



Capital Impacts Study Summary

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Isle of Wight County, Virginia

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EXECUTIVE SUMMARY

Overview

TischlerBise has been retained by Isle of Wight County, Virginia, to analyze the **capital impacts of new development**. The objective is to quantify the capital costs generated by new development in the County, specifically in light of changes to Cash Proffer law in Virginia. The assignment includes the development of a Capital Impacts Model (CapIM) for use in:

1. Calculating the “static” capital impact of new development by type of land use and
2. To allow County staff to use the Capital Impacts Model to determine the capital costs for development projects that take into consideration whether capacity is available or not (and therefore, whether a cash proffer can be offered and accepted by the County).

TischlerBise evaluated capital impacts for the following categories of public capital improvements: (1) Public Schools, (2) Parks and Recreation, (3) Public Safety: Sheriff, (4) Public Safety: Fire & Rescue, (5) Public Safety: Animal Protection, (6) Transportation, (7) Library, (8) General Government, (9) Courts, (10) Solid Waste, and (11) Water & Sewer. Methodologies and calculations are presented as supporting documentation for estimating capital impacts from new growth as well as potential support for cash proffers.

Background on Cash Proffers

Cash proffers are one-time voluntary monetary commitments made at the time of rezoning to offset the impact on certain public facilities from new residential development. The funds ultimately collected from cash proffers are used to construct capital improvements to mitigate impacts to public facilities from new growth with the goal of maintaining the desired service level (levels of service). Funds can only be used for **capital improvements** that provide **additional capacity to a facility** and not for operation or maintenance expenses. Cash proffer are calculated using level of service standards to account for infrastructure that may currently have excess capacity.

Cash proffers cannot be used to correct existing deficiencies. However, since cash proffers do not apply to “by-right” development but only apply during the rezoning process, only a portion of the impacts from new growth can be mitigated through cash proffers. Cash proffers are a small part of an overall funding strategy and should not be regarded as a total solution for infrastructure financing needs. Therefore, other strategies and revenue sources are needed to offset the impact to infrastructure from new growth.

Cash proffers are authorized under Virginia Code §15.2-2303 and §15.2-2298. A major change to cash proffer authority was enacted in 2016 affecting Section 15.2-2303.4(B) that added requirements to the acceptance of cash proffers. The new section states that localities cannot require an unreasonable proffer

or deny a rezoning application or proffer condition amendment due to applicant's failure or refusal to submit an unreasonable proffer.¹

The implementation of this change to the cash proffer law hinges on defining an unreasonable proffer, or more positively, defining a reasonable proffer. Defining reasonable proffers requires the analysis of existing capacity in public facilities as well as the demand for additional capacity from growth. A tool such as a capital impact model can be used to analyze existing capacity.

Furthermore, the changes to the cash proffer law restrict the infrastructure categories to public transportation facilities, public safety facilities, public school facilities, and public parks as well as further restricts which impacts associated with construction projects can be addressed.

Capital Impacts Approach

TischlerBise evaluated possible methodologies and documented appropriate demand indicators by type of land use for the infrastructure categories addressed in this study. Specific capital costs have been identified using local data and current dollars (2019). Because levels of service reflect a point in time, the calculations and study should be updated periodically (typically 3 to 5 years). Costs reflect the direct impact of new development on the need for new facilities and infrastructure and do not reflect secondary or indirect impacts.

The Capital Impacts Model developed for the County by TischlerBise is the tool to use to determine what impacts to public facility capacity are due to new growth, and if a cash proffer can be collected. The Model provides a cash proffer calculation for County staff to use in determining the reasonableness of a cash proffer for a particular development project.

The law requires that in order for cash proffers to be accepted, they must recognize three key elements: **need, benefit, and proportionality**.

- First, to justify a cash proffer for public facilities, it must be demonstrated that new development/rezonings will create a **need** for capital improvements (including an assessment of existing capacity).
- Second, new development/rezonings must derive a **benefit** from the payment of the cash proffers (i.e., in the form of public facilities constructed within a reasonable timeframe).
- Third, the cash proffer to be paid by a particular type of development (land use) should not exceed its **proportional** share of the capital cost for system improvements.

¹ Virginia Code Section 15.2-2303.4(B) was revised in 2019 from restricting a local governing body from merely requesting or accepting an unreasonable proffer, to restricting a local governing body from requiring an unreasonable proffer. This allows a local governing body to discuss and negotiate with a developer to determine a reasonable proffer.

The capital impacts reflect the actual cost to the County generated from new residential and nonresidential development, and as such, each represents the true capital impact generated by type of land use for each public facility category.

Methodologies

Any one of several legitimate methods may be used to calculate capital impacts and associated cash proffers. 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 capital impacts and any associated cash proffers 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 cash proffers 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 capital impacts and cash proffers and how those methods can be applied.

Plan-Based 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 future 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).

Incremental Expansion 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). 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. The level of service standards are determined in a manner similar to the current replacement cost approach used by property insurance companies.

This approach ensures that there are no existing infrastructure deficiencies or surplus capacity in infrastructure. This ensures that new development is only paying its proportionate share for growth-related infrastructure in order to accept cash proffers. However, in contrast to insurance practices, the cash proffer 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.

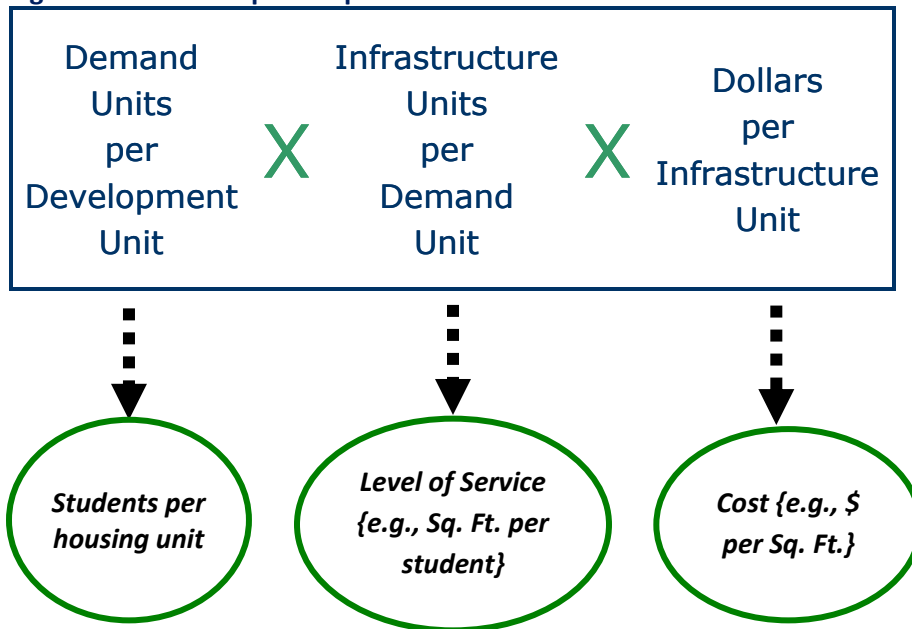
Cost Recovery or Buy-In Calculation. The rationale for the cost recovery approach is that new development is paying its share of the useful life and remaining capacity of facilities already built or land

already purchased from which new growth will benefit. This methodology is often used for oversized systems.

Generic Capital Impact/Cash Proffer Calculation

The first step is to determine an appropriate demand indicator, or service unit, for the particular type of infrastructure. The demand/service indicator measures the number of demand or service units for each unit of development. For example, an appropriate indicator of the demand for schools is growth in student enrollment and the increase in enrollment can be estimated from the average number of students per housing unit. The second step in the generic formula is to determine infrastructure units per demand unit, typically called **level of service (LOS) standards**. In keeping with the school example, a common LOS standard is square feet per student. The third step in the generic formula is the cost of various infrastructure units. To complete the school example, this part of the formula would establish the cost per square foot for school construction. The basic steps in the generic formula are illustrated in Figure 1.

Figure 1. Generic Capital Impact with Cash Proffer Formula



Cash Proffer Credits

A general requirement common to cash proffer methodologies is the evaluation of credits. Two types of credits should be considered, **future revenue credits** and **site-specific credits**. Future revenue credits are necessary to avoid potential double payment situations arising from a one-time cash proffer payment plus the payment of other revenues that may also fund the same growth-related capital improvements.

Future revenue credits are dependent upon the cash proffer methodology used in the cost analysis. The incremental expansion methodology is best suited for public facilities that will be expanded incrementally in the future. Because new development will provide front-end funding of infrastructure, there is a potential for double payment of capital costs due to future principal payments on existing debt for public facilities. That is, because new development that may pay a cash proffer will also pay taxes to retire debt for the same type of infrastructure, a credit is included in the cash proffer calculation to account for this. (A credit is not necessary for interest payments if interest costs are not included in the cash proffers.)

The second type of credit is a **site-specific credit** for system improvements that have been included in the cash proffer calculations. A site-specific credit is handled during implementation and would reduce the cash proffer amount due to contributions of improvements or land that mitigate new development's impact on the infrastructure needs covered in the cash proffer program. Policies and procedures related to site-specific credits for system improvements should be addressed in the policy that establishes the Cash Proffer program. 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 cash proffer calculations. Project improvements normally required as part of the development approval process would not be eligible for credits against cash proffers.

Summary of Capital Impacts Approach

A summary of infrastructure categories is listed in

Figure 2. The figure includes the components and serve areas used in the analysis as well. The geographies used for an infrastructure category were determined based on how the County service is being provided and through discussions with County staff. For example, most of the Parks and Recreation facilities serve only the local population, so the North and South service areas are implemented in the analysis, while the Sheriff's Office buildings are serving the whole County. Maps of the service areas are provided at the end of this summary.

To be eligible for a cash proffer, the facility must be for Public Schools, Parks and Recreation, Public Safety (Sheriff, Fire, and Animal Services), or Transportation which are noted in the figure. The noneligible infrastructure categories are included in the CapIM to capture a developments total capital impact to Isle of Wight County. The County cannot collect a proffer for noneligible categories; however, understanding the full impact of a development (or a collection of developments) can be a tool in the long-term planning process.

Figure 2. Summary of Isle of Wight County Capital Impacts Methodologies

Type of Public Facility	Infrastructure Components and Service Area		Cost Allocation	Methodology
Public Schools*	Countywide <ul style="list-style-type: none"> School Buses Support Facilities 	North & South Service Areas <ul style="list-style-type: none"> Elementary School Middle School High School 	Public School Students	Incremental Approach
Parks and Recreation*	Countywide <ul style="list-style-type: none"> Regional Parks Trails Recreation Center Event Facilities 	North & South Service Areas <ul style="list-style-type: none"> District, Community, Neighborhood Parks Trails Community Centers 	Residential	Incremental Approach
Public Safety: Sheriff*	Countywide <ul style="list-style-type: none"> Sheriff Office Buildings 		Residential & Nonresidential	Incremental Approach
Public Safety: Fire & Rescue*	North & South Service Areas <ul style="list-style-type: none"> Fire Stations Fire Apparatuses 		Residential & Nonresidential	Incremental Approach
Public Safety: Animal Protection*	Countywide <ul style="list-style-type: none"> Animal Control Facility 		Residential	Incremental Approach
Transportation*	North & South Service Areas <ul style="list-style-type: none"> Roadway Capital Projects 		Vehicle Miles Traveled	Plan-Based
Libraries	Countywide <ul style="list-style-type: none"> Library Branches 		Residential	Incremental Approach
General Government	Countywide <ul style="list-style-type: none"> General Government Facilities 		Residential & Nonresidential	Incremental Approach
Courts	Countywide <ul style="list-style-type: none"> Court Buildings 		Residential & Nonresidential	Incremental Approach
Solid Waste	North & South Service Areas <ul style="list-style-type: none"> Convenience Sites 		Residential	Incremental Approach
Water & Sewer	Countywide <ul style="list-style-type: none"> Water and Sewer Capital Projects 		Residential & Nonresidential	Plan-Based

*Note: the public facilities with an asterisk are eligible for cash proffers.

CAPITAL IMPACTS APPROACH

The Capital Impacts Model calculates the cost to serve the land use first and then determines whether there are capacity needs in the service area for the particular facility. Therefore, service areas are identified with levels of service reported in that way. In this chapter, the levels of service for each infrastructure category is provided. In the following chapter, maps are provided of the service areas.

Schools²

The following figures illustrate the current enrollment and capacity of each school in the Isle of Wight School District. The schools are aggregated by service area to determine the current capacity utilization (enrollment / school capacity) and level of service (square feet per student seat based on capacity). Current Utilization is used to determine whether additional capacity is needed by service area. A Capacity Utilization factor over 95 percent is the level of service threshold indicating a need for additional capacity and the trigger for accepting a cash proffer. School support facilities and school buses provide services at a countywide level.

Figure 3. Elementary School Level of Service by Service Area

Grades PK-5

Inventory, Enrollment, and Levels of Service

School	Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
Carrollton Elementary	North	36.0	107,125	660	682	97%	157
Carrsville Elementary	South	37.0	42,375	254	310	82%	137
Hardy Elementary	North	12.0	62,247	537	657	82%	95
Westside Elementary	North	21.0	122,122	750	849	88%	144
Windsor Elementary	South	48.0	86,736	572	667	86%	130
Countywide Total		154.0	420,605	2,773	3,165	88%	133

Source: Isle of Wight County Public School District; Virginia Department of Education

Note: The enrollment totals were retrieved on May 13th, 2019

Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
North	69	291,494	1,947	2,188	89%	133
South	85	129,111	826	977	85%	132
Total	154.0	420,605	2,773	3,165	88%	133

² The enrollments listed in the analysis were retrieved on 13th May, 2019. In the CapIM model, enrollments will be updated on an annual basis.

Figure 4. Middle School Level of Service by Service Area

Grades 6-8

Inventory, Enrollment, and Levels of Service

School	Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
Georgie Tyler Middle	South	21.0	52,668	439	535	82%	98
Smithfield Middle	North	30.0	162,408	575	634	91%	256
Countywide Total		51.0	215,076	1,014	1,169	87%	184

Source: Isle of Wight County Public School District; Virginia Department of Education

Note: The enrollment totals were retrieved on May 13th, 2019

Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
North	30	162,408	575	634	91%	256
South	21	52,668	439	535	82%	98
Total	51.0	215,076	1,014	1,169	87%	184

Figure 5. High School Level of Service by Service Area

Grades 9-12

Inventory, Enrollment, and Levels of Service

School	Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
Smithfield High	North	50.0	161,404	1,250	1,588	79%	102
Windsor High	South	50.0	105,000	526	875	60%	120
Countywide Total		100.0	266,404	1,776	2,463	72%	108

Source: Isle of Wight County Public School District; Virginia Department of Education

Note: The enrollment totals were retrieved on May 13th, 2019

Service Area	Site Acreage	Building Square Feet	30-Sep-18 Enrollment	Capacity	Current Utilization	Sq. Ft. per Student Seat
North	50	161,404	1,250	1,588	79%	102
South	50	105,000	526	875	60%	120
Total	100.0	266,404	1,776	2,463	72%	108

Figure 6. School Support Facility Level of Service – Countywide

Support Facilities

Inventory, Enrollment, and Levels of Service

Facility	Service Area	Value	Site Acreage	Building Square Feet	Value Per Square Feet
Administrative Offices	Countywide	\$384,000	0	2,560	\$150
TOTALS		\$384,000	0.0	2,560	\$150
Summary by Region/School					
		Demand Units (Students)	Value per Student	Acres per Student	Building SF per Student
LOS based on Current Enrollment		5,563	\$69	0.000	0.46
LOS based on Capacity		6,797	\$56	0.000	0.38

Source: Isle of Wight County Public School District; Virginia Department of Education

Note: The enrollment totals were retrieved on May 13th, 2019

Figure 7. School Bus Level of Service – Countywide

Vehicle Type	Count	Cost per Vehicle	Total Cost
School Bus	79	\$100,000	\$7,900,000
Total Enrollment			5,563
Buses per 1,000 Students			14.2
Cost per Student			\$1,420

Source: Isle of Wight County Public District; Virginia Department of Education
 Note: The enrollment totals were retrieved on May 13th, 2019

Parks and Recreation

The following figures illustrate the Parks and Recreation levels of service. There are eight different facility categories included in the analysis and most levels of service (LOS) are calculated on a service area basis. The LOS is attributed to residential demand only and calculated per capita.


In some cases, there is not a facility in both the North and South Service Areas. For example, there is no district park in the South. As a result of no facility being present, there is not a **current level of service** to be calculated in that service area. However, the County intends to eventually construct those facilities. Taking a conservative approach, the **triggered level of service** is pegged to the countywide level of service. In the case of the district park example, the countywide level of service, and thus the triggered LOS for the South Service Area, is found by dividing the total acreage by the countywide population. In the following figures, a  symbol is used to denote where this methodology is applied. In the cases that facilities are present, the current level of service is the same as the triggered level of service.

Figure 8. Park Level of Service by Service Area

Park Category	Service Area	Unit	Population	Current Level of Service	Triggered Level of Service
		<i>Acres</i>		<i>Acres/1,000 persons</i>	<i>Acres/1,000 persons</i>
Regional Park	Countywide	2,662.3	37,786	70.46	70.46
	Total	2,662.3	37,786	70.46	70.46
District Park	North	51.7	28,339	1.82	1.82
	South	0.0	9,446	0.00	1.37
	Total	51.7	37,786	1.37	1.37
Community Park	North	61.1	28,339	2.16	2.16
	South	14.5	9,446	1.53	1.53
	Total	75.6	37,786	2.00	2.00
Neighborhood Park	North	0.0	28,339	0.00	0.01
	South	0.5	9,446	0.05	0.05
	Total	0.5	37,786	0.01	0.01
		<i>Miles</i>		<i>Miles/1,000 persons</i>	<i>Miles/1,000 persons</i>
Trails	North	1.0	28,339	0.04	0.04
	South	0.0	9,446	0.00	0.03
	Total	1.0	37,786	0.03	0.03
Countywide Trails	Countywide	13.8	37,786	0.36	0.36
	Total	13.8	37,786	0.36	0.36

Source: Isle of Wight County Parks and Recreation Dept.; Isle of Wight County Comprehensive Plan 2008

Figure 9. Recreation Center Level of Service - Countywide

Facility Name	Service Area	Sq. Ft.	Value\$	\$/Sq. Ft.
Nike Park Recreation Center	Countywide	1,881	\$1,755,502	\$933.28
Total		1,881	\$1,755,502	\$933.28

Source: Isle of Wight County Parks and Recreation Dept.; Isle of Wight County Comprehensive Plan 2008

Service Area	Population	Sq. Ft.	Value	Current LOS (Sq. Ft./Capita)	Triggered LOS (Sq. Ft./Capita)
Countywide	37,786	1,881	\$1,755,502	0.05	0.05
Total	37,786	1,881	\$1,755,502	0.05	0.05

Figure 10. Community Center Level of Service by Service Area

Facility Name	Service Area	Sq. Ft.	Value\$	\$/Sq. Ft.
Othelia J. Rainey Center	South	2,775	\$275,000	\$99.10
Windsor Town Center	South	14,600	\$1,400,000	\$95.89
Total		17,375	\$1,675,000	\$96.40

Source: Isle of Wight County Parks and Recreation Dept.; Isle of Wight County Comprehensive Plan 2008

Service Area	Population	Sq. Ft.	Value	Triggered LOS (Sq. Ft./Capita)	Triggered LOS (Sq. Ft./Capita)
North	28,339	0	\$0	0.00	0.46
South	9,446	17,375	\$1,675,000	1.84	1.84
Total	37,786	17,375	\$1,675,000	0.46	0.46

Figure 11. Event Facility Level of Service - Countywide

Facility Name	Service Area	Acres	Value\$	\$/Acre
Heritage Fair Grounds	Countywide	270	\$3,380,100	\$12,528
Total		270	\$3,380,100	\$12,528

Source: Isle of Wight County Parks and Recreation Dept.; Isle of Wight County Comprehensive Plan 2008

Service Area	Population	Acres	Value	Triggered LOS (Acres/Capita)
Countywide	37,786	270	\$3,380,100	0.007
Total	37,786	270	\$3,380,100	0.007

Public Safety: Sheriff

In Figure 12, the level of service for the Sheriff’s Office is shown. The level of service is calculated at a countywide level and attributed to both residential and nonresidential demand based on a functional population analysis (see the “Supporting Documentation” section).

Figure 12. Sheriff Level of Service - Countywide

Proportionate Share	Residential	Nonresidential	Total
	77%	23%	
Total Sheriff Sq. Ft.	13,177	3,935	17,112
Base Year Population or Nonres. Trip	37,786	30,762	
Square Feet per Person or Nonres. Trip	0.35	0.13	

Source: Isle of Wight County Sheriff's Office

Public Safety: Fire & Rescue

In the following figures, levels of service for fire and rescue squads in the County are shown. The level of service is calculated at a service area level and attributed to both residential and nonresidential demand based on a functional population analysis (see the “Supporting Documentation” section). Fire and rescue services are predominately provided by volunteer departments with the County providing assistance to fund capital needs. The analysis includes fire stations and apparatuses.

Figure 13. Fire Station Level of Service – North Service Area

Service Area	Value	Square Feet	Proportionate Share	
			Residential 77%	Nonresidential 23%
			Res. Sq. Ft.	Nonres. Sq. Ft.
Carrolton VFD & Rescue	\$3,016,684	13,838	10,655	3,183
Rushmere VFD	\$1,137,524	5,218	4,018	1,200
Smithfield VFD	\$3,640,600	16,700	12,859	3,841
Isle of Wight Vol. Rescue Squad	\$3,858,600	17,700	13,629	4,071
Total	\$11,653,408	53,456	41,161	12,295

Source: Isle of Wight Department of Planning and Zoning, Isle of Wight Comprehensive Plan Draft 2019

Value \$ Per Sq. Ft.	Demand Unit - Population	Residential Square Feet	Res. LOS (Sq. Ft./Capita)
\$218	28,339	41,161	1.45

Value \$ Per Sq. Ft.	Demand Unit - Vehicle Trips	Nonresidential Square Feet	Nonres. LOS (Sq. Ft./Trip)
\$218	23,994	12,295	0.51

Figure 14. Fire Station Level of Service – South Service Area

Service Area	Value	Square Feet	Proportionate Share	
			Residential 77%	Nonresidential 23%
			Res. Sq. Ft.	Nonres. Sq. Ft.
Carrsville VFD	\$1,988,160	9,120	7,022	2,098
Windsor VFD	\$1,523,384	6,988	5,381	1,607
Windsor Vol. Rescue Squad	\$1,347,240	6,180	4,759	1,421
Total	\$4,858,784	22,288	17,162	5,126

Source: Isle of Wight Department of Planning and Zoning, Isle of Wight Comprehensive Plan Draft 2019

Value \$ Per Sq. Ft.	Demand Unit - Population	Residential Square Feet	Res. LOS (Sq. Ft./Capita)
\$218	9,446	17,162	1.82

Value \$ Per Sq. Ft.	Demand Unit - Vehicle Trips	Nonresidential Square Feet	Nonres. LOS (Sq. Ft./Trip)
\$218	6,768	5,126	0.76

Figure 15. Fire Apparatus Level of Service – North Service Area

Apparatus	# of Units	Unit Cost	Total Cost
Fire	37	\$320,000	\$11,840,000
Rescue	10	\$140,000	\$1,400,000
Total	47		\$13,240,000

Source: Isle of Wight Department of Planning and Zoning, Isle of Wight Comprehensive Plan Draft 2019

Proportionate Share	Residential	Nonresidential
	77%	23%
Share of Fleet	36.19	10.81
Population or Nonres. Trips	28,339	23,994
Apparatus per Demand Unit	0.0013	0.0005

Figure 16. Fire Apparatus Level of Service – South Service Area

Apparatus	# of Units	Unit Cost	Total Cost
Fire	9	\$320,000	\$2,880,000
Rescue	6	\$140,000	\$840,000
Total	15		\$3,720,000

Source: Isle of Wight Department of Planning and Zoning, Isle of Wight Comprehensive Plan Draft 2019

Proportionate Share	Residential	Nonresidential
	77%	23%
Share of Fleet	11.55	3.45
Population or Nonres. Trips	9,446	6,768
Apparatus per Demand Unit	0.0012	0.0005

Public Safety: Animal Protection

In Figure 17, the level of service for Animal Protection is shown. The level of service is calculated at a countywide level and attributed to only residential demand.

Figure 17. Animal Protection Level of Service - Countywide

Proportionate Share	Residential	Nonresidential	Total
	100%	0%	
Total Animal Protection Facility Sq. Ft.	6,280	0	6,280
Base Year Population or Jobs	37,786	10,760	
Square Feet per Person or Job	0.17	0.00	

Source: Isle of Wight Comprehensive Plan Draft 2019

Transportation

Figure 18 provides a summary of planned Transportation projects based on the County’s current limited-funded plan. In this method, the service area is identified and the County’s cost is summed. The County’s total cost is divided by future total travel demand, 2029 estimated vehicle miles traveled. This results in a capital cost per vehicle mile traveled which is then applied to the land uses included in the Capital Impact Model.

Figure 18. Transportation Level of Service by Service Area

Road	Segment	Project Description	Total Cost	County Cost	Location (North/South)
Rattlesnake Trail Paving	Route 622 to Route 637	Paving	\$900,000	\$450,000	North
Total			\$900,000	\$450,000	

Source: Isle of Wight County Operating and Capital Budget 2019-2020

Road Improvement Capital Cost - North	\$450,000
Total Vehicle Miles Traveled (VMT) - North, 2029	1,220,199
Capital Cost per VMT	\$0.37
Road Improvement Capital Cost - South	\$0
Total Vehicle Miles Traveled (VMT) - South, 2029	397,396
Capital Cost per VMT	\$0.00

Library

In Figure 19, the level of service for Libraries is shown. The level of service is calculated at a countywide level and attributed to only residential demand.

Figure 19. Library Level of Service - Countywide

Proportionate Share	Residential	Nonresidential	Total
	100%	0%	
Total Library Sq. Ft.	18,029	-	18,029
Base Year Population or Jobs	37,786	10,760	
Square Feet per Person or Job	0.48	0.00	

Source: Isle of Wight Department of Planning and Zoning

General Government

In Figure 20, the level of service for General Government is shown. The level of service is calculated at a countywide level and attributed to both residential and nonresidential demand based on a functional population analysis (see the “Supporting Documentation” section).

Figure 20. General Government Level of Service - Countywide

Proportionate Share	Residential	Nonresidential	Total
	77%	23%	
Total General Government Sq. Ft.	53,594	16,008	69,602
Base Year Population or Jobs	37,786	10,760	
Square Feet per Person or Job	1.42	1.49	

Source: Isle of Wight Department of Planning and Zoning

Courts

In Figure 21, the level of service for Courts is shown. The level of service is calculated at a countywide level and attributed to both residential and nonresidential demand based on a functional population analysis (see the “Supporting Documentation” section).

Figure 21. Court Level of Service - Countywide

Proportionate Share	Residential	Nonresidential	Total
	77%	23%	
Total Court Sq. Ft.	35,687	10,660	46,347
Base Year Population or Nonres. Trip	37,786	30,762	
Square Feet per Person or Nonres. Trip	0.94	0.35	

Source: Isle of Wight Comprehensive Plan Draft 2019

Solid Waste

In Figure 22, the level of service for Solid Waste is shown. The level of service is calculated at a service area level and attributed to only residential demand.

Figure 22. Solid Waste Level of Service by Service Area

Proportionate Share		Service Area	
Residential	Nonresidential	North	South
100%	0%		
Convenience Site Acreage		5.0	3.7
Total Cost		\$544,600	\$360,200
Base Year Population		28,339	9,446
Acre per 1,000 Residents		0.17	0.39

Source: Isle of Wight Solid Waste Division

Water & Sewer

In Figure 23, the level of service for Water & Sewer is shown. A plan-based methodology is applied for the Water & Sewer analysis. The planned projects are considered to serve a countywide service area and are assumed to accommodate both current and future growth, so the County's total cost is divided by future residential and nonresidential demand. In this case, the demand is set to the 2029 estimated population and jobs. This results in a capital cost per demand unit which is applied to the land uses included in the CapIM.

Figure 23. Water & Sewer Level of Service by Service Area

Projects	Cost	Location
Water Line Upgrades	\$3,000,000	Countywide
Route 10 Water Extension	\$2,100,000	Countywide
Shop Facility	\$2,000,000	Countywide
Benns Grant Water Tank	\$3,000,000	Countywide
Benns Grant Booster	\$1,000,000	Countywide
Route 460 Water Extension	\$500,000	Countywide
Route 460 Booster	\$1,000,000	Countywide
Total	\$12,600,000	

Source: Isle of Wight Capital Improvement Plan 2020-2029

Proportionate Share	Residential	Nonresidential
	77%	23%
Water and Sewer Capital Cost	\$9,702,000	\$2,898,000
2029 Population and Jobs	41,222	11,235
Cost per Person or Job	\$235.36	\$257.94

SUPPORTING DOCUMENTATION

Functional Population

Both residential and nonresidential developments increase the demand on County services and facilities. For infrastructure categories included in the CapIM impacted from both residential and nonresidential demand, a functional population approach is used to allocate the proportional share between land use categories. The functional population approach allocates the cost of the facilities to residential and nonresidential development based on the activity of residents and workers in the County through the 24 hours in a day.

Residents that do not work are assigned 20 hours per day to residential development and 4 hours per day to nonresidential development (annualized averages). Residents that work in Isle of Wight County are assigned 14 hours to residential development and 10 hours to nonresidential development. Residents that work outside the County are assigned 14 hours to residential development, the remaining hours in the day are assumed to be spent outside of the County working. Inflow commuters are assigned 10 hours to nonresidential development. Based on 2015 functional population data, **residential development accounts for 77 percent of the functional population, while nonresidential development accounts for 23 percent**, see Figure 24.

Figure 24. Isle of Wight County Functional Population

Demand Units in 2015			
		Demand Hours/Day [^]	Person Hours
Residential			
Population*	35,740		
Residents Not Working	19,324	20	386,480
Resident Workers**	16,416		
Worked in County**	3,207	14	44,898
Worked Outside of County**	13,209	14	184,926
	Residential Subtotal		616,304
	Residential Share ==>		77%
Nonresidential			
Non-Working Residents	19,324	4	77,296
Jobs Located in County**	10,829		
Residents Working in County**	3,207	10	32,070
Non-Resident Workers (Inflow Commuters)	7,622	10	76,220
	Nonresidential Subtotal		185,586
	Nonresidential Share ==>		23%
	TOTAL		801,890

* Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates

** Source: 2015 Inflow/Outflow Analysis, OnTheMap Application, U.S. Census Bureau data for all jobs.

[^] Hours per day allocated to land use (residential or nonresidential).

Residential: 20 hours per day allocated to non-working residents; 14 hours allocated to employed residents.

Nonresidential: 4 hours allocated to non-working residents; 10 hours allocated to residents and non-residents working in the County

SERVICE AREA MAPS

The general service areas are used for all applicable infrastructure categories except for Schools. The general service areas follow fire district boundaries and are consistent with parks & recreation service districts as well. The school service areas follow the middle and high school attendance zones. The two service area types are only slightly different, but necessary to appropriately calculate capital impacts.

Figure 25. General Service Area Map

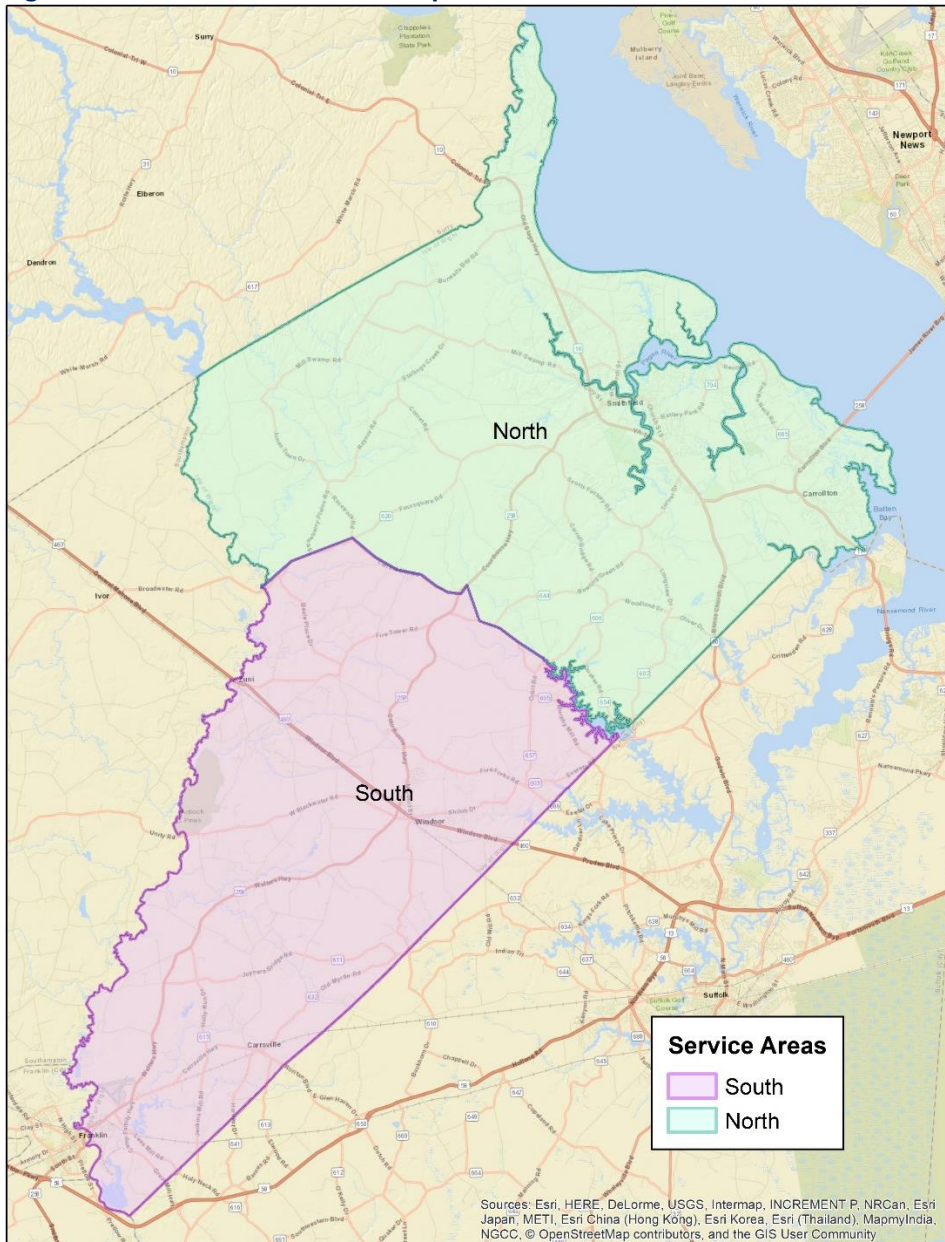


Figure 26. School Service Area Map

