.87 per employee for fire infrastructure, the resulting impact fee is \$0.35 per square foot of floor area, as shown in Figure 40.

Figure 40. Fire Impact Fee Schedule for Nonresidential Development

<i>Fire Facilities Level Of Service</i>	<i>Per Employee</i>
Goods Production	\$31.25
Retail / Restaurant	\$125.87
All Other Services	\$134.19

<i>ITE Code</i>	<i>Employees Per 1,000 Square Feet</i>	<i>Impact Fee per Square Foot</i>	
<i>Nonresidential (Floor Area)</i>			
820	Retail / Restaurant	2.86	\$0.35
770	Business Park	3.16	\$0.09
710	Office	3.91	\$0.52
610	Hospital	3.38	\$0.45
520	School	0.92	\$0.12
151	Mini-Warehouse	0.04	\$0.00
150	Warehousing	1.28	\$0.04
110	Light Industrial	2.31	\$0.07
<i>Other Nonresidential</i>			
620	Nursing Home (per bed)	0.36	\$48
565	Day Care (per student)	0.16	\$21
320	Lodging (per room)	0.44	\$59

IMPLEMENTATION AND ADMINISTRATION

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 specific to construction as opposed to the consumer price index (CPI), which is more general in nature. TischlerBise recommends using the Marshall Swift Valuation Service, which provides comparative cost multipliers for various geographies and types of construction. The multipliers can be applied against the calculated impact fee. If cost estimates change significantly the City should redo the fee calculations.

There are certain accounting procedures that should be followed by the City. For example, monies received should be placed in a separate fund and accounted for separately and may only be used for the purposes authorized in the impact fee ordinance. Interest earned on monies in the separate fund should be credited to the fund.

It should be noted that as discussed in the Library chapter, it is TischlerBise's recommendation that the cost recovery component of the Library fee be eliminated once the remaining outstanding debt on the most recent library capacity expansion is retired (anticipated to be an additional three years). However, if the City decides to construct an additional branch or expand existing facilities, the impact fee methodology and amount should be revised to reflect this change.

CREDITS AND REIMBURSEMENTS

Future Revenue Credits

There are three basic approaches used to calculate impact fees and each is linked to different credit methodology. The first major type of impact fee method is a cost recovery approach. This method is used for facilities that have adequate capacity to accommodate new development for at least a five to six year time frame. The rationale for the cost recovery is that new development is paying for its share of the useful life or remaining capacity of the existing facility. When using a cost recovery method, it is important to determine whether new development has already contributed toward the cost of existing public facilities. As described in this report, outstanding debt exists for Libraries where a cost recovery approach is used, therefore a credit is necessary and include in the fee calculation.

A second basic approach used to calculate impact fees is the incremental expansion cost method. This method documents current factors and is best suited for public facilities that will be expanded incrementally in the future. Because new development will provide front-end funding of infrastructure, there is a potential for double payment of capital costs due to future principal payments on existing debt for public facilities. A credit is not necessary for interest payments if interest costs are not included in the impact fees. This type of credit is necessary and calculated for Parks and Recreation and Human Services because there is outstanding debt for capacity expansions calculated under the incremental approach.

A third basic approach used to calculate impact fees is the plan-based method. This method is based on future capital improvements needed to accommodate new development. The plan-based method may be used for public facilities that have commonly accepted service delivery factors to determine the need for future projects or the jurisdiction plans to significantly increase the current level of service standards. If a plan-based approach is used to derive impact fees, the credit evaluations should focus on future dedicated revenues that will fund growth-related capital improvements. This type of credit is not necessary for the fees calculated herein.

Site-Specific Credits

If a developer constructs a system improvement that was included in the fee calculations, it will be necessary to either reimburse the developer or provide a credit against the fees in the area benefiting from the system improvement. Project improvements normally required as part of the development approval process are not eligible for credits or offsets against impact fees. Specific policies and procedures related to site-specific credits or developer reimbursements for system improvements should be addressed in the ordinance that establishes the City's fees.

Based on TischlerBise's experience, it is better for the City to establish a reimbursement agreement with the developer that constructs a system improvement rather than provide a credit off of the fee. The latter is often more difficult to administer because it creates unique fees for specific geographic areas. The reimbursement agreement should be limited to a payback period of no more than ten years and the City should not pay interest on the outstanding balance. The developer must provide sufficient documentation of the actual cost incurred for the system improvement. The City of Boulder should only agree to pay the lesser of the actual construction cost or the estimated cost used in the impact fee analysis. If the City pays more than the cost used in the fee analysis, there will be insufficient fee revenue. Reimbursement agreements should only obligate the City to reimburse developers annually according to actual fee collections from the benefiting area.

COLLECTION AND EXPENDITURE ZONES

The reasonableness of impact fees is determined in part by their relationship to the local government's burden to provide necessary public facilities. The need to show a benefit usually requires communities to evaluate collection and expenditure zones for public facilities that have distinct geographic service areas. Consideration of zones will enable the City to show that developments paying fees are benefiting from the provision of additional capital improvements.

TischlerBise recommends a citywide fee for all impact fee calculated herein. All improvements covered under the impact fee program are derived based on citywide demand and will have a citywide benefit.

APPENDIX A. DEMOGRAPHIC DATA

In this Appendix, TischlerBise documents the demographic data and development projections used in the Impact Fee / Development Excise Tax study for the City of Boulder. Although long-range projections are necessary for planning capital improvements, a shorter time frame of five years is critical for the impact fees analysis. Infrastructure standards are calibrated using 2008 data and the first projection year for the cash flow model will be 2009. The City of Boulder's fiscal year begins January 1st.

POPULATION AND HOUSING CHARACTERISTICS

TischlerBise recommends the use of two residential categories in the impact fee calculations: 1) Single Family (detached and attached) and 2) All Other housing types. Differentiating impact fees by type of housing helps make the fees proportionate to the demand for public facilities. Single Family housing units are normally larger and have more persons than All Other housing types. According to the U.S. Census Bureau's American Community Survey data for 2006, Single Family housing in Boulder averages 2.3 persons per unit (see the rows with yellow shading in Figure A1). All Other housing averages 1.6 persons per unit (see the rows with tan shading in the table below).

Impact fees often use per capita standards and persons per housing unit or persons per household to derive proportionate-share fee amounts. When persons per housing unit multipliers are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household multipliers are used in the fee calculations, the impact fee methodology assumes all housing units will be occupied, thus requiring seasonal or peak population to be used when deriving infrastructure standards. In the City of Boulder impact fee will be derived using year-round population and the average number of persons per housing unit.

Figure A1. Persons per Housing Unit

<i>House Type Demographics</i>				<i>Housing</i>	<i>Persons Per</i>	
	<i>Persons</i>	<i>Hshlds</i>	<i>PPH</i>	<i>Units</i>	<i>Housing Unit</i>	<i>Hsg Mix</i>
Single Family (SFD, SFA & MH)	54,948	21,776	2.52	23,678	2.3	57%
All Other Types	28,671	16,097	1.78	17,651	1.6	43%
Group Quarters	8,855					
Total	92,474	37,873		41,329		

Source: U.S. Census Bureau, 2006 American Community Survey.

AVERAGE NUMBER OF PERSONS BY SIZE OF HOUSING UNIT

To derive impact fees by floor area of housing requires a linkage of demographic data from the U.S. Census Bureau and house size data from the Boulder County Assessor, with number of bedrooms as the common connection between the two databases. Number of persons by bedroom range may be determined from survey data provided by the U.S. Census Bureau. The City of Boulder is in Public Use Microdata Area (PUMA) 00803. PUMAs are areas of roughly 100,000 persons for which the Census Bureau makes available a 5% sample of responses to the long-form census questionnaire. TischlerBise used this data to prepare persons per housing unit multipliers that vary by type of housing and number of bedrooms. Because the number of persons increases with the number of bedrooms, this approach may be used to make impact fees more “progressive” with higher impact fees imposed on larger housing units and lower impact fees on smaller, more affordable housing.

The tables below indicate persons per housing unit by type of housing and number of bedrooms. Results for Single Family housing are shown in Figure A2, with Figure A3 indicating average persons by bedroom range for All Other housing types. To minimize sample size problems, TischlerBise aggregated bedroom ranges.

Figure A2. Persons per Single Family Housing Unit by Bedroom Range

Single Family Dwellings					
Boulder, Colorado					
	<i>0-2 Bdrms</i>	<i>3 Bdrms</i>	<i>4 Bdrms</i>	<i>5+ Bdrms</i>	<i>Wt Avg</i>
Single Family	1.63	2.15	2.73	2.95	2.32

Source: Data for Colorado PUMA 00803 (includes SFD, SFA and MH)
2006 American Community Survey, Public Use Microdata Sample.

Figure A3. Average Persons by Bedroom Range for All Other Housing Types

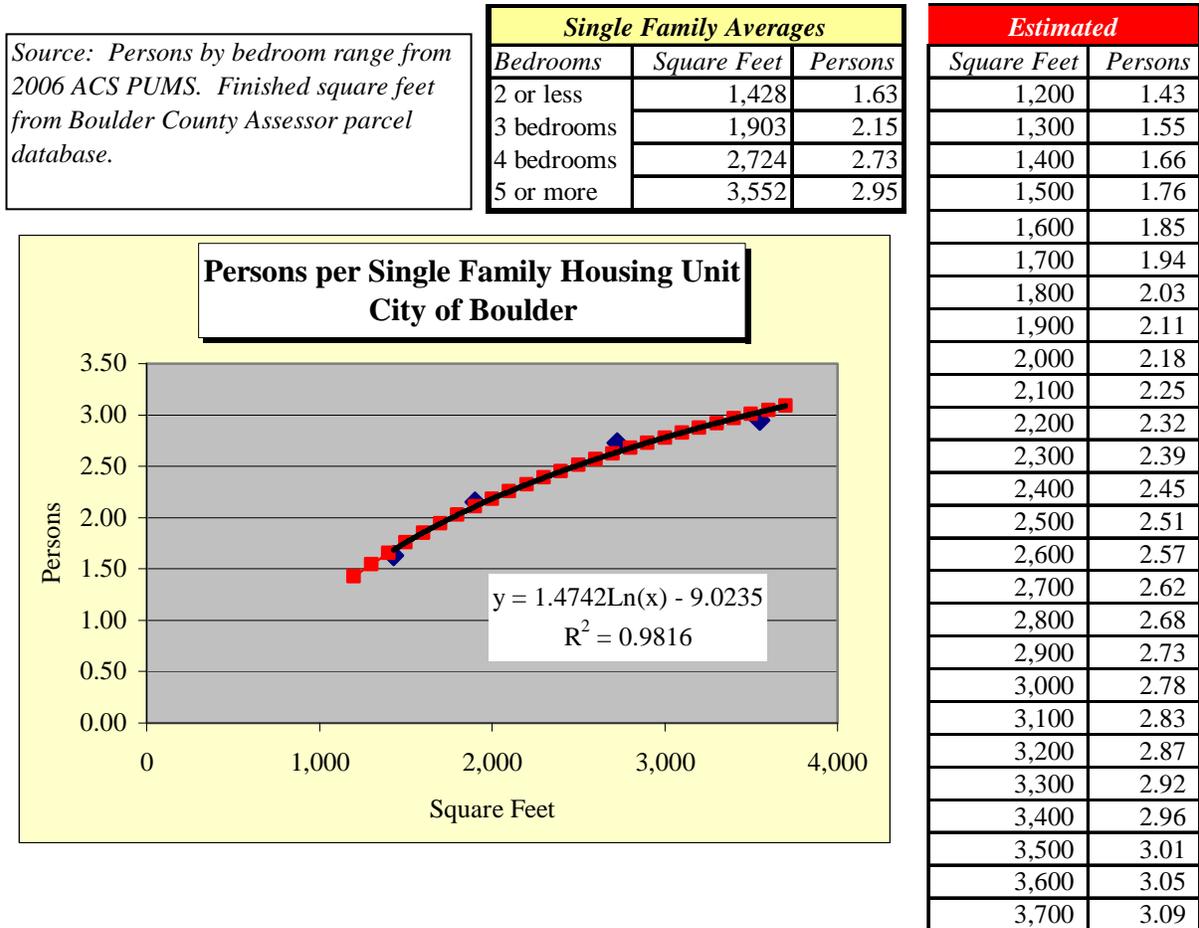
All Other Dwellings
Boulder, Colorado

	0-1 Bdrm	2 Bdrms	3+ Bdrms	Wt Avg
2+ Units per Structure	1.20	1.79	2.46	1.62

*Source: Data for Colorado PUMA 00803 (all other housing types)
2006 American Community Survey, Public Use Microdata Sample.*

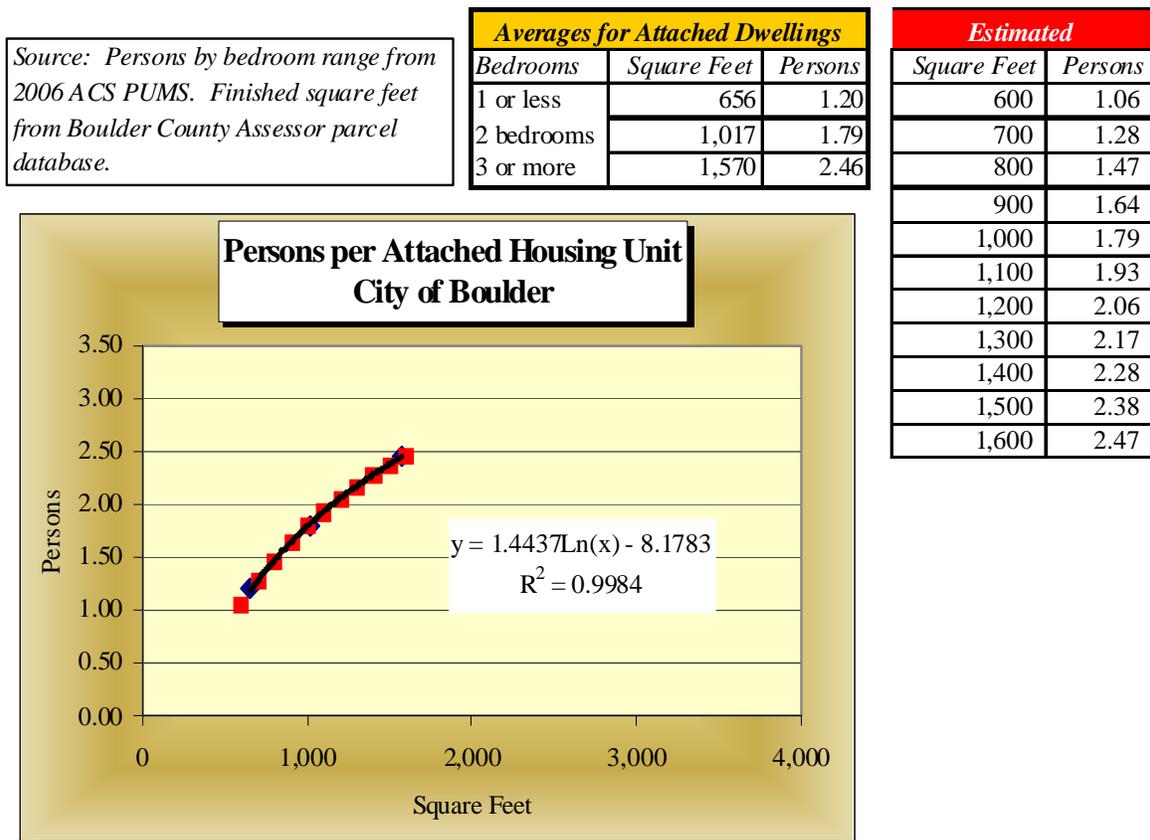
Using key variables from the County Assessor's parcel database, TischlerBise determined the average finished floor area by type of housing and bedroom range. For Single Family housing, average floor area and number of persons by bedroom range are plotted in Figure A4, with a logarithmic trend line derived from the four actual averages in the City of Boulder. Using the trend line formula shown in the chart, TischlerBise derived the estimated average number of persons by size of Single Family housing, using 100 square foot intervals. For the purpose of impact fees in City of Boulder if the City wishes to assess fees by size of unit, TischlerBise recommends a minimum fee based on a Single Family unit size of 1,200 square feet and a maximum fee based on a Single Family unit size of 3,700 square feet of finished floor area.

Figure A4. Average Persons by Floor Area of Single Family Housing



For All Other housing types, the average floor area and number of persons by bedroom range are plotted in Figure A5. A logarithmic trend line was determined from the three actual averages in the City of Boulder. Using the trend line formula shown in the chart, TischlerBise derived the estimated average number of persons by unit size, using 100 square feet intervals. For All Other housing types, TischlerBise recommends a minimum fee based on a unit size of 600 square feet and a maximum fee based on a unit size of 1,600 square feet of finished floor area, if the City wishes to assess fees by size of unit.

Figure A5. Average Persons by Floor Area of Attached Housing



RECENT RESIDENTIAL CONSTRUCTION

Figure A6 indicates City of Boulder 2006 estimates for year-round residents and housing units. From 2000 to 2006, Boulder added an average of 308 housing units per year. The chart at the bottom of Figure A6 indicates the estimated number of housing units added by decade in City of Boulder. If the recent rate of housing construction continues, the first decade of the

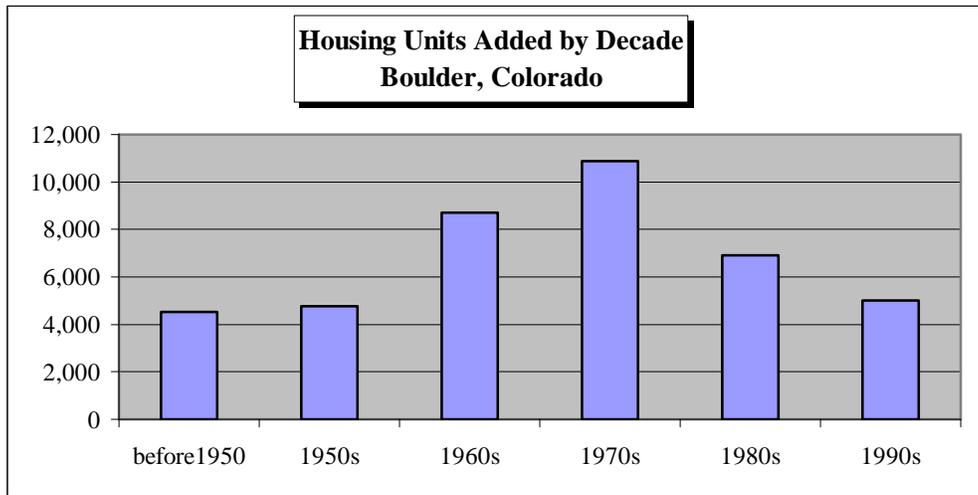
21st century will experience an increase of approximately 3,000 housing units, which is less than the number of housing units added during the 90s.

Figure A6. City of Boulder Housing Units and Population in 2006

Boulder, Colorado	
Estimated Population in 2006*	101,918
Housing Units 2000*	42,740
<i>New Housing Units 2000-2006</i>	<i>1,848</i>
Housing Units in 2006*	44,588

From 2000 to 2006, Boulder added approximately 308 housing units per year.

* City of Boulder estimates.



Source: Units by decade based on Table H34, SF3 Census 2000, U.S. Census Bureau.

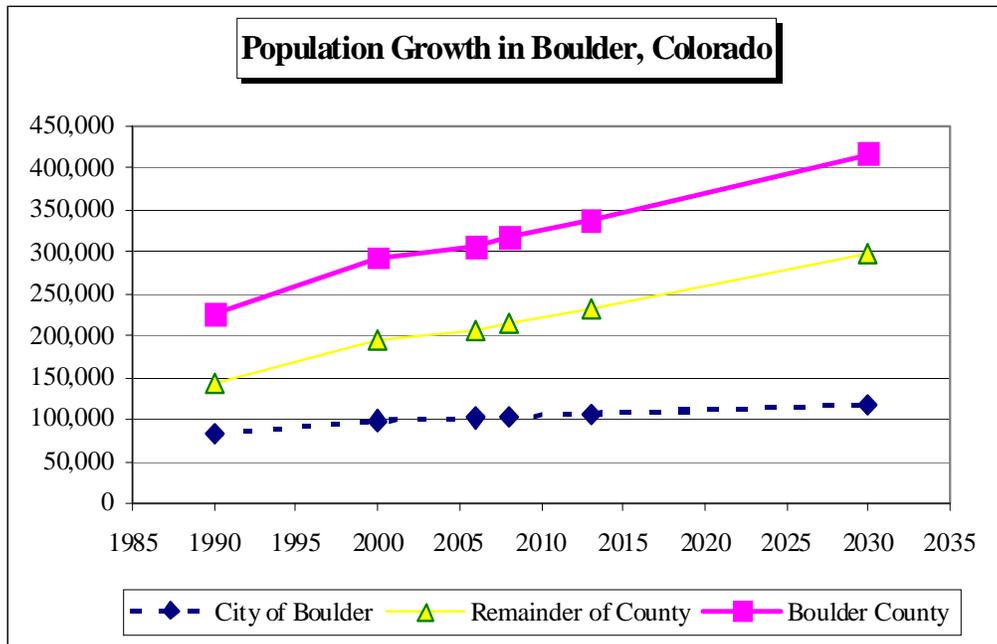
POPULATION PROJECTIONS

The impact fee study will use population and job projections as the key growth indicators, from which housing unit and nonresidential floor area data will be derived. According to the City’s 2008 Community Data Report, Boulder will be home to 118,500 residents by the year 2030 (Area I only). In that same year, Boulder County is expected to have a population of 417,517 (Woods & Poole Economics 2007). As shown in Figure A7, Boulder’s population share is expected to decrease from 33% of total county population in 2006, to 28% by the year 2030.

Figure A7. Population Growth in Boulder

	1990	2000	2006	2008	2013	2030
Boulder County	226,374	293,878	308,110	317,358	338,739	417,517
City of Boulder	83,312	99,093	101,918	103,100	106,414	118,500
Remainder of County	143,062	194,785	206,192	214,258	232,325	299,017
City of Boulder Share	37%	34%	33%	32%	31%	28%

Source: Boulder County from Woods & Poole Economics (2007). City of Boulder 1990 from U.S. Census Bureau; 2000 and 2006 estimates from City of Boulder. City of Boulder 2008 and 2030 (Area I) from 2008 Community Data Report.



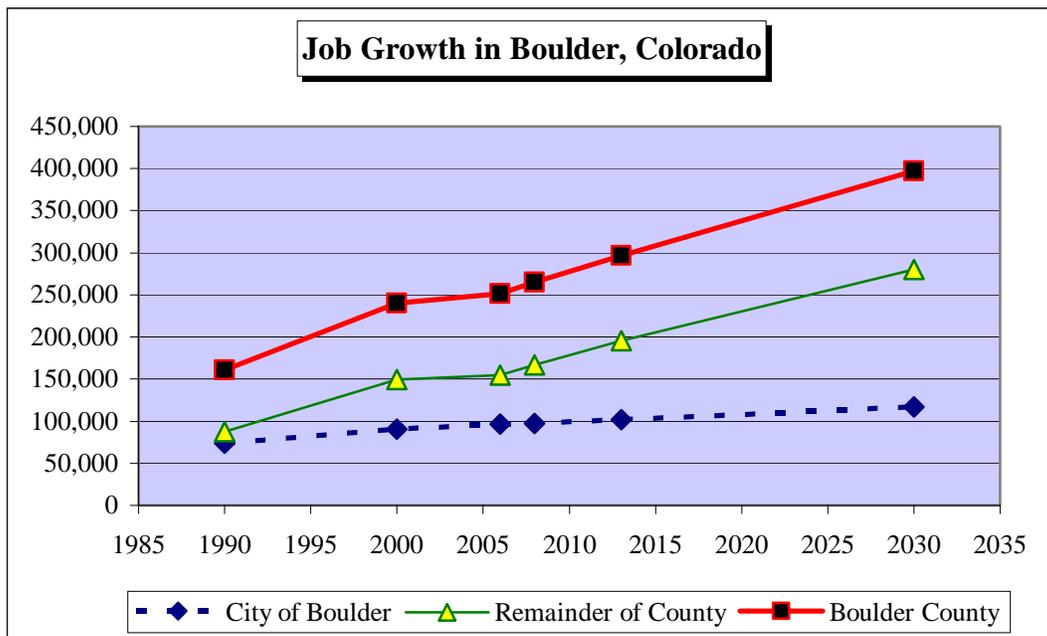
JOBS BY PLACE OF WORK

In addition to data on residential development, the calculation of impact fees requires data on nonresidential development. TischlerBise uses the term “jobs” to refer to employment by place of work. Similar to the above population share discussion, Boulder’s capture ratio of countywide jobs is shown in Figure A8. Boulder County job data were obtained from Woods & Poole Economics, Inc. (2007). Estimated jobs within the City of Boulder, in both 1990 and 2000, are from the Census Transportation Planning Package. Job projections from the 2008 Community Data Report indicate Boulder’s capture ratio decreases from 39% of countywide jobs in 2006 to 30% by the year 2030.

Figure A8. Job Growth in Boulder

	1990	2000	2006	2008	2013	2030
Boulder County	161,089	239,740	251,526	264,722	297,100	397,456
City of Boulder	73,650	90,255	96,968	97,750	101,905	117,400
Remainder of County	87,439	149,485	154,558	166,972	195,195	280,056
City of Boulder Share	46%	38%	39%	37%	34%	30%

Source: Boulder County from Woods & Poole Economics (2007) based on Bureau of Economic Analysis data. City of Boulder 1990 and 2000 from Census Transportation Planning Package. City of Boulder estimate for 2006. City of Boulder 2008 and 2030 (Area I) from 2008 Community Data Report.



NONRESIDENTIAL DEMAND INDICATORS

In the impact fee study, vehicle trips or employees per demand unit are used to differentiate fees by type of nonresidential development. In Figure A9, gray shading indicates the three nonresidential development prototypes used by TischlerBise to calculate vehicle trips and estimate potential impact fee revenue. The first prototype, for goods-producing jobs, is a warehouse with 784 square feet per employee. The second prototype, for retail and restaurant jobs, is a shopping center with 50,000 square feet of floor area. To more closely match Boulder's actual floor area determined by the County Assessor's parcel database, TischlerBise used Light Industrial as the prototype for Other Services.

Figure A9. Employee and Building Area Ratios

ITE Code	Land Use / Size	Demand Unit	Wkdy Trip Ends Per Dmd Unit*	Wkdy Trip Ends Per Employee*	Emp Per Dmd Unit**	Sq Ft Per Emp
Commercial / Shopping Center						
821	25K gross leasable area	1,000 Sq Ft	110.32	na	3.33	300
820	50K gross leasable area	1,000 Sq Ft	86.56	na	2.86	350
820	100K gross leasable area	1,000 Sq Ft	67.91	na	2.50	400
820	200K gross leasable area	1,000 Sq Ft	53.28	na	2.22	450
820	400K gross leasable area	1,000 Sq Ft	41.80	na	2.00	500
General Office						
710	10K gross floor area	1,000 Sq Ft	22.66	5.06	4.48	223
710	25K gross floor area	1,000 Sq Ft	18.35	4.43	4.14	241
710	50K gross floor area	1,000 Sq Ft	15.65	4.00	3.91	256
710	100K gross floor area	1,000 Sq Ft	13.34	3.61	3.70	271
710	200K gross floor area	1,000 Sq Ft	11.37	3.26	3.49	287
Industrial						
770	Business Park***	1,000 Sq Ft	12.76	4.04	3.16	317
151	Mini-Warehouse	1,000 Sq Ft	2.50	56.28	0.04	22,512
150	Warehousing	1,000 Sq Ft	4.96	3.89	1.28	784
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
110	Light Industrial	1,000 Sq Ft	6.97	3.02	2.31	433
Other Nonresidential						
720	Medical-Dental Office	1,000 Sq Ft	36.13	8.91	4.05	247
620	Nursing Home	bed	2.37	6.55	0.36	na
610	Hospital	1,000 Sq Ft	17.57	5.20	3.38	296
565	Day Care	student	4.48	28.13	0.16	na
530	Secondary School	student	1.71	19.74	0.09	na
520	Elementary School	student	1.29	15.71	0.08	na
520	Elementary School	1,000 Sq Ft	14.49	15.71	0.92	1,084
320	Lodging	room	5.63	12.81	0.44	na

* Source: Trip Generation, Institute of Transportation Engineers (2003).

** Employees per demand unit calculated from trip rates, except for Shopping Center data, which are derived from Development Handbook and Dollars and Cents of Shopping Centers, published by the Urban Land Institute.

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

DEVELOPMENT PROJECTIONS

Key demographic data for the City of Boulder impact fee study are shown in Figure A10. Cumulative data are shown in the top section and annual increases at the bottom of the table. City of Boulder data shown with light green shading are from the 2008 Community Data

Report. Because of the recent downturn in development activity, TischlerBise used an exponential curve formula to derive interim year data between the 2008 and 2030 “end-points.” This method minimizes annual increases in the short run. Job allocation by nonresidential prototype is based on the most recent Labor Shed Area Profile Report from the U.S. Census Bureau’s website called Longitudinal Employer-Household Dynamics.

Figure A10. Citywide Demographic Data

<i>Cumulative</i>	<i>Base Year</i>							
	2000	2008	2009	2010	2011	2012	2013	2030
	<i>FY 08-09</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>22</i>	
Year-Round Population	99,093	103,100	103,754	104,413	105,076	105,743	106,414	118,500
Jobs	90,255	97,750	98,567	99,391	100,222	101,060	101,905	117,400
Housing Units	42,740	44,885	45,206	45,529	45,854	46,182	46,512	52,500
Single Family Hsg Units	23,080	25,445	25,477	25,509	25,542	25,575	25,608	26,206
All Other Hsg Units	19,660	19,440	19,729	20,020	20,313	20,608	20,905	26,294
Jobs to Housing Ratio		2.18	2.18	2.18	2.19	2.19	2.19	2.24
Persons per Hsg Unit		2.30	2.30	2.29	2.29	2.29	2.29	2.26
<u>Job Allocation by Type of Development</u>								
Goods Producing Share		21%	21%	21%	21%	21%	21%	21%
Retail/Restaurant Share		18%	18%	18%	18%	18%	18%	18%
Other Services Share		61%	61%	61%	61%	61%	61%	61%
<u>Nonres Sq Ft (x 1,000)</u>								
Goods Producing		16,090	16,230	16,360	16,500	16,640	16,780	19,330
Retail/Restaurant		6,160	6,210	6,260	6,310	6,370	6,420	7,400
Other Services		25,820	26,030	26,250	26,470	26,690	26,920	31,010
Total		48,070	48,470	48,870	49,280	49,700	50,120	57,740
Avg Sq Ft Per Job		492	492	492	492	492	492	492
								<i>2008 to 2030</i>
<u>Annual Increase</u>								<i>Increase</i>
Year-Round Population		654	659	663	667	671	676	15,400
Jobs		817	824	831	838	845	852	19,650
Housing Units		321	323	325	328	330	332	7,615
Goods Producing KSF*		140	130	140	140	140	140	3,240
Retail/Restaurant KSF*		50	50	50	60	50	50	1,240
Other Services KSF*		210	220	220	220	230	220	5,190
								Cumulative KSF Increase =>
								9,670
								Avg Anl KSF Increase =>
								440

* KSF = square feet of floor area in thousands.

Key land use assumptions for City of Boulder are summarized in Figure A11. Residential growth rates range from 0.1% annually for Single Family housing to 1.5% per year for Multifamily housing types. Nonresidential growth rates average 0.8% per year. Over the next five years, housing unit construction is projected to average 326 units per year.

Figure A11. Summary of Land Use Assumptions

Boulder, Colorado	2008	2013	2030	2008 to 2013	
	FY08-09	FY13-14	FY30-31	Average Annual	
				Increase	Growth Rate
Single Family Housing Units	25,445	25,608	26,206	33	0.1%
Multifamily Housing Units	19,440	20,905	26,294	293	1.5%
Goods Production Sq Ft x 1000	16,090	16,780	19,330	138	0.9%
Retail/Restaurant Sq Ft x 1000	6,160	6,420	7,400	52	0.8%
Other Services Sq Ft x 1000	25,820	26,920	31,010	220	0.9%

