

Impact Fees

Jefferson County, West Virginia

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Executive Summary

This document provides the rationale and data sources used to calculate five impact fees for Jefferson County, West Virginia. The fee categories include Schools, Parks & Recreation, Law Enforcement, Fire Protection, and County Facilities & Vehicles.

Impact fees are one-time payments that may be assessed by a municipality to offset costs to the municipality associated with providing necessary public services. Impact fees for the County are proportionate and reasonably related to the capital facility service demands of new development. The fee methodologies establish that the fees will substantially benefit new development. The County's impact fee methodology also identifies the extent to which newly developed properties are entitled to various types of credits to avoid potential double payment of capital costs.

Tischler & Associates, Inc. (TA) evaluated possible methodologies and documented appropriate demand indicators by type of development, for each type of fee. Specific capital costs have been identified using local data and current dollars. The formula used to calculate each impact fee is diagrammed in a flow chart at the beginning of each section. Also, for each type of fee the report includes a summary table indicating the specific factors used to derive the impact fee. These factors are also referred to as Level-Of-Service (LOS) standards.

There are three basic *approaches* used to evaluate the various components of Jefferson County's impact fees. A **plan-based method** is best suited for public facilities that have adopted plans or commonly accepted service delivery standards to guide capital improvements. This method is used in Parks & Recreation Impact Fee for the planned improvements at Sam Michaels Park.

Impact fees for Schools, Parks & Recreation (except for the planned improvements at Sam Michaels Park), Law Enforcement, Fire/EMS, and County Facilities and Vehicles are derived mainly from the **incremental expansion method**. This method documents the current Level-Of-Service (LOS) for each type of public facility in both quantitative and qualitative measures. LOS standards are determined in a manner similar to the current replacement cost approach used by property insurance companies. However, in contrast to insurance practices, Jefferson County will not use the funds for renewal and/or replacement of existing facilities. Rather the County's intent is to use impact fee revenue to expand or provide additional facilities, as needed to accommodate new development. An incremental expansion cost method is best suited for public facilities that will be expanded in regular increments, with LOS standards based on current conditions in the community.

A third method, known as the **buy-in approach**, is based on the rationale that new development will pay for its share of the useful life and remaining capacity of recently constructed facilities. This methodology is not used in this report.

Another general requirement that is common to impact fee methodologies is the evaluation of *credits*. There are several types of credits that have been considered. First, a **future revenue credit** has been evaluated to avoid potential double payment for capital facilities through on-going revenues that may fund system improvements. For example, this type of potential double payment may occur if facilities are bond financed.

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

Figure 1 provides a schedule of the *maximum supportable impact fees* for Jefferson County. The impact fee categories are based on a countywide service area. Fees for residential development will be assessed per housing unit and will be collected when building permits are issued. For nonresidential development, the fees will be assessed per thousand square feet of floor area and will also be collected when building permits are issued.

The fee schedule shown below was used to estimate impact fee revenue that will likely be generated by projected development in Jefferson County over the next six years. Although nonresidential development is often irregular from year to year, TA estimates that the development fees should yield average annual revenue of approximately \$4.9 million during the next six years. The County may adopt fees that are less than the amounts shown. However, a reduction in development fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures and/or a decrease in the County's LOS standards.

A single family house will pay a total impact fee of \$10,478 per unit.

Figure 1 - Schedule of Maximum Supportable Development Fees

	<i>Schools</i>	<i>Parks & Recreation</i>	<i>Law Enforcement</i>	<i>Fire/EMS</i>	<i>County Facilities & Vehicles</i>	<i>TOTAL</i>
<u>Residential</u>						
<u>Per Housing Unit</u>						
Single Family	\$8,378	\$604	\$107	\$480	\$909	\$10,478
Townhouse	\$6,543	\$461	\$81	\$366	\$693	\$8,144
Multi-Family	\$4,753	\$454	\$80	\$361	\$683	\$6,331
<u>Nonresidential</u>						
<u>Per 1,000 Square Feet</u>						
Com / Shop Ctr 25,000 SF or less	n/a	n/a	\$287	\$1,702	\$497	\$2,486
Com / Shop Ctr 25,001 - 50,000 SF	n/a	n/a	\$265	\$1,571	\$497	\$2,332
Com / Shop Ctr 50,001-100,000 SF	n/a	n/a	\$231	\$1,368	\$427	\$2,025
Com / Shop Ctr 100,001-200,000 SF	n/a	n/a	\$199	\$1,179	\$373	\$1,750
Com / Shop Ctr over 200,000 SF	n/a	n/a	\$170	\$1,007	\$298	\$1,475
Office/Inst 10,000 SF or less	n/a	n/a	\$132	\$783	\$655	\$1,570
Office/Inst 25,001 - 50,000 SF	n/a	n/a	\$107	\$634	\$603	\$1,343
Office 25,001-50,000 SF	n/a	n/a	\$91	\$539	\$565	\$1,196
Office/Inst 50,001 - 100,000 SF	n/a	n/a	\$77	\$459	\$533	\$1,069
Office/Inst over 100,000 SF	n/a	n/a	\$66	\$391	\$500	\$957
Business Park	n/a	n/a	\$74	\$442	\$471	\$987
Light Industrial	n/a	n/a	\$41	\$241	\$345	\$626
Warehousing	n/a	n/a	\$29	\$172	\$191	\$391
Manufacturing	n/a	n/a	\$22	\$132	\$271	\$426

Nonresidential development categories are consistent with the terminology and definitions contained in the reference book, Trip Generation, published by the Institute of Transportation Engineers. These definitions can be found in the Implementation and Administration section at the back of this report.

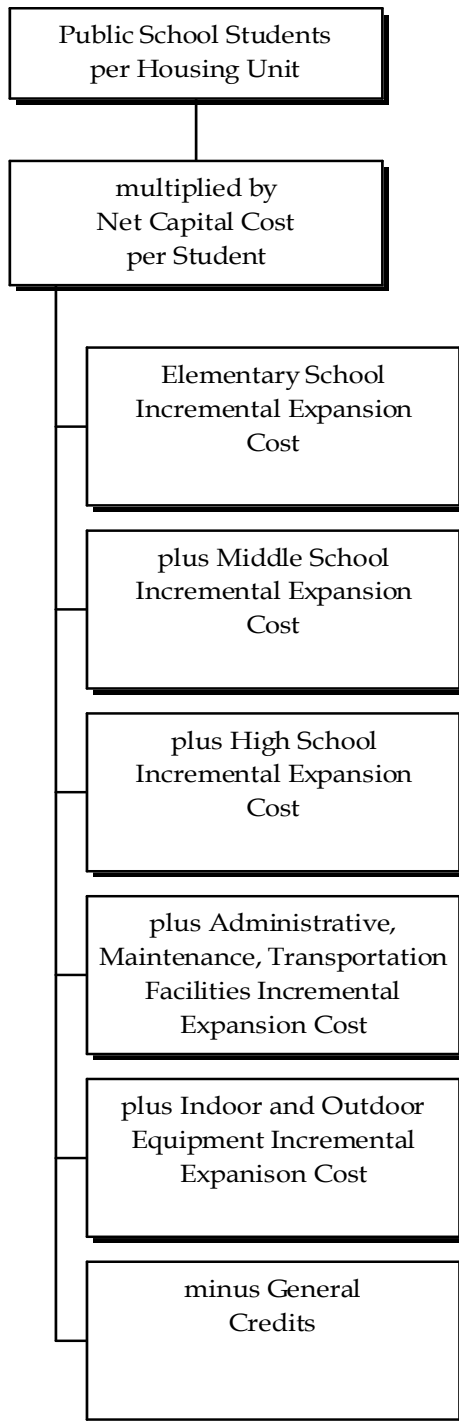
Schools

The incremental expansion methodology is used for the calculation of the development fee for Schools. This method documents the current levels-of-service (LOS) for each type of school facility in both quantitative and qualitative measures. The impact fee is calculated using data from the current school year (2002-2003).

The basic formula used to derive the School impact fee is to multiply student generation rates by the net capital cost of public school facilities per student using an incremental approach. Impact fees will include costs for buildings, land, portable classrooms, indoor and outdoor equipment for elementary, middle, and high schools. In addition, costs for administrative, maintenance, and transportation buildings used by the Schools are also included.

To avoid potential double payment for school facilities, a credit for future payments on existing general obligation bonds is reflected in the maximum justifiable impact fee per housing unit.

Figure 2 - School Impact Fee Methodology Chart



Public School Pupil Generation Rates

The Jefferson County Board of Education provided TA pupil generation data from the telephone survey conducted by Dr. V.J. Brown of Shepherd College in December 2002. This survey utilized a random digit dialing survey methodology. This was conducted in lieu of a full pupil survey (the approach used in TA's previous impact fee study for the County in 1991). The Brown survey categorized the age of housing units built before and after 1983. TA used Brown's data for calculating the pupil generation rates for single family housing units.

Figure 3.A - Methodology for Public School Student Generation Rate for Single Family Housing Units

	<i>Single Family</i>	<i>Other</i>	<i>Total</i>
Brown sample of students			
Post-1983	259	36	295
Pre-1983	154	26	180
TOTAL	413	62	475
Brown distribution of students			
Post-1983	54.5%	7.6%	62.1%
Pre-1983	32.4%	5.5%	37.9%
TOTAL	86.9%	13.1%	100.0%
Estimated Distribution of Current Enrollment of 7,276			
	<i>Single Family</i>	<i>Other</i>	<i>Total</i>
Post-1983	3,967	551	4,519
Pre-1983	2,359	398	2,757
TOTAL	6,326	950	7,276

The first step in analyzing the data is to determine the distribution of students by age of housing and by housing type. Using the Post-1983, Single Family housing units as an example, there were 259 public school children in this category, or 54.5% of the total 475 public school children in the survey ($259/475=.545$ or 54.5%). This calculation is repeated for each category of age of housing and housing type.

The second step is to calibrate the current enrollment to these distribution percentages. The month 2 enrollment for the current school year for Jefferson County public schools was 7,276 students. Using the distribution percentages, 6,326 students ($.869*7,276=6,326$) came from single family housing units, with the remaining 950

students (.131*7,276=950) coming from other housing types. A further breakdown of these numbers reveals of the 6,326 students from single family housing units, 3,967 (.545*7,276=3,967) came from units built since 1983 and 2,359 (.324*7,276=2,359) from units built prior to 1983.

Figure 3.B - Methodology for Public School Student Generation Rate for Single Family Housing Units (continued)

Distribution of Housing Units			
2002 Households	<i>Single Family</i>	<i>All Other</i>	<i>Total</i>
Pre-1983 (55.5%)	7,025	2,423	9,448
Post-1983 (44.6%)	5,632	1,943	7,575
TOTAL*	12,657	4,366	17,023

* TA estimates.

The next step is to determine the distribution of households in Jefferson County by type and age. TA estimates there were a total of 17,023 households, 12,657 single family households and 4,366 households in all other types of housing units. Data from the Brown survey indicates that 55.5% of the total households were in housing units built prior to 1983 with the remaining 44.6% in housing units built after 1983. Thus 7,025 single family units (.555*12,657=7,025) were built prior to 1983, and 5,632 single family units (.446*12,657=5,632) built after 1983.

Figure 3.C - Methodology for Public School Student Generation Rate for Single Family Housing Units (continued)

Pre-1983 Housing Units	<i>Single Family</i>	<i>Other</i>	<i>Total</i>
Housing Units	7,025	2,423	9,448
Students	2,359	398	2,757
PUPIL GENERATION RATE	0.34	0.16	0.29
Post-1983 Housing Units	<i>Single Family</i>	<i>Other</i>	<i>Total</i>
Housing Units	5,632	1,943	7,575
Students	3,967	551	4,519
PUPIL GENERATION RATE	0.70	0.28	0.60
Combined (All Housing Units)	<i>Single Family</i>	<i>Other</i>	<i>Total</i>
Housing Units	12,657	4,366	17,023
Students	6,326	950	7,276
PUPIL GENERATION RATE	0.50	0.22	0.43

The final step is to combine the distribution of public school children by housing unit and type and age with the distribution of housing units by type and age. The results are in the table above. The pupil generation rate is calculated by dividing the number of students by the number of housing units. Using the pre-1983 single family housing units as an example, the 2,359 students are divided by 7,025 housing units, resulting in a pupil generation rate for these housing units of .34. This calculation is repeated for the post-1983 single family housing units, resulting in a pupil generation rate of .70. For all single family housing units, the rate is .50.

TA recommends using the .50 pupil generation rate for single family housing units for all combined housing units. Generally, new housing units have higher pupil generation rates, but these rates go down over time. This is evident when comparing the pupil generation rates for pre- and post-1983 single family housing units; .70 for post-1983 units vs. .34 for pre-1983 units. It is important to note that the impact fee is to cover the future demand for school facilities over a 15-20 year period. Over time, a new house will exhibit tendencies that are found with older housing units throughout the County.

Based on discussions with School staff, County staff, and data from the 2000 U.S. Census, *TA recommends including mobile homes in the single family category.* This is based on the fact that there are few new mobile homes coming into the County and the persons per household data from the 2000 Census for single family housing unit and mobile home units is very similar (2.63 for single family units vs. 2.67 for mobile homes).

The pupil generation rate for single family housing units of .50 is the same rate for single family housing units in TA's 1991 impact fee study for Jefferson County. Thus, TA used the distribution from the 1991 impact fee to allocate the .50 rate among elementary, middle, and high school grades.

The Brown survey notes a lack of data in the multi-family demographics. *TA recommends using the previous pupil generation rates from TA's 1991 study for multi-family, which is .28 students per housing unit.* There is insufficient supportable data to use another source.

The remaining category is townhouses. As noted above, the Brown survey lacks data in the multi-family demographics. *For townhouses, TA recommends using the .38 pupil generation rate from the School Impact Advisory Committee.* The committee surveyed several townhouse developments constructed in Jefferson County since 1983. Because townhouses are a relatively new housing product in Jefferson County, it is reasonable to assume that the committee's survey is indicative of all townhouses in Jefferson County. The survey conducted by the School Impact Advisory Committee did not capture the townhouse information by grade. TA used the grade distribution for multi-family housing units as a reasonable proxy to allocate the .38 rate for townhouses.

The above recommendations result in the following:

Figure 4 - Public School Student Generation Rates

	Elementary School	Middle School	High School	All Grades
Single Family*	0.24	0.13	0.13	0.50
Townhouse**	0.24	0.07	0.07	0.38
Multi-Family***	0.18	0.05	0.05	0.28

* Includes single family detached and mobile homes.

** Includes single family attached and 2 units.

*** Includes 3+ units.

Elementary Schools

Figure 5 provides an inventory of existing elementary schools in Jefferson County. The data contained in this table are used to derive LOS standards for school land, buildings, and portable classrooms. The LOS standards are then used to determine capital costs per student in the impact fee calculations.

Jefferson County elementary schools have 432,247 square feet and an enrollment of 3,432 students which yields a building LOS of 126.9 square feet per student ($432,247/3,432 = 126.9$). These schools occupy 155.1 acres which results in an LOS of .04 acres per student ($155.1/3,432=.04$). There are 9,104 square feet of portable classrooms at the elementary schools, or 2.8 square feet per student ($9,104/3,432 = .04$).

Figure 5 - Elementary School LOS Standards

<i>Elementary Schools</i>	Building Square Footage	Portable Square Footage	Acreage	SY02-03 Enrollment	Building SF Per Student	Portable SF Per Student	Acres Per Student
Blue Ridge	49,672	1,856	32.45	330	150.5	5.6	0.10
C W Shipley	42,053	792	15	387	108.7	2.0	0.04
North Jefferson	39,418	1,248	12	301	131.0	4.1	0.04
Page Jackson	58,455	792	12.38	464	126.0	1.7	0.03
Ranson	36,495	2,832	4.29	382	95.5	7.4	0.01
Shepherdstown	40,522	0	7.98	295	137.4	0.0	0.03
South Jefferson	44,622	792	15	329	135.6	2.4	0.05
T A Lowery	65,694	792	52	526	124.9	1.5	0.10
Wright Denny	55,316	0	4	418	132.3	0.0	0.01
TOTAL	432,247	9,104	155.1	3,432	126.9	2.8	0.04

Source: School information confirmed by JCPS staff.

The costs for buildings, portable classrooms, and land for elementary schools are shown in Figure 6. These costs will be multiplied by the above LOS standards to determine the elementary school cost component of the impact fee. The cost per square foot for an elementary school is \$128 and is from the School Building Authority of West Virginia (SBA). The portable classroom cost figure of \$50 per square foot is from Jefferson County Public Schools insurance records. The land cost of \$22,500 an acre is based on the appraisal of land at Huntfield which is in a high-density growth area that is comparable to where future elementary schools will be built.

Figure 6 - Elementary School Capital Costs

Building Cost per SF*	\$128
Portable Classroom Cost per SF**	\$50
Land Cost per Acre***	\$22,500

* SBA (does not include land or instructional materials).

** JCPS insurance records.

*** Appraisal for Huntfield property.

Middle Schools

Figure 7 provides an inventory of existing elementary schools in Jefferson County. The data contained in this table are used to derive LOS standards for school land, buildings, and portable classrooms. The LOS standards are then used to determine capital costs per student in the impact fee calculations.

Jefferson County middle schools have 191,209 square feet and an enrollment of 1,767 students which yields a building LOS of 113.2 square feet per student ($191,209/1,767 = 113.2$). These schools occupy 32.33 acres which results in an LOS of .02 acres per student ($32.33/1,767=.02$). There are 10,528 square feet of portable classrooms at the middle schools, or 6.0 square feet per student ($10,528/1,767 = 6.0$).

Figure 7 - Middle School LOS Standards

<i>Middle Schools</i>	Building Square Footage	Portable Square Footage	Acreage	SY02-03 Enrollment	Building SF Per Student	Portable SF Per Student	Acres Per Student
Charles Town	77,310	4,768	13.53	847	91.3	5.6	0.02
Harpers Ferry	49,645	5,760	10	469	105.9	12.3	0.02
Shepherdstown	64,254	0	8.8	451	142.5	0.0	0.02
TOTAL	191,209	10,528	32.33	1,767	113.2	6.0	0.02

Source: School information confirmed by JCPS staff.

The costs for buildings, portable classrooms, and land for middle schools are shown in Figure 8. These costs will be multiplied by the above LOS standards to determine the middle school cost component of the impact fee. The cost per square foot for a middle school is \$130 and is from the School Building Authority of West Virginia (SBA). The portable classroom cost figure of \$50 per square foot is from Jefferson County Public Schools insurance records. The land cost of \$7,546 an acre is based on the actual purchase price of land for the new 9th grade school.

Figure 8 – Middle School Capital Costs

Building Cost per SF*	\$130
Portable Classroom Cost per SF**	\$50
Land Cost per Acre***	\$7,546

* SBA (does not include land or instructional materials).

** JCPS insurance records.

*** Land cost for 9th Grade School.

High Schools

Figure 9 provides an inventory of existing high schools in Jefferson County. The data contained in this table are used to derive LOS standards for school land, buildings, and portable classrooms. The LOS standards are then used to determine capital costs per student in the impact fee calculations.

Jefferson County high schools have 246,155 square feet and an enrollment of 2,077 students which yields a building LOS of 118.5 square feet per student ($246,155/2,077 = 118.5$). These schools occupy 93.93 acres which results in an LOS of .05 acres per student ($93.93/2,077=.05$). There are 4,320 square feet of portable classrooms at the high school, or 2.1 square feet per student ($4,320/2,077 = 2.1$).

Figure 9 – High School LOS Standards

<i>High Schools</i>	Building Square Footage	Portable Square Footage	Acreage	SY02-03 Enrollment	Building SF Per Student	Portable SF Per Student	Acres Per Student
Jefferson High	154,775	4,320	64	1,459			
New Building	87,264	0	29.93				
Alternative Learning Center	4,116	0	0	618			
TOTAL	246,155	4,320	93.93	2,077	118.5	2.1	0.05

The costs for buildings, portable classrooms, and land for high schools are shown in Figure 8. These costs will be multiplied by the above LOS standards to determine the high school cost component of the impact fee. The cost per square foot for a high school is \$114 and is from the School Building Authority of West Virginia (SBA). The portable classroom cost figure of \$50 per square foot is from Jefferson County Public Schools insurance records. The land cost of \$7,546 an acre is based on the actual purchase price of land for the new 9th grade school.

Figure 10 - High School Capital Costs

Building Cost per SF*	\$114
Portable Classroom Cost per SF**	\$50
Land Cost per Acre***	\$7,546

* SBA (does not include land or instructional materials).
 ** JCPS insurance records.
 *** Land cost for 9th Grade School.

Administration, Maintenance, Transportation Facilities

Figure 11 provides an inventory of existing facilities for administration, maintenance, and transportation. The data contained in this table are used to derive LOS standards for buildings. The LOS standards are then used to determine capital costs per student in the impact fee calculations.

Jefferson County has 17,870 square feet of office space and a total enrollment of 7,276 students which yields a building LOS of 2.46 square feet per student (17,870/7,276 = 2.46). There are 10,300 square feet of shop space and a total enrollment of 7,276 students which yields a LOS pf 1.42 square feet per student (10,300/7,276 = 1.42).

Figure 11 - Administration, Maintenance, Transportation LOS Standards

<i>Office Space Administration, Maint., Trans.</i>	Building Square Footage	SY02-03 Enrollment	Building SF Per Student
Board of Education Building	16,620		
Maintenance/Transportation Depts - Office	1,250		
TOTAL	17,870	7,276	2.46

<i>Shop Space Administration, Maint., Trans.</i>	Building Square Footage	SY02-03 Enrollment	Building SF Per Student
Maintenance/Transportation Depts - Shop	10,300		
TOTAL	10,300	7,276	1.42

The costs for these facilities are shown in Figure 12. These costs will be multiplied by the above LOS standards to determine the administration, maintenance, and transportation facilities component of the impact fee. The cost per square foot for office space is \$106 per square foot while the cost per square foot for shop space is \$90 per square foot. Staff from Jefferson County Public Schools provided these figures.

Figure 12 - Administration, Maintenance, Transportation Facility Capital Costs

Office Building Cost per SF*	\$106
Shop Building Cost per SF*	\$90

* JCPS staff.

Indoor and Outdoor Equipment

According to insurance records, Jefferson County Public Schools currently have \$6,120,000 of indoor equipment and \$1,250,000 of outdoor equipment for the total enrollment of 7,276 students. This results in a capital cost of \$841 per student for indoor equipment and \$172 per student for outdoor equipment.

Figure 13 - Indoor and Outdoor Equipment Capital Costs

<i>Equipment</i>	Insurance Value	SY02-03 Enrollment	Cost per Student
Indoor Equipment	\$6,120,000	7,276	\$841
Outdoor Equipment	\$1,250,000	7,276	\$172

Consultant Study Cost Component

The cost of preparing the School impact fees is also included in the fee calculations. This cost (\$12,800) is allocated to the projected increase in students over the next three years. A three-year period is used since this is the period of time at which the impact fee methodology should be revisited. This results in a consultant fee cost per demand unit of \$17.75 per student (\$12,800/721 students).

General Credits

Credits must be evaluated to avoid potential double payment situations arising from the payment of a one-time impact fee plus payment of other taxes that may also fund growth-related capital improvements. The School impact fee methodology includes general credits for future property tax payments which will be used to retire the

principal portion of General Obligation bonds issued in 1989 for school construction. These bonds will be retired in 2009.

The methodology used to calculate the amount of the credit projects the property taxes generated by new development, then determine the amount of the taxes used to pay for debt service, and finally make any adjustments for the appreciation rate of future property taxes and the net present value of future payments.

The assumptions used in the calculation of the credits are shown in Figure 14 below:

Figure 14 - General Credits

	Permit Value*	Land	Average Market Value
Single Family**	\$195,347	\$39,069	\$234,416
Townhouse***	\$153,606	\$23,041	\$176,647
Multi-Family	\$81,191	\$12,179	\$93,370

* Jefferson County Planning, Zoning, & Engineering.

** Single Family includes single family detached units.

*** Townhouse includes single family attached units.

Assessment Rate	60.00%
Property Levies for Principal Portion of 1989 School Bonds:*	
Class II Property	0.00058
Class III Property	0.00116

* JCPS Treasurer.

General Credit Schedule

School Year	Single Family	Townhouse	Multi-Family
2003-2004	N/A	N/A	N/A
2004-2005	N/A	N/A	N/A
2005-2006	\$82	\$61	\$65
2006-2007	\$82	\$61	\$65
2007-2008	\$82	\$61	\$65
2008-2009	\$82	\$61	\$65
Total	\$326	\$246	\$260
Discount Rate	5.77%	5.77%	5.77%
Net Present Value	\$284	\$214	\$226

Permit values were provided by the Planning, Zoning, and Engineering Department. Because no multi-family units have been built in the last few years, TA calculated a weighted appreciation percentage using single family houses and mobile homes and applied this to the permit value of the most recently completed multi-family units. Land prices are typically 20% of the value of single family housing units and 15% of townhouse and multi-family units. TA applied these percentages to the permit values for these categories of housing units.

According to the Jefferson County Assessor's Office, the current residential assessment rate is approximately 60% of market value. For property tax purposes, West Virginia has several classes of property, each with a different levy. In the calculation of general credits, single family housing units and townhouses are treated as Class II property. Multi-family units are assumed to be rental and thus Class III property. The FY2003-04 tax rates for retiring the principal portion of the 1989 bond issue are \$.0058 per \$100 assessed value for Class II and \$.0116 per \$100 assessed value for Class III. The future property tax stream was projected over the remaining years of the 1989 bond and then discounted at a rate of 5.78% which is the true interest cost (TIC) of the bonds. Because of the lag between construction and assessment, the earliest new residential construction might pay property taxes is School Year 2005-2006. TA recommends an appreciation rate of 0% due to the difficulty of projecting future assessment and tax rates.

Figure 15 below lists the maximum justifiable impact fee for schools.

Figure 15 - School Impact Fees

School Students per Housing Unit	Elementary School	Middle School	High School	All Grades
Single Family	0.240	0.130	0.130	0.500
Townhouse	0.244	0.068	0.068	0.380
Multi-Family	0.180	0.050	0.050	0.280

Level of Service (LOS) Standards				
School Square Footage per Student	126.88	113.20	118.51	
Capital Cost per Square Foot	\$128	\$130	\$114	
Cost per Student	\$16,240	\$14,716	\$13,511	
Acreage per Student	0.04	0.02	0.05	
Capital Cost per Acre	\$22,500	\$7,546	\$7,546	
Cost per Student	\$990	\$143	\$341	
Portable Classroom Square Footage per Student	2.76	5.97	2.08	
Capital Cost per Square Foot	\$50	\$50	\$50	
Cost per Student	\$137	\$297	\$103	
Administration/Maint/Transportation Office Square Footage per Student	2.46	2.46	2.46	
Capital Cost per Square Foot	\$106	\$106	\$106	
Cost per Student	\$261	\$261	\$261	
Administration/Maint/Transportation Shop Square Footage per Student	1.42	1.42	1.42	
Capital Cost per Square Foot	\$90	\$90	\$90	
Cost per Student	\$128	\$128	\$128	
Indoor Equipment Cost per Student	\$841	\$841	\$841	
Outdoor Equipment Cost per Student	\$172	\$172	\$172	
Cost per Student	\$1,013	\$1,013	\$1,013	
Consultant Fee Cost per Student	\$17.75	\$17.75	\$17.75	

TOTAL CAPITAL COST PER STUDENT	\$18,786	\$16,575	\$15,374	
---------------------------------------	-----------------	-----------------	-----------------	--

Maximum Gross Cost per Housing Unit	Elementary School	Middle School	High School	All Grades
Single Family	\$4,509	\$2,155	\$1,999	\$8,662
Town House	\$4,589	\$1,125	\$1,043	\$6,757
Multi-Family	\$3,382	\$829	\$769	\$4,979

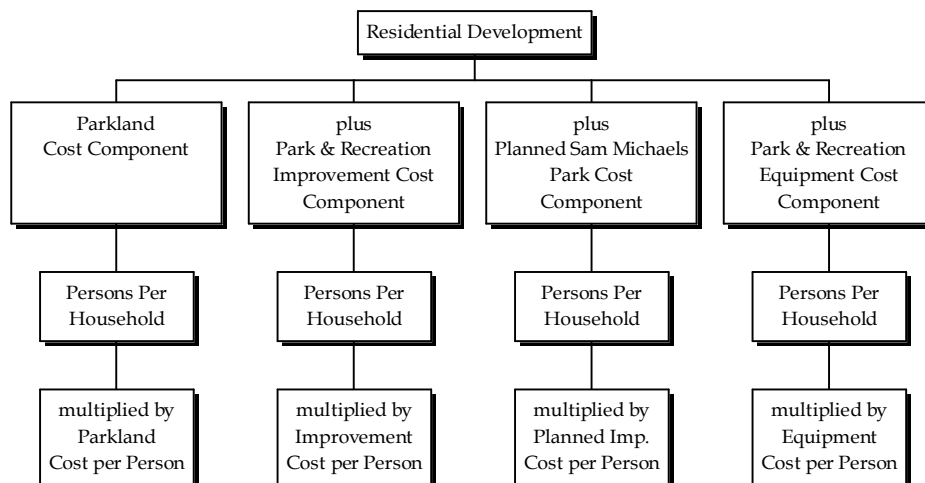
General Credits	
Single Family	\$284
Town House	\$214
Multi-Family	\$226

Maximum Impact Fee per Housing Unit	
Single Family	\$8,378
Townhouse	\$6,543
Multi-Family	\$4,753

Parks & Recreation

The methodologies for the Parks & Recreation development impact fees are shown in Figure 16 below. Fees for parkland, park improvements (except Sam Michaels Park), and equipment and vehicles have been calculated using the incremental expansion methodology which is based on current levels-of-service. The development impact fees for improvements to Sam Michaels Park utilize the plan-based methodology. The facilities that have been included in the development impact fee calculations have a countywide service area because of the amenities they offer. Therefore, no collection and expenditure zones are necessary for this type of fee. All capital costs have been allocated 100% to residential development. At this time, the principal payment credit is not applicable because the County does not have any outstanding debt for parks, open space or recreation facilities.

Figure 16 - Parks & Recreation Methodology Chart



Parkland

The incremental expansion method is used to calculate the parkland component of the Parks & Recreation development impact fee. Figure 17 lists the County current inventory of parkland acreage. A cost figure of \$15,000 per acre to purchase parkland land is used based on recent land sales. County staff provided data on current number of acres and cost per acre.

Figure 17 - Parkland LOS Standards

<i>Park</i>	<i>Acres</i>
Bolivar Park	6.8
Evitts Run Park	2.5
Mount Mission Park	3.5
South Jefferson Park	71
Leetown Park	10
Moulton Park	1
Sam Michaels Park	138
TOTAL ACRES	232.8
Cost per Acre	\$15,000
TOTAL COST	\$3,492,000
2003 Population	45,448
Cost per Person	\$76.84

Source: Jefferson County Department of Parks and Recreation.

Park & Recreation Improvements

The incremental expansion methodology is used to calculate the Park & Recreation improvements component. Figure 18 lists the inventory of improvements at County parks and the estimated replacement cost for each improvement. County staff provided the data on the current inventory of improvements and estimated replacement costs.

Figure 18 - Park & Recreation Improvements LOS Standards

Bolivar Park	
Improvements	Replacement Cost
Gazebo	\$5,000
Landscaping	\$2,000
Sign	\$1,000
Total Improvements	\$8,000

Evitts Run Park	
Improvements	Replacement Cost
Pavillion	\$20,000
Playground Equipment	\$20,000
Restroom Facility	\$25,000
Tennis Court	\$17,500
Basketball Courts (2)	\$45,000
Sign	\$1,000
Infrastructure*	\$10,000
Total Improvements	\$138,500

Mount Mission Park	
Improvements	Replacement Cost
Community Building	\$57,500
Volleyball Court	\$5,000
Pavillion	\$40,000
Playground Equipment	\$15,000
Baseball Field	\$30,000
Fencing	\$10,000
Picnic Tables	\$6,000
Sign	\$1,000
Landscaping	\$2,000
Infrastructure*	\$40,000
Total Improvements	\$206,500

South Jefferson Park	
Improvements	Replacement Cost
Baseball Fields (2)	\$120,000
Basketball Courts	\$22,500
Tennis Courts (2)	\$35,000
Concession/Restroom Facility	\$50,000
Pavillion	\$20,000
Volleyball Court	\$5,000
Playground Equipment	\$20,000
Fencing	\$70,000
Picnic Tables	\$6,000
Infrastructure*	\$200,000
Total Improvements	\$548,500

Leetown Park	
Improvements	Replacement Cost
Storage Buildings (2)	\$40,000
Concession/Restroom Facility	\$50,000
Lighted Ballfields	\$145,000
Picnic Tables	\$3,000
Pavillion	\$20,000
Playground Equipment	\$25,000
Sign	\$1,000
Landscaping	\$3,000
Infrastructure*	\$10,000
Total Improvements	\$297,000

Moulton Park	
Improvements	Replacement Cost
Boat Ramp	\$12,000
Parking Lot	\$5,000
Sign	\$1,000
Total Improvements	\$18,000

Morgan Grove Park	
Improvements	Replacement Cost
Kitchen/Restroom	\$100,000
Pavillion	\$50,000
Playground Equipment	\$30,000
Volleyball Court	\$5,000
Soccer Fields	\$100,000
Walking Trail	\$25,000
Picnic Tables	\$10,000
Fencing	\$15,000
Landscaping	\$20,000
Infrastructure*	\$100,000
Total Improvements	\$455,000

Source: Jefferson County Department of Parks and Recreation.

* Infrastructure includes site preparation, utilities, parking, internal road improvements.

TOTAL PARK & RECREATION IMPROVEMENTS COST	\$1,671,500
2003 Population	45,448
<u>Cost per Person</u>	<u>\$36.78</u>

Sam Michaels Park Improvements

Jefferson County adopted a plan to improve Sam Michaels Park in June 2000. The improvements are listed in Figure 19 below and total \$5,070,000. The improvements are expected to be complete in 2006, thus the projected population figure is used as the demand base.

Figure 19 - Sam Michaels Park Improvements LOS Standards

Sam Michaels Park Plan

<i>Improvements</i>	<i>Cost</i>
Community Center	\$1,500,000
Infrastructure	\$500,000
Swimming Pool	\$2,500,000
Pavillions (2)	\$100,000
Soccer Field Complex	\$150,000
Baseball Fields (3)	\$100,000
Tennis Courts (4)	\$70,000
Walking Trail	\$150,000
TOTAL COST	\$5,070,000
2006 Population	48,689
<u>Cost per Person</u>	<u>\$104</u>

Source: Jefferson County Department of Parks and Recreation.

Vehicles & Equipment

Figure 20 lists the current inventory of vehicles and equipment used by the Parks & Recreation department. The replacement cost is based on the current purchase price of the vehicle or piece of equipment.

Figure 20 – Park & Recreation Vehicles and Equipment LOS Standards

<i>Equipment</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Tractors	10	\$30,000	\$300,000
Ford F150 Pickup	1	\$13,410	\$13,410
Dodge 2500 Pickup	1	\$29,000	\$29,000
GMC Pickup	1	\$22,000	\$22,000
Mowers	2	\$20,000	\$40,000
TOTAL	15		\$404,410

Source: County insurance records and staff.

2003 Population	45,448
Cost per Person	\$8.90

Consultant Study Cost Component

The cost of preparing the Parks and Recreation fees is also included in the fee calculations. This cost (\$9,100) is allocated to the projected increase in population over the next three years. A three-year period is used since this is the period of time at which the impact fee methodology should be revisited. This results in a consultant fee cost per demand unit of \$2.81 per person (\$9,100/3,241 persons).

LOS standards used to derive the impact fees for parks, open space and recreation facilities are shown in the boxed area of Figure 21. The relative contribution of the three cost components to the total fee is shown at the bottom of the table.

Figure 21 – Parks & Recreation Impact Fee

<i>Persons Per Household</i>	<i>Standards</i>
Single Family	2.63
Townhouse	2.01
Multi-Family	1.98
<i>Cost Per Person</i>	
Parkland	\$76.84
Park & Recreation Improvements	\$36.78
Sam Michael Park Improvements	\$104.13
Vehicles & Equipment	\$8.90
Consultant Study Cost Component	\$2.81
<i>Total Cost Per Person</i>	\$229.45

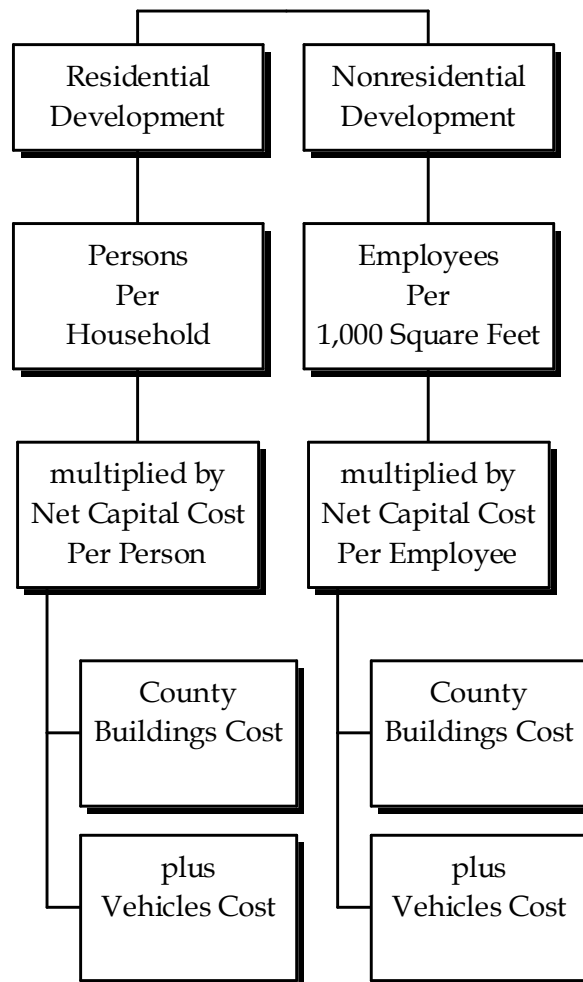
Maximum Supportable Development Fee Per Housing Unit

	Parkland	Park & Rec Improve.	Sam Michael Park Imp.	Vehicles & Equip.	Consultant Study	TOTAL
Single Family	\$202	\$97	\$274	\$23	\$7	\$604
Townhouse	\$154	\$74	\$209	\$18	\$6	\$461
Multi-Family	\$152	\$73	\$206	\$18	\$6	\$454

County Facilities & Vehicles

The County facilities and vehicles impact fee uses an incremental expansion approach for both office space and additional vehicles/equipment needed to accommodate new development. As shown in Figure 22, the County facilities development fee is calculated on a per capita basis for residential development. For nonresidential development, the fee methodology allocates the capital cost of County buildings and equipment on a per employee basis.

Figure 22 - County Buildings and Vehicles Fee Methodology Chart



Employment has been used as the nonresidential demand indicator for County buildings and vehicles. Based on the number of residents and jobs in 2002, the proportionate share factors are 64% for residential development and 36% for nonresidential development.

County Facilities

Figure 23 summarizes the standards that have been used to calculate the LOS for County buildings. Discussions with County staff in the Circuit Clerk's Office indicate that 77% of the cases heard in the Circuit Court were civil with the remaining 23% of the cases involving traffic or criminal matters. These percentages are used to allocate the costs of the County Courthouse and County Judicial Building among residential and nonresidential development. The 23% shown in top table in Figure 17 for the Courthouse and County Judicial Center is allocated to both residential and nonresidential to reflect traffic and criminal matters. The 77% shown in the bottom table of Figure 17 reflects the civil cases and is allocated solely to population. The Animal Shelter and portion of the Mason Building not occupied by the Sheriff's Office are allocated to population only as those facilities house County departments that are impacted by residential development. Discussions with the Health Department indicate that 50% of the Health Center is used for Environmental Health which is impacted by both residential and nonresidential growth, while the remaining 50% is used for medical and public health nursing activities which are impacted by population only.

The \$182 per square foot replacement cost was derived from the 2001 Space Survey conducted for the County by the firm Helbing Lipp Ltd. Specifically:

	<i>Per SF</i>
Construction Cost	\$130
Site Improvements	\$10
Equipment & Furniture (10% construction cost)	\$13
Contingency (10% construction and site imp.)	\$14
Professional Services & Fees (10% of above ex. contingency)	\$15
 TOTAL	 \$182

Source: Jefferson County Governmental Center Space Needs Survey, Helbing Lipp Ltd., 2001.

Figure 23 – County Buildings LOS Standards

Residential and Nonresidential Component

<i>Facility</i>	<i>Square Feet*</i>	<i>Cost/SF**</i>	<i>Total Cost</i>
Courthouse (23% of 11,000 sf)	2,530	\$182	\$460,460
County Judicial Center (23% of 11,000 sf)	6,510	\$182	\$1,184,764
Tax Office Annex	1,260	\$182	\$229,320
County Building	7,000	\$182	\$1,274,000
Office Building	9,000	\$182	\$1,638,000
Iron Rail Inn	4,944	\$182	\$899,808
Caretaker's Dwelling	2,700	\$182	\$491,400
Annex/Iron Rail Inn	1,069	\$182	\$194,558
Health Center (50% of 22,000 sf)	11,000	\$182	\$2,002,000
TOTAL	46,013		\$8,374,310

* 2001 Jefferson County Governmental Center Space Needs Survey, Helbing Lipp Ltd.

** Source: 2001 Jefferson County Governmental Center Space Needs Survey, Helbing Lipp Ltd.

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	78%	45,448 Population	\$142.84
Nonresidential	22%	13,180 Jobs	\$142.84

Residential Component

<i>Facility</i>	<i>Square Feet*</i>	<i>Cost/SF**</i>	<i>Total Cost</i>
Courthouse (77% of 11,000 sf)	8,470	\$182	\$1,541,540
County Judicial Center (77% of 11,000 sf)	21,793	\$182	\$3,966,382
Mason Building (excluding Sheriff's Office)	4,546	\$182	\$1,250,000
Health Center (50% of 22,000 sf)	11,000	\$182	\$2,002,000
Animal Shelter	1,100	\$82	\$90,000
TOTAL	46,910		\$8,849,922

* Source: County insurance records.

** Source: 2001 Jefferson County Governmental Center Space Needs Survey, Helbing Lipp Ltd.

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	100%	45,448 Population	\$194.73

County Vehicles

Figure 24 summarizes the standards that have been used to calculate the vehicle component of the County Buildings and Vehicles fee. County staff provided the replacement costs. As with the Animal Shelter, the Animal Control vehicle is allocated to population only.

Figure 24 – County Vehicles LOS Standards

Residential and Nonresidential Component

<i>Dept./Vehicle</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Assessors Office			
Cavalier	1	\$8,500	\$8,500
Jeep Cherokee	2	\$25,000	\$50,000
Planning			
Jeep Cherokee	3	\$25,000	\$75,000
Jeep Liberty	1	\$25,000	\$25,000
Emergency Services			
Jeep Cherokee	2	\$25,000	\$50,000
6X6	1	\$45,000	\$45,000
Truck	1	\$8,000	\$8,000
TOTAL	11		\$261,500

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	78%	45,448 Population	\$4.46
Nonresidential	22%	13,180 Jobs	\$4.46

Source: County insurance records and staff.

Residential Component

<i>Dept./Vehicle</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Animal Control			
Ford Pickup	2	\$31,961	\$63,922

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	100%	45,448 Population	\$1.41

Consultant Study Cost Component

The cost of preparing the County Facilities and Vehicle fee is also included in the fee calculations. This cost (\$8,600) is allocated to the projected increase in population and jobs over the next three years. A three-year period is used since this is the period of time at which the impact fee methodology should be revisited. This results in a consultant fee cost per demand unit of \$1.87 per person and job (\$8,600/4,610 persons and jobs).

Figure 25 - County Buildings and Vehicles Fee

Person's Per Household

- Single Family
- Townhouse
- Multi-Family

Employee's per 1,000 Square Feet

- Com / Shop Ctr 25,000 SF or less
- Com / Shop Ctr 25,001 - 50,000 SF
- Com / Shop Ctr 50,001 - 100,000 SF
- Com / Shop Ctr 100,001 - 200,000 SF
- Com / Shop Ctr over 200,000 SF
- Office/Inst 10,000 SF or less
- Office/Inst 10,001 - 25,000 SF
- Office/Inst. 25,001-50,000 SF
- Office/Inst 50,001 - 100,000 SF
- Office/Inst over 100,000 SF
- Business Park
- Light Industrial
- Warehousing
- Manufacturing

Demand Unit Cost Factors

- Incremental Expansion Component (Facilities)
- Incremental Expansion Component (Vehicles)
- Consultant Study Cost Component
- Total Capital Cost

Maximum Supportable Impact Fee

Residential

- Single Family
- Townhouse
- Multi-Family

Nonresidential

- Com / Shop Ctr 25,000 SF or less
- Com / Shop Ctr 25,001 - 50,000 SF
- Com / Shop Ctr 50,001 - 100,000 SF
- Com / Shop Ctr 100,001 - 200,000 SF
- Com / Shop Ctr over 200,000 SF
- Office/Inst 10,000 SF or less
- Office/Inst 10,001 - 25,000 SF
- Office/Inst. 25,001-50,000 SF
- Office/Inst 50,001 - 100,000 SF
- Office/Inst over 100,000 SF
- Business Park
- Light Industrial
- Warehousing
- Manufacturing

Standards:

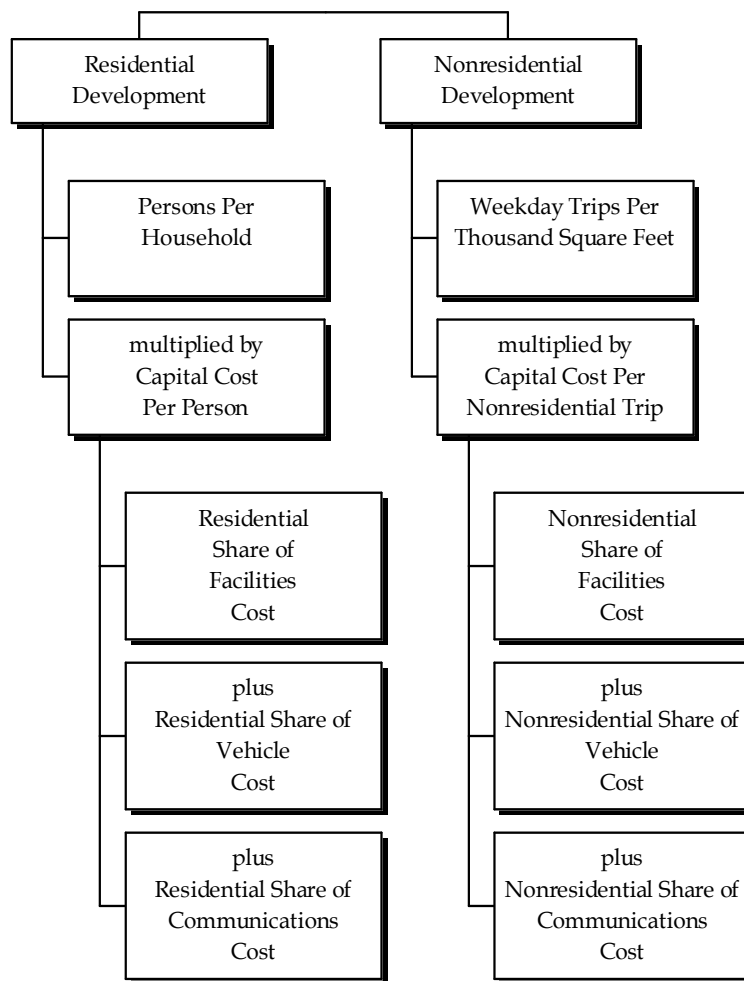
	2.63	
	2.01	
	1.98	
		3.33
		3.33
		2.86
		2.50
		2.00
		4.39
		4.04
		3.79
		3.57
		3.35
		3.16
		2.31
		1.28
		1.82
	<u>Per Person</u>	<u>Per Employee</u>
	\$337.56	\$142.84
	\$5.87	\$4.46
	\$1.87	\$1.87
	\$345.30	\$149.16

<u>Per Housing Unit</u>	
	\$909
	\$693
	\$683
<u>Per 1,000 Square Feet</u>	
	\$497
	\$497
	\$427
	\$373
	\$298
	\$655
	\$603
	\$565
	\$533
	\$500
	\$471
	\$345
	\$191
	\$271

Law Enforcement

The incremental expansion methodology has been used to determine impact fees for law enforcement including facilities, vehicles, and communications equipment for the Sheriff's Office. As shown in Figure 26, the law enforcement impact fee uses different demand generators for residential and nonresidential development. Residential impact fees are calculated on a per capita basis and then converted to an appropriate amount by type of housing using household size multipliers. To calculate nonresidential impact fees, TA recommends using nonresidential vehicle trips as the best demand indicator for police facilities and equipment. Trip generation rates are highest for commercial developments, such as shopping centers, and lowest for industrial/warehouse developments. Office/institutional trip rates fall between the other two categories. This ranking of trip rates is consistent with the relative demand for police protection from nonresidential development. Other possible nonresidential demand indicators, such as employment or floor area, do not accurately reflect the demand for law enforcement services. If employees per thousand square feet were used as the demand indicator, law enforcement impact fees would be too high for office/institutional development. If floor area were used as the demand indicator, law enforcement impact fees would be too high for industrial development. Also, the Sheriff's Office responds to traffic-related calls for service, which are directly related to trip generation rates.

Figure 26 - Law Enforcement Impact Fee Methodology Chart



The first step in calculating the law enforcement LOS standards is to allocate costs based on the nature of the Sheriff’s Department workload. Discussions with the Sheriff’s Office indicate they spend approximately 50% of their time and resources responding to criminal and traffic calls for service, with the remaining 50% being spent on calls for service related to civil processing. The costs for facilities, vehicles, and communications equipment are allocated accordingly.

The next step in calculating the law enforcement LOS standards is to allocate these costs to residential and nonresidential development. Calls for service data for criminal calls in the County indicate that 43% of calls are to residential addresses and 57% to nonresidential addresses. Thus, of the 50% of capital costs allocated to criminal and traffic calls (taken from the above paragraph), 57% is allocated to residential growth and 43% to nonresidential growth.

The 50% of capital costs related to civil process is allocated entirely (100%) to residential development.

Law Enforcement Facilities

As shown in Figure 27, the LOS standards for law enforcement facilities are based on the percentage of the Mason building occupied by the Sheriff’s Office. The \$182 per square foot replacement cost is the same figure used in the County Facilities Fee.

Figure 27 - Law Enforcement Facilities LOS Standards

	<i>Square Feet</i>	<i>Cost/SF*</i>	<i>Cost</i>
Sheriff's Office (66% Mason Building)	9,092	\$182	\$1,654,773

* 2001 Jefferson County Governmental Center Space Needs Survey, Helbing Lipp Ltd.

	Criminal & Traffic (50%)	Civil (50%)	TOTAL
Sheriff Facilities	\$827,387	\$827,387	\$1,654,773

Criminal and Traffic - Facilities Component

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	43%	45,276 Population	\$7.91
Nonresidential	57%	67,799 Nonres Trips	\$6.92

Civil - Facilities Component

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	100%	45,276 Population	\$18.27

Law Enforcement Vehicles

The LOS standards for law enforcement vehicles in Figure 28 are based on the current fleet and estimated cost to purchase a new vehicle with all the equipment needed to put it in service. The Sheriff’s Office provided data on the current inventory and replacement costs.

Figure 28- Law Enforcement Vehicles LOS Standards

<i>Vehicle</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Chevy Blazer	1	\$25,000	\$25,000
Chevy Pickup	1	\$32,000	\$32,000
Ford Van	1	\$14,000	\$14,000
GMC Jimmy	1	\$25,000	\$25,000
Ford Crown Victoria	21	\$30,000	\$630,000
Ford Explorer	3	\$25,000	\$75,000
Pontiac Grand Am	1	\$30,000	\$30,000
TOTAL	29		\$831,000

Source: County insurance records and County staff.

	Criminal & Traffic (50%)	Civil (50%)	TOTAL
Sheriff Vehicles	\$415,500	\$415,500	\$831,000

Criminal and Traffic - Vehicle Component

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	43%	45,276 Population	\$3.97
Nonresidential	57%	67,799 Nonres Trips	\$3.47

Civil - Vehicle Component

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	100%	45,276 Population	\$9.18

Law Enforcement Communications Equipment

The Jefferson County Emergency Communications Center provides dispatching services for the Sheriff's Office as well as several other law enforcement agencies in Jefferson County. Based on calls for service data from 2002, the Center dispatched a total of 28,734 calls, of which 7,659 calls (26.65%) were for the Sheriff's Office.

	Sheriff	State Police	Fire/EMS	All Others*	Total Calls
Calendar Year 2002	7,659	3,436	4,118	13,521	28,734
% Dispatched	26.65%	11.96%	14.33%	47.06%	100.00%

* All Others includes municipal police departments, West Virginia State Police, Animal Control, WV Dept. Natural Resources, and National Parks Service.

Source: Jefferson County Emergency Communications Center.

To calculate the Sheriff's share of communication equipment, this percentage will be applied against the capital costs for communications equipment.

The LOS standards for communication equipment are shown in Figure 29 below. The Jefferson County Emergency Communications Center provided the inventory and replacement costs.

Figure 29- Law Enforcement Communications LOS Standards

<i>Equipment</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Motorola Centracom II Radio / Dispatch Console including	4	\$40,000	\$160,000
Motorola Centralink 2000 E9-1-1 Telephone System	1	\$135,000	\$135,000
WEAPON system NCIC terminals and related equipment	2	\$2,100	\$4,200
Motorola MSF5000 Repeaters	2	\$8,500	\$17,000
Motorola Base Station Transmitters	8	\$4,500	\$36,000
Motorola Monitors	4	\$500	\$2,000
Desktop PC's	7	\$2,000	\$14,000
Server and related network equipment (routers, switches, etc)	1	\$4,500	\$4,500
180' Antenna Tower	1	\$19,000	\$19,000
Various Antenna's, mounting brackets, cabling, connectors	14	\$1,125	\$15,750
Caterpillar 3116 Emergency Generator and related Genswitch	1	\$25,000	\$25,000
Silent Knight Alarm Monitoring Receiver	2	\$650	\$1,300
Diebold Alarm Monitor Receiver	2	\$650	\$1,300
Fire Alarm Panel for Public Services Center building	1	\$1,200	\$1,200
Dynamic Instruments DI939E Digital Voice Logging Recorder	1	\$36,000	\$36,000
Dynamic Instruments Secondary Monitoring Terminal	1	\$2,200	\$2,200
Magneto Optical tapes for Logging Recorder	40	\$130	\$5,200
Office Furniture - Dep Dir & EMD	1	\$4,100	\$4,100
Office Furniture - Director	1	\$2,800	\$2,800
Headsets	24	\$59	\$1,416
Wireless Headsets for Dispatch Console	4	\$310	\$1,240
Various Filing Cabinets	14	\$135	\$1,890
Jeep Cherokee	1	\$20,000	\$20,000
Laser Printer, HP 4100N	1	\$1,400	\$1,400
Laser Printer, HP 2100	1	\$799	\$799
InkJet Printers	2	\$450	\$900
Sanyo 25' Color Television	2	\$500	\$1,000
Sony VCR/DVD player	1	\$350	\$350
Refrigerator	1	\$800	\$800
Microwave Oven	1	\$250	\$250
Stove	1	\$650	\$650
Chairs, 24-hour intensive use	10	\$800	\$8,000
TOTAL			\$525,245

Source: Jefferson County Emergency Communications Center.

Percentage of Calls for Jefferson County Sheriff 26.65%

Communications Cost Allocation for Jefferson County Sheriff \$140,003

This cost for communications equipment is then allocated among residential and nonresidential development using the same methodology as the facilities and vehicles components.

	Criminal & Traffic (50%)	Civil (50%)	TOTAL
Sheriff's Share Communications Equip	\$70,002	\$70,002	\$140,003

Criminal and Traffic - Communications

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	43%	45,276 Population	\$0.67
Nonresidential	57%	67,799 Nonres Trips	\$0.59

Civil - Communications

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	100%	45,276 Population	\$1.55

Consultant Study Cost Component

The cost of preparing the Law Enforcement fees is also included in the fee calculations. This cost (\$8,300) is allocated to the projected increase in population and nonresidential trips over the next three years. A three-year period is used since this is the period of time at which the impact fee methodology should be revisited. This results in a consultant fee cost per demand unit of \$.68 per person and nonresidential trip (\$8,300/12,118 persons and nonresidential trips).

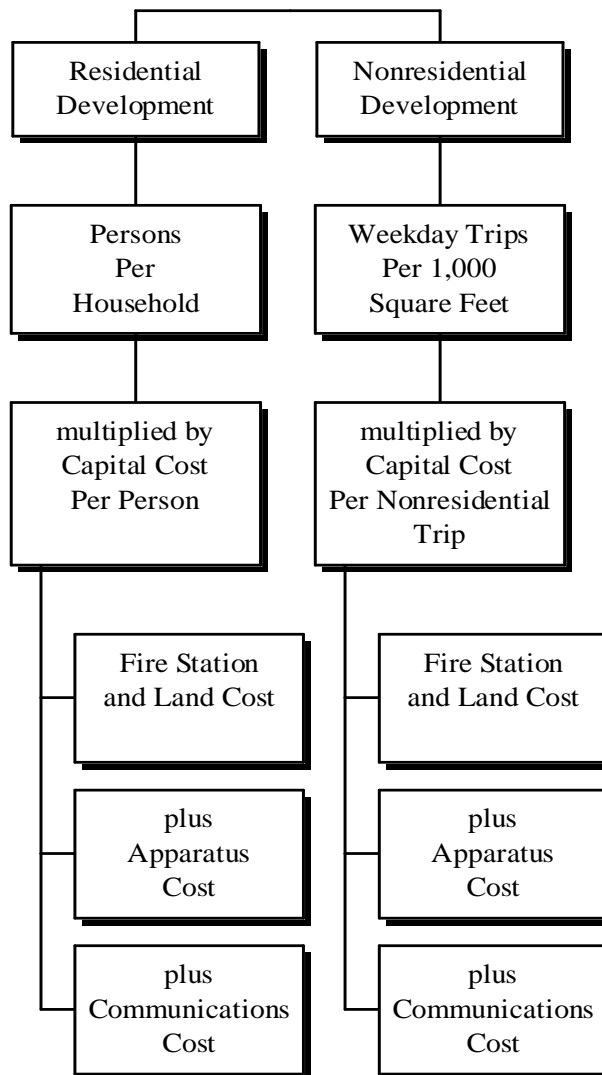
Figure 30 provides a summary of the LOS standards used to calculate impact fees for law enforcement (see the boxed area at the top of the table). The LOS standards include Average Weekday Vehicle Trip Ends from the reference book, Trip Generation, published by the Institute of Transportation Engineers (ITE, 6th edition, 1997). A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). For development types not shown below, County staff may use the most appropriate rates from the ITE manual, or rates from approved local transportation studies.

In the development fee calculations, trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points. For Office/Institutional and Industrial development, the trip adjustment factor is 50%. For Commercial / Shopping Center development, the trip adjustment factor ranges from 22-35% depending on the floor area of the development. The trip adjustment factor is less than 50% because retail uses attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For a small-size shopping center of 25,000 square feet of floor area, the ITE manual indicates that on average 56% of the vehicles that enter are passing by on their way to some other primary destination. The remaining 44% of attraction trips have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 44% multiplied by 50%, or approximately 22% of the trip ends. The data contained in Trip Generation (see Table VII-1 of the 5th edition, 1991) indicates there is an inverse relationship between shopping center size and pass-by trips. Therefore, appropriate trip adjustment factors have been derived for each category of shopping center size used in the development fee calculations.

Fire/EMS

Five volunteer fire companies and the Jefferson County Ambulance Authority provide Fire/EMS Services in Jefferson County. Primary service areas have been established for each station, but the demand for service necessitates backup coverage to all parts of the County. Thus Fire Protection is regarded as a countywide function. Development impact fees for Fire facilities and apparatus are derived using an incremental expansion methodology based on current levels-of-service as measured by the current number of facilities, current inventory of apparatus, and current inventory of communications equipment. Residential impact fees are calculated on a per capita basis and then multiplied by household size. Fees for nonresidential development are determined using weekday vehicle trip rates per 1,000 square feet.

Figure 31 - Fire/EMS Methodology Chart



The calculation of level of service standards uses proportionate share factors derived from calls for service data from the Jefferson County Emergency Communications Center. According to data from the 4th quarter of 2002, residential development accounts for approximately 64% of the demand and nonresidential development accounts for 46% of the demand for fire and emergency medical services.

Fire/EMS Facilities, Land, Apparatus

Figure 32 lists the square footage, acreage, and apparatus inventory for each Fire Company and Ambulance Authority. The number of square feet, acres of land, inventory and replacement cost of apparatus were provided by each of the fire companies. Cost per square foot figures are taken from Marshall-Swift valuation

service for Volunteer Fire Stations, Class C Average construction. The Ambulance Authority provided data on their facility and vehicles. The cost per acre figure came from County staff.

Figure 32 - Fire Facilities, Land, Apparatus LOS Standards

<i>Friendship Fire Company</i>	<u>Acreage</u>	<u>Sq Ft Building</u>
Station	2	7448
Cost per Unit	\$20,000	\$41
Total Building and Land Cost	\$40,000	\$305,368
<i>Apparatus & Equipment</i>		
		<i>Total 2002 Replacement</i>
		<i>2002 Inventory Cost (new)</i>
2002 Engine/Ladder (Pumper)		\$550,000
1998 Tanker		\$225,000
1996 Ambulance		\$150,000
1995 Brush Truck		\$70,000
1990 Engine (Pumper)		\$300,000
1990 Ambulance		\$150,000
1994 Chevrolet Caprice		\$22,000
Fixed Assets (clothing, equipment, etc.)		\$180,000
Total Apparatus & Equipment		\$1,647,000

<i>Blue Ridge Mountain Fire Company</i>	<u>Acreage</u>	<u>Sq Ft Building</u>
Station	2.5	5,600
Cost per Unit	\$20,000	\$41
Total Building and Land Cost	\$50,000	\$229,600
<i>Apparatus & Equipment</i>		
		<i>Total 2002 Replacement</i>
		<i>2002 Inventory Cost (new)</i>
Boat, Motor, Trailer		\$8,000
Engines (3) @\$385,000 each		\$1,155,000
Ambulances (2) @ \$125,000 each		\$350,000
Tanker		\$175,000
Brush Truck		\$85,000
Hose and Equipment		\$100,000
Clothing, Equipment for Personnel		\$62,000
Total Apparatus & Equipment		\$1,935,000

<i>Citizen's Fire Company</i>	<u>Acreage</u>	<u>Sq Ft Building</u>
Station	7.5	13,000
Cost per Unit	\$20,000	\$41
Total Building and Land Cost	\$150,000	\$533,000
<i>Apparatus & Equipment</i>		
		<i>Total 2002 Replacement</i>
		<i>2002 Inventory Cost (new)</i>
Air Compressor		\$90,000
Brush Truck		\$75,000
Rescue Truck		\$205,000
Engine (4WD)		\$340,000
Engine/Tanker		\$360,000
Ladder Truck		\$595,000
Hose and Equipment		\$85,000
Clothing, Equipment for Personnel		\$120,000
Total Apparatus & Equipment		\$1,870,000

<i>Shepherdstown</i>	<u>Acreage</u>	<u>Sq Ft Building</u>
Station	5.8	22,368
Cost per Unit	\$20,000	\$41
Total Building and Land Cost	\$116,000	\$917,088
<i>Apparatus & Equipment</i>		
		<i>Total 2002 Replacement</i>
		<i>2002 Inventory Cost (new)</i>
Engines (2) @\$300,000 each		\$600,000
Ambulances (2) @ \$122,500 each		\$245,000
Tanker		\$220,000
Brush Truck		\$110,000
Ladder Truck		\$600,000
Rescue Unit		\$250,000
Hose and Equipment		\$250,000
Clothing, Equipment for Personnel		\$100,000
Total Apparatus & Equipment		\$2,375,000

<i>Independent Fire Company</i>	<u>Acreage</u>	<u>Sq Ft Building</u>
Station	1.15	8,100
Cost per Unit	\$20,000	\$41
Total Building and Land Cost	\$23,000	\$332,100
<i>Apparatus & Equipment</i>		
		<i>Total 2002 Replacement</i>
		<i>2002 Inventory Cost (new)</i>
Tanker		\$260,000
Engines (2) @ \$410,000 each		\$820,000
Heavy Duty Rescue		\$350,000
Ambulances (2) @ \$140,000 each		\$280,000
Utility Vehicle		\$30,000
Boat, Motor, Trailer		\$20,000
Dive Rescue Team Equipment		\$20,000
Clothing, Equipment for Personnel		\$76,500
Total Apparatus & Equipment		\$1,856,500

<i>Jefferson County Ambulance Authority</i>	<u>Square Feet</u>	<u>Replacement Cost</u>
Facility	1,000	\$250,000
	<u># Units in Service</u>	<u>Total Cost</u>
ALS Vehicles	2	\$190,000

Source: Each Volunteer Fire Company supplied information on acreage, square footage, apparatus and equipment inventory and replacement costs. Per Square Foot from Marshall-Swift Valuation Service, Volunteer Fire Stations, Class C Average Construction.

Total Land and Buildings	\$2,946,156
Total Apparatus and Equipment	\$9,873,500
TOTAL	\$12,819,656

Facilities and Land

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	64%	45,448 Population	\$41.49
Nonresidential	36%	67,799 Nonres Trips	\$15.64

Apparatus and Equipment

	Proportionate Share	2003 Demand Units	Cost per Demand Unit
Residential	64%	45,448 Population	\$139.04
Nonresidential	36%	67,799 Nonres Trips	\$52.43

Fire Communications

The communications equipment component for the Fire/EMS fee is calculated using the same methodology as the law enforcement fee. The Fire/EMS share of communications equipment is \$75,275.

	Sheriff	State Police	Fire/EMS	All Others*	Total Calls
Calendar Year 2002	7,659	3,436	4,118	13,521	28,734
% Dispatched	26.65%	11.96%	14.33%	47.06%	100.00%

* All Others includes municipal police departments, West Virginia State Police, Animal Control, WV Dept. Natural Resources, and National Parks Service.

Source: Jefferson County Emergency Communications Center.

Figure 33 – Fire Communications LOS Standards

<i>Equipment</i>	<i># Units in Service</i>	<i>Cost/ Unit</i>	<i>Total Cost</i>
Motorola Centracom II Radio / Dispatch Console including	4	\$40,000	\$160,000
Motorola Centralink 2000 E9-1-1 Telephone System	1	\$135,000	\$135,000
WEAPON system NCIC terminals and related equipment	2	\$2,100	\$4,200
Motorola MSF5000 Repeaters	2	\$8,500	\$17,000
Motorola Base Station Transmitters	8	\$4,500	\$36,000
Motorola Monitors	4	\$500	\$2,000
Desktop PC's	7	\$2,000	\$14,000
Server and related network equipment (routers, switches, etc)	1	\$4,500	\$4,500
180' Antenna Tower	1	\$19,000	\$19,000
Various Antenna's, mounting brackets, cabling, connectors	14	\$1,125	\$15,750
Caterpillar 3116 Emergency Generator and related Genswitch	1	\$25,000	\$25,000
Silent Knight Alarm Monitoring Receiver	2	\$650	\$1,300
Diebold Alarm Monitor Receiver	2	\$650	\$1,300
Fire Alarm Panel for Public Services Center building	1	\$1,200	\$1,200
Dynamic Instruments DI939E Digital Voice Logging Recorder	1	\$36,000	\$36,000
Dynamic Instruments Secondary Monitoring Terminal	1	\$2,200	\$2,200
Magneto Optical tapes for Logging Recorder	40	\$130	\$5,200
Office Furniture - Dep Dir & EMD	1	\$4,100	\$4,100
Office Furniture - Director	1	\$2,800	\$2,800
Headsets	24	\$59	\$1,416
Wireless Headsets for Dispatch Console	4	\$310	\$1,240
Various Filing Cabinets	14	\$135	\$1,890
Jeep Cherokee	1	\$20,000	\$20,000
Laser Printer, HP 4100N	1	\$1,400	\$1,400
Laser Printer, HP 2100	1	\$799	\$799
InkJet Printers	2	\$450	\$900
Sanyo 25' Color Television	2	\$500	\$1,000
Sony VCR/DVD player	1	\$350	\$350
Refrigerator	1	\$800	\$800
Microwave Oven	1	\$250	\$250
Stove	1	\$650	\$650
Chairs, 24-hour intensive use	10	\$800	\$8,000
TOTAL			\$525,245

Source: Jefferson County Emergency Communications Center.

Percentage of Calls for Fire/EMS 14.33%

Communications Cost Allocation for Fire/EMS \$75,275

Consultant Study Cost Component

The cost of preparing the Fire/EMS fees is also included in the fee calculations. This cost (\$8,900) is allocated to the projected increase in population and nonresidential trips over the next three years. A three-year period is used since this is the period of time at which the impact fee methodology should be revisited. This results in a consultant fee cost per demand unit of \$.73 per person and nonresidential trip (\$8,900/12,118 persons and nonresidential trips).

LOS standards for Fire impact fees are summarized in the boxed area of Figure 34. The LOS standards include Average Weekday Vehicle Trip Ends from the reference book, Trip Generation, published by the Institute of Transportation Engineers (ITE, 6th edition, 1997). A "trip end" represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). For development types not shown below, County staff may use the most appropriate rates from the ITE manual, or rates from approved local transportation studies.

Figure 34 - Fire/EMS Impact Fee

Person's Per Household

Single Family
Townhouse
Multi-Family

Weekday Vehicle Trip Ends per 1,000 SF

Com / Shop Ctr 25,000 SF or less	111.82
Com / Shop Ctr 25,001 - 50,000 SF	87.31
Com / Shop Ctr 50,001 - 100,000 SF	68.17
Com / Shop Ctr 100,001 - 200,000 SF	53.22
Com / Shop Ctr over 200,000 SF	41.56
Office/Inst 10,000 SF or less	22.64
Office/Inst 25,001 - 50,000 SF	18.31
Office 25,001-50,000 SF	15.59
Office/Inst 50,001 - 100,000 SF	13.27
Office/Inst over 100,000 SF	11.30
Business Park	12.76
Light Industrial	6.97
Warehousing	4.96
Manufacturing	3.82

Trip Adjustment Factors

Com / Shop Ctr 25,000 SF or less	22%
Com / Shop Ctr 25,001 - 50,000 SF	26%
Com / Shop Ctr 50,001 - 100,000 SF	29%
Com / Shop Ctr 100,001 - 200,000 SF	32%
Com / Shop Ctr over 200,000 SF	35%
All Other Nonresidential Development	50%

Demand Unit Cost Factors

Incremental Expansion Component (Stations & Land)	
Incremental Expansion Component (Apparatus)	
Incremental Expansion Component (Communications)	
Consultant Study Cost Component	
Total Capital Cost	

Standards:

2.63
2.01
1.98

	<u>Per Person</u>	<u>Per Trip</u>
	\$41.49	\$15.64
	\$139.04	\$52.43
	\$1.06	\$0.40
	\$0.73	\$0.73
	\$182.32	\$69.20

Maximum Supportable Impact Fee

Residential

Single Family
Townhouse
Multi-Family

Nonresidential

Com / Shop Ctr 25,000 SF or less	\$1,702
Com / Shop Ctr 25,001 - 50,000 SF	\$1,571
Com / Shop Ctr 50,001-100,000 SF	\$1,368
Com / Shop Ctr 100,001-200,000 SF	\$1,179
Com / Shop Ctr over 200,000 SF	\$1,007
Office/Inst 10,000 SF or less	\$783
Office/Inst 25,001 - 50,000 SF	\$634
Office 25,001-50,000 SF	\$539
Office/Inst 50,001 - 100,000 SF	\$459
Office/Inst over 100,000 SF	\$391
Business Park	\$442
Light Industrial	\$241
Warehousing	\$172
Manufacturing	\$132

Per Housing Unit

\$480
\$366
\$361

Per 1,000 Square Feet

Implementation and Administration

As specified in the state enabling legislation, there are certain accounting requirements that must be met by the County. Monies received shall be placed in a separate accounts and accounted for separately. Interest earned on monies in the separate accounts shall be credited to those accounts.

TA recommends the creation of 5 impact fee accounts for each of the fee categories:

Schools	1
Parks & Recreation	1
Law Enforcement	1
Fire/EMS	1
County Facilities and Vehicles	1

Collection and expenditure zones will be not be necessary for any of the impact fee categories. The Jefferson County Public Schools operates under a single district method and schools are evaluated as to available space and that students are reassigned on an annual basis to maintain proper class sizes.

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

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

Shopping Center (820) - A shopping center is an integrated group of commercial establishments that is planned, developed, owned and managed as a unit. A shopping center provides on-site parking facilities sufficient to serve its own parking demands. Shopping centers may contain non-merchandizing facilities, such as office buildings, movie theaters, restaurants, post offices, banks, health clubs and recreational facilities. In addition to the integrated unit of shops in one building or enclosed around a mall, many shopping centers include out-parcels. For

smaller centers without an enclosed mall or peripheral buildings, the Gross Leasable Area (GLA) may be the same as the Gross Floor Area (GFA) of the building.

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

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

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

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

Manufacturing (140) - In manufacturing facilities, the primary activity is the conversion of raw materials or parts into finished products. In addition to the actual production of goods, manufacturing facilities may have office, warehouse, research and associated functions.

Appendix 1 – Memorandum on Demographic Data