WORK SESSION
AGENDA
JEFFERSON COUNTY COMMISSION
WEDNESDAY, MAY 28, 2014
1:30 P.M.

County Commission Meeting Room
located at the Old Charles Town Library
200 E. Washington Street, Charles Town, WV

CALL TO ORDER

PLEDGE OF ALLEGIANCE

WORK SESSION

1. 1:30 p.m. Impact Fees Recalculation & Fee Schedule Update Project

2. **ADJOURN**

JEFFERSON COUNTY, WEST VIRGINIA
Engineering Department
116 East Washington Street, Suite 100
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Charles Town, West Virginia 25414
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Workshop Notice

Jefferson County, West Virginia
Impact Fees Recalculation & Fee Schedule Update Project

The Jefferson County Commission will conduct an Impact Fees Recalculation Project workshop to allow for a discussion between the County Commission, the county attorney, the consultant TischlerBise, and representatives of the four impact fee entities (Schools, Parks & Recreation, Fire/EMS and Law Enforcement); that includes, but is not limited to, current levels of service and costs, projected needs and costs, assumptions, and legal aspects related to determining and setting impact fees.

The purpose is to resolve any remaining issues so the impact fee consultant, TischlerBise, can finalize the calculations and prepare the final report and fee schedules. Any information provided in advance by the consultant will be forwarded to you in advance of the workshop.

The County Commission respectfully requests that each impact fee entity send at least one representative who can speak on their behalf regarding these matters. Please note that this is not a public hearing.

The workshop is scheduled as follows:

What:	**Impact Fees Recalculation & Fee Schedule Update Project - Workshop**
When:	**Wednesday, May 28, 2014, at 1:30 pm**
Where:	**Jefferson County Commission meeting room Charles Town Library (use basement side entrance) 200 East Washington Street Charles Town, WV 25414**
Questions:	**Contact Michelle Mason, Impact Fees Program Specialist 304-728-3331**

Note: THIS IS NOT A PUBLIC HEARING.

DRAFT – IMPACT FEES

Prepared for:

Jefferson County, WV

May 21, 2014

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Fiscal, Economic & Planning Consultants

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EXECUTIVE SUMMARY

TischlerBise was retained by the Jefferson County Commission to recalibrate the County's impact fees using current level of service standards for:

- Parks & Recreation
- Law Enforcement
- Fire & EMS

Impact fees are one-time payments used to defray the cost impacts of facilities necessary to accommodate new development. The payment amount represents new growth's fair share of capital facility needs. TischlerBise evaluated possible methodologies and documented appropriate demand indicators by type of development for the fee amounts. Specific capital costs have been identified using local data and current dollars. Level of Service (LOS) standards and cost factors are presented in this report and are the basis for the calculations. It should be noted that although growth affects both capital and operating expenses, the impact fee analysis addresses new development's impact on *capital* facilities only. It is further limited to capital improvements that provide additional capacity as opposed to maintenance or rehabilitation.

APPROACH AND METHODOLOGY

There are three basic *methodologies* 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 fee revenue 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 or land.

A general requirement common to impact fee calculations 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 facility fee plus the payment of other revenues that may also fund growth-related capital improvements. Revenue credits are dependent upon the fee methodology used in the cost analysis.

To avoid this potential double payment situation, future revenue credits are appropriate to account for outstanding debt on County facilities. A credit is necessary since new residential units that will pay the fee will also contribute to future principal payments on this remaining debt through property taxes. A credit is not necessary for interest payments because interest costs are not included in the costs.

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

Figure 1 shows the method used to derive each component of the fees in Jefferson County.

Figure 1. Proposed Impact Fees: Methodologies

Type of Fee	Cost Recovery (past)	Incremental Expansion (present)	Plan-Based (future)
Parks & Recreation		Park Improvements Park Land Recreational Facilities Maintenance Equipment	
Law Enforcement		Facilities Vehicles Equipment	
Fire & EMS		Facilities Equipment	

MAXIMUM SUPPORTABLE IMPACT FEES

Figure 2 displays the current impact fees for Jefferson County. As shown below, the current fees include three residential floor area types, including Single Family Detached, Townhome/ Duplex, and Multifamily. However, an ordinance was passed in 2013 that reduced the nonresidential fees by 99% to encourage nonresidential growth starting July 2013.

Figure 2. Current Impact Fees

Development Type	Parks & Rec	Law Enforcement	Fire & EMS
Residential (per housing unit)			
Single Family Detached	$752	$262	$698
Townhome/ Duplex	$575	$200	$533
Multifamily	$566	$197	$525
Nonresidential (per 1,000 sq ft of floor area)			
Commercial*	$0	$101	$1,903
Office/Institutional*	$0	$42	$776
Business Park	$0	$33	$618
Light Industrial	$0	$18	$338
Warehousing	$0	$13	$240
Manufacturing	$0	$10	$185

*Nonresidential fees are averages of floor areas for each land use type.

Figure 3 provides the schedule of *Maximum Supportable Impact Fees* for Jefferson County Parks & Recreation, Law Enforcement, and Fire & EMS. The amounts shown are "maximum supportable" amounts based on the methodologies, level of service, and costs for the capital improvements identified herein. The fees represent the highest amount feasible for each type of applicable development, which represent new growth's fair share of the capital costs as detailed in this report. Jefferson County can adopt amounts that are lower than the maximum amounts shown. However, a reduction in fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in the County's level of service.

As shown in Figure 3, the categories have changed slightly, to "Single Family, Townhouse and Mobile Home," "Duplex," and "Multi-family" The U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS) which is limited by sample-size constraints in areas with relatively few residents. Data on detached housing units are now combined with attached single units (commonly known as townhouses). **Because of this, separate fees can no longer be determined for Single Family Detached and Townhouses.** A Single Unit (as discussed in the Land Use Assumptions for Jefferson County) includes single family detached units, single family attached units, and mobile homes. 2+ Units refers to structures with 2 or more units, which include Duplexes and Multi-family (apartments and condos), which is why these two categories have the same fee.

Figure 3. Maximum Supportable Impact Fees

Development Type	Parks & Rec	Law Enforcement	Fire & EMS
Residential (per housing unit)			
Single Unit (Single-Family, Townhouse & Mobile Home)	$721	$242	$778
Duplex	$530	$178	$572
Multi-Family (Apartments & Condos)	$530	$178	$572
Nonresidential (per 1,000 sq ft of floor area)			
Commercial	$0	$399	$669
Office/ Institutional	$0	$156	$1,110
Business Park	$0	$176	$1,030
Light Industrial	$0	$98	$772
Warehousing	$0	$50	$306
Manufacturing	$0	$54	$600

OVERVIEW

INTRODUCTION TO IMPACT FEES

Definition

Impact fees, also known as development 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 facility 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 and rehabilitation costs;
- Impact fees cannot be deposited in the County'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 and facility 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 or facility fees.

Required Findings

There are three reasonable relationship 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 development 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/facility 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 Act authorizing the County's impact fee 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.

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 facility 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 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 systems that were oversized such as sewer and water facilities. To calculate a fee using the cost recovery approach, the facility cost is divided by ultimate number of demand units the facility will serve.

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). 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. This approach is utilized for this study.

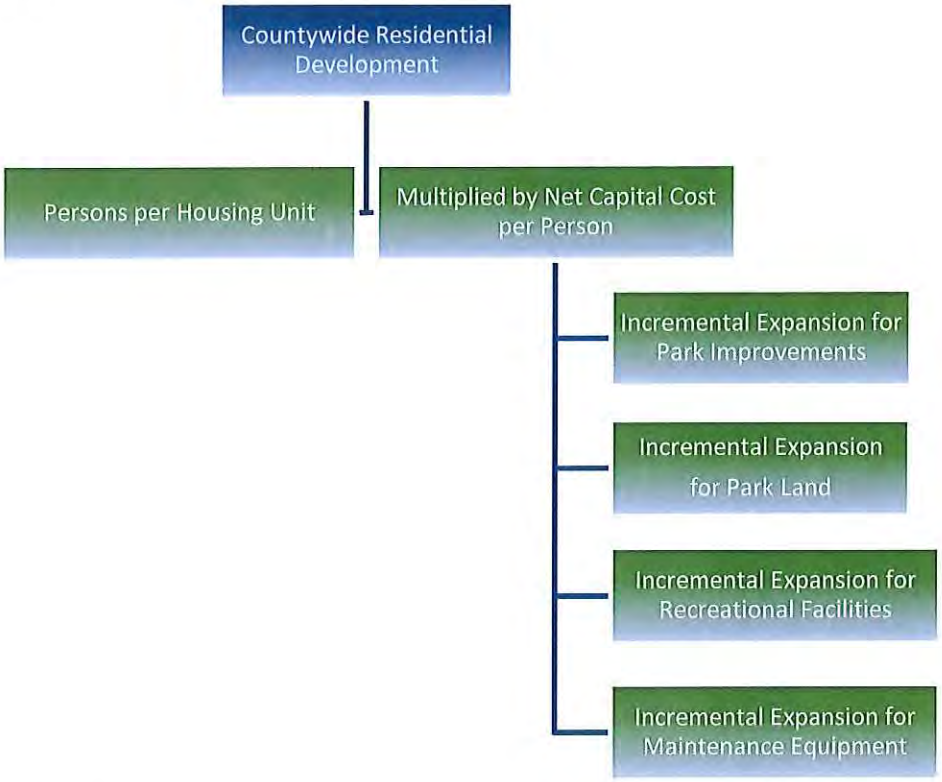
Credits. Regardless of the methodology, a consideration of "credits" is integral to the development of a legally valid impact fee methodology. There are two types of "credits" each with specific, distinct characteristics, but both of which should be addressed in the development of facility fees. The 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 an impact fee program.

PARKS & RECREATION

METHODOLOGY

The incremental expansion method is used to calculate all components of the Parks & Recreation Impact Fee, including park improvements, park land, recreational facilities, and maintenance equipment.

Figure 4. Parks & Recreation Impact Fee Methodology



CAPITAL COSTS PER PERSON

The Parks & Recreation Impact Fee includes components for park improvements, park land, recreational facilities, and maintenance equipment. This section of the report details the current LOS and cost factors which are used in the impact fee calculations.

Park Improvements

Figure 5 displays the inventory of park improvements in Jefferson County.

Figure 5. Parks Improvement Inventory

Improvements	#	*2014 Cost*
Bolivar Nature Park		
Gazebo	1	$32,300
Infrastructure*	1	$2,260
Landscaping	1	$2,150
Nature Trail	1	$1,080
Picnic Tables	3	$3,230
Sign	1	$1,080
Total	**8**	**$42,100**
Leetown Park		
Concession Stand	1	$52,500
Tennis Courts	2	$100,000
Pavillion	1	$53,840
Softball Fields w/ Lights	2	$90,000
Storage / Dugouts	4	$53,840
Perimeter Fencing	1	$126,000
Playground Equipment	1	$92,259
Horseshoe Pits	1	$1,080
Picnic Tables	6	$6,460
Sign	1	$1,080
Landscaping	1	$6,460
Infrastructure*	1	$107,670
Total	**22**	**$691,189**
Harvest Hills Park		
Sign	1	$1,080
Total	**1**	**$1,080**
Heather Marriot Park		
Sign	1	$1,080
Total	**1**	**$1,080**

Improvements	#	*2014 Cost*
Morgan's Grove Park		
Pavillion with Grills	1	$53,840
Picnic Tables	20	$5,500
Concession Stand	1	$161,510
Playground Equipment	1	$80,750
Maintenance/ Quonset Hut	1	$80,750
Soccer Fields	4	$215,340
Walking Trail-Gravel	1	$247,500
Perimeter Fencing	1	$53,840
Horseshoe Pit	1	$1,080
Volleyball Court	1	$5,380
Sign	1	$1,080
Landscaping	1	$53,840
Infrastructure*	1	$215,340
Total	**35**	**$1,175,750**
Moulton Park		
Camping Pads	11	$11,025
Fence	1	$12,920
Boat Ramp	1	$21,530
Parking Lot	1	$21,530
Sign	1	$1,080
Infrastructure*	1	$2,260
Total	**16**	**$70,345**
Mount Mission Park		
Pavillion/ Kitchen	1	$60,000
Playground Equipment	1	$80,750
Old Church Bldg. (Storage)	1	$220,050
Perimeter Fencing	1	$12,920
Baseball Field	1	$53,840
Picnic Tables	9	$6,460
Sign	1	$1,080
Landscaping	1	$2,260
Horseshoe Pits	1	$1,080
Total	**17**	**$438,440**

Improvements	#	*2014 Cost*
Sam Michaels Park		
Storage Addition	1	$90,000
Maintenance Building	1	$192,500
Soccer Field Complex	1	$161,510
Walking Trail	1	$40,931
Pavillion/ Kitchen	2	$50,000
Playground Equipment	2	$59,988
Fencing/ Dog Park	1	$100,000
Stage	1	$50,000
Baseball Field with Lights	3	$333,780
Concession Stand	1	$50,000
Picnic Tables	6	$6,460
Horseshoe Pits	1	$1,080
Volleyball Courts	2	$5,380
Cross Country Tail	1	$32,300
Sign	1	$1,080
Landscaping	1	$3,230
Infrastructure*	1	$3,230,100
Total	**27**	**$4,408,339**
South Jefferson Park		
Concession Stand	1	$64,600
Baseball Fields w/ Lights	7	$398,380
Perimeter Fencing	1	$107,670
Maintenance Building	1	$48,450
Basketball Courts	1	$32,300
Tennis Courts	2	$64,600
Volleyball Court	1	$5,380
Playground Equipment	1	$80,750
Picnic Tables	1	$6,460
Sign	1	$1,080
Soccer Field	1	$53,840
Landscaping	1	$3,230
Infrastructure*	1	$107,670
Total	**20**	**$974,410**
Total	**147**	**$7,322,384**

Source: Inventory and costs from 2010 Park & Recreation Impact Fee Study. Costs updated to February 2014 dollars for inflation. Some items and costs were added using "2013 Current Inventory and Acreage of Each Park", provided by Jefferson County Parks and Recreation Commission staff.

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

A summary of the inventory of park improvements by park is shown in Figure 6. (James Hite Park is not included because there are not any improvements at this point.) In total, there are 147 improvements on 291.07 acres of parks that have a replacement cost of approximately $7,802,733. The level of service is 2.7 improvements per thousand persons, which is found by dividing the number of improvements (147) by the 2013 population (53,958) and multiplying by 1,000. The average cost per improvement is approximately $53,000 (replacement value of $7,802,733 divided by 147 improvements). Multiplying the average cost per improvement ($53,000) by the level of service (2.7 improvements per 1,000) results in a cost per person of $144.39.

Figure 6. Park Improvement LOS Standards

Park	*Acres*	*# of Improvements*	*Total Cost*
Bolivar Nature Park	6.80	8	$42,100
Leetown Park	10.87	22	$691,189
Harvest Hills Park	21.77	1	$1,080
Heather Marriot Park	11.00	1	$1,080
Morgan's Grove Park	25.90	35	$1,175,750
Moulton Park	2.88	16	$70,345
Mount Mission Park	3.50	17	$438,440
Sam Michael's Park	137.24	27	$4,408,339
South Jefferson Park	71.11	20	$974,410
Total	**291.07**	**147**	**$7,802,733**

Average Cost Per Improvement	**$53,000**

Level of Service (LOS) Standards

Total Improvements	147
2013 Jefferson County Population	53,958
Improved Park Acres	291.07
Improved Acres per 1,000 Persons	5.4
LOS: Improvements per 1,000 Persons	**2.7**

Cost Analysis

LOS: Improvements per 1,000 Persons	2.7
Cost per Improvement	$53,000
Improvement Cost per Person	**$144.39**

Park Land

An inventory of parks in Jefferson County is shown in Figure 7. In total, there are 410.80 acres of parks. This results in level of service of 7.6 acres per thousand persons, which is found by dividing the total number of park acres (410.80) by the 2013 Jefferson County population (53,958) and multiplying by 1,000. The cost per acre to purchase land is $10,800. To determine the cost per demand unit, the level of service standard of 7.6 acres per person is multiplied by the average cost per acre ($10,800) and divided by 1,000 to determine a cost per person of $82.22.

Figure 7. Park Land LOS Standards

Parks	*Total Acres*
Bolivar Nature Park	6.80
Leetown Park	10.87
James Hite Park	119.73
Harvest Hills Park	21.77
Heather Marriot Park	11.00
Morgan's Grove Park	25.90
Moulton Park	2.88
Mount Mission Park	3.50
Sam Michael's Park	137.24
South Jefferson Park	71.11
Total	**410.80**

Source: Jefferson County staff.

Park Cost per Acre[1]	**$10,800**

1. Cost per acre from 2010 Impact Fee Study, updated for inflation.

Level of Service (LOS) Standards

Total Park Acres	411
2013 Jefferson County Population	53,958
LOS: Acres per 1,000 Persons	**7.61**

Cost Analysis

LOS: Acres per 1,000 persons	7.61
Cost per Acre	$10,800
Park Cost per Person	**$82.22**

Recreational Facilities

Jefferson County has one recreational facility, the Jefferson County Community Center, as shown in Figure 8. It is 19,577 square feet, and has a replacement cost of $3,375,000. The level of service is 362.8 square feet per thousand persons, which is found by dividing the total square feet (19,577) by the 2013 population (53,958) and multiplying by 1,000

The cost per square foot ($172) is multiplied by the level of service (362.8 square feet per 1,000 persons) and divided by 1,000 to yield a cost per person of $62.55.

Figure 8. Recreational Facility LOS Standards

Recreational Facility	*Sq Ft*	*Cost*	*Cost per Sq Ft*
Jefferson County Community Center (Sam Michaels Park)	19,577	$3,375,000	$172

Level of Service (LOS) Standards	
Total Square Feet	19,577
2013 Jefferson County Population	53,958
LOS: Square Feet per 1,000 Persons	**362.8**

Cost Analysis	
LOS: Square Feet per 1,000 Persons	362.82
Cost per Square Foot	$172
Recreational Facility Cost per Person	**$62.55**

Maintenance Equipment

Figure 9 displays the inventory of parks and recreation maintenance equipment. There are 21 units of maintenance equipment which have a replacement cost of $344,265. The level of service is 0.4 units per thousand persons, which is found by dividing the total number of units (21) by the 2013 Jefferson County population (53,958) and multiplying by 1,000. The average cost per unit of maintenance equipment is $16,000. To determine the cost per demand unit, the level of service standard of 0.4 units per 1,000 persons is multiplied by the average cost per piece of maintenance equipment ($16,000) and divided by 1,000, for a cost per person of $6.23.

Figure 9. Maintenance Equipment LOS Standards

Item	*#*	*Total Cost*
Dump Truck	1	$50,000
Pick-Up Truck	4	$160,765
Scag Mowers	6	$53,000
Tractors	6	$59,500
Trailers	3	$11,000
Miscellaneous Tools	1	$10,000
Total	**21**	**$344,265**

Source: Jefferson County Parks and Recreation Commission.

Average Cost per Unit	**$16,000**

Level of Service (LOS) Standards

Total Maintenance Equipment Units	21
2013 Jefferson County Population	53,958
LOS: Units per 1,000 Persons	**0.4**

Cost Analysis

LOS: Units per 1,000 Persons	0.4
Cost per Piece of Maintenance Equipment	$16,000
Maintenance Equipment Unit Cost per Person	**$6.23**

PROJECTED NEED FOR PARK INFRASTRUCTURE

The need for additional parks and recreation infrastructure, based on projected population growth over the next six years and level of service standards as discussed above, is shown in Figure 10. Level of service standards and costs for park improvements and maintenance equipment are shown Figure 10.

Over the next six years, it is projected that Jefferson County will spend about $774,000 on 15 park improvements, $441,000 on 41 acres of parks, $335,000 on 1,945 square feet of recreational facilities and $33,000 on 2 maintenance equipment units. The projected demand for parks and recreation infrastructure totals approximately $1.58 million.

Figure 10. Parks & Recreation Projected Growth Needs

	Park Improvements		Park Land		Recreational Facilities		Maintenace Equipment	
LOS	2.7	improvements per 1,000 persons	7.6	acres per 1,000 persons	362.8	square feet per 1,000 persons	0.4	units per 1,000 persons
Cost	$53,000	per improvement	$10,800	per acre	$172	per square foot	$16,000	per unit

		Projected Demand				
		Persons	Park Improvements	Park Land (acres)	Recreational Facilities (sq ft)	Maintenace Equipment (units)
Base	2013	53,958	147	411	19,577	21
1	2014	54,816	149	417	19,888	21
2	2015	55,689	152	424	20,205	22
3	2016	56,575	154	431	20,526	22
4	2017	57,475	157	438	20,853	22
5	2018	58,389	159	445	21,185	23
6	2019	59,318	162	452	21,522	23
6-Yr Total		**5,360**	**15**	**41**	**1,945**	**2**
Cost of Park Improvements			$774,000			
Cost of Park Land				$441,000		
Cost of Recreational Facilities					$335,000	
Cost of Maintenance Equipment						$33,000
Total Cost						**$1,583,000**

IMPACT FEE CONSULTANT STUDY COST

The cost of preparing the Parks & Recreation Impact Fee is also included in the fee calculations. This cost ($12,340) is allocated to the projected increase in persons over the next five years (4,431). On average, the County updates its impact fee methodologies and components every five years. This results in a consultant cost per demand unit of $2.78 per person ($12,340 / 4,431 persons = $2.78 per person.)

PROPOSED IMAPCT FEES FOR PARKS & RECREATION

Infrastructure standards used in the Parks & Recreation Impact Fee calculations are listed at the top of Figure 11. The net capital cost for Parks & Recreation is $298.17 for each resident added to Jefferson County. Impact fees per unit are derived by multiplying persons per housing unit by the total infrastructure cost per person. Therefore, the impact fee for a single unit is $721 (2.42 persons per housing unit X $298.17 infrastructure cost per person = $721).

Figure 11. Proposed Parks & Recreation Impact Fees

Cost per Person	
Park Improvements	$144.39
Park Land	$82.22
Recreational Facilities	$62.55
Vehicles and Equipment	$6.23
Consultant Cost	$2.78
Net Cost per Person	**$298.17**

Residential (per housing unit)	*Land Use Assumptions Category*	*Persons per Housing Unit*	*Proposed Fee*	*Current Fee*	*Increase (Decrease)*	*% Change*
Single Unit (Single-Family, Townhouse & Mobile Home)	*Single Unit*	2.42	**$721**	$752	($31)	-4%
Duplex	*2+ Units*	1.78	**$530**	$575	($45)	-8%
Multi-Family (Apartments & Condos)	*2+ Units*	1.78	**$530**	$566	($36)	-6%

LAW ENFORCEMENT

METHODOLOGY

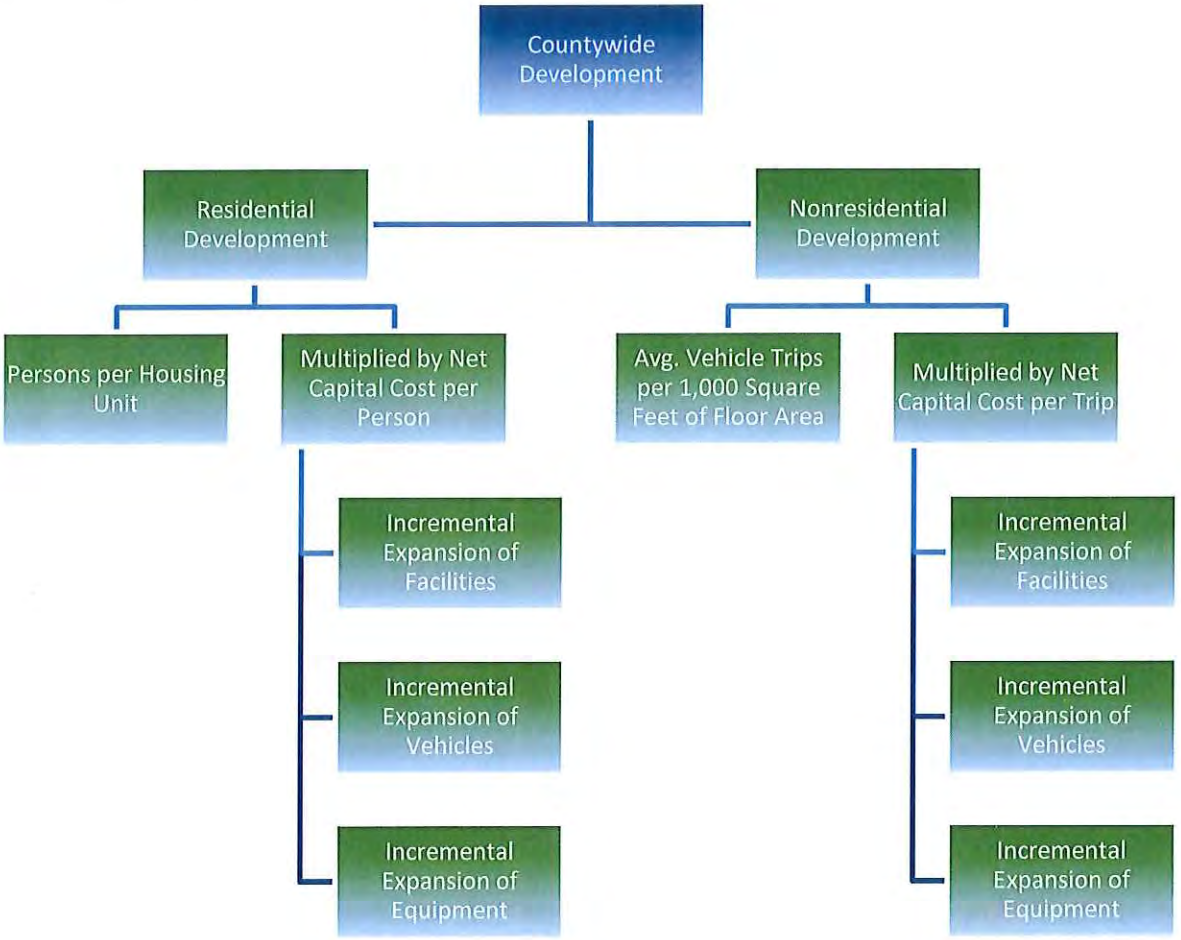
The Law Enforcement impact fee for Jefferson County utilizes an incremental expansion methodology, with infrastructure costs allocated to both residential and nonresidential development based on a functional population analysis (discussed in Figure 12). The methodology for the Law Enforcement Impact Fee is diagrammed in Figure 12. For residential development, Law Enforcement Impact Fees are a function of population growth.

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

Average weekday vehicle trip ends are from the reference book, Trip Generation (Ninth Edition, 2012), published by the Institute of Transportation Engineers (ITE). A vehicle trip end represents a vehicle either entering or exiting a development (as if a traffic counter were placed across a driveway). To calculate impact fees, trip generation rates are adjusted to avoid double counting each trip at both the origin and destination points—thereby allocating the trip to the appropriate land use.

The basic trip adjustment factor is 50 percent for all nonresidential development except commercial. For commercial/shopping center development, the trip adjustment factor is less than 50 percent because retail uses attract vehicles as they pass by on arterial and collector roads. For example, when someone stops at a convenience store on the way home from work, the convenience store is not the primary destination. For an average size shopping center, the ITE manual indicates that on average 25 percent of the vehicles that enter are passing by on their way to some other primary destination. The remaining 75 percent of attraction trips have the shopping center as their primary destination. Because attraction trips are half of all trips, the trip adjustment factor is 75 percent multiplied by 50 percent, or approximately 38 percent of the trip ends.

Figure 12. Law Enforcement Impact Fee Methodology



PROPORTIONATE SHARE

In Jefferson County development fees are based on both residential and nonresidential development. As shown in Figure 13, functional population was used to allocate law enforcement costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population" by accounting for people living and working in a jurisdiction. Residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Jefferson County are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Jefferson County the cost allocation for residential development is 77% while nonresidential development accounts for 23% of the demand for law enforcement infrastructure.

Figure 13. Functional Population

	Service Units in 2011		Demand Hours/Day	Person Hours
Residential				
Population	52,936			
56% Residents Not Working		29,460	20	589,200
44% Resident Workers**		23,476		
30% Worked in County**		6,987	14	97,818
70% Worked Outside County**		16,489	14	230,846
			Residential Subtotal	917,864
			Residential Share =>	**77%**
Nonresidential				
Non-working Residents		29,460	4	117,840
Jobs Located in County**		15,420		
Residents Working in County**		6,987	10	69,870
Non-Resident Workers (inflow commuters		8,433	10	84,330
			Nonresidential Subtotal	272,040
			Nonresidential Share =>	**23%**
			TOTAL	1,189,904

** 2011 count, U.S. Census Bureau.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.*

CAPITAL COSTS PER PERSON

The Law Enforcement Impact Fee includes components for facilities, vehicles, and equipment. This section of the report details the current LOS and cost factors which are used in the impact fee calculations.

Facilities

An inventory of law enforcement facilities in Jefferson County is shown in Figure 14. In total, there are 16,000 square feet of facilities devoted to law enforcement. The current residential level of service is derived by multiplying the total square footage of law enforcement facilities (16,000) by the residential proportionate share factor (77%) and dividing by the total population (16,000 X 77% / 53,958) resulting in .23 sq. ft. per person. Similarly, nonresidential level of service is derived by multiplying total square footage by the nonresidential proportionate share and dividing by total average weekday vehicle trips (16,000 X 23% / 57,545) resulting in .06 sq. ft. per trip.

The cost per demand unit is derived using the average replacement cost per square foot ($251) and existing levels of service discussed above. For residential development, the cost per person is $57.31 (0.23 square feet per person X $251 per square foot). The cost per average weekday vehicle trip for nonresidential development is $16.05 (0.06 square feet per vehicle trip X $251 per square foot).

Revenues from the facilities component of the law enforcement impact fees will likely be used to expand evidence storage, training space, and the firing range.

Figure 14. Law Enforcement Facility LOS Standards

	Square Feet	*Cost per Sq Ft*[1]	*Total Cost*
Sheriff's Building - Bardane	15,000	$260	$3,900,000
Blue Ridge Community Facility	1,000	$120	$120,000
Total	**16,000**		**$4,020,000**

Average Cost per Sq Ft	**$251**

Source: Jefferson County Sheriff's Department. 2010 Law Enforcement Impact Fee Study.

1. Costs used in 2010 Law Enforcement Impact Fee Study, updated in May 2011, were updated for inflation to show February 2014 costs. Sheriff's Building includes total acquisition and construction costs.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	77%		23%	
2013 Demand Units	53,958	persons	57,545	trips
Level of Service	**0.23**	**sq ft per person**	**0.06**	**sq ft per trip**
Facility Cost per Demand Unit	**$57.31**	**per person**	**$16.05**	**per trip**

Vehicles

An inventory of law enforcement vehicles in Jefferson County is shown in Figure 15. In total, there are 51 law enforcement vehicles. This results in a residential level of service of 0.007 vehicles per person,

which is found by multiplying the total number of vehicles (51) by the residential proportionate share factor (77%) and then dividing by the 2013 Jefferson County population (53,958). The nonresidential level of service is 0.0002 vehicles per nonresidential vehicle trip, which is found by multiplying the number of vehicles (51) by the nonresidential proportionate share factor (23%) and then dividing by the current average weekday trips to nonresidential development (57,545) in 2013.

The cost per demand unit is derived using the average replacement cost per vehicle ($54,000) and existing levels of service discussed above. For residential development, the cost per person is $39.30 (0.0007 vehicles per person X $54,000 per vehicle). The cost per average weekday vehicle trip for nonresidential development is $11.01 (0.0002 vehicles per nonresidential trip X $54,000 per vehicle).

Figure 15. Law Enforcement Vehicle LOS Standards

Vehicle	*#*	*Replacement Cost*	*Total Cost*
Ford Crown Victoria	31	$57,300	$1,776,300
Ford Explorer	9	$54,800	$493,200
Jeep Cherokee	3	$56,460	$169,380
Chevrolet Motorhome	1	$161,050	$161,050
BMW 5401	1	$6,750	$6,750
Buick LeSabre	1	$5,200	$5,200
Chrysler Concorde	1	$3,120	$3,120
Ford Taurus	1	$48,880	$48,880
Dodge Durango	3	$28,110	$84,330
Total	**51**		**$2,748,210**

Average Cost per Vehicle	**$54,000**

Source: Jefferson County Sheriff's Department. 2010 Law Enforcement Impact Fee Study.

1. Costs used in 2010 Law Enforcement Impact Fee Study, updated in May 2011, were updated for inflation to show February 2014 costs. Costs are insurance estimate of replacement cost.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	77%		23%	
2013 Demand Units	53,958	persons	57,545	trips
Level of Service	**0.0007**	**vehicles per person**	**0.0002**	**vehicles per trip**
Vehicle Cost per Demand Unit	**$39.30**	**per person**	**$11.01**	**per trip**

Equipment

An inventory of law enforcement equipment in Jefferson County is shown in Figure 16. In total, there are 6 units of equipment. This results in a residential level of service of 0.00009 units per person, which is found by multiplying the total number of units (6) by the residential proportionate share factor (77%) and then dividing by the 2013 Jefferson County population (53,958). The nonresidential level of service is 0.000024 units per nonresidential vehicle trip, which is found by multiplying the number of units (6) by the nonresidential proportionate share factor (23%) and dividing by the current number of average nonresidential weekday trips (57,545) in 2013. According to information provided by the County, the average cost of a law enforcement equipment unit is $25,000.

The cost per demand unit is derived using the average cost per unit of equipment ($25,000) and existing levels of service discussed above. For residential development, the cost per person is $2.14 (0.00009 equipment units per person X $25,000 per unit). The cost per average weekday vehicle trip for nonresidential development is $0.60 (0.000024 equipment units per nonresidential trip X $25,000 per unit).

Figure 16. Law Enforcement Equipment LOS Standards

Equipment	*#*	*Cost per Unit**	*Total Cost*
Traffic Monitoring Camera	6	$25,000	$150,000
Total	**6**		**$150,000**

Average Cost per Unit	**$25,000**

Source: Jefferson County Sheriff's Department. 2010 Law Enforcement Impact Fee Study.

*Costs used in 2010 Law Enforcement Impact Fee Study, updated in May 2011, were updated for inflation to show February 2014 costs. Cost provided by vendor.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	77%		23%	
2013 Demand Units	53,958	persons	57,545	trips
Level of Service	**0.00009**	**units per person**	**0.000024**	**units per vehicle trip**
Equipment Cost per Demand Unit	**$2.14**	**per person**	**$0.60**	**per trip**

PROJECTED NEED FOR LAW ENFORCEMENT INFRASTRUCTURE

The need for additional law enforcement infrastructure, based on projected population growth over the next six years and level of service standards as discussed above, is shown in Figure 17. Level of service standards and costs for law enforcement facilities, vehicles, and equipment are shown Figure 17.

Over the next six years, it is projected that Jefferson County will spend about $365,000 on 1,453 square feet of law enforcement facilities, $250,000 on 5 law enforcement vehicles, and $14,000 a portion of one equipment unit. The projected demand for law enforcement infrastructure totals approximately $629,000.

Figure 17. Projected Growth Needs

	Facilities		Vehicles		Equipment	
Res LOS	0.2	sq ft per person	0.0007	vehicles per person	0.00009	units per person
Nonres LOS	0.1	sq ft per trip	0.0002	vehicles per nonres vehicle trip	0.00002	units per nonres vehicle trip
Cost	$251	per sq ft	$54,000	per vehicle	$25,000	per unit

		Projected Demand				
		Persons	*Trips*	Facilities (square feet)	Vehicles	Equipment
Base	2013	53,958	57,545	16,000	51	6
1	2014	54,816	58,143	16,234	52	6
2	2015	55,689	58,740	16,472	53	6
3	2016	56,575	59,337	16,712	53	6
4	2017	57,475	59,934	16,956	54	6
5	2018	58,389	60,531	17,203	55	6
6	2019	59,318	61,129	17,453	56	7
6-Yr Total		**5,360**	**3,583**	**1,453**	**5**	**0.5**
Cost of Facilities				$365,000		
Cost of Vehicles					$250,000	
Cost of Equipment						$14,000
Total Cost						**$629,000**

IMPACT FEE CONSULTANT STUDY COST

The cost of preparing the Law Enforcement Impact Fee is also included in the fee calculations. This cost ($9,340) is divided between residential and nonresidential development using the proportionate shares discussed above (77% and 23%), and allocated to the five-year projected increase in persons (4,431) and trips (1,334). On average, the County updates its impact fee methodologies and components every five

years. This results in a consultant cost per person of $1.62 ($9,340 * 77% / 4,431 persons = $1.62 per person). The consultant cost per trip is $0.72 ($9,340 * 23% / 2,986 = $0.72 per trip).

PROPOSED IMAPCT FEES FOR LAW ENFORCEMENT

Proposed law enforcement impact fees are shown in Figure 18. For residential development, law enforcement impact fees are based on unit type and persons per housing unit. For example, the proposed law enforcement fee for single unit housing units is $242 per unit (2.42 persons per housing unit x $100.37 net cost per person = $242 (truncated)). For nonresidential development, the fees are expressed per thousand square feet (KSF) of floor area.

Figure 18. Proposed Law Enforcement Impact Fees

Cost per Person	
Facilities	$57.31
Vehicles	$39.30
Equipment	$2.14
Professional Services	$1.62
Net Cost per Demand Unit	**$100.37**

Residential Development Fees per Housing Unit

Residential (per housing unit)	*Land Use Assumptions Category*	*Persons per Housing Unit*	*Proposed Fee*	*Current Fee*	*Increase (Decrease)*	*% Change*
Single Unit (Single-Family, Townhouse & Mobile Home)	*Single Unit*	2.42	**$242**	$262	($20)	-8%
Duplex	*2+ Units*	1.78	**$178**	$200	($22)	-11%
Multi-Family (Apartments & Condos)	*2+ Units*	1.78	**$178**	$197	($19)	-10%

Cost per Trip	
Facilities	$16.05
Vehicles	$11.01
Equipment	$0.60
Professional Services	$0.72
Net Cost per Demand Unit	**$28.38**

Nonresidential Development Fees per 1,000 Square Feet of Floor Area

Development Type	*Inbound Vehicle Trips*	*Proposed Fee*	*Current Fee**	*Increase (Decrease)*	*% Change*
Commercial*	14.09	**$399**	$101	$298	294%
Office/ Institutional*	5.52	**$156**	$42	$114	275%
Business Park	6.22	**$176**	$33	$143	433%
Light Industrial	3.49	**$98**	$18	$80	444%
Warehousing	1.78	**$50**	$13	$37	285%
Manufacturing	1.91	**$54**	$10	$44	440%

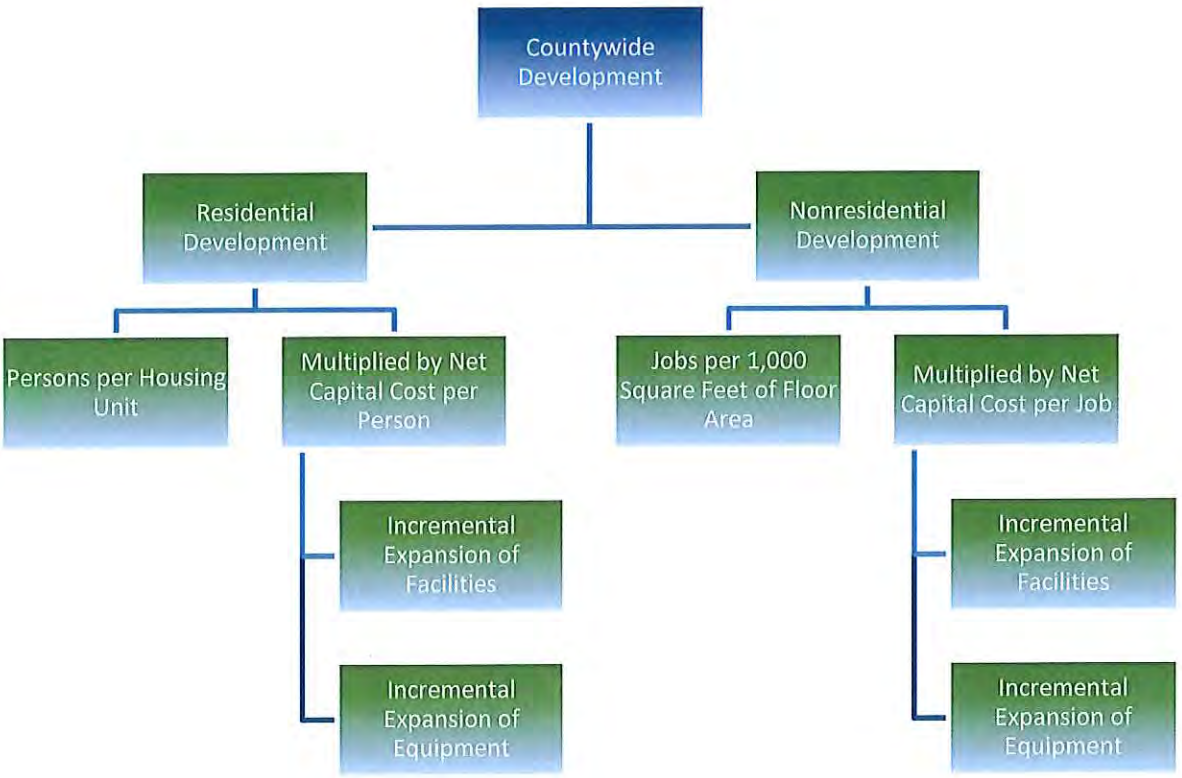
*Nonresidential fees are averages of floor areas for each land use type.

FIRE & EMS

METHODOLOGY

The Fire & EMS Impact Fee for Jefferson County utilizes an incremental expansion approach, with infrastructure costs allocated to both residential and nonresidential development based on an analysis functional population. The formula for the Fire & EMS Impact Fee is diagrammed in Figure 19. For residential development, Fire & EMS Impact Fees are a function of population growth. Fire & EMS Impact Fees for nonresidential development are based on the estimated number of employees per 1,000 square feet of floor area.

Figure 19. Fire & EMS Impact Fee Methodology



PROPORTIONATE SHARE

In Jefferson County development fees are based on both residential and nonresidential development. As shown in Figure 20, functional population was used to allocate fire and EMS (as well as law enforcement) costs to residential and nonresidential development. Functional population is similar to what the U.S. Census Bureau calls "daytime population" by accounting for people living and working in a jurisdiction. Residents that don't work are assigned 20 hours per day to residential development and four hours per day to nonresidential development (annualized averages). Residents that work in Jefferson County are assigned 14 hours to residential development. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2011 functional population data for Jefferson County the cost allocation for residential development is 77% while nonresidential development accounts for 23% of the demand for fire and EMS infrastructure.

Figure 20. Functional Population

	Service Units in 2011		Demand Hours/Day	Person Hours
Residential				
Population	52,936			
56% Residents Not Working		29,460	20	589,200
44% Resident Workers**		23,476		
30% Worked in County**		6,987	14	97,818
70% Worked Outside County**		16,489	14	230,846
			Residential Subtotal	917,864
			Residential Share =>	**77%**
Nonresidential				
Non-working Residents		29,460	4	117,840
Jobs Located in County**		15,420		
Residents Working in County**		6,987	10	69,870
Non-Resident Workers (inflow commuters		8,433	10	84,330
			Nonresidential Subtotal	272,040
			Nonresidential Share =>	**23%**
			TOTAL	1,189,904

** 2011 count, U.S. Census Bureau.*
*** Inflow/Outflow Analysis, OnTheMap web application, U.S. Census Bureau data for all jobs.*

CAPITAL COSTS PER PERSON

The Fire & EMS Impact Fee includes components for facilities and equipment. This section of the report details the current LOS and cost factors which are used in the impact fee calculations.

Facilities

An inventory of fire and EMS facilities, including land and stations, is shown in Figure 21. The total inventory of land and stations totals $8,504,330. There are 78,726 square feet of fire/EMS stations in Jefferson County. This current residential level of service is derived by multiplying the total square footage (78,726) by the residential proportionate share (77%) and dividing by the 2013 population (78,726 X 77% / 53,958), resulting in 1.1 square feet per person. Similarly, the nonresidential level of service is 1.2 square feet per job, which is found by multiplying the total square footage (78,762) by the nonresidential proportionate share (23%) and dividing by the number of jobs in 2013 (78,762 X 77% / 15,562).

The cost per demand unit is derived using the average cost per square foot, with the inclusion of the cost of land ($107) and existing levels of service discussed above. For residential development, the cost per person is $121.33 (1.1 square feet per person X $107 per square foot). The cost per average job for nonresidential development is $125.66 (1.2 square feet per job X $107 per square foot).

Figure 21. Fire & EMS Facility LOS Standards

Company Name	Acreage	Cost per Acre[1]	Land Cost	Station Sq Ft	Cost/ Sq Ft[2]	Station Cost[3]	Total Facility Cost (Land and Stations)
Friendship Fire Company	2	$107,650	$215,300	7,448	$85	$633,080	$848,380
Blue Ridge Mountain Fire Company	7.5	$19,387	$145,400	11,360	$85	$965,600	$1,111,000
Citizen's Fire Company	7.5	$75,373	$565,300	13,000	$85	$1,105,000	$1,670,300
Citizen's Fire Company - vacant lot	1.1	$117,455	$129,200	n/a	n/a	n/a	$129,200
Independent Fire Company	1.15	$53,826	$61,900	16,410	$85	$1,394,850	$1,456,750
Shepherdstown Fire Company	10	$10,770	$107,700	22,368	$85	$1,000,000	$1,107,700
Bakerton Fire Company	1.85	$19,405	$35,900	7,000	$85	$595,000	$630,900
Middleway Fire Company	0		$0		$0	$0	$0
Jefferson County ESA	0		$0		$0	$1,507,000	$1,507,000
Jeff. Co. Fire & Rescue Association[4]	48.5		$0	1,140	$0		$43,100
Total				**78,726**			**$8,504,330**

Average Cost per Sq Ft (including land)	$108

Source: 2010 Fire and EMS Impact Fee Study.

1. Land Costs updated from 2010 study to 2014 dollars.
2. Cost per Sq Ft is cost of Class A/B low cost Volunteer Fire Station, Marshall Valuation Service, 2010 (updated to 2014 dollars).
3. Jefferson County Building Purchase Price in 2009, updated for inflation.
4. Not included in 2010 study because includes standard LOS.

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	77%		23%	
2013 Demand Units	53,958	persons	15,562	jobs
Level of Service	**1.1**	**sq ft per person**	**1.2**	**sq ft per job**
Facility Cost per Demand Unit	**$121.33**	**per person**	**$125.66**	**per job**

Equipment

Figure 22 displays the inventory of fire and EMS equipment in Jefferson County.

Figure 22. Fire & EMS Equipment Inventory

Equipment Type	#	2014 Cost
Bakerton Fire Company		
Engine	2	$323,000
Duty 7	1	$22,000
Air 7	1	$70,000
Utility 7	1	$8,000
Serv 7	1	$11,000
Mobile 7	1	$11,000
Hurst Jaws of Life	1	$22,000
Thermal Imager	1	$8,000
Fire Hose	1	$27,000
SCOTT Air Packs	1	$162,000
Turn out fire gear	1	$67,000
Total	**12**	**$731,000**

Blue Ridge Mountain Fire Company		
Engine	2	$969,000
Tanker	2	$571,000
Brush 5	1	$108,000
Forestry 5	1	$11,000
Duty 5	1	$32,000
Utility 5	1	$32,000
Ambulance	2	$388,000
Chief's Vehicle	2	$65,000
Total	**12**	**$2,176,000**

Citizens Fire Company		
Air Compressor	1	$135,000
Brush Truck	1	$70,000
Rescue Truck	1	$323,000
Engine (4WD)	1	$538,000
Engine/ Tanker	1	$592,000
Ladder Truck	1	$1,077,000
Duty Vehicle	1	$65,000
Total	**7**	**$2,800,000**

Friendship Fire Company		
2002 Engine/ Ladder (Pumper)	1	$517,000
1998 Tanker	1	$151,000
2010 Ambulance	1	$162,000
1994 Brush Truck	1	$36,000
1990 Engine (Pumper)	1	$215,000
2003 Ambulence	1	$151,000
GMC Yukon	2	$129,000
Extrication Equipment	1	$61,000
Total	**9**	**$1,422,000**

Equipment Type	#	2014 Cost
Independent Fire Company		
Tanker	1	$280,000
Engines	2	$883,000
Heavy Duty Rescue	1	$700,000
Ambulance	2	$323,000
Utility Vehicle	1	$38,000
Boat, Motor, Trailer	1	$22,000
Total	**8**	**$2,246,000**

Jeff Co Emergency Services Agency		
Lifepack heart montitors	3	$81,000
Zoll Autopulse CPR Units	3	$52,000
Veh 11 - drector	1	$54,000
Veh 11-1 ALS Chase	1	$54,000
Veh 11-2 ALS Chase	1	$54,000
MCU 11 GMC Truck	1	$45,000
Amb 11	1	$135,000
Reserve 11	1	$135,000
Total	**12**	**$610,000**

Middleway Fire Company		
Engine	2	$65,000
Tanker 6	1	$32,000
Rescue 6	1	$43,000
Utility 6	1	$11,000
Total	**5**	**$151,000**

Shepherdstown		
Ladder Truck (truck 3)	1	$915,000
Tanker/ Tender (tanker 3)	1	$431,000
Engine (engine 3)	1	$700,000
Rescue Engine (rescue engine 3)	1	$700,000
Brush 3	1	$108,000
Duty 3	1	$108,000
Engine (engine 3-1)	1	$323,000
Ambulance	2	$431,000
EMS 3	1	$81,000
Total	**10**	**$3,797,000**

Total	**75**	**13,933,000**

Source: 2010 Fire & EMS Impact Fee Study updated to 2014 dollars.

A summary of the fire and EMS equipment inventory is shown in Figure 23. As shown below, there are 75 units of fire and EMS equipment. This results in a residential level of service of 0.001 units per person, which is found by multiplying the total number of equipment units (75) by the residential proportionate share factor (77%) and then dividing by the 2013 Jefferson County population (75 X 77% / 53,958). The nonresidential level of service is 0.001 vehicles per job, which is found by multiplying the number of equipment units (75) by the nonresidential proportionate share factor (23%) and then dividing by the current number of jobs (75 X 23% / 15,562) in 2013.

The cost per demand unit is derived using the average replacement cost per unit ($186,000) and existing levels of service discussed above. For residential development, the cost per person is $199.07 (0.001 units per person X $186,000 per unit). The cost per average job for nonresidential development is $206.18 (.001 vehicles per job X $186,000 per unit).

Figure 23. Fire & EMS Equipment LOS Standards

Company	*# of Units*	*Total Cost*
Bakerton Fire Company	12	$731,000
Blue Ridge Mountian Fire Company	12	$2,176,000
Citizens Fire Company	7	$2,800,000
Friendship Fire Company	9	$1,422,000
Independent Fire Company	8	$2,246,000
Jeff Co Emergency Services Agency	12	$610,000
Middleway Fire Company	5	$151,000
Shepherdstown	10	$3,797,000
Total	**75**	**$13,933,000**

Average Cost Per Unit	**$186,000**

Level of Service (LOS) Standards	Residential		Nonresidential	
Proportionate Share	77%		23%	
2013 Demand Units	53,958	persons	15,562	jobs
Level of Service	**0.001**	**units per person**	**0.001**	**units per job**
Equipment Cost per Demand Unit	**$199.07**	**per person**	**$206.18**	**per job**

PROJECTED NEED FOR FIRE & EMS INFRASTRUCTURE

The need for additional fire and EMS infrastructure, based on projected population growth over the next six years and level of service standards as discussed above, is shown in Figure 24. Level of service standards and costs for fire and EMS facilities and equipment are shown Figure 24.

Over the next six years, it is projected that Jefferson County will spend about $792,000 on 7,335 square feet of fire and EMS facilities and $1,300,000 on 7 equipment units. The projected demand for fire and EMS infrastructure totals approximately $2.1 million.

Figure 24. Fire & EMS Projected Growth Needs

	Facilities		Equipment	
Res LOS	1.1	sq ft per person	0.001	units per person
Nonres LOS	1.2	sq ft per job	0.001	units per job
Cost	$108	per sq ft	$186,000	per unit

		Projected Demand			
		Persons	*Jobs*	Facilities (square feet)	Equipment Units
Base	2013	53,958	15,562	78,726	75
1	2014	54,816	15,750	79,909	76
2	2015	55,689	15,938	81,108	77
3	2016	56,575	16,126	82,322	78
4	2017	57,475	16,314	83,552	80
5	2018	58,389	16,502	84,798	81
6	2019	59,318	16,690	86,061	82
6-Yr Total		**5,360**	**1,128**	**7,335**	**7**
Cost of Facilities				$792,000	
Cost of Equipment					$1,300,000
Total Cost					**$2,092,000**

IMPACT FEE CONSULTANT STUDY COST

The cost of preparing the Fire & EMS Impact Fee is also included in the fee calculations. This cost ($11,140) is divided between residential and nonresidential development using the proportionate shares discussed above (77% and 23%), and allocated to the five-year projected increase in persons (4,431) and jobs (940). On average, the County updates its impact fee methodologies and components every five

years. This results in a consultant cost per person of $1.94 ($11,140 * 77% / 4,431 persons = $1.94 per person). The consultant cost per job is $2.72 ($11,140 * 23% / 940 = $2.72 per trip).

PROPOSED IMPACT FEES FOR FIRE & EMS

Proposed Fire & EMS Impact Fees are shown in Figure 25. For residential development, Fire & EMS Impact Fees are based on unit type and persons per housing unit. For example, the proposed Fire & EMS Impact Fee for single unit housing units is $778 per unit (2.42 persons per housing unit x $322.34 net cost per person = $778 (truncated)). For nonresidential development, the fees are expressed per thousand square feet (KSF) of floor area.

Figure 25. Proposed Fire & EMS Impact Fees

Cost per Person	
Facilities	$121.33
Equipment	$199.07
Professional Services	$1.94
Net Cost per Demand Unit	**$322.34**

Residential Development Fees per Housing Unit

Residential (per housing unit)	*Land Use Assumptions Category*	*Persons per Housing Unit*	***Proposed Fee***	*Current Fee*	*Increase (Decrease)*	*% Change*
Single Unit (Single-Family, Townhouse & Mobile Home)	*Single Unit*	2.42	**$778**	$698	$80	11%
Duplex	*2+ Units*	1.78	**$572**	$533	$39	7%
Multi-Family (Apartments & Condos)	*2+ Units*	1.78	**$572**	$525	$47	9%

Cost per Job	
Facilities	$125.66
Equipment	$206.18
Professional Services	$2.72
Net Cost per Demand Unit	**$334.57**

Nonresidential Development Fees per 1,000 Square Feet of Floor Area

Development Type	*Employees per 1,000 sq ft*	***Proposed Fee***	*Current Fee**	*Increase (Decrease)*	*% Change*
Commercial*	2.00	**$669**	$1,903	($1,234)	-65%
Office/ Institutional*	3.32	**$1,110**	$776	$334	43%
Business Park	3.08	**$1,030**	$618	$412	67%
Light Industrial	2.31	**$772**	$338	$434	128%
Warehousing	0.92	**$306**	$240	$66	28%
Manufacturing	1.79	**$600**	$185	$415	224%

*Nonresidential fees are averages of floor areas for each land use type.

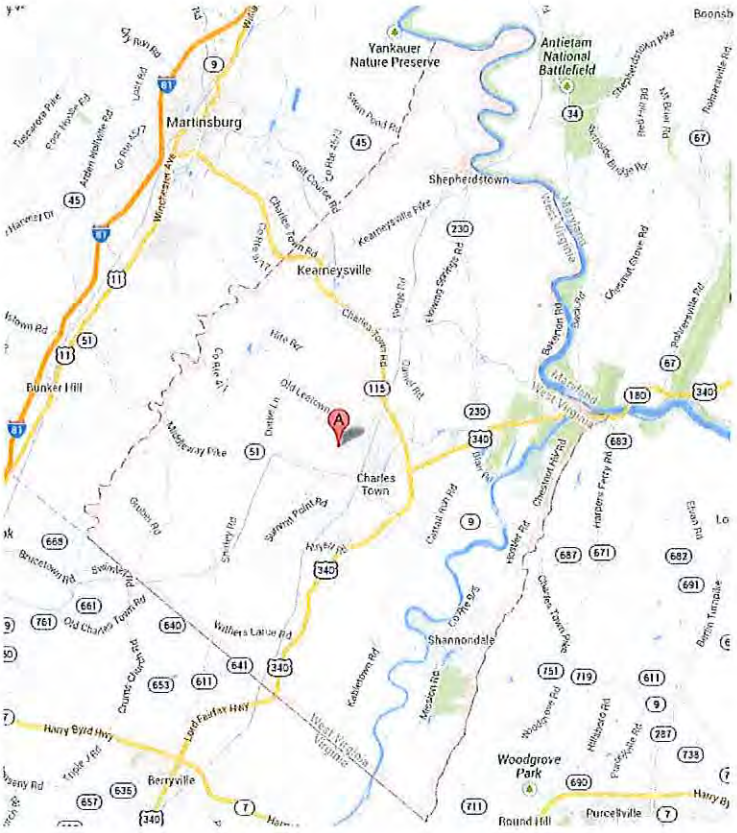
APPENDIX A: LAND USE ASSUMPTIONS

INTRODUCTION

Service Area

The estimates and projections of residential and nonresidential development in this *Land Use Assumptions* document are for areas within the boundaries of Jefferson County. The map below illustrates the area within the County's boundaries.

Figure A1. Map of Jefferson County Service Area



Summary of Growth Indicators

TischlerBise has prepared this *Land Use Assumptions* document which details current demographic ***estimates*** and future development ***projections*** for both residential and nonresidential development that will be used in the calculation of the impact fees. The development projections are used for calculating the level of service to be provided to future development by planned capital projects or existing infrastructure that was oversized in anticipation of new development. The development projections are also used in forecasting the amount and cost of infrastructure required by new development that will be documented in the cash flow analysis.

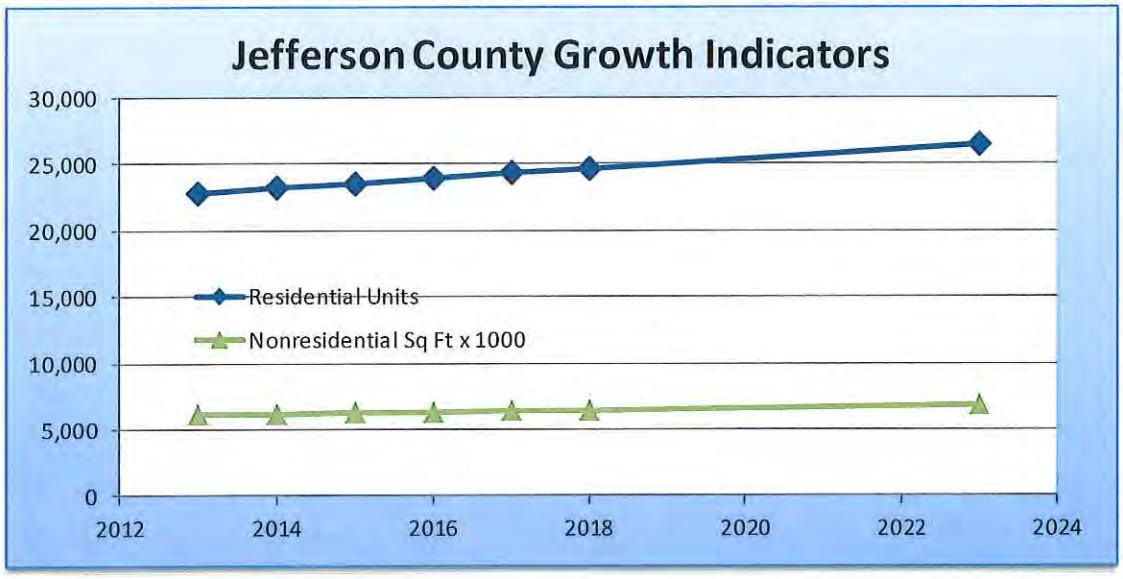
Impact fee methodologies are designed to reduce sensitivity to accurate development projections in the determination of the proportionate-share fee amounts. If actual development is slower than projected, impact fee revenues will also decline, but so will the need for growth-related infrastructure. In contrast, if development is faster than anticipated, the County will receive an increase in impact fee revenue, but will also need to accelerate the capital improvements program to keep pace with development.

Development projections and growth rates are summarized in Figure A2. Jefferson County specific base data for the demographic analysis and development projections include 2010 Census calculations of population and housing units and American Community Survey tables. The projected increase in housing units is based on projections for Jefferson County made by the University of West Virginia. Projected housing units were converted to population using the 2011 average of 2.36 year-round residents per housing unit. For housing units, the impact fee study assumes a compound annual growth rate of 1.5% for the first ten years.

The projected increase nonresidential floor area is based on conversations with the Jefferson County Development Authority. Projected nonresidential square footage within Jefferson County was converted to jobs using average square-feet-per-employee multipliers provided by the Institute of Transportation Engineers. For nonresidential development, the impact fee study assumes a compound annual growth rate of 1.1%.

Figure A2. Development Projections and Growth Rates

	Year							2013 to 2023 Average Annual	
	2013	2014	2015	2016	2017	2018	2023	*Increase*	*Compound Growth Rate*
Residential Units	22,820	23,183	23,552	23,926	24,307	24,694	26,479	366	1.5%
Nonresidential Sq Ft x 1000	6,130	6,200	6,270	6,340	6,410	6,480	6,830	70	1.1%



RESIDENTIAL DEVELOPMENT

Current estimates and future projections of residential development are detailed in this section, including housing units by type and population.

Current Estimates of Residential Development

The 2010 census did not obtain detailed information using a "long-form" questionnaire. Instead, the U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS) which is limited by sample-size constraints in areas with relatively few residents. For counties like Jefferson County, data on detached housing units are now combined with attached single units (commonly known as townhouses). One way to address this limitation is to derive fees by housing unit size, as discussed further below, is to address this ACS data limitation. Because townhouses and mobile homes generally have less floor area than detached units, fees by housing would ensure proportionality and facilitate construction of affordable units.

According to the U.S. Census Bureau, a household is a housing unit that is occupied by year-round residents. 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 are used in the fee calculations, infrastructure standards are derived using year-round population. When persons per household 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. TischlerBise recommends that impact fees for residential development in Jefferson County be imposed according to the number of year-round residents per housing unit.

Census data indicates that County had 22,037 housing units and 52,107 persons not in group quarters in 2010. As shown in Figure A3, in 2010, dwellings with a single unit per structure (detached, attached, and mobile homes) averaged 2.42 persons per housing unit. Dwellings in structures with multiple units (including structures with two or more units, boats, RVs, and vans) averaged 1.78 year-round residents per unit.

Figure A3. Person per Housing Unit by Type of Housing Unit

2010-2012 American Community Survey

Type	Persons	Households	Housing Units
Single Unit[1]	49,623	18,059	20,376
2+ Units[2]	3,197	1,622	1,786
TOTAL	**52,820**	**19,681**	**22,162**

1. Single Unit includes detached, attached, and mobile homes.
2. 2+ Units includes boats, vans and RVs.
Source: Tables B25024, B25032, and B25033.
2010-2012 American Community Survey, U.S. Census Bureau.

2010 Census

Type	Persons	Households	Housing Units	Persons per Housing Unit
Single Unit[1]	48,953	18,288	20,261	2.42
2+ Units[2]	3,154	1,643	1,776	1.78
Subtotal	52,107	19,931	22,037	2.36
Group Quarters	1,391			
TOTAL	**53,498**	**19,931**	**22,037**	

1. Single Unit includes detached, attached, and mobile homes.
2. 2+ Units includes boats, vans and RVs.
Source: Totals from Summary File 1, U.S. Census.

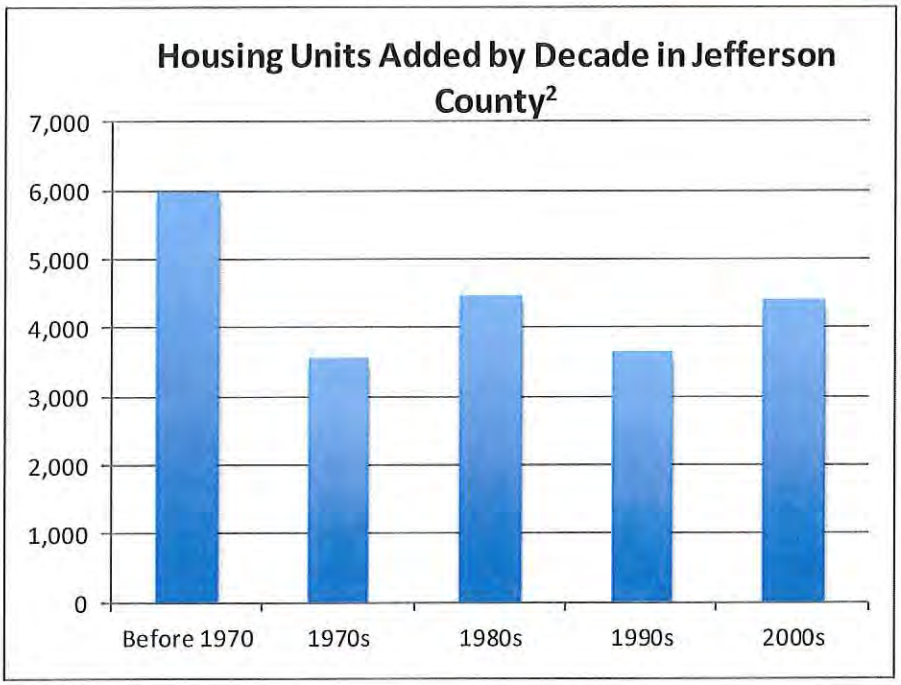
Recent Residential Construction

From 2000-2010, Jefferson County has increased by an average of 441 housing units per year. The chart at the bottom of Figure A4 indicates the estimated number of housing units added by decade in Jefferson County.

Figure A4. Housing Units by Decade

2010 Population[1]	53,498
2010 Housing Units[1]	22,037
Total Housing Units in 2000[1]	17,623
New Housing Units	4,414

From 2000 to 2010, Jefferson County added an average of 441 housing units per year.



1. Census SF1.
2. Source for 1990s and earlier is Table B25034, American Community Survey (2007-2011) scaled to equal total housing units in 2000.

Residential Development Forecast

Figure A5 displays total population projections (including persons in group quarters) for Jefferson County made by the West Virginia University College of Business and Economics. The projections assume a growth rate of 1.6% from 2012 to 2020 and a growth rate of 1.3% from 2020 to 2033. These growth rates exceed the one percent annual growth rate required by the West Virginia Impact Fee Enabling Act.

Figure A5. Total Population Projections

	2010	2012	2013	2015	2020	2025	2030	2033
Total Population[1]	53,537	54,504	55,371	57,891	62,691	67,075	71,208	73,982

1. Total Population includes persons in group quarters.

Source: West Virginia Population Projection by County, West Virginia University College of Business and Economics.

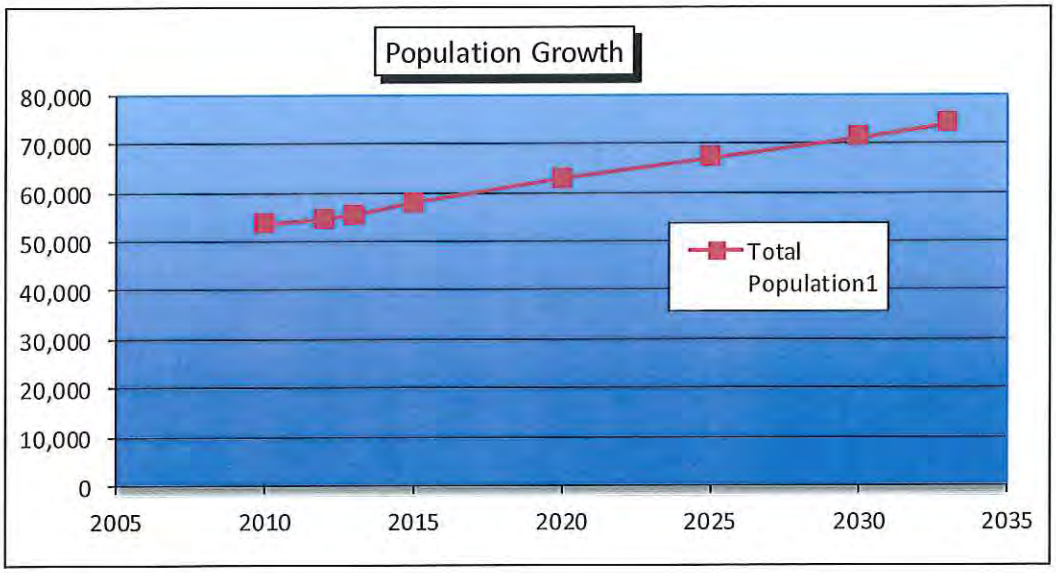


Figure A6 shows the projected residential population, not including those in group quarters, and projected housing units in Jefferson County from 2012 to 2033. The 2012 population of 53,113 represents the population of 54,504 shown above, without the group quarters population of 1,391. Then, the growth rates of 1.6% from 2012 to 2020 and 1.3% from 2020 to 2033 (based on the West Virginia University projections) are used to estimate population to 2033. Next, the residential population is divided by the persons per housing unit ratio of 2.36 to determine the total number of housing units. The split between housing unit types uses the ratio in the 2010 Census, which was 91.9% single units and 8.1% units in structures with two or more units.

Figure A6. Projected Residential Population and Housing Units

Growth Rate[1]	
2010 to 2020	2020 to 2030
1.6%	1.3%

	2012	2013	2014	2015	2016	2017	2018	2023	2028	2033
		Base	1	2	3	4	5	10	15	20
Persons per Housing Unit[2]	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36	2.36
Residential Population[3]	53,113	53,958	54,816	55,689	56,575	57,475	58,389	62,609	66,727	71,115
Annual Residential Population Increase			**858**	**872**	**886**	**900**	**914**	**793**	**845**	**900**
Total Housing Units[4]	**22,462**	**22,820**	**23,183**	**23,552**	**23,926**	**24,307**	**24,694**	**26,479**	**28,220**	**30,076**
Single Unit (91.9%)[5]	*20,652*	*20,981*	*21,315*	*21,654*	*21,998*	*22,348*	*22,704*	*24,345*	*25,946*	*27,652*
2+ Units (8.1%)[5]	*1,810*	*1,839*	*1,868*	*1,898*	*1,928*	*1,959*	*1,990*	*2,134*	*2,274*	*2,424*
Annual Housing Unit Increase			**363**	**369**	**375**	**381**	**387**	**335**	**357**	**381**

1. WVU College of Business and Economics
2. 2010 Census and 2010-2012 ACS.
3. 2012 estimate of 54,504 made by WVU College of Business and Economics minus 1,391 persons in group quarters.
4. Found by dividing population by PPHU ratio of 2.36.
5. Split between housing unit type from 2010 Census.

NON-RESIDENTIAL DEVELOPMENT

Jobs by Type of Nonresidential Development

Figure A7 indicates the County's 2011 job estimate and nonresidential floor area, estimated using square feet per employee multipliers obtained from the Institute of Transportation Engineers (ITE 2012). The prototype for Commercial is an average-size shopping center. For Office/ Institutional, the development prototype is an average-sized office. The prototype development for Industrial jobs is light industrial. General land use types are based on two-digit industry sectors, with the percentage distribution of jobs by type of development from U.S. Census Bureau's OnTheMap web application.

As shown below, in 2011 there were 15,420 jobs in Jefferson County and approximately 6,075,751 square feet of nonresidential floor area.

Figure A7. Jobs and Floor Area Estimate

	2011 Jobs[1]	*% of Total*	*Sq Ft per Job*[2]	*Floor Area*
Commercial[3]	5,893	38%	***500***	2,946,500
Office/ Institutional[4]	7,545	49%	***301***	2,271,045
Industrial	1,982	13%	***433***	858,206
Total	**15,420**	**100%**		**6,075,751**

1. OnTheMap web application, U.S. Census Bureau.
2. Trip Generation, Institute of Transportation Engineers, 2012.
3. Retail, Food and Accomodation Services.
4. Major sectors are Health Care, Education, Public Administration, Administration & Support (office jobs), and Professional/Scientific/Technical Services.

In Figure A8, gray shading indicates four nonresidential development prototypes used by TischlerBise to estimate floor area in Jefferson County.

Figure A8. 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						
820	**Shopping Center (avg size)**	**1,000 Sq Ft**	**42.70**	**na**	**2.00**	**500**
General Office						
710	**General Office (avg size)**	**1,000 Sq Ft**	**11.03**	**3.32**	**3.32**	**301**
Other Nonresidential						
770	Business Park***	1,000 Sq Ft	12.44	4.04	3.08	325
760	Research & Dev Center	1,000 Sq Ft	8.11	2.77	2.93	342
610	Hospital	1,000 Sq Ft	13.22	4.50	2.94	340
565	Day Care	student	4.38	26.73	0.16	na
550	University/College	student	1.71	8.96	0.19	na
540	Community College	student	1.23	15.55	0.08	na
530	High School	1,000 Sq Ft	12.89	19.74	0.65	1,531
520	Elementary School	1,000 Sq Ft	15.43	15.71	0.98	1,018
254	Assisted Living	bed	2.66	3.93	0.68	na
620	Nursing Home	1,000 Sq Ft	7.60	3.26	2.33	429
320	Motel	room	5.63	12.81	0.44	na
110	**Light Industrial**	**1,000 Sq Ft**	**6.97**	**3.02**	**2.31**	**433**
130	Industrial Park	1,000 Sq Ft	6.83	3.34	2.04	489
140	Manufacturing	1,000 Sq Ft	3.82	2.13	1.79	558
150	Warehousing	1,000 Sq Ft	3.56	3.89	0.92	1,093

* Trip Generation, Institute of Transportation Engineers, 9th Edition (2012).

** 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.

Nonresidential Development Forecast

Figure A9 displays projected jobs and nonresidential floor area in Jefferson County from 2011 to 2033. The 2011 estimates are based on Figure A7. Square footage projections were made based on conversations with the Jefferson County Development Authority. Nonresidential square footage was converted to jobs using ITE multipliers.

Figure A9. Projected Jobs and Nonresidential Floor Area

	2011	2012	2013	2014	2015	2016	2017	2018	2023	2028	2033
			Base	1	2	3	4	5	10	15	20
Jefferson County	15,420	15,491	15,562	15,750	15,938	16,126	16,314	16,502	17,442	18,383	19,323
Annual Job Increase			**71**	**188**	**188**	**188**	**188**	**188**	**188**	**188**	**188**

	2011	2012	2013	2014	2015	2016	2017	2018	2023	2028	2033
Nonres Sq Ft in 1000's (KSF)			Base	1	2	3	4	5	10	15	20
Commercial	2,947	2,960	2,973	3,000	3,027	3,053	3,080	3,107	3,241	3,374	3,508
Office/ Institutional	2,271	2,281	2,291	2,325	2,360	2,394	2,428	2,462	2,634	2,805	2,976
Industrial/ Flex	858	862	866	875	884	893	902	911	956	1,001	1,046
Total	**6,076**	**6,103**	**6,130**	**6,200**	**6,270**	**6,340**	**6,410**	**6,480**	**6,830**	**7,180**	**7,530**
Annual Nonres Floor Area Increase (KSF)			**27**	**70**	**70**	**70**	**70**	**70**	**70**	**70**	**70**

Source: Square footage estimate based on conversations with Jefferson County Development Authority.
Nonresidential square footage was converted to jobs using ITE multipliers. Mix of job types from OnTheMap, U.S. Census Bureau web application.

DETAILED DEVELOPMENT PROJECTIONS

Demographic data shown in Figure A10 provides key inputs for updating impact fees in Jefferson County. Cumulative data are shown at the top and projected annual increases by type of development are shown at the bottom of the table.

Figure A10. Annual Demographic Data

	2013	2014	2015	2016	2017	2018	2023	2028	2033	20-Year Increase
	Base Yr	1	2	3	4	5	10	15	20	
Residential Population	53,958	54,816	55,689	56,575	57,475	58,389	62,609	66,727	71,115	**17,157**
Jobs	15,562	15,750	15,938	16,126	16,314	16,502	17,442	18,383	19,323	**3,761**
Housing Units										
Single Unit	20,981	21,315	21,654	21,998	22,348	22,704	24,345	25,946	27,652	**6,671**
2+ Units	1,839	1,868	1,898	1,928	1,959	1,990	2,134	2,274	2,424	**585**
Total Housing Units	**22,820**	**23,183**	**23,552**	**23,926**	**24,307**	**24,694**	**26,479**	**28,220**	**30,076**	**7,256**
Jobs to Housing Ratio	*0.68*	*0.68*	*0.68*	*0.67*	*0.67*	*0.67*	*0.66*	*0.65*	*0.64*	
Persons per Hsg Unit	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	*2.36*	
Nonres Sq Ft in thousands (KSF)										
Commercial	2,973	3,000	3,027	3,053	3,080	3,107	3,241	3,374	3,508	**535**
Office/ Institutional	2,291	2,325	2,360	2,394	2,428	2,462	2,634	2,805	2,976	**685**
Industrial/ Flex	866	875	884	893	902	911	956	1,001	1,046	**180**
Total KSF	**6,130**	**6,200**	**6,270**	**6,340**	**6,410**	**6,480**	**6,830**	**7,180**	**7,530**	**1,400**
Avg Sq Ft Per Job	394	394	393	393	393	393	392	391	390	
Annual Increase		**13-14**	**14-15**	**15-16**	**16-17**	**17-18**	**22-23**	**27-28**	**32-33**	**2013-33 Avg Anl**
Population		858	872	886	900	914	793	845	900	**858**
Jobs		188	188	188	188	188	188	188	188	**188**
Housing Units		363	369	375	381	387	335	357	381	**363**
Commercial KSF		27	27	27	27	27	27	27	27	**27**
Office/ Institutional KSF		34	34	34	34	34	34	34	34	**34**
Industrial/ Flex KSF		9	9	9	9	9	9	9	9	**9**
Total KSF		70	70	70	70	70	70	70	70	**67**

DRAFT - School Impact Fees

Prepared for:

Jefferson County, WV

April 7, 2014

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EXECUTIVE SUMMARY

TischlerBise was retained by the Jefferson County Commission to recalibrate the County's school impact fees using current level of service standards for building and site area, school construction and land acquisition costs, and other applicable FY 2013-2014 budget information. This report is an update to the 2011 *School Impact Fees Report* prepared by TischlerBise.

Impact fees are one-time payments used to defray the cost impacts of school facilities necessary to accommodate new development. The payment amount represents new growth's fair share of capital facility needs. TischlerBise evaluated possible methodologies and documented appropriate demand indicators by type of development for the fee amounts. Specific capital costs have been identified using local data and current dollars. Level of Service (LOS) standards and cost factors are presented in this report and are the basis for the calculations. It should be noted that although growth affects both capital and operating expenses incurred by schools, the impact fee analysis addresses new development's impact on *capital* facilities only. It is further limited to capital improvements that provide additional capacity as opposed to maintenance or rehabilitation.

APPROACH AND METHODOLOGY

There are three basic *methodologies* 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 fee revenue 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 or land.

Maximum supportable school impact fees for Jefferson County Schools are derived using the incremental expansion approach. For school capital improvements, the most common methodology employed is typically the incremental expansion method when future capacity needs are anticipated. This approach allows for the greatest flexibility in providing future capacity improvements. Under this methodology, the fees are based on current levels of service (LOS) and project costs for each type of school facility (i.e., elementary, middle, and high), land for school sites, buses, and administrative facilities. The LOS is documented in both quantitative and qualitative measures and the intent is to use fee revenue to provide additional or expanded public school facilities as needed to accommodate new development.

The current LOS and capital costs for new or expanded facilities are used to derive a cost per student for each type of school facility. Using the cost per student and the average Jefferson County public school student generation rate, a cost by type of residential unit is derived. The term "student generation rate" refers to the average number of public school students per housing unit in the District school system. To proportionately capture the demand over the life of a housing unit, student generation rates are calibrated to reflect the average demand from all units (as opposed to the demand from *new* units) in the District school system.

A general requirement common to impact fee calculations 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 facility fee plus the payment of other revenues that may also fund growth-related capital improvements. Revenue credits are dependent upon the fee methodology used in the cost analysis.

To avoid this potential double payment situation, future revenue credits are appropriate to account for outstanding debt on County school facilities. A credit is necessary since new residential units that will pay the fee will also contribute to future principal payments on this remaining debt through property taxes. A credit is not necessary for interest payments because interest costs are not included in the costs.

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

MAXIMUM SUPPORTABLE SCHOOL IMPACT FEES

Figure 1 displays the current impact fees for Jefferson County. As shown below, the current fees include three residential floor area types, including Single Family Detached, Townhome/ Duplex, and Multi-family.

Figure 1. Current Impact Fees

Development Type	School
Residential (per housing unit)	
Single Family Detached	$11,358
Townhome/ Duplex	$8,560
Multi-family	$6,306

Figure 2 provides the schedule of *Maximum Supportable School Impact Fees* for Jefferson County Schools. The school impact fees are applied only to residential development and are assessed per housing unit, reflecting the proportionate demand by type of unit. The amounts shown are "maximum supportable" amounts based on the methodologies, level of service, and costs for the capital improvements identified herein. The fees represent the highest amount feasible for each type of applicable development, which represent new growth's fair share of the capital costs as detailed in this report. The Jefferson County Commission can adopt amounts that are lower than the maximum amounts shown. However, a reduction in fee revenue will necessitate an increase in other revenues, a decrease in planned capital expenditures, and/or a decrease in the County's level of service.

As shown in Figure 2, the categories have changed slightly, to "Single Family, Townhouse and Mobile Home," "Duplex," and "Multi-family" The U.S. Census Bureau has switched to a continuous monthly mailing of surveys, known as the American Community Survey (ACS) which is limited by sample-size constraints in areas with relatively few residents. Data on detached housing units are now combined with attached single units (commonly known as townhouses). **Because of this, separate fees can no longer be determined for Single Family Detached and Townhouses.** A Single Unit (as discussed in the

Land Use Assumptions for Jefferson County) includes single family detached units, single family attached units, and mobile homes. 2+ Units refers to structures with 2 or more units, which include Duplexes and Multi-family (apartments and condos), which is why these two categories have the same fee.

For a single unit (which includes single family, townhouses, and mobile homes), the maximum supportable fee amount is $9,725; for a unit in a structure with two or more units (which includes duplexes and multi-family units), the maximum fee amount is $8,133. Factors for the differences in the proposed fees compared to the current fees include the following:

- Changes in pupil generation rates:
  - Higher pupil generation rates for 2+ unit/ multi-family units in this study compared to the previous study.
- Changes in components:
  - Previous study included portables and indoor/ outdoor equipment. This study does not.
- Changes in costs:
  - Higher cost per acre for land in this study compared to previous study.
  - This study includes 61% of the costs for school building will be local, whereas the previous study assumed it would be 100%.

Figure 2. Maximum Supportable School Impact Fees

MAXIMUM SUPPORTABLE SCHOOLS IMPACT FEES: Jefferson County Schools								
Housing Unit Type	Land Use Assumptions Category	*Elementary*	*Middle*	*High*	**Proposed Fee**	*Current Fee*	*Increase (Decrease)*	*% Change*
Single Unit (Single-Family, Townhouse & Mobile Home)	Single Unit	*$4,325*	*$2,494*	*$2,906*	**$9,725**	$11,358	($1,633)	-14%
Duplex	2+ Units	*$2,724*	*$1,411*	*$3,998*	**$8,133**	$8,560	($427)	-5%
Multi-Family (Apartments & Condos)	2+ Units	*$2,724*	*$1,411*	*$3,998*	**$8,133**	$6,306	$1,827	29%

OVERVIEW

INTRODUCTION TO IMPACT FEES

Definition

Impact fees, also known as development 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 facility 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 and rehabilitation costs;
- Impact fees cannot be deposited in the local District School Board'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 and facility 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 or facility fees.

Required Findings

There are three reasonable relationship 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 development 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/facility 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 Act authorizing the District School Board's impact fee 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 facility 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 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 systems that were oversized such as sewer and water facilities. To calculate a fee using the cost recovery approach, the facility cost is divided by ultimate number of demand units the facility will serve.

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). 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. This approach is utilized for this study.

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 facility 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 an impact fee program.

JEFFERSON COUNTY SCHOOLS IMPACT FEE OVERVIEW

The County has seen residential growth over the past several years and with it increased enrollment. Growth is expected to continue in the future. TischlerBise provides detail on land use and demographic assumptions and projections in the Jefferson County Land Use Assumptions document. To ensure that schools have adequate capacity to accommodate growth, the Jefferson County Commission is updating its school impact fee methodology and assumptions.

As mentioned in the previous section, the school impact fee is derived using the incremental expansion approach. This approach determines current level of service standards for school buildings (elementary, middle, and high), land for school sites, buses, and administrative facilities. Level of service standards are derived using *current enrollment* and are expressed as follows:

School buildings: Square feet per student by type of school

Land: Acres per student by type of school

Buses: Vehicles per student

Administration facilities: Square feet per student

A credit is included in the impact fee to account for outstanding debt on school improvements. Further detail on the approach, levels of service, costs, and credits is provided in the body of this report.

PUBLIC SCHOOL STUDENTS

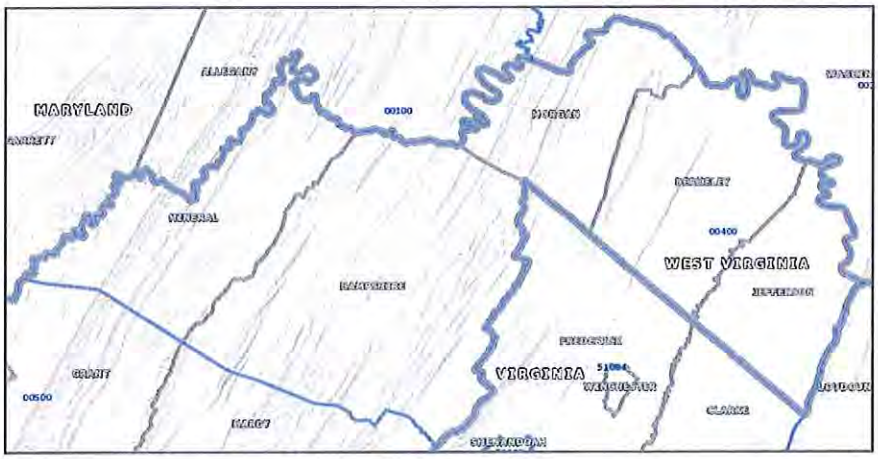
One of the fundamental requirements of impact fees is the concept of proportionate share. Proportionate share is the principle that impact fee amounts must correspond with the demand and cost for additional infrastructure capacity. This relationship is the critical difference which distinguishes impact fees from taxes. The County's current School Impact Fee is assessed as a flat fee by type of housing unit. Since the County's residential impact fee schedule differentiates the demand by different types of housing units, this approach is defensible as it demonstrates the proportionate difference in demand created by these different types of residential development.

PUBLIC SCHOOL PUPIL GENERATION RATES

Student generation rates for Jefferson County can be derived using custom tabulations of demographic data from survey responses provided by the U.S. Census Bureau in files known as Public Use Micro-data Samples (PUMS). TischlerBise used Census American Community Survey (ACS) 5-Year 2007-2011 PUMS data to derive number of students per housing unit by type of unit as well as by size of unit (using number of bedrooms per unit). Because PUMS data are only available for areas of roughly 100,000 persons, Jefferson County is in West Virginia Public Use Micro-data Area (PUMA) 0400, which includes Jefferson County along with Berkeley County, Morgan County, Mineral County, and Hampshire County. Data is first analyzed for the PUMA area and then calibrated to conditions in Jefferson County.

The West Virginia 0400 PUMA map is shown in Figure 3.

Figure 3. Map of West Virginia 0400 PUMA



Student generation rates are calculated for the three housing unit types discussed above, given demographic characteristics and potential for future development in the County. (1) Single family, townhouse, and mobile home are calculated as "Single Unit" (which includes single family detached, single family attached, and mobile homes). (2) Duplex and (3) Multi-family will use the student generation rate for "2+ units" (which includes units in structures with two or more units, boats, and RVs). Rates are provided for three school levels: (1) Elementary School (grades K-5); (2) Middle School (6-8) and (3) High School (grades 9-12).

Using the PUMS data files, TischlerBise first calculated student generation rates based on the number of students in different types of residential units by bedroom count. As noted above, due to data

availability by geography from the U.S. Census, the first step in estimating student generation rates is to gather aggregated data from the five counties in the PUMS data set, as shown in Figure 4. This is done for each school level (i.e. elementary, middle and high) by housing unit type and by the number or bedrooms. In addition, the total number of housing unit is entered at the bottom of the table. These totals represent the number of students and housing units for the five-county area.

Figure 4. Public School Students by Housing Unit Type and Number of Bedrooms (U.S. Census for WV PUMA 0400)

Elementary School Students

(Grades K-5)	*0-2 Bdrms*	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*
Single Unit	1,487	8,566	4,186	1,254	15,493
2+ Units	328	590		8	926
TOTAL	1,815	9,156	4,186	1,262	16,419

Middle School Students

(Grades 6-8)	*0-2 Bdrms*	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*
Single Unit	223	4,050	2,407	1,011	7,691
2+ Units	200	213			413
TOTAL	423	4,263	2,407	1,011	8,104

High School Students

(Grades 9-12)	*Bedrooms*				
	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*
Single Unit	576	5,370	3,595	998	10,539
2+ Units	530	846			1,376
TOTAL	1,106	6,216	3,595	998	11,915
				Grand Total (all grades)	36,438

Housing Units

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*
Single Unit	33,042	57,272	17,054	3,973	111,341
2+ Units	9,040	1,291	212	22	10,565
TOTAL	42,082	58,563	17,266	3,995	121,906

Source: Cross tabulation by TischlerBise using
Census Bureau, Year 2007-11 5% Public Use Microdata Sample
for West Virginia PUMA 0400.

Next, using the totals above, student generation rates by housing unit type and number of bedrooms by dividing the number of students in each type of unit and bedroom by the total number of housing units and bedrooms. These student generation rates represent the 5-county area.

Figure 5. Unadjusted Sample Area Student Generation Rates by Bedroom Range (U.S. Census for WV PUMA 0400)

Elementary School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.05	0.15	0.25	0.32	0.14

	0-2 Bdrms	*3+ Bdrms*	*Wt Avg*
2+ Units	0.04	0.39	0.09

Middle School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.01	0.07	0.14	0.25	0.07

	0-2 Bdrms	*3+ Bdrms*	*Wt Avg*
2+ Units	0.02	0.14	0.04

High School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.02	0.09	0.21	0.25	0.09

	0-2 Bdrms	*3+ Bdrms*	*Wt Avg*
2+ Units	0.06	0.55	0.13

Total Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.07	0.31	0.60	0.82	0.30

	0-2 Bdrms	*3+ Bdrms*	*Wt Avg*
2+ Units	0.12	1.09	0.26

Source: Cross tabulation by TischlerBise using Census Bureau, Year 2007-11 5% Public Use Microdata Sample for West Virginia PUMA 0400.

The above student generation rates are then calibrated to conditions in Jefferson County using enrollment data for September 2013 for the 2013-2014 school year and estimated housing units as of July 1, 2013, in the County. This is done by applying the unadjusted rates to the current number of housing units in the County to derive an estimated enrollment. These estimated figures are then compared to **actual enrollments** and appropriate adjustments are made. Figure 6 displays the enrollment data for 2013, as well as the estimated public school students in Jefferson County by housing unit type and number of bedrooms.

Figure 6. Estimated Public School Students in Jefferson County by Housing Unit Type and Number of Bedrooms

Elementary School Students							*Jefferson County*
(Grades K-5)	*0-2 Bdrms*	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*		*2013 Enrollment*
Single Unit	280	1,614	789	236	2,919		
2+ Units	57	104	<= 3+ bedrooms		161		
TOTAL	337	1,718	789	236	3,081		4,418
Middle School Students							
(Grades 6-8)	*0-2 Bdrms*	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*		
Single Unit	42	763	454	191	1,449		
2+ Units	35	37	<= 3+ bedrooms		72		
TOTAL	77	800	454	191	1,521		2,147
High School Students							
(Grades 9-12)	*0-2 Bdrms*	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*		
Single Unit	109	1,012	677	188	1,986		
2+ Units	92	147	<= 3+ bedrooms		240		
TOTAL	201	1,159	677	188	2,225		2,496
					Grand Total (all grades)	6,827	9,061
Housing Units							
	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*TOTAL*		
Single Unit	6,226	10,792	3,214	749	20,981		20,981
2+ Units	1,574	265	<= 3+ bedrooms		1,839		1,839
TOTAL	7,800	11,058	3,214	749	22,820		22,820

Source: TischlerBise estimates for Jefferson County using
Census Bureau, Year 2007-11 5% Public Use Microdata Sample
for West Virginia PUMA 0400 (calibrated to Jefferson County enrollment).

The resulting student generation rates for Jefferson County (by school level and number of bedrooms) are shown in Figure 7. The total number of students per housing unit is the sum of the student generation rates for each of the school levels. The average rates are:

- Single Unit: .403 students per unit;
- 2+ Units: .327 students per unit.

Detail is provided below. For the purpose of calculating the impact fee, the single unit student generation rate will be applied to single family units, townhouses, and mobile homes. The 2+ units rate will be applied to duplexes and multi-family units.

Figure 7. Jefferson County Student Generation Rates by Bedroom Range (Calibrated)

Elementary School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.06	0.21	0.35	0.45	0.20
	0-2 Bdrms	*3+ Bdrms*			*Wt Avg*
2+ Units	0.05	0.56			0.13

Middle School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.01	0.10	0.20	0.36	0.10
	0-2 Bdrms	*3+ Bdrms*			*Wt Avg*
2+ Units	0.03	0.20			0.06

High School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.02	0.11	0.24	0.28	0.11
	0-2 Bdrms	*3+ Bdrms*			*Wt Avg*
2+ Units	0.07	0.62			0.15

Total Public School Students Per Housing Unit

	0-2 Bdrms	*3 Bdrms*	*4 Bdrms*	*5+ Bdrms*	*Wt Avg*
Single Unit	0.094	0.419	0.788	1.094	0.403
	0-2 Bdrms	*3+ Bdrms*			*Wt Avg*
2+ Units	0.149	1.382			0.327

Source: TischlerBise estimates for Jefferson County using
Census Bureau, Year 2007-11 5% Public Use Microdata Sample
for West Virginia PUMA 0400 (calibrated to Jefferson County enrollment).

PUBLIC SCHOOL STUDENT PROJECTIONS

Using the above student generation rates and housing unit projections discussed earlier, TischlerBise projected the increase in the number of public school students from new housing units to the year 2033. As shown below, over 20 years, a total of 2,881 students are projected from growth in the County.

Figure 8. Projected Public School Students from Growth

	2013	2014	2015	2016	2017	2018	2023	2028	2033
	Base Yr	1	2	3	4	5	10	15	20
Housing Units									
Single Unit	20,981	21,315	21,654	21,998	22,348	22,704	24,345	25,946	27,652
2+ Units	1,839	1,868	1,898	1,928	1,959	1,990	2,134	2,274	2,424
Total Units	**22,820**	**23,183**	**23,552**	**23,926**	**24,307**	**24,694**	**26,479**	**28,220**	**30,076**

Public School Enrollment

	Single Unit	*2+ Units*
Elementary	*0.20*	*0.13*
Middle	*0.10*	*0.06*
High	*0.11*	*0.15*

	2013	2014	2015	2016	2017	2018	2023	2028	2033
	4,418	4,488	4,560	4,632	4,706	4,781	5,126	5,463	5,823
	2,147	2,181	2,216	2,251	2,287	2,323	2,491	2,655	2,830
	2,496	2,536	2,576	2,617	2,659	2,701	2,896	3,087	3,290
Total Students	**9,061**	**9,205**	**9,352**	**9,500**	**9,652**	**9,805**	**10,514**	**11,205**	**11,942**
Annual Increase In Students		*144*	*146*	*149*	*151*	*154*	*133*	*142*	*151*

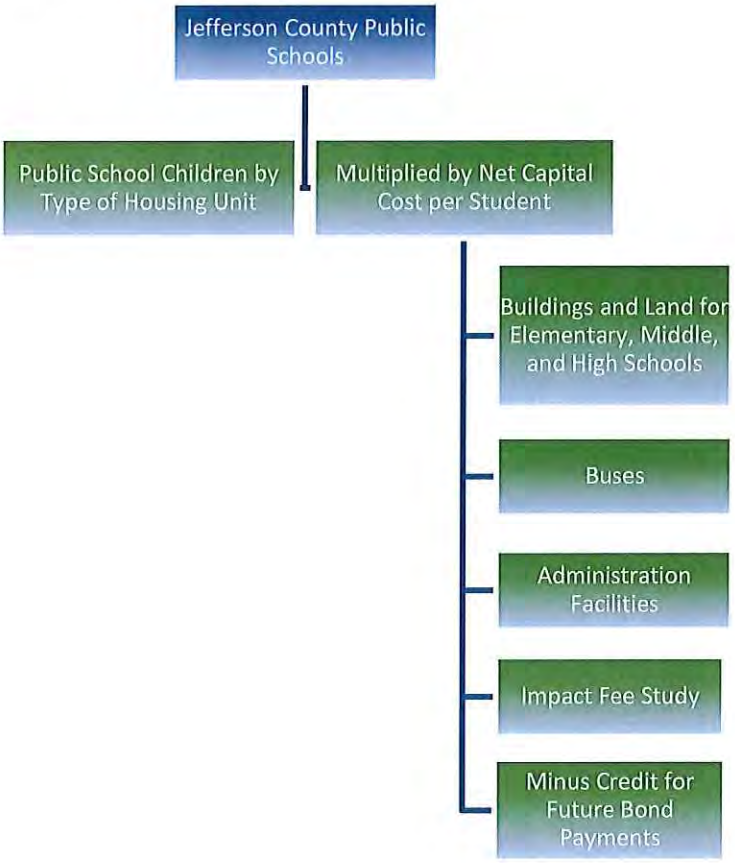
20 Yr-Increase	***2,881***

CAPITAL COSTS PER STUDENT

This section of the report details the current LOS and cost factors which are used in the impact fee calculations.

A diagram of how the school impact fee is calculated is shown in Figure 9. The impact fee includes costs for buildings and land for elementary, middle, and high schools. In addition, costs for buses, administrative facilities, and the impact fee study are included. To avoid a potential double payment for school facilities, a credit for future bond payments on existing debt is subtracted from the capital cost per student and is reflected in the impact fees.

Figure 9. Schools Impact Fee Methodology



ELEMENTARY SCHOOLS

The current inventory of elementary schools and their building square feet and total acreage in Jefferson County is shown in the figure below. Levels of service are calculated by dividing the amount of infrastructure by total enrollment and capacity. Since current capacity exceeds elementary enrollment, capacity is used to determine current levels of service on which the fees are based. The elementary schools encompass 504,400 square feet and have a total capacity of 4,697 students which yields a building LOS of 107.4 square feet per student (504,400/ 4,697 students = 107.4 square feet per student.) These schools occupy 186 acres which results in an LOS of 0.040 acres per student (186 acres/ 4,697 students = 0.040 acres per student.)

Figure 10. Elementary School LOS Standards

Facility	*Building Sq Feet*	*Total Acreage*	*Fall 2013 Enrollment*	*Capacity*	*Utilization*
Blue Ridge and Blue Ridge Primary	49,155	40	491	768	64%
CW Shipley Elementary	42,674	15	376	357	105%
Driswood Elementary	58,836	15	517	500	103%
North Jefferson Elementary	44,891	12	268	345	78%
Page Jackson Elementary	58,699	12	442	504	88%
Ranson Elementary	35,401	9	432	357	121%
Shepherdstown Elementary	40,179	11	415	399	104%
South Jefferson Elementary	58,094	15	498	591	84%
TA Lowery Elementary	65,594	52	588	477	123%
Wright Denny Elementary	50,877	4	391	399	98%
Total	**504,400**	**186**	**4,418**	**4,697**	**94%**

Source: Jefferson County Public Schools.

Level of Service (based on Capacity)	
Building Square Feet per Student	107.4
Acres per Student	0.040

The costs below for buildings and land for elementary schools are shown in the figure below. 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 of an elementary school is from the School Building Authority of West Virginia. The cost factor for land is from Jefferson County staff.

Figure 11. Elementary School Capital Costs

Construction Cost per Square Foot[1]	$256
Land Cost per Acre[2]	$70,000

1. School Building Authority of West Virginia.
2. Jefferson County Public Schools.

MIDDLE SCHOOLS

The current inventory of middle schools in Jefferson County is shown in the figure below. Levels of service are calculated by dividing the amount of infrastructure by enrollment and capacity. Since current capacity exceeds middle school enrollment, capacity is used to determine current levels of service on which the fees are based. The middle schools encompass 274,176 square feet and have a total capacity of 2,252 students which yields a building LOS of 121.7 square feet per student (274,176/ 2,252 students = 121.7 square feet per student.) These schools occupy 59.33 acres which results in an LOS of 0.026 acres per student (59.33 acres/ 2,252 students = 0.026 acres per student.)

Figure 12. Middle School LOS Standards

Facility	*Building Sq Ft*	*Total Acreage*	*Fall 2013 Enrollment*	*Capacity*	*Utilization*
Charles Town Middle	82,831	13.53	690	712	97%
Harpers Ferry Middle	48,970	10.00	401	520	77%
Shepherdstown Middle	53,375	8.80	411	420	98%
Wildwood Middle	89,000	27.00	645	600	108%
Total	**274,176**	**59.33**	**2,147**	**2,252**	**95%**

Source: Jefferson County Public Schools.

Level of Service (based on Current Enrollment)	
Building Square Feet per Student	121.7
Acres per Student	0.026

The costs below for buildings and land for middle schools are shown in the figure below. 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 of middle schools is based on the cost to construct Harpers Ferry Middle School ($14,246,862). The cost factor for land is from Jefferson County staff.

Figure 13. Middle School Capital Costs

Construction Cost per Square Foot[1]	$291
Land Cost per Acre[2]	$70,000

1. Cost per sq ft to construct Harpers Ferry Middle.
2. Jefferson County Public Schools.

HIGH SCHOOLS

The current inventory of high schools in Jefferson County is shown in the figure below. Levels of service are calculated by dividing the amount of infrastructure by total enrollment and capacity. Since current capacity exceeds high school enrollment, capacity is used to determine current levels of service on which the fees are based. The high schools encompass 397,124 square feet and have a total capacity of 2,716 students which yields a building LOS of 146.1 square feet per student (397,124/ 2,716 students = 146.2 square feet per student.) These schools occupy 114 acres which results in an LOS of 0.042 acres per student (114 acres/ 2,716 students = 0.042 acres per student.)

Figure 14. High School LOS Standards

Facility	*Building Sq Ft*	*Total Acreage*	*Fall 2013 Enrollment*	*Capacity*	*Utilization*
Jefferson High School	188,124	64.00	1,362	1,406	97%
Washington High School	209,000	50.00	1,134	1,310	87%
Total	**397,124**	**114.00**	**2,496**	**2,716**	**92%**

Level of Service (based on Current Enrollment)	
Building Square Feet per Student	146.2
Acres per Student	0.042

The costs below for buildings and land for high schools are shown in the figure below. 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 of high schools is from the School Building Authority of West Virginia. The cost factor for land is from Jefferson County staff.

Figure 15. High School Capital Costs

Construction Cost per Square Foot[1]	$250
Land Cost per Acre[2]	$70,000

1. School Building Authority of West Virginia.
2. Jefferson County Public Schools.

LOCAL SHARE OF SCHOOL BUILDING CONSTRUCTION

The cost factors per square foot to construct school buildings are displayed above ($256 for elementary schools, $291 for middle schools, and $250 for high schools.) These cost factors reflect the total cost of building construction, which must be reduced to the local share for the purpose of deriving school impact fees.

Figure 16 displays local funding compared to School Building Authority in Jefferson County. The column to the far right shows the percent of each project that is funded locally. Based on historical funding trends, it is estimated that Jefferson County will be responsible for 61% of school building costs, and 39% will be provided by the School Building Authority.

Figure 16. Local Funding of School Buildings

Year	Project	SBA Funding	Local Funding	Total	% Local
2006	Jefferson High School Renovations	$9,500,000	$3,202,334	$12,702,334	25%
2006	Washington High School	$9,500,000	$34,756,689	$44,256,689	79%
2008	Driswood Elementary	$6,431,900	$4,772,823	$11,204,723	43%
2009	Blue Ridge Primary	$7,571,500	$1,510,155	$9,081,655	17%
2012	North Jefferson Parking Lot	$0	$492,352	$492,352	100%
2011	Shepherdstown Sidewalk	$0	$221,832	$221,832	100%
2011	Ranson Elementary Parking Lot Land	$0	$40,000	$40,000	100%
2013	Harpers Ferry Middle School	$4,871,862	$8,440,483	$13,312,345	63%
2014	New Bus Buildings	$0	$3,400,176	$3,400,176	100%
2013	Washington High School Wall	$0	$54,645	$54,645	100%
2012	Jeffeson High School Track	$0	$377,699	$377,699	100%
2011	Harpers Ferry Middle School	$0	$933,369	$933,369	100%
2007	Blue Ridge HVAC	$0	$1,273,324	$1,273,324	100%
2009	Ranson HVAC	$0	$549,454	$549,454	100%
2010	Shepherdstown HVAC	$0	$250,000	$250,000	100%
2009	South Jefferson Addition (MIP)	$1,000,000	$912,835	$1,912,835	48%
Total		**$38,875,262**	**$61,188,170**	**$100,063,432**	**61%**

BUSES

The current inventory of buses by type and their respective costs is shown in Figure 16. Jefferson County has a total of 214 buses and a total capacity of 9,665 students, which yields a bus LOS of 0.022 buses per student (214/ 9,665 = 0.024 per student.)

Figure 17. Bus Level of Service Standards

Type of Bus	*Number*	*Cost per Bus*	*Total Bus Value*	*Capacity*
Passenger Transit Style Bus	84	$120,500	$10,122,000	
Passenger Conventional Style Bus	77	$96,100	$7,399,700	
Passenger Special Equipment Bus	53	$106,100	$5,623,300	
Total	**214**		**$23,145,000**	**9,665**

Level of Service	
Buses per Student	0.022

The figure below shows the bus cost factor $108,154 per bus. This was determined by dividing the total value of buses ($23,145,000) by the number of buses (214.) This cost will be multiplied by the above LOS standard to determine the bus cost component of the impact fee.

Figure 18. Bus Capital Costs

Bus Cost Factor	
Number of Buses	214
Total Bus Cost	$23,145,000
Average Cost per Bus	**$108,154**

ADMINISTRATION FACILITIES

Figure 19 lists the inventory of existing facilities for administration, maintenance, and transportation. Jefferson County has 17,870 square feet of office facilities and a total capacity of 9,665 students which yields a building LOS of 1.8 square feet per student (17,870/ 9,665 = 1.8 per student.)

Figure 19. Administration, Maintenance, Transportation Office LOS Standards

Facility	*Building Sq Ft*	*Capacity*
Board of Education Building	16,620	
Maintenance/ Transportation Depts - Office	1,250	
Total	**17,870**	**9,665**

Level of Service	
Building Sq Ft per Student	1.8

Figure 20 lists the inventory of existing shop facilities for administration, maintenance and transportation. Jefferson County has 10,300 square feet of shop facilities and a total enrollment of 9,665

students which yields a building LOS of 1.1 square feet per student (10,300 square feet/ 9,665 students = 1.1 per student.)

Figure 20. Administration, Maintenance, Transportation Office LOS Standards

Facility	*Building Sq Ft*	*Capacity*
Maintenance/ Transportation Depts - Shop	10,300	9,665

Level of Service	
Building Sq Ft per Student	1.1

The costs for these facilities are shown in Figure 21. 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 $226 per square foot while the cost per square foot for shop space is $217 per square foot. Jefferson County, in consultation with Williamson Shriver, Inc. provided these cost factors.

Figure 21. Administration, Maintenance, Transportation Facility Capital Costs

Office Construction Cost per Square Foot[1]	$226
Shop Construction Cost per Square Foot[1]	$217

1. Costs from 2011 study determined by Jefferson County Schools staff in consultation with Williamon Shriver, Inc.

IMPACT FEE CONSULTANT STUDY COST

The cost of preparing the School Impact Fee is also included in the fee calculations. This cost ($19,500) is allocated to the projected increase in students over the next five years (744). On average, the County updates its impact fee methodologies and components every five years. This results in a consultant cost per demand unit of $26.21 per student ($13,180/ 744 students = $26.21 per student.)

GENERAL CREDITS

A general requirement that is common to impact fee methodologies is the evaluation of credits. A revenue credit may be necessary to avoid potential double payment situations arising from the payment of a one-time impact fee plus the payment of other revenues that may also fund growth-related capital improvements. The determination of credits is dependent upon the impact fee methodology used in the cost analysis.

The approach used to calculate the school impact fees for Jefferson County is the incremental expansion cost method. This method documents current LOS standards and it is best suited for public facilities that will be expanded incrementally in the future. Because Jefferson County will continue to provide additional schools that are similar to those already in use, the incremental expansion cost method is appropriate for public schools. Because new development is required to provide front-end funding of school capacity, there is a potential for double payment of capital costs due to future principal payments on existing General Obligation bonds and Certificates of Participation for schools. A credit is not necessary for interest payments because interest costs were not included in the impact fees. This credit calculation is shown in Figure 22. To determine the credit, annual principal payments are divided by the projected number of full-time equivalent students in Jefferson County to yield an annual principal payment per student. A net present value adjustment was used to account for the time value of money, resulting in a principal payment credit of $932 per student.

Figure 22. Principal Payment Credit Per Student

Fiscal Year	Principal Payments	Projected Students	Credit per Student
2014	$1,300,000	9,205	$141
2015	$1,365,000	9,352	$146
2016	$1,425,000	9,500	$150
2017	$1,495,000	9,652	$155
2018	$1,565,000	9,805	$160
2019	$1,640,000	9,961	$165
2020	$1,720,000	10,120	$170
Total	**$10,510,000**		**$1,086**

Discount Rate	3.85%
Net Present Value	**$932**

IMPACT FEES

The figure below displays the variables used to calculate the Schools Impact Fee. The totals at the bottom of the table are the totals of all the cost factors determined above for each type of school.

Figure 23. School Impact Fee Variables

		Elementary	Middle	High
Schools	Sq Ft per Student	107.4	121.7	146.2
	Capital Cost per Square Foot	$256	$291	$250
	Local Share of Building Construction Cost	61%	61%	61%
	Cost per Student	**$16,769.66**	**$21,606.28**	**$22,298.02**
Acres	Acreage per Student	0.04	0.03	0.04
	Capital Cost per Acre	$70,000	$70,000	$70,000
	Cost per Student	**$2,766.47**	**$1,844.18**	**$2,938.14**
Buses	Buses per Student	0.02	0.02	0.02
	Capital Cost per Bus	$108,154	$108,154	$108,154
	Cost per Student	**$2,394.72**	**$2,394.72**	**$2,394.72**
Admin Office	Sq Ft per Student	1.8	1.8	1.8
	Capital Cost per Sq Ft	$226	$226	$226
	Cost per Student	**$417.86**	**$417.86**	**$417.86**
Admin Shop	Sq Ft per Student	1.07	1.07	1.07
	Capital Cost per Sq Ft	$217	$217	$217
	Cost per Student	**$231.26**	**$231.26**	**$231.26**
Consultant	**Consultant Fee Cost per Student**	**$26.21**	**$26.21**	**$26.21**
Credit	**Principal Payment Credit Per Student**	**($932)**	**($932)**	**($932)**
	Total Capital Cost per Student	**$21,674**	**$25,588**	**$27,374**

The number of students per housing unit for each grade level is multiplied by the corresponding cost per student for that grade level. This is repeated for all grade levels. The three cost factors are then added together, resulting in the School Impact Fee. This calculation is performed for each type of housing unit.

Figure 24. Proposed School Impact Fees

Single Family, Townhouse, and Mobile Home			
School	Students per Housing Unit	Capital Cost per Student	Subtotal
Elementary	0.20	$21,674	$4,325
Middle	0.10	$25,588	$2,494
High	0.11	$27,374	$2,906
		Single Unit Fee	$9,725

Duplex			
School	Students per Housing Unit	Capital Cost per Student	Subtotal
Elementary	0.13	$21,674	$2,724
Middle	0.06	$25,588	$1,411
High	0.15	$27,374	$3,998
		Duplex Fee	$8,133

Multi-family (Apartments and Condos)			
School	Students per Housing Unit	Capital Cost per Student	Subtotal
Elementary	0.13	$21,674	$2,724
Middle	0.06	$25,588	$1,411
High	0.15	$27,374	$3,998
		Multi-family Fee	$8,133