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# FISCAL IMPACT ANALYSIS OF WILDERNESS CROSSING BUILD-OUT (2020-2060) Orange County, Virginia



Prepared by:

**RKG**  
ASSOCIATES INC

**RKG Associates, Inc.**

*Economic, Planning and Real Estate Consultants*

300 Montgomery Street, Suite 203

Alexandria, Virginia 22314

Tel: 703.739.0965

[www.rkgassociates.com](http://www.rkgassociates.com)

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**Fiscal Impact Analysis of  
Wilderness Crossing Build-out  
(2020-2060)**

**Orange County, Virginia**  
April 30, 2022

**Prepared for:**

Mr. Ken Dodson  
Keg 3 and Associates LLC  
33225 Constitution Highway  
Locust Grove, VA 22508  
Tel: 540-840-5335  
E-mail: [kd titan@aol.com](mailto:kd titan@aol.com)

**Prepared by:**



300 Montgomery Street, Suite 203  
Alexandria, VA 22314  
Tel: 703-739-0965  
Website: [www.rkgassociates.com](http://www.rkgassociates.com)

# FISCAL IMPACT ANALYSIS

## A. INTRODUCTION

The following section details the results of a fiscal impact analysis relative to the proposed Wilderness Crossing development. At the request of Orange County, VA, the consultants modeled the fiscal impacts associated with the build-out of a mixed-use development equaling 2,618 acres. Table 1 includes a summary of the civic, Town Center/ commercial, light industrial/flex and residential development being proposed by the developer.

RKG Associates modeled the build-out over a 40-year projection period starting in 2020. Multi-generational projections of this type cannot be precise, given the myriad of factors that will influence development over the next four decades. However, the average annual levels of development are believed to be reasonable and within recent historical levels in Orange County.

Wilderness Crossing's build-out is projected at roughly 751,500 SF (not including civic uses) on 275 acres in a Town Center context. These employment generating uses include 158,100 SF of light industrial/flex space, 473,500 SF of retail, services and restaurant uses. An additional 120,000 SF is reserved for over 300 assisted living units in the future.

**Table 1**

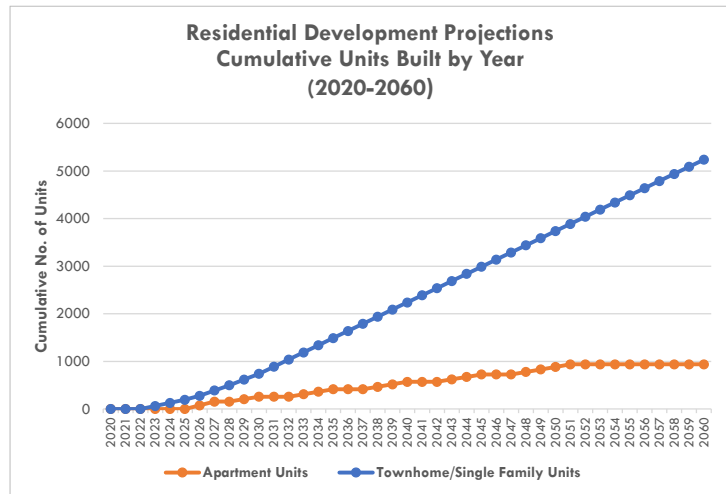
**Wilderness Crossing Development  
Development Yield Analysis**

<b>Non Residential / Mixed Use Land Parcels</b>				
Landbay Designation	Land Use	Product Size / Type	Landbay Size (acres)*	Building SF
SS	Civic	School Site	36	--
RP	Civic	Regional Park	40	--
MP	Civic	Mine Park	61	--
R3	Mixed Use	Mixed Use	4	33,000
TCC1	Town Center	Mixed Use	12	71,500
TCC2	Town Center	Mixed Use	6	23,600
TCC3	Town Center	Mixed Use	12	31,800
TCC4	Town Center	Mixed Use	8	9,600
TCC5	Town Center	Mixed Use	9	56,400
CML1	Commercial	Commercial	26	167,800
CML2	Commercial	Commercial	12	79,700
R1	Assisted Living	Senior Facility	24	120,000
FLI1	Flex Light Industrial	Flex Light Industrial	8	51,600
FLI2	Flex Light Industrial	Flex Light Industrial	16	106,500
<b>Total Acres/Building SF</b>			<b>275</b>	<b>751,500</b>
<b>Residential Land Parcels</b>				
Landbay	Land Use	Product Size / Type	Landbay Size (acres)*	Housing Units
<b>Small and Large Townhouses</b>				
TCC3	Mixed Use	Small and Large Townhouses	6	53
TCC4	Mixed Use	Small and Large Townhouses	4	34
R2B	Mixed Residential	Small and Large Townhouses	13	151
R3	Mixed Use	Small and Large Townhouses	15	179
R4	Mixed Residential	Small and Large Townhouses	23	241
R6	Mixed Residential	Small and Large Townhouses	41	427
R7	Townhomes	Small and Large Townhouses	47	426
R8	Mixed Residential	Small and Large Townhouses	32	286
R10	Townhomes	Small and Large Townhouses	30	269
<b>Total Acres / Housing Units</b>			<b>210</b>	<b>2,065</b>
<b>Apartments and Condos</b>				
TCC4	Mixed Use	Apartments and Condos	6	120
R2A	Multi-Family	Apartments and Condos	25	340
R3	Mixed Use	Apartments and Condos	14	320
R4	Mixed Residential	Apartments and Condos	12	160
<b>Total Acres / Housing Units</b>			<b>58</b>	<b>940</b>
<b>8K Square Feet Single Family Lots</b>				
R2B	Mixed Residential	8k SF Single Family Lots	13	47
R3	Mixed Use	8k SF Single Family Lots	14	83
R4	Mixed Residential	8k SF Single Family Lots	60	226
R5	Single Family	8k SF Single Family Lots	74	279
R6	Mixed Residential	8k SF Single Family Lots	122	458
R8	Mixed Residential	8k SF Single Family Lots	95	357
R9	Single Family	8k SF Single Family Lots	261	978
R11	Single Family	8k SF Single Family Lots	199	745
<b>Total Acres / Housing Units</b>			<b>838</b>	<b>3,172</b>
<b>Total All Acres / All Housing Units</b>			<b>1105</b>	<b>6178</b>

Source: LPDA (4/19/2022)

Residential development will comprise the majority of new development and will include 6,178 new housing units including single family detached (3,172 units), multi-family apartments or condominiums (940 units) and small and large townhouses (2,065 units) (Figure 1). At built-out, RKG estimates that Orange County’s population will increase from 36,119 in 2020 to 74,155. This 18,366 new population is projected from new residential development activity, including Wilderness Crossing, while the remaining portion is projected from natural annual growth in the County.

Figure 1



Source: LPDA, 2022

While completing this original analysis in 2021, RKG Associates interviewed various Orange County department heads and staff. The objective of the interviews was to develop an understanding of how specific departmental budget expenditure or capital project needs would be impacted by the introduction of new households and businesses at the subject property off Route 3 in Orange County. The Orange County Tax Assessor was also consulted regarding local assessment practices. In addition, RKG Associates reviewed the following public data sources to prepare this analysis.

- Orange County Comprehensive Annual Financial Report, FY Ended June 30, 2019,
- Orange County Adopted Budget, Fiscal Year 2021,
- Orange County Public Schools, Five Year Strategic Plan (2018-2023),
- Orange County FY2021-2025 Capital Improvements Plan,
- Orange County 2013 Comprehensive Plan, and
- Germanna Wilderness Area Plan (2015).

## B. FISCAL IMPACT ANALYSIS

### 1. Municipal Revenue Projections

This section describes the assumptions used to derive municipal revenues associated with the proposed Wilderness Crossing build-out. RKG Associates measured major revenues streams with direct benefit to Orange County. While there are other sources of municipal revenues generated by this development, they are minor in nature and not consequential in measuring the revenue impact of this development on the County’s fiscal health. The revenues measured include: (1) real property taxes, (2) personal property taxes, (3) local option sales and use and meals taxes, (4) countywide fire & EMT district taxes, and (5) real estate recordation taxes.

#### a.) Real Estate Tax Revenues

The first step of the fiscal impact analysis is to estimate real property taxes that will be generated from the proposed development at the end of 2060. The modeling of future real estate cycles over decades is inherently difficult and can only produce “order of magnitude” estimates. While they may lack precision, they should reflect the relative cost implications of growth over time. While RKG’s build-out assumptions for Wilderness Crossing are not based on market research findings, the growth model assumptions fall within recent development ranges and are considered reasonable.

According to the Orange County Tax Assessor’s Office, non-residential properties (for assessment purposes, rental apartments are also considered non-residential) are typically assessed using the income approach, which recognizes the relationship between the property’s value and the income it is expected to earn. Non-income producing residential properties are assessed based on fair market valuation.

Project assumptions such as building square footages, unit counts, rents, price points, occupancy and operating expenses were derived from RKG Associates’ local market research. Based on RKG’s assumptions regarding vacancy rates, unit and per square foot rents, operating expense ratios and capitalization rates, the income approach produced market values very similar to the estimated construction costs estimated for the individual development components, with the addition of land value. For uniformity of the revenue projections, RKG has left all assessed value projections based on initial construction cost estimates.

The Orange County Budget Committee made the decision to recommend lowering the proposed property tax rate to the equalized rate for 2020. The 2020 adopted regular real estate tax rate (\$0.61/\$100 in assessed value) and the countywide Fire & EMS District Levy (\$0.11/\$100), when combined, total the previously advertised equalized rate of 72 cents. This resulted in no effective tax rate increase in 2020.<sup>1</sup>

Real property taxes for the proposed development were based on the projected assessed values, derived from the estimated construction value of each property type, plus the value of the underlying land. The King Family property is roughly 2,618 acres and the County has assessed the combined property at roughly \$13.2 million in its current undeveloped state. That equates to an assessed value of roughly \$5,045 per acre. As the project develops, the value of the underlying land will increase in value to reflect the new land uses being constructed.

Table 2 summarizes the total assessed value per year by the major land use category starting in 2023 and ending in 2060. Some uses are not projected to come on-line until later years. Based on RKG’s estimates, the total assessed value is projected at \$2.4 billion in 2060. The single-family ownership housing component accounts for most (87.7%) of the development activity during by the end of build-out (\$2.1 billion). This assessed value is derived from roughly 5,238 new detached and attached housing units over forty years.

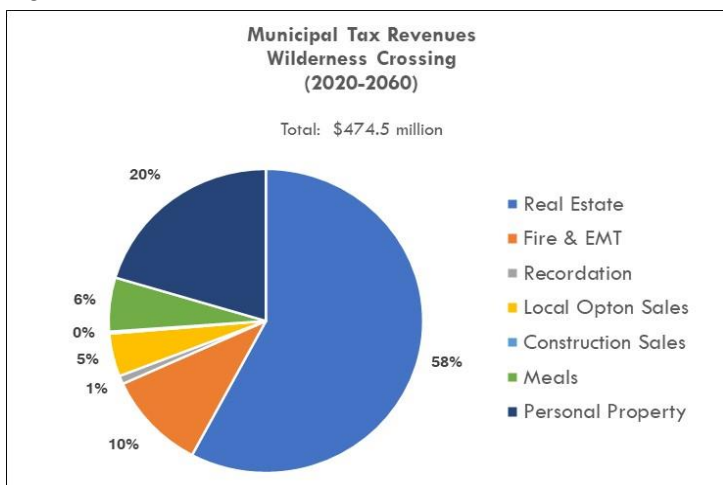
By the year 2060, roughly \$276.9 million in real estate taxes will be collected from the new development, both residential and commercial. This represents roughly 58.2% of the \$474.5 million in total revenues generated by the project during the 2020-2060 projection period (Figure 2/Table 3). The largest single source will come from new ownership housing, which will account for \$229.1 million.

**b.) Personal Property Taxes**

Tangible personal property, as defined by state code, is all personal property not otherwise

classified as intangible personal property, merchants’ capital, or as short-term rental property (Code

**Figure 1**



Source: RKG Associates, Inc., 2022

<sup>1</sup> Orange County Adopted Budget Fiscal Year 2021, page 9.

**Table 2**  
Total Estimated Annual Assessed Value  
Wilderness Crossing (2020-2040)

	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040	2050	2060
Underlying Land Value	\$ 13,207,500	\$ 13,207,500	\$ 13,207,500	\$ 13,153,863	\$ 13,100,227	\$ 13,046,590	\$ 12,919,083	\$ 12,757,229	\$ 12,644,182	\$ 12,497,870	\$ 12,360,116	\$ 10,872,872	\$ 9,363,912	\$ 7,809,437
Building and Land Assessed Value	\$ -	\$ -	\$ -	\$ 25,728,300	\$ 51,456,600	\$ 77,184,900	\$ 110,829,600	\$ 154,369,800	\$ 197,910,000	\$ 245,408,400	\$ 292,906,800	\$ 886,636,800	\$ 1,480,366,800	\$ 2,073,305,160
Ownership Housing Construction Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 14,420,578	\$ 28,841,155	\$ 28,841,155	\$ 38,454,874	\$ 48,068,592	\$ 105,750,902	\$ 163,433,213	\$ 173,773,213
Rental Housing Construction Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 3,406,900	\$ 13,921,317	\$ 26,139,184	\$ 27,513,465	\$ 27,513,465	\$ 57,032,655	\$ 84,190,396	\$ 89,417,646
Commercial/Industrial Construction Value	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Assisted Living Facility	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Annual Assessed Value w/ Land	\$ -	\$ -	\$ -	\$ 25,728,300	\$ 51,456,600	\$ 77,184,900	\$ 128,657,078	\$ 202,280,389	\$ 263,186,573	\$ 321,672,974	\$ 378,785,092	\$ 1,059,716,593	\$ 1,747,771,443	\$ 2,356,277,053
Cum. Annual Assessed Value w/ Land	\$ 13,207,500	\$ 13,207,500	\$ 13,207,500	\$ 38,882,163	\$ 64,556,827	\$ 90,231,490	\$ 141,576,161	\$ 215,037,618	\$ 275,830,755	\$ 334,170,844	\$ 391,145,208	\$ 1,070,589,464	\$ 1,757,135,355	\$ 2,364,086,490

Source: RKG Associates, Inc, 2020

**Table 3**  
Net Fiscal Impact Analysis  
Wilderness Crossing  
(2020-2050)

Revenues by Type	Year										Cum. Rev./Exp (2020-2030)	Cum. Rev./Exp (2020-2040)	Cum. Rev./Exp (2020-2050)	Cum. Rev./Exp (2020-2060)	% of Total	
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029						2030
Real Estate Taxes	\$ 80,566	\$ 80,566	\$ 80,566	\$ 237,181	\$ 393,797	\$ 638,378	\$ 947,240	\$ 1,295,013	\$ 1,709,948	\$ 2,065,823	\$ 2,354,723	\$ 9,883,800	\$ 55,848,801	\$ 142,946,995	\$ 276,887,778	58.3%
Countywide Fire & EMT District Taxes	\$ 14,528	\$ 14,528	\$ 14,528	\$ 42,770	\$ 71,013	\$ 115,117	\$ 170,814	\$ 233,527	\$ 308,351	\$ 372,525	\$ 424,622	\$ 1,782,325	\$ 10,071,095	\$ 25,777,327	\$ 49,930,583	10.5%
Real Estate Reconciliation Taxes	\$ -	\$ -	\$ -	\$ 21,354	\$ 21,354	\$ 21,354	\$ 45,925	\$ 65,707	\$ 56,958	\$ 56,757	\$ 57,588	\$ 346,998	\$ 1,144,607	\$ 2,194,526	\$ 3,424,817	0.7%
Local Options Sales Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 52,500	\$ 105,000	\$ 183,750	\$ 262,500	\$ 262,500	\$ 866,250	\$ 4,620,000	\$ 11,261,250	\$ 20,790,000	4.4%
Construction Materials - Local Sales and Use Taxes (1%)	\$ -	\$ -	\$ -	\$ 8,638	\$ 8,638	\$ 8,638	\$ 17,487	\$ 22,683	\$ 18,089	\$ 20,962	\$ 19,365	\$ 124,502	\$ 349,676	\$ 578,597	\$ 786,676	0.2%
Local Meals Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 132,120	\$ 231,210	\$ 330,300	\$ 330,300	\$ 330,300	\$ 1,089,900	\$ 5,813,280	\$ 14,169,870	\$ 26,159,760	5.3%
Personal Property Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 64,735	\$ 129,469	\$ 194,204	\$ 282,835	\$ 404,911	\$ 528,977	\$ 650,515	\$ 770,025	\$ 969,463	20.4%
Total - Annual Tax Revenues	\$ 95,094	\$ 95,094	\$ 95,094	\$ 374,679	\$ 624,271	\$ 977,691	\$ 1,582,862	\$ 2,258,961	\$ 3,037,284	\$ 3,759,383	\$ 4,219,123	\$ 9,962,306	\$ 247,348,999	\$ 474,925,999	\$ 100.0%	

Source: RKG Associates, Inc, 2020

of Virginia, §58.1-3500). In general, tangible personal property is a moveable item that is real, material, substantive, and not permanently affixed to any real property. Examples of tangible property include office furniture, computer hardware, specialized tools, machinery, equipment, and vehicles. Orange County taxes personal property differently for residential and commercial taxpayers. Residential personal property is taxed at a rate of \$3.50/\$100 in assessed value and commercial is taxed at \$2.20/\$100 in value.

RKG estimated the total personal property in relationship to the County real property tax base. Over the 2015-2019 period, the county's average annual personal property tax base (\$287 million) equaled roughly 6.7% of the County's average annual real property tax base of \$4.3 billion. For every \$1 million in real property value, there is roughly \$67,096 in personal property. Based on this dollar relationship, RKG projects that \$96.9 million in personal property taxes will be collected from residential and commercial properties at the Wilderness Crossing development, or roughly 20.4% of total revenues over forty years.

c.) Local Option Sales Tax and Meals Tax

Orange County receives a one percent (1%) Local Option Sales Tax which is collected by the Virginia Department of Taxation and remitted to the County in which the sale occurred. For the analysis, the consultants projected sales from two sources. The first source involved the purchase of construction materials related to building the development during the first forty years. Because Orange County does not possess many businesses selling lumber, hardware, concrete, power tools and other construction-related materials, the revenue stream is quite limited. Many of these purchases are likely to be captured by larger establishments located in Fredericksburg or Spotsylvania County. Consequently, it is estimated that only \$786,676 in local option sale tax revenue would be collected on construction purchases.

The second source would include those commercial establishments, including restaurants, located in the Wilderness Crossing commercial center. Roughly 373,400 SF of new commercial space is planned by 2060 and the cumulative retail sales is estimated at \$3.5 billion. A 1% local option sales tax will be levied on retail sales and 4% will be levied on drinking and dining sales. No sales and use levied on the sales generated by 100,000 SF of service businesses. In total, RKG projects local sales and meals tax revenues of approximately \$46.9 million during the forty years or roughly 9.9% of total revenues.

d.) Countywide Fire & EMT District Taxes

In March 2020, the Orange County Board of Supervisors adopted a \$0.11 Countywide tax on real estate to fund its fire and EMT services. Population growth is pushing the County to move to a professionally staffed fire department, due to a steady attrition in its volunteer fire and rescue force. In 2020, the county was expected to spend approximately \$873,390 in support of volunteer fire and rescue operations throughout the county. Meanwhile, it anticipated spending \$5.2 million on its professional staff. Of that \$6 million total, \$1.4 million is recoverable through insurance, leaving the county with a balance of \$4.6 million to fund through the new tax.<sup>2</sup> However, the \$0.11 tax rate is being deducted from the County's property tax rate of \$0.72/per \$100 in assessed value, thereby reducing the real property tax rate to \$0.61/per thousand. Based on the projected assessed value of real estate at Wilderness Crossing, the new fire and EMT tax would generate \$49.9 million in tax revenues by 2060.

e.) Real Estate Recordation Taxes

Recordation and Transfer Taxes are excise taxes imposed and governed by State and Local Law for the privilege of recording an instrument in the County Land Records (or, in some cases, with the State Department of Assessments and Taxation). Orange County's recordation tax rate is \$0.083/\$100 in assessed value. Based on the sale of roughly \$2.4 billion in real property value, the recordation tax would generate over \$3.4 million by 2060, or .07% of all revenues.

<sup>2</sup> "Supervisors approve fire and EMS levy," Orange County Review, Jeff Poole, March 19, 2020.

## 2. Municipal Expenditure Projections

In addition to municipal revenues, new development also generates public expenditures associated with the cost of providing government services. To fully assess the cost of service associated with the proposed development program, departmental expenses have been estimated for locally funded government services that will be provided by Orange County to the residents, workers, property owners and patrons of the proposed Wilderness Crossing development during the 2020-2060 period.

RKG Associates conducted interviews with various Orange County department heads to identify the potential demand for municipal services in the future. While Wilderness Crossing is a large development on the eastern side of the County, it is not the only new housing development. Based on RKG’s market research, it is projected that Wilderness Crossing (5,238 ownership and 940 rental units) may account for roughly 71.2% of all new residential units projected over the next four decades. The consultants estimate that Wilderness Shores (482 units), Ryan Homes (242 Age-Restricted units) and Signature Station (220 units) could account for as many as 984 new homes during the same period. RKG also assumed that once those developments build out, there will be at least 50 new residential units built each year to compete against Wilderness Crossing. There is an estimated 1,500 acres of undeveloped land in this same area that could come into play during the next forty years, but those land holdings are not currently in the development “pipeline.”

### a.) Fire & EMT Department

The County Board of Supervisors is starting to transition to a full-time professional fire department and moving away from a mixed professional/volunteer force. This is largely due to increased demand for public safety services in the eastern region of the County along Route 3 and the steady decline in the County’s volunteer force, due to a lack of interest among new volunteer fire fighters.

According to the County Administrator, Chairman of the Board of Supervisors and the Fire Chief, the County will eventually have to invest in a new fire substation in this part of the County. This will include a new substation equipped with a 75-foot ladder truck, a pumper engine, and a medic unit. RKG has estimated the cost for the new rolling stock, including the equipment to fit-out each unit. The cost of these vehicles was obtained from various industry sources and the County’s CIP plan and RKG estimated the cost of a new 5,800 SF station based on prevailing construction costs for such facilities. The consultants also estimated the cost of adding three new fire department staff, including two new fire fighters and a fire fighter-medic, based on Orange County compensation levels for those employee classifications in 2020, plus 25% for fringe benefits. Also, a cost was estimated to train and equip each fire fighter.

RKG assumed that this investment would be made once Wilderness Crossing reached at least 500 new housing units, which is not projected until 2027. The County has been acquiring new fire vehicles and ambulances through lease/purchase agreements, mostly purchasing over 3 years. RKG has assumed five years for the ladder truck and pumper engine due to their high cost of roughly \$1.7 million (Table 4). We have also assumed a 20-year general obligation bond to finance a new \$2.7 million fire station (5,700 SF). This reduces the annual outlays from the general fund, but RKG assumes that an expanded fire station might be needed within 15 years as the population increases in later years.

**Table 4**  
**Estimated Fire Department Expenses**  
**Route 3 Fire Substation**

	Yrs. of Service	Vehicle & Equipment
<b>Vehicles &amp; Equipment Costs</b>		
Ladder Truck (5 yr. Financing Term)	20	\$ 1,000,000
Engine Truck (5 Yr. Financing Term)	20	\$ 700,000
Medic Unit (3 Yr. Financing Term)	7	\$ 305,600
<b>Staffing Needs</b>		
	4	Total
Annual Salary - Entry level fire fighters [1]	\$ 46,548	\$ 186,192
Initial Training	\$ 26,000	\$ 104,000
Equipment	\$ 12,500	\$ 50,000
Firefighter/Medic	1	\$ 63,553
<b>New Fire Substation (20 Yr. Financing Term)</b>	20	\$ 2,685,625
<b>Fire Station Expansion (20 Yr. Financing Term)</b>	20	\$ 5,371,250
<b>Total - Fire Department Operating &amp; Financing Costs</b>		

Source: RKG Associates, Inc. and Orange County Adopted Budget Fiscal Year 2021



Another 11,400 SF facility is added to the original facility in 2043, as well as the debt service payments associated with this investment.

RKG estimates that total fire department expenses could equal approximately \$59.8 million by 2060. It is worth noting that the County will collect \$49.9 million from Wilderness Crossing from its new Fire & EMT tax over the next four decades.

**b.) Sheriff's Department**

Unlike the Orange County Fire Department, the Sheriff's Department does not believe a police substation is needed in the Wilderness Crossing area during the first decade of development at Wilderness Crossing. While they believe the demand for public safety, traffic and court services will rise with a growing population, they do not believe that having a fixed operation center is the most efficient way to serve this area. Having a new station requiring a level of staffing that may not be justifiable and having a fixed base of operation commits staffing to a location that may not need that level of service for a couple of decades. However, as indicated with Fire & EMT services, the demand for a fixed operation center may become necessary over time.

Additional officers with patrol vehicles will be required to respond to increased calls for service for such things as: (1) traffic accidents and violations, (2) domestic calls, (3) burglaries, (4) vandalism, (5) shoplifting, (6) animal control, and similar service calls. The Sheriff's Department believes that they should be able to provide enhanced services for this area with a modest County investment, particularly during the first decade of the project. The sheriff believes that three officers including a deputy, investigator and an animal control officer might be required once the population exceeds 1,500. The department's cost to equip each officer, including a vehicle is roughly \$120,000. RKG has assumed 25% fringe benefits on top of the annual pay (Table 5). While the department's typical threshold is one new officer with patrol car for every 1,500 in new population, three officers will be required due to additional development activity in this area. RKG estimates that Wilderness Crossing will meet this threshold by 2028. Over the 40-year projection period, RKG estimates that \$45.2 million in public safety services from the County Sheriff's Department will be demanded.

**Table 5**  
**Estimated Sheriff's Department Expenses**

<b>Staffing and Equipment</b>		
<b>Sheriff Staffing Needs</b>	No. of	
	Officers	Annual Pay
Deputy Officer	1	\$ 52,873
Animal Control Officer	1	\$ 50,000
Investigator	1	\$ 58,295
<b>Total Annual Compensation</b>		
<b>Vehicles &amp; Equipment</b>		<b>Cost</b>
Deputy (Car & Equipment)		\$ 53,909
Animal Control (Car & Equipment)		\$ 57,500
Investigator (Car & Equipment)		\$ 47,131
<b>Total - Sheriff's Office Expenses</b>		

Source: RKG Associates, Inc. and Orange Co. Sheriff, 2020

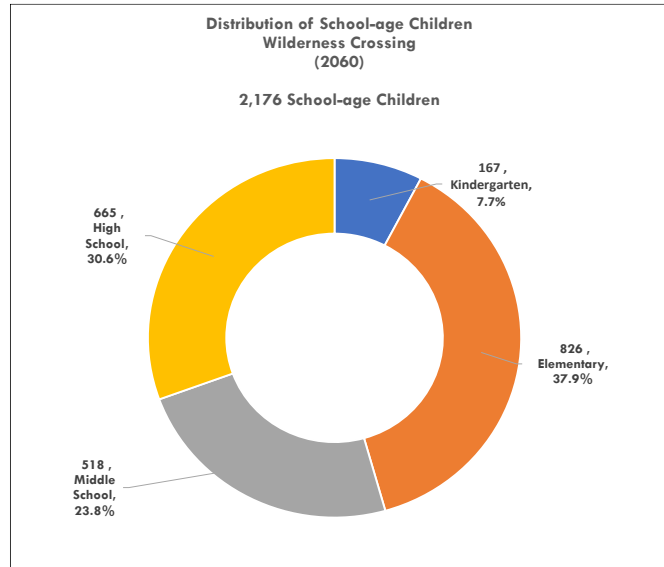
c.) Public Education

The Orange County Public School District reports that it had an enrollment of 4,738 school-age children in grades K-12 during the 2018-2019 school year. During that same year, Orange County had an estimated 13,543 households, resulting in an average of 0.352 school-age children per household. While enrollment fluctuates slightly up and down each year, RKG used this student multiplier to project future students in Wilderness Crossing households.

Based on the number of new housing units constructed at Wilderness Crossing by 2060 (6,178 units), it is estimated that as many as 2,176 new school-age students could be added to the County's schools in all grades (Figure 2). This would result in a 45.9% increase over forty years. Roughly 38% (826 students) would be elementary school-age students and 30.6% (665 students) would be high school students, based on current student multipliers by grade (Table 6).

The average local cost of educating each student in the Orange County system was \$4,075 in 2018-19, which did not reflect debt service costs. This amount was used to project the local cost of education as more children are added to the system. By 2060, the cumulative education cost will equal roughly \$166.8 million, with the peak occurring in 2060 at \$8.9 million (Table 6). The vast majority of education costs are paid by state and local sources. Education expense account for 47.1% of all expenses over the first decade. Based on a student:teacher ratio of 20.1 students per teacher, Wilderness Crossing will generate demand for 108.2 new teachers by 2060.

Figure 2



d.) Planning Services

The Planning Department anticipates the need for additional plan review and project management due to increased staff review time and the need to manage the rezoning process. According to the County Administrator, the Department is in the process of retaining an outside consulting firm to support the planning department as it manages this growth. RKG has estimated between \$20,000 to \$100,000 per year for these services, although this amount was not confirmed at the time of this analysis. At an average of \$100/hr. this equates to 16 to 83 hrs. of service per month.

e.) Parks & Recreation

The Parks & Recreation Department does not anticipate any changes in service levels due to the Wilderness Crossing development nor do they anticipate any capital planning needs or budgetary changes. Wilderness Crossing will have an estimated 48 acres of parks and 24 acres for a school site. These sites will offer parks and recreational services to residents of Wilderness Cross and the surrounding area. In addition to formal park space, the developer anticipates that as much as 1,462 acres of open space will be incorporated into the overall development plan.

**Table 6**  
**Wilderness Crossing**  
**Projected Education Expenses**  
**(2020-2030)**

	Year	1	2	3	4	5	6	7	8	9	10	20	30	40
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2040	2050	2060
Students Enroll. (2018-19)	-	-	-	65	130	195	358	546	656	828	1,000	2,812	4,624	6,178
Students Per HH	-	-	-	1.75	3.51	5.26	9.66	14.73	17.70	22.34	26.98	75.88	124.77	167
Cumulative No. of New Housing Units	-	-	-	8.69	17.37	26.06	47.85	72.97	87.67	110.66	133.65	375.83	618.00	826
Kindergarten	-	-	-	5.45	10.91	16.36	30.04	45.82	55.05	69.49	83.92	235.99	388.05	518
Elementary	-	-	-	7.00	13.99	20.99	38.53	58.77	70.61	89.12	107.63	302.67	497.70	665
Middle School	-	-	-	22.89	45.78	68.68	126.08	192.30	231.04	291.61	352.19	990.36	1,628.52	2,175.82
High School	-	-	-	0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
Total Students per Household	-	-	-	0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
<b>Cumulative Annual Growth (from 2018-19)</b>														
Kindergarten				0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
Elementary				0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
Middle School				0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
High School				0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
Total				0.5%	1.0%	1.4%	2.7%	4.1%	4.9%	6.2%	7.4%	20.9%	34.4%	45.9%
Cum. Cost of Education (2018 dollars)				\$93,286	\$186,572	\$279,858	\$513,791	\$783,603	\$941,472	\$1,188,321	\$1,435,171	\$4,035,700	\$6,636,229	\$8,866,484
No. of New Teachers Required				1.1	2.3	3.4	6.3	9.6	11.5	14.5	17.5	49.3	81.0	108.2

Source: RKG Associates, Inc. and Orange County Public Schools, Five Year Strategic Plan (2018-2023)

f.) Other General Government Expenditures

The first step in determining the expenditures associated with all other general government services is to allocate the proportional share of departmental expenses to residential and commercial development. RKG Associates employs a methodology that uses the County's 2020-21 budget, and the assessed value of taxable property contained in Orange County's tax assessment roll.

The residential land uses' proportional share of applicable government expenses is approximately 69%, compared to 6.4% for commercial. The balance of the County's tax base consists of agricultural lands at 21% and public service at 4% for a total of 100%. While apartments are typically considered commercial properties, from an assessment standpoint, they demand municipal services as households. As such, RKG has included them in the residential section. Departmental expenses shown in Table 7 are derived from the County's budget document and thus are not actual departmental spending amounts. Unfortunately, the expenditure categories in the County's Comprehensive Annual Financial Report (CAFR) for 2020 are not detailed enough at the department level for purposes of this analysis.

The departmental expenses shown in Table 7 are adjusted to reflect a proportional share and efficiencies associated with the provision of government services to households in Orange County. The projections of municipal costs on a per household basis recognize that there are economies of scale associated with ongoing government operations, and that the introduction of new households into the County will impact certain departments more directly than others. The departments expenditures estimated in the previous section (e.g., Fire & EMT, Sheriff, education, etc.) are most directly impacted and thus have been estimated separately. The remaining department expenses were estimated using a proportional technique.

The Wilderness Crossing development residential tax base value at build-out in 2060 is estimated at 63.3% (\$2.2 billion) of the County's 2020 residential assessed value of \$3.6 billion. The commercial tax base value (\$109 million) is estimated only 37.2% of the County's 2020 commercial assessed value of \$292.5 million. That assumes that the assisted living facility is run as a for-profit operation, but this could follow a nonprofit approach. Those proportions are then applied to municipal expenditure categories as appropriate. That reduces the County expenditures that just relate proportionally to the Wilderness Crossing impact, as a percentage of the County's tax base. Finally, RKG determined if the new development would result in increased demand for each municipal service category. As a result, certain categories were not judged to result in increase costs due to the project. This determine was made on an expenditure line-item basis to get to the final increased service demand related to Wilderness Crossing.

Based on RKG's analysis, roughly \$66.8 million in general government expenditures would be incurred during the 40-year study period, with \$40.6 million driven by residential households.

**Table 7**  
**Orange County Expenditure Estimates**  
**2021 Budget**

Department	FY 21 Adopted Budget	68.6%		6.4%		Wilderness Crossing Share	
		Residential Tax Base	Commercial Tax Base	Residential Tax Base	Commercial Tax Base	63.3%	30.6%
<b>Total - Municipal Expenditures</b>	<b>\$ 58,064,694</b>	<b>\$ 39,811,012</b>	<b>\$ 3,744,459</b>	<b>\$ 25,219,402</b>	<b>\$ 1,144,476</b>		
<b>General Administration</b>	<b>\$ 3,770,648</b>	<b>\$ 2,585,277</b>	<b>\$ 243,160</b>	<b>\$ 1,637,716</b>	<b>\$ 74,321</b>		
Board of Supervisors	\$ 124,194	\$ 85,151	\$ 8,009	\$ 53,942	\$ 2,448		
County Administration	\$ 396,265	\$ 271,692	\$ 25,554	\$ 172,111	\$ 7,811		
Management Services	\$ 356,248	\$ 244,255	\$ 22,974	\$ 154,730	\$ 7,022		
County Attorney	\$ 140,753	\$ 96,505	\$ 9,077	\$ 61,134	\$ 2,774		
Human Resources	\$ 228,590	\$ 156,729	\$ 14,741	\$ 99,284	\$ 4,506		
Independent Auditor	\$ 79,700	\$ 54,645	\$ 5,140	\$ 34,616	\$ 1,571		
Commissioner of the Revenue	\$ 432,362	\$ 296,441	\$ 27,882	\$ 187,789	\$ 8,522		
General Reassessment	\$ -	\$ -	\$ -	\$ -	\$ -		
Treasurer	\$ 443,728	\$ 304,234	\$ 28,615	\$ 192,726	\$ 8,746		
Finance	\$ 326,836	\$ 224,089	\$ 21,077	\$ 141,956	\$ 6,442		
Information Technology	\$ 833,753	\$ 571,648	\$ 53,767	\$ 362,126	\$ 16,434		
Geographic Information Systems	\$ 95,184	\$ 65,261	\$ 6,138	\$ 41,342	\$ 1,876		
Dues	\$ 12,085	\$ 8,286	\$ 779	\$ 5,249	\$ 238		
Electoral Board	\$ 97,186	\$ 66,634	\$ 6,267	\$ 42,211	\$ 1,916		
Registrar	\$ 203,764	\$ 139,707	\$ 13,140	\$ 88,501	\$ 4,016		
<b>Judicial Court</b>	<b>\$ 2,181,028</b>	<b>\$ 1,495,383</b>	<b>\$ 140,649</b>	<b>\$ 947,292</b>	<b>\$ 42,989</b>		
Circuit Court Judge	\$ 75,443	\$ 51,726	\$ 4,865	\$ 32,767	\$ 1,487		
Circuit Court Jury	\$ 85,327	\$ 58,503	\$ 5,503	\$ 37,060	\$ 1,682		
General District Court	\$ 9,635	\$ 6,606	\$ 621	\$ 4,185	\$ 190		
Magistrate	\$ 3,000	\$ 2,057	\$ 193	\$ 1,303	\$ 59		
Juvenile & Domestic Relations Court	\$ 11,300	\$ 7,748	\$ 729	\$ 4,908	\$ 223		
Circuit Court Clerk	\$ 475,425	\$ 325,967	\$ 30,659	\$ 206,493	\$ 9,371		
Courts-Sheriff	\$ 765,112	\$ 524,585	\$ 49,340	\$ 332,313	\$ 15,081		
Victim Witness Program	\$ 100,695	\$ 69,040	\$ 6,494	\$ 43,735	\$ 1,985		
Commonwealth Attorney	\$ 643,606	\$ 441,277	\$ 41,505	\$ 279,539	\$ 12,686		
Commonwealth Attorney Collections	\$ 11,485	\$ 7,874	\$ 741	\$ 4,988	\$ 226		
<b>Public Safety</b>	<b>\$ 9,451,235</b>	<b>\$ 6,480,069</b>	<b>\$ 609,488</b>	<b>\$ 4,104,981</b>	<b>\$ 186,287</b>		
Sheriff	\$ 3,150,661	\$ 2,160,194	\$ 203,179	\$ 1,368,435	\$ 62,101		
Emergency Communications Center	\$ 1,465,681	\$ 1,004,918	\$ 94,518	\$ 636,593	\$ 28,889		
Triad	\$ 22,257	\$ 15,260	\$ 1,435	\$ 9,667	\$ 439		
Jointly Operated Institutions	\$ 2,444,892	\$ 1,676,296	\$ 157,665	\$ 1,061,897	\$ 48,190		
Probation Service	\$ 6,886	\$ 4,721	\$ 444	\$ 2,991	\$ 136		
Building Inspection	\$ 322,394	\$ 221,044	\$ 20,790	\$ 140,026	\$ 6,355		
Animal Control	\$ 241,442	\$ 165,540	\$ 15,570	\$ 104,866	\$ 4,759		
Animal Shelter	\$ 468,150	\$ 320,979	\$ 30,190	\$ 203,333	\$ 9,227		
Medical Examiner	\$ 500	\$ 343	\$ 32	\$ 217	\$ 10		
<b>Public Works</b>	<b>\$ 1,328,372</b>	<b>\$ 910,774</b>	<b>\$ 85,664</b>	<b>\$ 576,956</b>	<b>\$ 26,183</b>		
Building & Grounds	\$ 1,328,372	\$ 910,774	\$ 85,664	\$ 576,956	\$ 26,183		
Maintenance of Library Interiors	\$ -	\$ -	\$ -	\$ -	\$ -		
<b>Health &amp; Human Services</b>	<b>\$ 4,428,663</b>	<b>\$ 3,036,433</b>	<b>\$ 285,594</b>	<b>\$ 1,923,514</b>	<b>\$ 87,291</b>		
Local Health Department	\$ 306,542	\$ 210,175	\$ 19,768	\$ 133,141	\$ 6,042		
Rapp Regional Com. Svc. Board	\$ 337,440	\$ 231,360	\$ 21,761	\$ 146,561	\$ 6,651		
Welfare & Social Services	\$ 9,077	\$ 6,223	\$ 585	\$ 3,942	\$ 179		
Child Care	\$ 407,250	\$ 279,224	\$ 26,263	\$ 176,882	\$ 8,027		
Children's Services Act	\$ 3,099,989	\$ 2,125,452	\$ 199,911	\$ 1,346,427	\$ 61,120		
Other	\$ 268,365	\$ 184,000	\$ 17,306	\$ 116,560	\$ 5,290		
<b>Education</b>	<b>\$ 43,600</b>	<b>\$ 29,894</b>	<b>\$ 2,812</b>	<b>\$ 18,937</b>	<b>\$ 859</b>		
Germanna Community College	\$ 43,600	\$ 29,894	\$ 2,812	\$ 18,937	\$ 859		
<b>Parks &amp; Recreation</b>	<b>\$ 1,475,128</b>	<b>\$ 1,011,395</b>	<b>\$ 95,128</b>	<b>\$ 640,696</b>	<b>\$ 29,075</b>		
Parks & Recreation	\$ 315,420	\$ 216,262	\$ 20,341	\$ 136,997	\$ 6,217		
Cultural Enrichment	\$ 43,000	\$ 29,482	\$ 2,773	\$ 18,676	\$ 848		
Orange County Library (main)	\$ 645,181	\$ 442,357	\$ 41,606	\$ 280,223	\$ 12,717		
Wilderness Branch Library	\$ 286,757	\$ 196,610	\$ 18,492	\$ 124,548	\$ 5,652		
Gordonsville Branch Library	\$ 184,770	\$ 126,684	\$ 11,915	\$ 80,252	\$ 3,642		
<b>Community Development</b>	<b>\$ 1,920,943</b>	<b>\$ 1,317,060</b>	<b>\$ 123,877</b>	<b>\$ 834,329</b>	<b>\$ 37,862</b>		
Building Development Services	\$ 274,245	\$ 188,031	\$ 17,685	\$ 119,114	\$ 5,405		
Planning Services	\$ 157,614	\$ 108,065	\$ 10,164	\$ 68,457	\$ 3,107		
Planning District Commission	\$ 34,447	\$ 23,618	\$ 2,221	\$ 14,961	\$ 679		
Planning Commission	\$ 16,222	\$ 11,122	\$ 1,046	\$ 7,046	\$ 320		
Board of Zoning Appeals	\$ 5,900	\$ 4,045	\$ 380	\$ 2,563	\$ 116		
Economic Development	\$ 258,170	\$ 177,010	\$ 16,649	\$ 112,132	\$ 5,089		
Economic Development Authority Contrib	\$ 128,357	\$ 88,006	\$ 8,277	\$ 55,750	\$ 2,530		
Tourism	\$ 210,218	\$ 144,132	\$ 13,556	\$ 91,305	\$ 4,143		
Transfer to Broadband Authority	\$ 588,793	\$ 403,695	\$ 37,970	\$ 255,732	\$ 11,605		
Culpeper Soil & Water Conservation	\$ 62,965	\$ 43,171	\$ 4,060	\$ 27,348	\$ 1,241		
Virginia Tech Coop. Ext	\$ 171,796	\$ 117,789	\$ 11,079	\$ 74,617	\$ 3,386		
VA Division of Forestry	\$ 12,216	\$ 8,376	\$ 788	\$ 5,306	\$ 241		
<b>Non-Departmental Expenses</b>	<b>\$ 37,893,740</b>	<b>\$ 25,981,161</b>	<b>\$ 2,443,680</b>	<b>\$ 16,458,495</b>	<b>\$ 746,899</b>		

Source: RKG Associates, Inc. and Orange County Adopted Budget, Fiscal Year 2021

g.) Net Fiscal Impact Results

It should be noted that municipal expenditures contained in the analysis are portrayed as being directly related to new development that is planned over the next decade. Of course, this distorts the fact that thousands of existing households and business are currently located in the eastern part of the county and have an unmet need for these services and will benefit from them. With that being said, Wilderness Crossing still is projected to realize a net positive fiscal impact of approximately \$4,245,816 during the first 10 years. By Year 20, the cumulative net positive impact is projected at \$21.5 million, \$60.9 million by Year 30 and \$133.4 by Year 40 (Table 8).

**Table 8**  
**Net Fiscal Impact Analysis**  
Wilderness Crossing  
(2020-2050)

Revenues by Type	Year										Cum. Rev./Exp (2020-2060)	% of Total				
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029			2030			
Real Estate Taxes	\$ 80,566	\$ 80,566	\$ 80,566	\$ 237,181	\$ 393,797	\$ 638,378	\$ 947,240	\$ 1,295,013	\$ 1,705,948	\$ 2,065,823	\$ 2,354,723	\$ 9,883,800	\$ 53,848,801	\$ 142,946,995	\$ 276,887,778	58.3%
Countywide Fire & EMT District Taxes	\$ 14,528	\$ 14,528	\$ 14,528	\$ 42,770	\$ 71,013	\$ 115,117	\$ 170,814	\$ 233,527	\$ 308,351	\$ 372,525	\$ 424,622	\$ 1,782,325	\$ 10,071,095	\$ 25,777,327	\$ 49,930,583	10.5%
Local Estate Recordation Taxes	\$ -	\$ -	\$ -	\$ 21,354	\$ 21,354	\$ 21,354	\$ 45,925	\$ 65,707	\$ 66,958	\$ 66,957	\$ 57,588	\$ 346,998	\$ 1,144,607	\$ 2,194,526	\$ 3,424,817	0.7%
Local Options Sales Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 52,500	\$ 105,000	\$ 183,750	\$ 262,500	\$ 262,500	\$ 866,250	\$ 4,620,000	\$ 11,261,250	\$ 20,790,000	4.4%
Construction Materials - Local Sales and Use Taxes (1%)	\$ -	\$ -	\$ -	\$ 8,638	\$ 8,638	\$ 8,638	\$ 17,487	\$ 22,683	\$ 18,089	\$ 20,962	\$ 19,365	\$ 124,502	\$ 349,676	\$ 578,597	\$ 786,676	0.2%
Local Meals Taxes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 66,060	\$ 132,120	\$ 231,210	\$ 330,300	\$ 330,300	\$ 1,089,990	\$ 5,813,280	\$ 14,169,870	\$ 26,199,760	5.5%
Personal Property Taxes	\$ -	\$ -	\$ -	\$ 64,735	\$ 129,469	\$ 194,204	\$ 282,835	\$ 404,911	\$ 528,977	\$ 650,515	\$ 770,025	\$ 3,025,671	\$ 19,074,847	\$ 50,420,434	\$ 96,946,386	20.4%
<b>Total - Annual Tax Revenues</b>	\$ 95,094	\$ 95,094	\$ 95,094	\$ 374,679	\$ 624,271	\$ 977,691	\$ 1,582,862	\$ 2,258,961	\$ 3,037,284	\$ 3,759,383	\$ 4,219,123	\$ 17,119,536	\$ 96,922,306	\$ 247,348,999	\$ 474,925,999	100.0%
<b>Expenditures by Type</b>																
Education	\$ -	\$ -	\$ -	\$ 93,286	\$ 186,572	\$ 279,858	\$ 513,791	\$ 783,603	\$ 941,472	\$ 1,188,321	\$ 1,435,171	\$ 5,422,075	\$ 33,628,917	\$ 87,841,051	\$ 166,844,322	47.1%
Fire & EMT	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 923,542	\$ 925,055	\$ 925,055	\$ 820,815	\$ 3,594,467	\$ 17,636,453	\$ 36,250,603	\$ 59,818,731	19.4%
County Sheriff	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 360,000	\$ 201,460	\$ 201,460	\$ 762,920	\$ 8,464,820	\$ 23,881,760	\$ 45,183,960	12.8%
Planning Department	\$ 20,000	\$ 20,000	\$ 20,000	\$ 31,683	\$ 31,683	\$ 31,683	\$ 63,366	\$ 90,664	\$ 75,003	\$ 72,024	\$ 70,331	\$ 526,458	\$ 1,364,996	\$ 2,212,306	\$ 2,941,655	1.2%
<b>Other General Government Expenditures</b>																
Residential	\$ -	\$ -	\$ -	\$ 24,903	\$ 49,806	\$ 74,710	\$ 121,233	\$ 182,318	\$ 229,445	\$ 284,726	\$ 340,007	\$ 1,307,149	\$ 8,119,252	\$ 21,287,068	\$ 40,649,486	11.4%
Commercial	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 43,606	\$ 178,182	\$ 334,561	\$ 352,151	\$ 352,151	\$ 1,260,651	\$ 6,191,283	\$ 14,906,596	\$ 26,103,809	8.0%
<b>Total - Annual Expenditures</b>	\$ 20,000	\$ 20,000	\$ 20,000	\$ 149,873	\$ 268,062	\$ 386,251	\$ 742,016	\$ 2,158,310	\$ 2,865,537	\$ 3,023,736	\$ 3,219,934	\$ 12,873,719	\$ 75,405,721	\$ 186,379,384	\$ 341,541,963	100.0%
<b>Net Fiscal Impact (Gap/Surplus)</b>	\$ 75,094	\$ 75,094	\$ 75,094	\$ 224,806	\$ 356,209	\$ 591,440	\$ 840,846	\$ 100,651	\$ 171,747	\$ 735,647	\$ 999,188	\$ 4,245,816	\$ 21,516,585	\$ 60,969,614	\$ 133,384,035	

Source: RKG Associates, Inc., 2020