Liberty Landing

Appendix A

Methodology

February 2, 2023

Approach

Fiscal impact is defined as the difference between all revenues to the County generated by the project and all costs to the County attributable to the project. Revenues include one-time direct revenues, on-going direct revenues and tax revenues generated by households. These include: building permit fees and other development fees, real estate property taxes, personal property taxes, business property taxes, business license fees, the local portion of the sales tax, meals tax, utility taxes, water and sewer charges, other user fees, motor vehicle license fees, and taxes paid by New Kent County businesses due to purchases made by Liberty Landing residents. Costs include: education costs per household, other costs of general government per household, costs of general government per business, and capital costs generated by Liberty Landing for both general government and schools.

All fiscal impacts are presented in constant 2023 dollars. This was selected because local government cost and revenue data were derived from the *New Kent County, Virginia Fiscal Year 2022-23 Adopted Detail Budget* and the *New Kent County Public Schools Superintendent's Adopted Budget, FY 2022-23* (individually or collectively "the *Budget(s)).* **These were the budgets in effect when this fiscal impact analysis was researched.**

Inflation is not applied to either revenues or costs throughout the analysis period. This includes the prices of new homes and of business equipment, which remain in 2023 dollars. The constant dollar approach also means that no assumptions are made about the rate of increasing real estate assessments in the County. No assumptions are made about future increases in tax revenues from sales, meals or business license taxes that are based upon retail price increases. Neither are assumptions made about future increases in the unit costs of government. The practical implication of this approach is that any systemic imbalances between rising revenues and rising costs will be adjusted through changes in the County's tax rate, either upward or downward. No assumptions have been made about future tax rate changes or changes in the County's fee structure (including water and sewer rates).

The number of units, commercial square footage, product types, residential product pricing and residential absorption rates were all supplied by the developer. A 7% vacancy rate for commercial in-line product (i.e., excluding anchors, the bank and the daycare center). Vacancy rates were applied at the end of the absorption period.

The net revenue surplus or deficit is calculated by subtracting total costs to the County attributable to the project from total revenues to the County derived from the proposed development over the analysis period. This was calculated for each year through the stabilization year. The year in which all costs and revenues have been substantially realized was designated the stabilization year. For the Liberty Landing project, this was FY 2033. The stabilization year captures the total cost and revenue impact generated by the development. Because revenues and costs are reported in constant dollars, there is no significant change in the projected cash flow after the stabilization year (except for changes caused by changing business personal property assessments).

Fiscal impact measures are reported for the development's stabilization year. All revenues and costs were stabilized by the 8th year of the analysis period except for business personal property (as a result of the declining assessment formula). Therefore, all business personal property assessments were set to 10% in the tenth year in order not to extend the analysis period. Otherwise, the analysis period would have continued until FY 2037. The underestimation of business personal property taxes from what would actually be collected in FY 2033 was not deemed to significantly affect the conclusions presented in the fiscal impact analysis.

Three measures of fiscal impact were used. The annual cash flow through the stabilization year is reported for selected years. Cash flow is derived from the net revenue surplus/deficit (annual revenues less costs). The second fiscal impact measure is the cumulative cash flow. This is the cumulative annual cash flow over the analysis period and can also be conceptualized as total revenue over the analysis period less total cost.

Finally, the benefit-to-cost ratio is the ratio of total project revenues to the County and total project costs to the County. A benefit-to-cost ratio greater than 1.0-to-1 signals a net fiscal benefit. The magnitude of the benefit-to-cost ratio signals the strength of the fiscal impact on the County. For instance, a benefit-to-cost ratio of 1.5.0-to-1 indicates that for every additional dollar the project costs the County, the County is expected to receive $1.50 in additional revenue.

A by-right development of the Liberty Landing site under current zoning was not calculated (see below). Thus, the fiscal impact measures for Liberty Landing are the final fiscal impacts for the project. However, current taxes received by the County from property owned by Bridgewater Crossing Inc., an affiliate of Boyd Homes, were subtracted from revenues generated by Liberty Landing to obtain the proposed development's total revenues. Also, the cost to the County of serving the single household occupying the property was subtracted from Liberty Landing's estimated cost. However, no reduction in education cost was assumed as a single household would generate less than 0.5 students and, therefore, the existing household was assumed to be childless.

<u>Parameters and Assumptions</u>

Bridgewater Crossing, Inc. dba Boyd Homes ("the applicant") plans to develop a 117.43 acre property located along Pocahontas Trail (U.S. 60) in the Bottoms Bridge/Quinton area of the County ("the Site") as a mixed-use development upon the County's approval of its rezoning request. The Site consists of parcels 19-11A, 19-11B, 19-11-1, 19-11-2, 19-11-3, 19-11-4, 19-11-5, 19-46A, 29-2A and 29-2B. All parcels are owned by the applicant. All of the Site is zoned B (business) except for less than 5 acres zoned for agriculture. The applicant wishes to rezone the entire Site to PUD (planned unit development).

The Site would effectively be divided into two land bays. The residential land bay is planned to be 101.07 acres and the commercial land bay is planned to be 16.36 acres. Of the residential land, 31.6 acres is located in an RPA, leaving 69.47 acres developable. Of this, 30.8 acres is planned to be left in open space, including about 5 acres for amenities, yielding a total of 62.37 acres of total open space. Right-of-way is estimated to consume 8.39 acres, leaving 30.28 acres to be developed in residential lots.

The applicant is proposing a maximum of 145 single-family units and 145 townhouse units. Although the actual number of units constructed may be fewer, the fiscal impact analysis is based upon this maximum proffer. Amenities would include a clubhouse, pool, playground and dog park. The applicant is proposing a minimum of 60,000 square feet of commercial space. It is anticipated that the commercial component will consist to two buildings: a 30,000 square foot retail-oriented building and a 30,000 square foot office building. For analysis purposes, the retail building is assumed to be occupied 50% by restaurants (with a mix of quick service/fast casual and family-style restaurants), 25% conventional retail and 25% consumer service (such as salons, tax service, etc.). For analysis purposes, the office building is assumed to be occupied 40% by four medical offices and 60% by nine general consumer-oriented office uses (such as insurance, real estate, financial planning services, accountants, management services, lawyers, etc.).

According to the applicant, single-family units would range in pricing from $395,990 to $455,990 and in size from 1,800 to 3,000 square feet, averaging $425,990 in price and 2,400 square feet in size. Five models were assumed for analysis purposes, with pricing and size distributed in equal increments. Actual model configuration, pricing and size may vary from these assumptions, which are made only in order to construct the fiscal impact model. Four models of townhouse products are planned to be offered by the developer: two models with no garage, 1,500 and 1,800 square feet priced at $276,000 and $300,000, respectively; and two models with garages, 1,700 and 2,000 square feet priced at $324,000 and $360,000 respectively. Townhouse units were assumed to be equally distributed in number among these models.

Pricing for the Liberty Landing residential product would fill an underserved niche in the new housing market, with Liberty Landing being considerably more affordable than other new construction in the County. Three reports of median home prices in New Kent County were consulted: from Redfin, Rocket Homes and Coldwell-Banker. There was no agreement on median price among these reporting agencies, with median prices reported at $349,990 (December 2022), $375,000 (December 2022) and $475,465 (current), respectively. Averaging these results in a median market price for single-family housing in the County of $400,150. However, these reports include existing home sales. Zillow listings for new construction reveal a median asking price of $512,990, significantly above the asking price for even the most expensive Liberty Landing model.

Assuming timely approval of the applicant's rezoning request, infrastructure construction is anticipated to begin in November 2023 with construction of the single-family units and townhouses beginning simultaneously in November 2024. A five-month construction period was estimated for the single-family units and a seven-month construction period was estimated for the townhouses, with three months for sale, closing and move-in. Thus, the first single-family units are projected to be occupied in July 2025 and the first townhouses are projected to be occupied in September 2025. Thereafter, single-family units are estimated to be sold at a rate of 25 units per year and townhouse units are estimated to be sold at a rate of 30 per year. The last single-family units are estimated to be occupied by March 2031 and the last townhouse units are estimated to be occupied by August 2030.

The applicant also expects that construction of the commercial component of Liberty Landing will being in November 2024, although the applicant continues to proffer that by the issuance of the 200th residential certificate of occupancy the amount of commercial space to be built would equal at least 15,000 square feet. Tenants in the first retail building are assumed to be open in time for the winter holiday shopping season or at least before the first of the year. Space is assumed to be absorbed at an average rate of 15,000 square feet annually with commercial buildings constructed to meet this demand. For analysis purposes, the retail-oriented space is assumed to precede the office space, in alternating sequence, although actual sequencing will depend upon market demand.

The commercial development is expected to be completed by the end of calendar year 2029 (mid FY 2030), with the commercial space fully tenanted, except for an anticipated vacancy (assumed for analysis purposes given the expected vacancy rate), occurring in FY 2031. Thus, FY 2031 would be Liberty Landing's stabilization year except that the County's declining business personal property assessment ratio results in continued change in this revenue stream. As explained above, in order to not extend the analysis period unnecessarily, assessments for all business personal property were arbitrarily reduced to 10% in FY 2033, making that year the stabilization year. The initial year of the analysis period is FY 2024, during which certain development fees will be paid. The analysis period, for convenience, is extended to FY 2033 (since FY 2031 falls within a five-year analysis segment), resulting in a ten year analysis period.

It is recognized that the above description is based on a preliminary concept plan and details of the proposed development may change due to site considerations or changing market conditions. This representation is not a pledge or guarantee from the developer that the proposed development will exactly match this description. However, the final development plan is expected to not diverge from the above description to an extent that would materially change the results of this fiscal impact.

Calculation of By-Right Development Parameters

The Liberty Landing property is currently zoned B, which allows development of retail and commercial facilities. The property was rezoned from A-1 in 2009 as part of a comprehensive area rezoning. Since that time, about 100,000 square feet of commercial development has occurred on almost a dozen parcels, almost all of it adjacent to or across from Patriots Landing. This has been a mix of out parcel development, stand-alone retail and medical office. Recent proposed development is located just north of Patriots Landing. If recent development is an indicator, without a rezoning there would be some potential for out-parcel and small-scale commercial development occurring along Pocahontas Drive south of Patriots Landing, in a best case scenario. It is improbable that a large commercial development could be attracted that would occupy the entire Site. If the Site frontage were developed piecemeal, this would leave the interior of the Site vacant and needing rezoning in order to develop. Also, without a residential component, any commercial development at Site would need to rely on Patriots Landing and other farther residential developments for customers. To summarize, any by-right development of the Site would be difficult, delayed (until available commercial parcels closer to Patriots Landing are fully developed), and result in a sub-optimal use of the Site, most of it remaining vacant.

Revenue Calculations

Revenues estimated for the Liberty Landing project fall into three categories: one-time direct revenues, annual direct revenues and additional revenues derived from households. The methodology does not use multipliers to calculate revenues that could be generated through the project's secondary impacts. Such multipliers are considered to be unreliable when applied to small economic units, such as localities.

One-time Direct Revenues

One-time direct revenues are revenues to the County derived from the construction of Liberty Landing. They include:

- building permit fees
- demolition permit fee (for the demolition of existing structures)
- land disturbance permit fee
- map review and maintenance fee
- planned unit development fees
- soil and erosion plan and inspection fee
- zoning opinion letter fee
- zoning verification fee
- domestic meter installation charges
- sewer availability fees
- sewer connection fees
- water availability fees
- water connection fees
- water installation fees and
- cash proffers

Residential building permits were calculated based on the selling prices provided by the applicant. Commercial building permits were originally calculated (for the fiscal impact analysis prepared in 2021) based on estimated construction costs derived using the BuildingJournal.com construction cost calculator for the various planned uses (general office, medical office, restaurant and retail). Per the applicant, those costs were increased by 30% for the current analysis.

Building permit fees were assumed to be paid prior to the construction of each unit. It is assumed that the various sewer and water development fees will be paid as water meters are installed. Each commercial building and the clubhouse/pool complex are assumed to be served by a 1" water meter. Each residential unit is assumed to have a 5/8" water meter. Other fees were assumed to apply once to the entire development and were paid prior to construction beginning for each land bay. Per-acre fees are assumed to be applicable only to the project's developable acreage. No reapplication fees or reinspection fees were assumed except for stormwater (VSMP) renewal fees. One-time revenues also include recordation taxes as homes are sold. No estimates are made for recordation taxes on the potential resale of homes within the project.

The applicant is offering a cash proffer of $8,000 per single-family unit and $4,000 per townhouse unit, assumed to be paid when the certificate of occupancy is issued.

Annual Direct Revenues

Annual direct revenues consist of real estate property taxes, Bottoms Bridge Service District taxes, business property taxes, business license fees, the local portion of the sales tax, meals tax, utility taxes, user fees, and water and sewer usage charges. These are taxes paid directly to the County by businesses and households and are calculated based upon estimates of the assessed property values at Liberty Landing, sales generated by businesses located at Liberty Landing, maximum utility tax levies, per-household and business user fees and calculated water usage. Tax rates and fees found on the current New Kent County website or the County Code were used and assumed to be accurate.

Real Estate Property Taxes

Real estate property taxes for residential properties were calculated using the anticipated sale prices of residential units as the assessed value for residential property, adjusted for the County's assessment to sales ratio as reported in *The 2020 Virginia Assessment / Sales Ratio Study* (the latest available). The "Single Family Residential Suburban" table was used to derive an assessment to sales ratio of 88.78% for the County. Consequently, estimated sale prices were multiplied by 0.8878 to derive an estimated real estate assessment. Using the assumptions for pricing and unit distribution stated above, the 145 single-family units are projected to be assessed for a total of $54,838,100 (average assessment $378,200) and the townhouses for $40,537,000 (average assessment $279,650).

The clubhouse and pool were estimated to be assessed at construction cost. This was estimated to be $1,065,950 for the clubhouse and $324,050 for the pool and pool deck. Miscellaneous structures which could also be assessed (enclosures and fencing) were assumed also to be assessed at their construction cost, estimated by the applicant at $95,000. These were assumed to be constructed with the first residential units and to be deeded to a homeowners association (HOA) at 70% buildout for the residential development, at that point becoming non-taxable.

For the commercial development at Liberty Landing, various comparables were identified and the average assessment per square foot for these comparables was used as the estimated assessment for the Liberty Landing properties. Comparables for the retail-oriented buildings included six stand-alone retail stores and one newer unanchored shopping center. Three of the stand-alone retailers were located in Providence Forge and three in the Quinton/Bottoms Bridge area. Three were auto parts stores, one was a restaurant, one a discount variety store and the other a drug store. The unanchored shopping center was located in New Kent (6215 Chesapeake Circle).

The improvement assessments for these properties ranged from $55.84 to $177.36 per square foot. The average improvement assessment was $116.36 per square foot. For those located in Bottoms Bridge/Quinton, the average assessment per square foot was $140.41, a 20.7% premium. However, given the small sample size (only three properties in Bottoms Bridge/Quinton), the premium was only partially applied, resulting in an estimated improvement assessment for the retail-oriented buildings at Liberty Landing of $124..38 per square foot.

For the office component, 13 properties were identified to provide comparable real estate assessments. Eight were medical or dental office locations. The remaining five were general office locations including insurance, legal and financial planning tenants. Improvement assessments range from $79.31 to $202.99 per square foot and averaged $141.54 for medical and dental offices and $104.67 for general office locations. Offices located in Bottoms Bridge/Quinton again had higher assessment rates per square foot than offices in other locations. Since almost half of the sample was located there, this seemed to be a reliable indicator of the assessment differential, which was about 13%. The estimated improvement assessment for the Liberty Landing office buildings was calculated by proportionally averaging the medical office (40%) and other office (60%) assessment averages and applying the location premium to that result. This resulted in an estimated improvement assessment for the Liberty Landing office component of $135.18 per square foot.

The same set of comparables was used to derive an estimate for commercial land assessment per acre, using the same methodology to calculate average land assessment for retail and office properties. However, properties whose land assessment appeared to be uncharacteristically low (below $100,000 per acre) were excluded from the calculations. These properties were the Family Dollar in Providence Forge, and the Virginia Farm Bureau Insurance office in Providence Forge. Assessments per acre from the remaining sample set ranged from $186,985 to $513,084 for the retail properties and from $109,233 to $751,944 for the office properties.

Assessments in the Bottoms Bridge/Quinton areas were about 10.7% higher than the average for retail properties. However, no location premium was observed for office properties. The average estimated assessment per acre for Liberty Landing, after adjusting for the location premium, was $328,060 for the retail component. For the office component, it was $400,423. This was blended to an estimated land assessment of $364,242 per acre for the Liberty Landing commercial parcel. The commercial parcel was assumed to be reassessed upon completion of the first commercial building.

Both improvement and land assessment estimates for Liberty Landing were compared to averages and medians in the comparable property set to verify their reasonableness. While estimated improvement assessments were noticeably higher than the medians for all comparable properties (21.5% for retail and 20% for office) and were also above those averages (6.9% for retail and 6.1% for office), they were almost 20.5% below median retail and 4.7% below office median when compared to properties in Bottoms Bridge/Quinton, as well as being about 11.4% below retail average and 6.2% below office average compared to those properties. Thus, the estimates calculated for Liberty Landing commercial real estate assessments were deemed to be reasonably valid.

Thus, the total commercial property assessed value was estimated to be $12,838,800, rounded to the nearest $100. Adding the residential product assessment, the entire development is projected to add more than $108 million to the County's tax base.

Personal Property (car) Taxes and Motor Vehicle Registration Fee

Personal property taxes were calculated per Liberty Landing household and adjusted for differences in automobile expenditures based on income relative to the County's average income, as well as tenure. The base car tax per vehicle was calculated from data provided by the County Commissioner of Revenue and the *Budget.* The personal property tax revenue estimated in the *Budget* ($10,375,162) was generally consistent with the estimate obtained from Commissioner of Revenue for personal vehicles and was used, along with the expected personal property tax relief act (PPRTA) remittance from the Commonwealth ($2,217,883) to compute the total vehicle personal property tax to be received in FY 2023.

This was then divided by the current number of personal vehicles in the County (24,607 according to the Commissioner of the Revenue) to obtain an estimated personal property tax per vehicle ($511.77). Working backward by applying the County's 2023 personal property tax rate, this yields an average estimated blue book value of vehicles in the County of $16,509, which appears reasonable given recent inflation in automobile prices, both new and used.

The County's average car tax paid per vehicle was adjusted by multiplying this average by a factor calculated by dividing the expected automobile purchase expenditure associated with each housing unit type's household income (based on selling price) by the expected automobile purchase expenditure for the County's average household income. Average income was calculated using 2021 data from the U.S. Census Bureau American Community Survey (ACS) adjusted for inflation using the percent change in the Consumer Price Index (CPI) from 2019 to 2021 to inflate to 2023 dollars). The CPI was chosen instead of the 2019-2021 ACS increase in the County's mean income because the latter produced a two-year inflation estimate of 15.4%, which is considerably more than the CPI inflation rate for the same period of 6.4% (July-to-July). It is suspected that the ACS data was distorted by a probable 2021 estimate correction based on 2020 Census data. While a 6.4% inflation rate is lower than can be expected for the 2021 to 2023 period, household income can be expected to lag behind inflation. This methodology yielded a 2023 County average household income estimate of $123,450, rounding to the nearest $25, although this may be viewed as a somewhat conservative estimate if income more closely tracks inflation during the 2021 to 2023 period.

Automobile expenditures per household for various income levels were derived from the most recent (2021) U.S. Bureau of Labor Statistics Consumer Expenditure Survey (CES). These, as were the CES expenditure data used to estimate additional revenue generated by households, were inflated using the latest CPI data. A two-year, December-to-December, 2020 to 2022 inflation rate was used as the best predictor of 2021 to 2023 expenditure inflation. This yielded a two-year inflation rate of 13.4%, which is consistent with an expected slowing of 2022's inflation during 2023.

This estimated car tax payment per vehicle for Liberty Landing households was then multiplied by the number of vehicles owned by Liberty Landing households. The average number of vehicles per household for the income level associated with each residential product at the proposed development was first derived from the CES data. This was then adjusted for the difference in vehicle ownership between owner-occupied households in Census tract 7001 (the Census tract in which Liberty Landings would be located) and all households in the County.

The number of vehicles per owner occupied household in Census tract 7001 (2.41) and the number of vehicles per household for all households in the County (2.27) were derived using ACS data. ACS data was used even though it undercounts the actual number of vehicles owned by households by about 20% under the assumption that this undercount would apply equally to owner and all households and, therefore, the relative difference between vehicles per owner-occupied households and all households would not be affected. The expected number of vehicles predicted to be owned by the CES data was then adjusted to take into account the higher number of vehicles per owner-occupied residence in Census tract 7001.

Another adjustment to the estimated number of vehicles for each household type was made to take into account the significantly fewer number of vehicles per household predicted using CES data for the average household income in New Kent County (2.3 vehicles per household) than the number of vehicles per household calculated from data supplied by the Commissioner of the Revenue (2.84 vehicles per household). This adjustment was made by multiplying the calculated number of vehicles per household (derived as described above) by the ratio of the average number of vehicles per household in the County to the number predicted using CES data.

Finally, for each residential product at the proposed development, the estimated number of vehicles per household at the proposed development was multiplied by the estimated personal property tax received per vehicle. This result was multiplied by the number of occupied units for the appropriate residential product.

These calculations can be represented by the formula below:

$$PPT = \sum PPT/V_{LL} \text{ x } V/HH_{LL} \text{ x } HH_{OLL}$$

Where, PPT = Total personal property tax paid by Liberty Landing residents
PPT/V_{LL} Personal property tax per vehicle for each unit type at Liberty Landing

V/HH_{LL} Vehicles per household for each unit type at Liberty Landing and
HH_{OLL} the number of occupied households for each unit type at Liberty Landing

$$PPT/V_{LL} = PPT/V_{NK} \text{ x } (VPNO_{ILL} / VPNO_{INK}$$

Where, PPT/V_{NK}= Average personal property tax per vehicle for all New Kent County households
$VPNO_{ILL}$ Vehicle purchase net outlay for each Liberty Landing unit type by income level
$VPNO_{INK}$ Vehicle purchase net outlay for households at mean income for New Kent County

and

$$V/HH_{LL} = V/HH_{ILL} \text{ x } (V/HH_{O7001}/V/HH_{NKACS}) \text{ x } (V/HH_{INK} / V/HH_{NK})$$

Where V/HH_{ILL} = Vehicle per household for each Liberty Landing unit type by income level
V/HH_{O7001} = the average number of vehicles per household in Census tract 7001 reported by the ACS
V/HH_{NKACS} = the average number of vehicles per household in New Kent County reported by the ACS
V/HH_{INK} Vehicle per household for households at mean income for New Kent County from CES data and
V/HH_{NK} = Vehicles per household in New Kent County from Commissioner of the Revenue data

Motor vehicle registration fees were applied to the number of vehicles per Liberty Landing household as calculated according to the formula for V/HH_{LL}, above.

Business Personal Property Taxes

Business personal property taxes were estimate using data on per-square foot business personal property assessments drawn from previously collected sample data from the City of Newport News and York County, adjusted for inflation.

To estimate business personal property assessments for retail and consumer service establishments, business personal property assessments for businesses in three higher quality strip shopping centers and one grocery-anchored center in York County were obtained for 2019. The 2018 to 2022 change in the Producer Price Index was used to calculate the average original cost of business personal property per square foot as an estimated $43.01 per square foot.

Restaurant original cost of business personal property was estimated from a sample of three restaurants in the City of Newport News using 2015 assessment data. The establishments sampled were: Chili's, Longhorn Steakhouse and Smokey Bones. The average original cost per square foot was inflated using the 2014 to 2022 Producer Price Index to $84.96 per square foot.

The cost of business personal property for general and medical office space was derived from a 2012 data set from the City of Newport News. Data was taken from businesses similar to those expected to locate at the Liberty Landing office space. The average original cost per firm, disaggregated by type of firm was collected and inflated using the 2012 to 2022 Producer Price Index. The weighting system discussed below under "business license fees" was used to compute a weighted average business personal property cost of $53,050 per business for general office space and to $233,200 per business for medical office space (adjusted for inflation and rounded to the nearest $50). Business personal property assessments were considered to be conservative as they are based, not on new business equipment purchases, but on purchases likely to be made over the course of several years.

These original cost per square foot estimates were applied to building square footages as appropriate to calculate the estimated business personal property original cost per building. The County's declining assessment (55% of original cost in years 1-3, declining to 30% in years 4 and 5 and to 10% of original cost thereafter) and the County's business personal property tax rate were applied to the original cost of business personal property for each building in order to calculate business personal property expected to be received by the County. All business personal property was assumed to be furnishings, fixtures and equipment. There was no attempt to estimate the percentage of estimated business personal property value that might be computers.

Because business personal property is assessed only on January 1 of each year, the collection of business personal property tax does not begin immediately upon building occupancy. It was assumed that all commercial buildings would be occupied in the first half of the fiscal year, either at the start of fiscal year or during the fourth quarter. Thus, business personal property tax would be collected for the second half of that fiscal year, with the first full fiscal year of tax collection being the next fiscal year. In order not to needlessly extend the analysis period to account for small fluctuations in revenue caused by declining business personal property assessment, all business property was assumed to be assessed at 10% of original cost in the last year of the analysis period, which becomes the stabilization year for the fiscal impact analysis.

Local Option Sales Taxes

Sales taxes were derived from estimates of store sales A 2023 article on Nibblematrix,com estimated that in order to make a moderate profit, a full-service restaurant needs to have sales of between $250 and $325 per square foot and a limited-service restaurant needs to have sales of between $300 and $400 per square foot. Taking the most conservative approach, averaging the low ranges of full- and limited-service restaurants yields an estimated average restaurant sales per square foot of $275.

Data from the four York County shopping centers sampled to obtain business personal property estimates showed 2019 retail sales per square foot of $212.79 per square foot and total revenues of $318.14 per square foot. From this it was deduced that $105.35 in sales per square foot were derived from consumer service establishments. These metrics were then inflated using the consumer price index for 2018 and 2022 to inflate the 2019 estimates to 2023 dollars (see Table A-1 below).

Table A-1
Estimated Sales/Gross Receipts per Square Foot
(2021 dollars)

Commercial use	Sales per Square Foot
Restaurant	$275
General Retail	$251
Consumer Service	$124

Meals Taxes

Meals taxes were calculated based upon projected sales calculated from the estimated restaurant sales per square foot and the total square feet assigned to restaurants in the fiscal impact analysis assumptions.

Business License Fees

Business license fee revenues were calculated by applying the applicable tax rates to the estimated gross receipts from the Liberty Landing commercial development. Gross receipts were estimated by multiplying the estimated sales (proxy for gross receipts) per square foot by the square footage distribution assumed for each retail-oriented commercial use. Per square foot sales/gross receipts estimates are shown in Table A-1 above.

Business license fee revenue for office space was calculated using estimates of gross receipts for medical and general offices. Several online sources were used to determine average annual gross revenue for offices of primary care physicians, dentists, optometrists, physical therapists and chiropractors. The CPI was used to inflate all estimates to 2023 dollars. The U.S. Department of Labor Quarterly Census of Employment and Wages (QCEW) was then used to obtain the number of establishments in Virginia for each of the medical office types and the average annual gross revenues were weighted accordingly for each medical office type. Annual average gross revenues were multiplied by their weights and summed to obtain an estimated likely gross revenue per medical establishment for Liberty Landing ($1,447,000). Annual average gross revenues and weights for each medical office type are shown in Table A-2 below.

Table A-2
Estimated Annual Gross Revenues for Medical Office Establishments

Establishment Type	Annual Gross Revenue	Weight
Primary Care Physician	$2,149,000	48.3%
Dentists	$759,000	30.0%
Optometrists	$762,000	4.7%
Physical Therapists	$1,047,000	10.5%
Chiropractors	$557,000	6.5%
Weighted Average	$1,447,000	

Rounded to the nearest $1,000

For general office space, revenue estimates were pursued for insurance agent offices, financial planners and law offices. Agency Brokerage Consultants reported typical occupancy expenses for insurance agent offices being 5-8% of revenues. Using the more conservative estimate of 8% and applying this to a conservative estimate of $20 rent per square foot to be charged for the Liberty Landing office space and an assumed office size of 2,000 square feet yields an estimate of annual gross receipts of $500,000. The financial planning website, Kitces, estimated that revenue per financial planning employee at $300,000 in 2019. Assuming a financial planning office at Liberty Landing would have a single financial planner, this estimate, updated to 2023, was used. Data (2018) from the online site, PracticePanther, states that the average revenue generation per attorney is 500,000 annually. Assuming a New Kent law firm would consist of one lawyer, this estimate was used for legal office gross receipts at Liberty Landing. Real estate office revenue was not estimated since, as explained below, this was assumed not to be net new revenue to the County. Estimated gross receipts for all other office uses was estimated by taking the average of insurance, financial planning and legal service estimated gross receipts per business, of about $481,500 per business, adjusting for inflation.

The QCEW for Virginia was then used to weight the probability of various firm types occupying the Liberty Landing general office space. An average space lease of 2,000 square feet was assumed and the various firm types apportioned among the nine resulting estimated businesses. Table A-3, on the following page, displays the number of firms and expected taxable gross receipts for each firm type.

Table A-3
Estimated Annual Gross Revenues for General Office Establishments

Establishment Type	Taxable Gross Receipts	Number of Firms
Financial Planning	$354,500	1
Insurance Agents	$500,000	1
Legal Services	$590,000	1
Real Estate Agency*	$0	1
Other	$481,500	5
Average	$406,500	

Rounded to the nearest $500
* No net revenue from industry assumed

Adjustment of Business Income

Potentially, not all tax revenue generated by Liberty Landing commercial establishments will be new to New Kent County. A regression analysis-based study conducted by the Consultant in Newport News, Virginia showed that market growth was the dominant factor in predicting increases in sales tax revenue for the City and that the addition of retail space had no effect on the growth of sales tax revenue. Given that retail supply does not create its own demand, new commercial establishments must compete with existing commercial establishments for market share, whether of the existing market base or for additional market demand associated with new residential development or reduced residential vacancies.

When a locality is the commercial center for a region, new businesses tend to compete with other businesses in that same locality, resulting in no increase in new business taxes generated from sales. However, when there is substantial retail leakage or when a new business is located near a locality's border—particularly when there is substantial commercial development in the neighboring locality—much of a new business' market share is likely to be derived from businesses located outside the locality, resulting in an increase in new business tax revenue.

It is intuitively uncertain whether Liberty Landing businesses would compete primarily with other New Kent County businesses or would draw back consumer spending by County residents that is currently occurring in other localities. Therefore, a retail leakage analysis informed by a location analysis was conducted to estimate the extent to which Liberty Landing business sales will be derived at the expense of businesses located outside the County (i.e., located in Henrico or Hanover County) versus businesses located in the County. As noted above, commercial establishments occupying Liberty Landing are expected to be anchored by a grocery store, with a secondary anchor, restaurants, general retail and consumer services. Therefore, the leakage analysis focused on food at home (grocery), food away from home (restaurant) and general retail.

The retail leakage analysis was undertaken to determine the County's capacity to absorb future retail growth and the extent to which retail spending is likely to be redirected to commercial establishments at Liberty Landing from existing establishments located in the County. This was accomplished by comparing the per-household spending levels predicted with CES data (using spending predicted for the County's average household income level) to actual retail spending in the County. The County's average per-household income was obtained from the ACS and retail spending in the County was obtained from data on taxable retail sales as reported by the Weldon Cooper Center for Public Service, Center for Economic Policy Studies, at the University of Virginia, 2021 annual data (with data derived from the Virginia Department of Taxation). This was the latest annual data set available and it was judged that, accept for admissions spending which was retained at 2019 levels, retail spending had substantially recovered from the COVID-19 pandemic downturn. The year 2021 also corresponds to the latest CES data.

Some CES spending categories were collapsed or distributed among the NAICS store categories contained in the Weldon Cooper data in order to arrive at three category groupings—food at home (grocery and convenience store spending), food away from home, and other retail spending. For each group (and for subcategories within groups), reported sales were subtracted from estimated demand to derive remaining retail capacity. If spending demand was greater than sales at County establishments, this excess demand is being spent elsewhere and, thus, leakage and remaining capacity for retail growth exist. If County sales equal or exceed demand, no remaining capacity exists and all sales from new establishments would be obtained by redirecting sales from existing establishments.

However, the existence of remaining capacity does not guarantee that all sales from new establishments will generate new tax revenue for the County. Some sales may still be redirected from existing establishments. The best predictor of the extent of such redirection is the percentage of spending by New Kent County households that currently occurs within the County. The higher this percentage, the more likely sales to new establishments will be redirected from County establishments rather than those located outside the County. The percentage of spending occurring within the County, calculated by dividing retail sales in each category group by the retail spending predicted for that category group using CES data, is the most likely estimate of the percentage of spending that will be redirected from existing establishments within the County. The inverse of this percentage is, therefore, the best initial estimate of the percentage of sales that will generate new tax revenue for the County.

The retail leakage analysis indicated that no capacity exists in New Kent County for the addition of a new grocery store without nearly all sales being redirected from existing New Kent County grocers (grocery store sales exceeded food at home demand). This was true whether sales from gas station convenience stores (which are primarily food and other grocery store items) were included in supply or not. This seems to indicate that grocers located in the County are fully serving not only New Kent County residents but also a share of shoppers from adjoining counties (King William, King and Queen, and Charles City).

The market dynamics suggested by the retail leakage analysis were explored further using a location analysis. The leakage analysis determined that sales by New Kent County restaurants satisfied 78.77% of food away from home demand. This would leave a remaining capacity for more than $7.5 million in additional restaurant sales (reclaiming consumer spending currently occurring in neighboring jurisdictions). A total of 15,000 square feet of restaurant space is programmed for Liberty Landing for analysis purposes. Applying the $275 per square foot sales estimate yields total estimated annual sales from Liberty Landing restaurants of $4,125,000 which is well within the County's capacity to absorb additional restaurants.

However, it is not reasonable to expect that all Liberty Landing restaurant sales will be obtained from dining currently taking place outside the County. In fact, the distribution of retail redirection is most likely to follow the pattern shown in the current allocation of consumer spending between food service establishments within and outside the County. Nevertheless, certain adjustments should be made to this first approximation because the character of the Liberty Landing restaurant tenancy is not expected to reflect the character of the types of food service establishments existing in the County.

Specifically, Liberty Landing is expected to attract a mix of full-service restaurants and fast casual restaurants, while the County's mix includes numerous fast food establishments and take-out food sales from gasoline service station convenience stores. A Google Maps search identified eleven fast food restaurants and fourteen unique brand fast casual or full service restaurants in New Kent County. This was assumed to represent the distribution of these types of food service establishments within the County.

Based upon data from the Weldon Cooper Institute, it is estimated that 13.1% of food away at home sales in New Kent County occurred at gas station convenience stores. Since it can be assumed that none of the food away from home purchases outside New Kent County fell into this category, this percentage was deducted in full from the percentage of total food away from home sales estimated to occur in the County, leaving 65,67% of spending occurring at either fast food or fast casual/full service restaurants in the County.

Conservatively, it was assumed that fast food sales per establishment equaled, on average, sales per other restaurant establishments. Under this assumption, based on the distribution of fast food and other restaurants, 40.7% of the remaining in-County food establishment sales would occur at fast food restaurants, against which Liberty Landing restaurants would not substantially compete. This leaves 38.94% of total food away from home purchases by County residents made at full service and fast casual restaurants made within the County.

The fast casual and full-service restaurants found in the County fell into three categories; deli style; ethnic, including Chinese, Italian/pizza and Mexican; and grill/family style. No national chain restaurants were located in the County, except Subway. These restaurants were located from two to 18 minutes driving distance from the Site, averaging 9.25 minutes. Seven American fare national chain restaurants and one Thai restaurant at that residents of northern New Kent County can be expected to patronize were identified within an 18 to 21 minute drive from the Site in eastern Henrico and Hanover Counties. It was assumed that residents of the northern part of the County would patronize those deli style, ethnic and grill/family style restaurants located in the County and that only the American fare national chain and Thai restaurants would be patronized outside of the County.

The 38.94% of spending at fast casual/full service restaurants within the County was added to the 21.23% of purchases made outside the County resulting in 60.17% of all food away from home purchases by County residents estimated to be made at full service or fast casual restaurants. The out-of-County share (21.23%) is 33.28% of this total, leaving 66.72% of full service/fast casual purchases by County residents made within the County.

Thus, 33.28% of Liberty Landing restaurant revenues associated with sales were counted as new to the County with the remaining 66.72% being redirected from existing establishments. This may be a conservative estimate since the mix of fast food compared to other restaurants is more concentrated in the Quinton/Bottoms Bridge area than other areas of the County and since the Site is closer to the full service and fast casual restaurants in eastern Henrico and Hanover Counties than other areas of the County.

The retail leakage analysis determined that only 27.79% of other retail expenditures made by County residents occurred at establishments located within New Kent County. However, the Weldon Cooper data does not take into account online purchases which recent estimates place at 15% of all retail spending. Distributing this between food and other spending, using CES data, and conservatively assuming a 50% reduced propensity to use online shopping for grocery and restaurant spending, 78.35% of online spending, or 11.75% of all spending, was assumed to occur online. Thus, the total percentage of other retail spending assumed to occur within the County was adjusted to 39.54%.

This still indicates substantial capacity to add new retail and consumer service establishments to the County. Nevertheless, some spending at new stores will be redirected from existing establishments and the best estimate for this is the percentage of expenditures currently being spent in the County by County residents (assuming equal redirection from establishments in and outside the County). Thus, 60.46% of revenue associated with spending from general retail and consumer service establishments at Liberty Landing was assumed to be new to the County.

In order to determine the County's capacity to absorb additional office tenants without resulting in noticeable revenue redirection, a location quotient study was performed using data from the QCEW for Virginia and New Kent County. The location quotient compares per-capita incidence in the subject location (the County) to a larger reference location (Virginia), which acts as the predictor for a normal incidence per capita. The number of businesses in relevant categories was used as the per-capita metric.

The location quotient analysis suggests that there is ample room for office firms to enter the New Kent County market without needing to capture customers from other New Kent County businesses. The location quotient analysis suggests that the County could more than double the number of physician and dentist offices and increase the number of other health care provider offices by more than 50% without reaching market saturation. Results were similar with respect to general office firms. Unserved demand appeared to be particularly strong for financial planning, legal and management/consulting firms but with ample room to add the estimated number of tenants in all general office categories.

Even though the location quotient showed a deficit in the number of real estate agencies in the County, it was presumed that existing agencies were handling all of transactions occurring in the County. This is because the real estate market and market expertise are highly localized. It was presumed that any additional real estate firms would simply divide the existing "pie" and would not contribute increased net new gross receipts for business license taxation. Therefore, although at least one real estate agency was assumed as a tenant at Liberty Landing, no new business license revenue was assumed from that firm. Otherwise, all office business license revenue was assumed to be new to the County.

A 7% vacancy factor was applied to both the retail-oriented and the office space at the end of the lease-up period and going forward. This vacancy reduced estimated retail and restaurant sales, since those are calculated based on square footage of active commercial space. Since vacancies cannot be predicted for any particular tenant type, the vacancy rate was applied as an average across all commercial revenue projected to be received by the County.

Utility Taxes

Liberty Landing will not be served by natural gas and, so, only the County's taxes based upon electricity use will generate revenue for the County. The County receives a consumer utility tax and a utility consumption tax. Based upon average household and commercial business electricity usage, both Liberty Landing households and businesses were determined to pay the maximum consumer utility tax rate. The average annual utility consumption tax per household and business ($7.82) was calculated from the *Budget* and applied to Liberty Landing households and businesses.

User Fees and Other Miscellaneous Revenue

Certain user fees and charges were based on revenues reported in the *Budget* and calculated per household or per household and business. The number of households for 2023 was estimated by multiplying the number of households in 2021 from the ACS by the two-year household growth rate calculated by dividing the number of households in 2021 by the number of households in 2019 according to the ACS. The number of businesses located in the County was derived from the Virginia Employment Commission Quarterly Census of Employment and Wages for the second quarter 2022. The methodology for distributing revenues between households and businesses is described under "Cost Calculations," below.

These user fees and other miscellaneous revenue are listed in Table A-4 on the following page. Table A-4 displays the projected FY 2023 receipts from the *Budget* and the calculated revenue per household and business. Certain revenues were deemed to be affected by household size, since they are derived primarily from persons rather than households as a whole. These were adjusted to account for the somewhat larger household size of owner occupied units in Census tract 7001 (2.69 persons per household) than of all households in the County (2.61 persons per household). All owner-occupied households were assumed to be single-family detached.

However, household sizes for the townhouse units are expected to be somewhat smaller. It was assumed that the primary difference in average household size between single-family detached and townhouse units would be due to the difference in presence of children. This difference between estimated student generation for single-family versus townhouse units (see below under "Education costs") was used to adjust the estimated household size for townhouses. The difference in student generation (0.08 persons per household) was subtracted from the estimated single-family detached household size to yield an estimated Liberty Landing townhouse household size of 2.61 persons per household. This differential in household size was also applied to the calculation of costs (see under "Cost Calculations" below).

Revenues sensitive to household size are: fees associated with criminal justice, one-half of Fire/Rescue cost recovery fees (for EMS), and recreation fees.

Revenues from water and sewer charges were calculated using estimated average usage for residential and commercial customers. For residential users, an estimate of 90 gallons of water per day was used, based upon the USGS national average estimate of 80-100 gallons of water usage per person per day. Given the estimate of 2.69 persons per single-family detached household and 2.61 persons per townhouse household, this translates to an estimated 242.1 gallons per day, or 88,367 gallons annually per single-family detached household and 234.9 gallons per day, or 85,738 gallons annually per townhouse household. For commercial uses, the usage estimates were based on the *Methods for Estimating Commercial, Industrial and Institutional Water Use* published by the Florida Section of the American Water Works Association.

Table A-4 New Kent County Non-Direct Revenues from Households				
Item	Revenue	Revenue per SF Household	Revenue per TH Household	Revenue per Business
Animal Protection-Boarding Fee	$ 2,500	$ 0.29	$ 0.29	$ 0.00
Appliance & Scrap Metal Processing Fee	$ 25,000	$ 2.71	$ 2.71	$ 2.71
Circuit Court Reimbursement Fee	$ 66.000	$ 7.39	$ 7.16	$ 7.17
Commonwealth Attorney Fees	$ 2,000	$ 0.22	$ 0.22	$ 0.22
Courthouse Maintenance Fee	$ 11,000	$ 1.23	$ 1.19	$ 1.19
DNA analysis Fee	$ $400	$ 0.05	$ 0.05	$ 0.00
Dog Tags	$ 21,000	$ 2.42	$ 2.42	$ 0.00
Excess Fees of Clerks	$ 20,000	$ 2.24	$ 2.17	$ 2.17
Fines & Forfeitures	$ 240,000	$ 26.86	$ 26.05	$26.06
Fire/Rescue Rev Recovery	$ 450,000	$ 49.61	$ 48.11	$48.86
Freon Appliance Disposal Fee	$ 4,000	$ 0.43	$ 0.43	$ 0.00
Propane Tank Disposal	$ 40	*	*	*
Recreation Fees	$ 300,250	$ 35.71	$ 34.63	$ 0.00
Recreation Rentals	$ 15,000	$ 1.73	$ 1.73	$ 0.00
Sheriff Fees	$ 800	$ 0.09	$ 0.09	$ 0.09
Used Battery Proceeds	$ 600	$ 0.07	$ 0.07	$ 0.00
Used Oil Fees	$ 2,000	$ 0.23	$ 0.23	$ 0.00
Total	**$1,160,590**	**$131.28**	**$127.55**	**$88.47**

*Less than $0.01

Data supplied by the State of Texas on swimming pool water consumption was used to estimate that between Memorial Day and Labor Day weekends (the approximate time the pool would be open), a swimming pool can be expected to lose one-third of its water, which would need to be replenished. At an average depth of 4.9 feet, the annual filling of the swimming pool was estimated to use about 98,100 gallons, including refilling.

According to an International Water Association Publications study, a public swimming pool can be expected to use 11.78 gallons per person per day for showers and restrooms. It was assumed that on any given day, 15% of Liberty Landing residents, or 114 persons per day, would use the pool, with the pool open 105 days per year.

Non-categorical revenue from the Commonwealth was subtracted from total expenditures rather than being counted as a direct revenue source. This subtraction was made proportionately to the ratio of variable costs to fixed and excluded costs, using the methodology more full described in the “Cost Calculations” section of this Appendix. This approach was taken because non-categorical revenue is not a variable revenue source (it does not increase automatically as population rises) but it is a revenue source that reduces the size of local expenditure.

Additional Revenues Generated by Households

Tax revenues generated by households are estimates of taxes paid by New Kent County businesses due to purchases made by Liberty Landing residents. Purchases by Liberty Landing residents are estimated based upon their projected spending patterns. These spending patters were estimated using the most recent U.S. Bureau of Labor Statistics Consumer Expenditure Survey (CES).

Household incomes were estimated for Liberty Landing residents based upon projected single-family and townhome sale prices. Home buyers were assumed to be qualified for housing costing four times their annual household income, consistent with current mortgage industry practice. Table A-5 below shows the estimated household incomes for the Liberty Landing model types.

Table A-5
Estimated Household Incomes, Liberty Landing

Model Type	Estimated Household Income
Single Family Units	
Model A	$99,000
Model B	$102,750
Model C	$106,500
Model D	$110,250
Model E	$114,000
Townhouses	
Model A	$69,000
Model B	$75,000
Model C	$81,000
Model D	$90,000
Average Household Income, Liberty Landing	$92,600
Estimated New Kent County Household Income, 2023	$123,500

Rounded to the nearest $25

Liberty Landing is planned to be targeted to first time homebuyers and the estimated household incomes, ranging from $69.500 to $114,000 annually and averaging $92,600, support this assumption. Household income for the County in 2023 (the constant dollar year), was estimated as explained above in the “Revenue Calculation” section under “Personal Property Tax”.

Household income expenditure tables from the CES were then used to calculate average annual household spending on food at home, restaurants (food away from home) other retail and selected services for income levels appropriate to the various housing product types proposed for Liberty Landing. Per household expenditures in each category by level of income were used to estimate spending by Liberty Landing households for each model type according to the average household income level for that model type. Sales, meals and business license taxes paid by New Kent County businesses on purchases generated by Liberty Landing Households were then calculated.

Adjustments were made for purchases made outside the County and for purchases made at businesses located at Liberty Landing (the latter to avoid the double counting of revenues). The initial estimate of spending at establishments locate in the County (and, thus, generating new tax revenue for the County) was calculated using the retail leakage study performed to identify tax revenue from the Liberty Landing commercial establishments that would be new to the County.

The retail leakage analysis that was performed showed that the County is retaining virtually all grocery spending, 66.72% of non-fast food restaurant spending (78.77% of all food away from home spending), and 39.54% of other retail spending within the County. However, it is reasonable to expect that some grocery spending may occur at buying clubs and organic food grocers who are located in Richmond, mid-Henrico County or Chesterfield County. Since the Liberty Landing demographic is likely to be cost conscious, shopping at buying clubs is more likely than at higher priced organic grocers. Considering, however, that these buying clubs are located a half hour to 45 minutes from the Site, only 5% of Liberty Landing grocery shopping, at the most, is expected to occur at these venues. Consequently, the percentage of grocery spending expected to occur within the County by Liberty Landing households was reduced to 95%.

For restaurant, general retail and consumer service spending at Liberty Landing establishments, a portion of the expected sales by Liberty Landing establishments in these categories can be expected to be generated by Liberty Landing households. Therefore, an adjustment must be made to avoid double-counting of revenues derived from spending by Liberty Landing residents at Liberty Landing establishments. For restaurants, to determine how much restaurant spending would occur at Liberty Landing establishments, a location analysis was conducted for family style and fast casual restaurants within the County and competing restaurants outside the County. Liberty Landing residents were assumed to be willing to travel up to 20 minutes to patronize a restaurant located within the County and slightly farther to patronize American fare national chain or unique ethnic restaurants outside the county.

The location analysis was conducted as described herein. A distance gradient was employed with each restaurant location given a score inversely proportional to the driving time distance from the proposed development (closer stores are exponentially more likely to be patronized). Restaurants at Liberty Landing were assumed to be within a one minute drive (from the time the vehicle leaves the house, parking time excluded). The cumulative score for Liberty Landing restaurants was then divided by the total score to derive the percentage of restaurant spending estimated to occur at Liberty Landing restaurants. Distance was measured by driving time using Bing Maps to arrive at driving times between the Site and the various retail locations. Google Maps was used to identify restaurants within the County.

The location analysis indicated that up to 66.52% of family style, ethnic, fast casual and American fare national chain restaurant purchases made by Liberty Landing households could be made at Liberty Landing restaurants. As calculated above (in adjustments for revenue generated by Liberty Landing commercial establishments), 38.94% of New Kent County resident restaurant spending is expected to occur in full service and family restaurants in the County (including ethnic and fast casual). Taking 66.52% of this metric, about 25.9% of total food away from home spending can be expected to occur at Liberty Landing restaurants. Consequently, 25.9% of tax revenue generated from Liberty Landing household spending on food away from home at non-fast food establishments was deducted from revenues new to the County in order to avoid double-counting of new tax revenues.

Since Liberty Landing residents would not be expected to travel more than ten minutes to patronize a fast food establishment and several fast food establishments are located within that drive time, all located in New Kent County, all fast food expenditures by Liberty Landing households, including at gas station convenience stores, are expected to be made within the County. Based on data calculated above for food take-out spending at gas station convenience stores and for fast food spending, an estimated 48.8% of all food away from home spending would fall into these categories. As noted above, all of this spending by Liberty Landing households can be expected to occur within the County. Furthermore, since these establishments are not expected to be located at Liberty Landing, no reduction for double counting is necessary.

Spending on other retail and consumer services was assumed to be somewhat less sensitive to proximity than restaurant spending. The mix of other retail and consumer service establishments at Liberty Landing is unknown, although a drug store secondary anchor is anticipated. It is, therefore, difficult to conduct a location analysis for general retail and services with much validity. Shopping patterns are also likely to be more diverse, with Liberty Landing residents traveling longer distances to patronize specific establishments in the County and vice versa for County residents with regard to Liberty Landing establishments. Therefore, the best predictor of the share of total sales derived from Liberty Landing households was deemed to be a household share methodology.

This methodology assumes that, for the most part, the share of purchases made by Liberty Landing households compared to all purchases is proportional to the percentage of Liberty Landing households within the Liberty Landing commercial market area. This market area was determined to consist of Census tracts 7001 and 7002 in the County, based upon distances from the Site. The number of households for these Census tracts was estimated for 2032, when the residential component of Liberty Landing is expected to be fully developed. Household growth was calculated for seven years using 2021 and 2014 ACS household data with the annual compounded growth rate used to extrapolate to the ninth year. The total number of households predicted for 2032 in these two Census tracts was 5070. Thus, the 290 Liberty Landing households constitute 5.72% of this total.

It would not be reasonable, however, to assume that proximity does not play a role in retail and service establishment patronage. The farthest location within the market area is about 22 minutes from the Site. Using a factorial method to estimate relative likelihoods of patronage from a variety of distances, it was estimated that Liberty Landing residents would be two and a half times more likely than the average market area resident to patronize Liberty Landing establishments. Multiplying this by the percentage of Liberty Landing households in the market area, it was estimated that about 14.3% of general retail and consumer services sales by Liberty Landing stores would be made by Liberty Landing residents and this percentage was deducted from the calculation of new revenue to the County generated by Liberty Landing general retail and consumer services establishments.

The requirement to adjust for double-counting of expenditures by Liberty Landing residents at Liberty Landing establishments does not apply to revenue generated for the County by office tenants because any additional revenue from household patronage of office establishments was not calculated or included in the fiscal impact analysis.

No generated taxes were estimated for employees of businesses located at Liberty Landing or in New Kent County, as these employees were assumed either to be already living and spending in New Kent County or living outside the County and, thus, spending most of their income outside the County.

<u>Cost Calculations</u>

Costs were divided into four categories: costs of general government per household and per business, education costs per household calculated on a per-student basis, and one-time and capital costs generated for general government by Liberty Landing, and education capital costs, if any, resulting from additional students generated by Liberty Landing. Cost data were derived from the *Budgets*. Per household, per business and per pupil costs were calculated for various budget line items.

Costs of General Government Services

Per household and per business costs for non-education local government services were determined in the following manner. Business establishments and households were considered to be equal from the standpoint of generating pubic service costs, when both households and business establishments consumed those services (i.e., recreational services costs would be allocated completely to households, since businesses do not directly consume these services but fire protection costs would be allocated to both households and businesses).

A percentage of each service shared by households and businesses was allocated to households or businesses according to the following formula:

% allocated to households = # households / [#households + # businesses]
% allocated to business = # businesses / [#households + # businesses]

Per household costs were then determined according to the following formula:

Expenditure per household =
Expenditure x % allocated to households / # of households

Per business costs were determined according to the following formula:

Expenditure per business =
Expenditure x % allocated to business / # of businesses

Government functions that were deemed to serve both households and businesses include:

- Adult civil and criminal justice and protection (as both households and businesses bring suits and can engage in or be victims of criminal behavior), but not prisoner confinement (as this will be associated with the residence of a person);
- Commissioner of Revenue (including real estate assessment) and Treasurer (as both households and businesses are taxed);
- Fire and EMS services (as both households and businesses are subject to fires and medical emergencies)
- and support services (finance, human resources, purchasing), as both households and businesses create demands on general government).

Public Utilities also serves both households and businesses but the variable cost for this function is calculated directly on a per-customer basis.

Various adjustments were made to expenditure line items to arrive at the County's variable cost of providing public services. Government functions for with Liberty Landing' population would generate no significant demands, because they are used exclusively or primarily by low-income households, were then excluded. Although some household incomes of townhouse dwellers may be below 80% of area median income, no Liberty Landing households should have incomes low enough to qualify for Medicaid or public assistance. Therefore, costs associated with the following functions were excluded from the fiscal impact analysis:

- Chapter 10 Board (CSB)
- Health District Supplement
- Human Services Fund and
- Social Services Fund

Next, government functions that would be performed regardless of population size and are, thus, considered to be fixed costs were excluded. These include those listed below and on the following page:

- County Manager's Office/Clerk of Board
- Board of Supervisors
- Agency Donations (various)
- Agricultural & Forestal
- Airport Fund
- Area Agency on Aging
- Board of Zoning Appeals
- Building Development (Inspectors)
- Capital Projects Fund
- Central Virginia Transportation Authority
- Community Colleges
- Computer Replacement Fund
- Corrections and Detention (Community Criminal Justice Board)
- County Attorney
- Cultural Enrichment (County Fair)
- Debt Service Fund
- Economic Development
- Equalization Board
- Emergency Management and Preparedness Services
- Environmental
- Fine Arts Center
- General Services (Buildings and Grounds)
- Historic Commission
- Information Technology (primarily mainframe and department level support and is also a one-person office)
- Parks and Rec (Parks and Administration—Recreation Programs is separate and included)

- Planning
- Planning Commission
- Sheriff's Communication System (lease and equipment, no personnel)
- Soil and Water Conservation
- State Forester
- Victim-Witness Assistance (grant funded)
- Wetlands Board and
- Contingency.

Certain local government services are sensitive to household size, as they serve individual people rather than households as a whole. To account for this sensitivity, household size was calculated for owner-occupied households in Census tract 7001 and the County as a whole, as explained above in "Revenue Calculations." Variable costs of functions deemed sensitive to household size were multiplied by the ratio of estimated Liberty Landing household size (CT 7001 owner-occupied households) and County average household size (1.0307 for single family detached households; no adjustment was made for townhouse households, as these are projected to be the same size as owner-occupied households in CT 7001).

Additionally, the Parham Landing Sewer and Water District expenses were excluded, since the proposed development is not located in this service area. Also, the cost of programs that were fully grant funded were not included as a local government cost. These include Net Witness Assistance and Wireless E-911. Parks, as opposed to recreation, was considered to be a capital maintenance activity with the distribution of park rangers associated with geographic coverage area rather than park visitation. Consequently, all park operations were determined to be a fixed cost.

Certain adjustments were made to other cost centers in order to subtract fixed costs. These included costs, generally, shown below and on the following page:

- advertising, except human services
- books and subscriptions
- contract services
- dues & association memberships
- electric service, heating services
- furniture & fixtures
- insurance, except vehicle insurance when vehicles are used by variable cost employees and workers compensation/line-of-duty insurance
- janitorial supplies
- leases (buildings or equipment)
- machinery & equipment
- maintenance service contracts

- marine patrol and other fixed cost law enforcement programs
- postal services unless used to mail to citizens
- printing & binding unless for distribution to the public
- professional services
- promotional items, unless obviously distributed to the general public
- repair and maintenance supplies
- repairs and maintenance
- software
- technical support
- telecommunications (as these were assumed to be paid on a flat fee basis and cell phones are limited to certain personnel)
- WAN lines

Individual adjustments to costs were made in the following cases. For the Commissioner of the Revenue, technical services for the NADA database was included as a variable cost because this cost is based on the number of automobiles registered in the County. Audit services, contract services and professional services in the Financial Services department were all determined to be lump sum or retainer-based costs that do not vary with incremental changes to the County's population. In Central Purchasing, telecommunications was viewed as a distributed cost that would increase with the size of government and, therefore, was retained.

Some offices are staffed with a single position which was deemed unlikely to change due to incremental changes in the population served. In these cases, no full-time personnel costs were counted, although part-time personnel costs were counted as these were deemed to be variable. Otherwise, only relevant non-personnel costs, such as postage and office supplies, were counted. Offices falling into this category were:

- Circuit Court Judge
- General District Court
- Juvenile & Domestic Court and
- Magistrate

With respect to the General District Court, residents of Liberty Landing were assumed not to require court appointed attorneys. Sheriff's Court positions are mandated and are not based upon incremental changes in population and so only non-personnel variable costs were included for this office.

Positions for which staffing would not be expanded due to incremental changes in the number of households and businesses were not included in the fiscal impact analysis. These "fixed cost positions" include department directors and assistant directors or their constitutional officer equivalents, other administrative supervisory positions associated with a single operational unit (e.g., Fire lieutenants assigned to each fire station), and specialized positions staffed by only one person.

Salaries for fixed cost positions were provided by the County after salary ranges contained in the *New Kent County Position Classifications FY 22* were found to be inconsistent with wage and salary costs found in the *Budget.* Benefits associated with fixed cost positions were also subtracted from the benefits costs identified in the *Budget*. These were estimated by multiplying the benefit totals by the ratio of fixed cost position salaries to total department salaries. For benefits that were based upon total wages and salaries, such as FICA, the denominator was all personnel salaries. However, for benefits that were associated with full-time positions, such as VRS retirement, only the salaries of full-time positions were used as the denominator in the equation. Besides formal benefits, other costs associated with personnel, such as travel and training, uniforms, and other personnel equipment or services (e.g., police supplies). For Sheriff-Law Enforcement, this included expenses associated with vehicles. For Fire and Rescue, however, vehicle expenses were counted as regular variable costs because they are primarily response-driven, even though some vehicle-related costs associated with fixed costs positions are included in this amount.

Fire and Rescue can be viewed as a fixed cost activity. This is because fire fighters are necessary to satisfy reserve demand. In other words, they must be on duty prepared to respond whether or not there is a fire and rescue incident. This is different than the police function, which is more constantly engaged. Staffing per fire station is relatively fixed by service standards and the distribution of fire stations is largely a function of response time, although density plays a role in determining fire station capacity. While it can be argued that EMS operations likewise serve reserve demand, the potentially greater frequency of those responses argue for a variable cost approach here. Thus (prior to the assumed opening of the new fire station), 50% of non-excluded Fire and Rescue personnel costs were counted as fixed costs meeting reserve demand.

As discussed under “General Government Capital Costs” below), it has been determined that there is a 50% probability that the addition of a new fire station will be able to be justified by the development of Liberty Landing and that the share of this cost that should be attributed to Liberty Landing is 20%, based upon its share of the new fire station’s service area. The new fire station will generate new costs for the County, including costs that would otherwise be considered to be fixed costs. Because these costs are deemed to be at least partially triggered by the development of Liberty Landing, they have been considered variable costs in this fiscal impact analysis. Besides the reserve demand component of firefighting personnel, these costs include the lieutenant in charge of the fire station, utilities associated with the fire station, and additional vehicle insurance costs. These were calculated from the *Budget* and distributed among the five existing fire stations. Thus, one-fifth of these costs were considered to be “variable” costs associated with a new fire station. Other variable costs, such as fuel and supplies, are associated with response incidents rather than with fire station costs and those costs were calculated separately and distributed among all households and businesses.

The calculated costs associated with the new fire station were distributed to the units within the new service area, estimated to be 1,500 households and businesses (see under "General Government Capital Costs" below for the methodology determining the size of the new fire station's service area). Since the calculation of fire station costs was specific to the service area, the household size adjustment that was made for other Fire & EMT variable costs was not made for fire station expenses. Prior to the opening of the new fire station (at 25% build-out), the fiscal impact of Liberty Landing was calculated using the Countywide determination of Fire & EMS per household and per business cost.

Because this additionally calculated cost is distributed over the new fire station's service area, this calculation incorporates the calculation of Liberty Landing's share of these costs. However, since there is a 50% probability that Liberty Landing is the actual cause of these fixed costs becoming variable, the per-household calculation of these additional costs was reduced by 50%.

While revenues that are sensitive to changes in the number of households and businesses were calculated (see above), other revenues are received by the County that directly fund certain general government activities. As noted above, activities that are completely funded by intergovernmental grants were excluded from the fiscal impact analysis. However, other activities are partially funded by intergovernmental revenues and this represents costs that are not incurred by the County and not increased by increases in households or businesses. Chief among such revenues are the shared expenses of constitutional offices.

Revenues from the Commonwealth were deducted from the variable costs of funded departments to leave only the County's operating costs. This was applied to the line items listed below:

- Clerk of Circuit Court
- Commissioner of the Revenue
- Commonwealth Attorney
- Ninth Circuit Court (Juvenile)
- Registrar/Electoral Board
- Sheriff and
- Treasurer.

For those department budgets containing variable and fixed costs for which revenue was subtracted, an adjustment was made to distribute the subtracted revenue among fixed and variable costs so that only those revenues funding variable costs were subtracted from the budget. First, the salaries and benefits of fixed cost positions funded by the Commonwealth were subtracted from the shared revenue received. The salary and benefit amounts were derived from the Compensation Board of the Commonwealth of Virginia's *Approved FY 23 May 1 Budgets*, as found on their website. This left Commonwealth revenue available to fund costs other than those positions and avoided apportioning funds specifically allocated to fixed cost positions being apportioned to variable costs.

The remaining Commonwealth revenues were then apportioned between variable and fixed costs by multiplying that amount by the ratio of calculated variable costs to total department costs (with funds for fixed cost positions provided by the Commonwealth subtracted from the department total). This amount—allocated to variable costs—was then subtracted from the department's variable costs. These calculations can be summarized in the formula below:

$$VC_{NK} = VC - ((SR\text{-}FCSB)*(VC/(TC\text{-}FCSB)$$

Where VC_{NK} = variable costs funded by the County
VC = total variable costs (for the department)
SR = Shared revenue provided by the Commonwealth
FCSB = Fixed cost position salaries and benefits funded by shared revenue and
TC = Total costs (for the department)

A further adjustment was made to the variable costs of the Financial Services, Central Purchasing and Human Resources departments. These are necessary local government administrative services that, to a certain extent, are performed regardless of changes in the County's population. On the other hand, to the extent that additional service units lead to increased staffing and consumables, they result in additional transactions performed by these departments. In order to estimate the extent to which expenditures of these departments are affected by changes in the County's other variable costs, the variable costs of these departments were proportioned according to the ratio of total County variable personnel costs (excluding the three departments) to total County personnel costs.

Personnel costs were deemed to be a valid proxy for all costs, given the close association with changes in the costs of these service departments to personnel levels. The variable costs calculated for the three departments were then multiplied by this ratio (35.55%). However, businesses consume fewer variable costs than households. When this calculation was performed for businesses, the resulting percentage was 30.61% of variable costs for these departments added to the County's cost to serve a business establishment.

The Public Utilities Enterprise Fund is entirely self-funded and, thus, could be viewed as a "black box" and omitted from the analysis. However, despite the fact that water and sewer costs are segregated into a separate budget fund, Liberty Landing will have a significant impact on the funds revenues and variable costs and the costs and revenues associated with this Fund are, thus, included in the analysis. A large portion of the Fund's expenditures are for fixed cost items. Clerical and other costs associated with billing were counted as variable costs, as was an estimate for meter reading, including vehicle fuel costs.

Salaries for the County's water and sewer plants are mostly salaries for supervisory, specialist and construction management positions. Positions in the Bottoms Bridge Service District and the Reclaim Water program were also deemed to be fixed costs, as they are associated with capital facility operations and, consequently, those personnel costs were not included in the fiscal impact analysis. Variable costs included the cost of chemicals and lab supplies for the Bottoms Bridge Service District, which would vary with flow and Miss Utility charges, assumed to vary with the number of calls. Revenues into the fund from water and sewer flow charges, the Bottom's Bridge Sewer District Tax and one-time water and sewer development fees significantly exceed the Fund variable costs attributable to Liberty Landing.

The County's water system serves 4,100 households and businesses while the County's sewer system serves 1,900 households and businesses. It was assumed that almost all water users were sewer users, as well. Thus, variable costs from the Public Utilities Enterprise Fund for billing and meter reading were divided by the number of water customers in order to obtain the per household cost for these services. Bottoms Bridge Service District water and sewer costs were divided by the number of District customers (950 water customers and 530 sewer customers) to calculate those costs on a per customer basis.

For certain functions, a per-household and per-business calculation was not the best measure of impact. Besides the Public Utilities expenses, this applies to real estate assessment. This was calculated on a per-parcel basis. Real estate assessment is performed by the Commissioner of Revenue. Variable cost expenses associated with real estate assessment were calculated separately and deducted from Commissioner of Revenue expenses. To the extent that such expenses could not be separately identified, they remain in the Commissioner of Revenue calculations.

Real estate assessment is performed every two years in the County. To calculate certain non-personnel real estate assessment expenses, the difference in various line items (e.g. postage) in an assessment year (FY 2022) and the current, non-assessment year was calculated and assumed to represent assessment costs. These were then divided by two to distribute them on an annual basis.

Tables A-6 on the following pages and Table A-7 on page A-33 detail the County's variable cost expenditures. Table A-6 shows expenditures per household and, where relevant, expenditures per business establishment. Total variable expenditures are shown for Central Purchasing, Financial Services and Human Resources with the expenditure per household or business metric reduced to the portion serving variable cost functions. Table A-7 shows expenditures for other units of measure.

Table A-6
New Kent County FY 2023 Non-education Variable Costs

Item	Variable Cost Expenditure	Expenditure per SF Household	Expenditure per TH Household	Expenditure per Business
Ambulance & Rescue Services	$ 1,600	$ 018	$ 0.17	$ 0.17
Animal Protection (Sheriff)	$ 335,800	$ 38.75	$ 38.75	$ 0.00
Circuit Court Judge	$ 500	$ 0.06	$ 0.05	$ 0.05
Clerk of Circuit Court	$ 116,425	$ 13.03	$ 12.64	$ 12.64
Commissioner of the Revenue	$ 359,500	$ 39.03	$ 39.03	$ 39.03
Commonwealth Attorney	$ 183,550	$ 20.54	$ 19.93	$ 19.93
Confinement of Prisoners	$1,222,000	$ 145.33	$ 141.01	$ 0.00
Court Services Unit	$ 88,300	$ 10.50	$ 10.19	$ 0.00
Electoral Board/Registrar	$ 98,700	$ 11.39	$ 11.39	$ 0.00
Extension Program	$ 32,425	$ 3.86	$ 3.74	$ 0.00
Finance (35.55%/30.61%)	$ 247,700	$ 9.56	$ 9.56	$ 8.23
Fire & EMT (new fire station)*	$ 726,175	$ 242.06	$ 242.06	$242.06
Fire & EMT (other variable costs)	$ 243,500	$ 27.25	$ 26.44	$ 26.44
General District Court	$ 3,700	$ 0.41	$ 0.40	$ 0.40
Human Resources (35.55%/30.61%)	$ 228,250	$ 8.81	$ 8.81	$ 7.59
Juvenile & Domestic Court	$ 2,100	$ 0.25	$ 0.24	$ 0.00
Library	$ 217,950	$ 25.92	$ 25.15	$ 0.00
Magistrate	$ 700	$ 0.08	$ 0.08	$ 0.00
Patient Centered Outcome Fee (35.55%/30.61%)	$ 600	$ 0.02	$ 0.02	$ 0.02
Recreation Programs	$ 444,550	$ 52.87	$ 51.30	$ 0.00
Sanitation/Waste	$ 839,250	$ 96.84	$ 96.84	$ 0.00
Sheriff - Courts	$ 234,950	$ 26.29	$ 25.51	$ 25.51
Sheriff – Dispatch	$ 620,675	$ 69.46	$ 67.39	$ 67.39
Sheriff – Law Enforcement	$2,245,175	$ 251.25	$ 243.78	$243.78
Treasurer	$ 178,225	$ 19.35	$ 19.35	$ 19.35
Unemployment Benefits (35.55%/30.61%)	$ 3,200	$ 0.12	$ 0.12	$ 0.11
Total	***$8,675,500***	***$1,113.21***	***$ 1,093.95***	***$712.70***

Expenditures rounded to the nearest $25

* Calculated per Bottoms Bridge household and business, including Liberty Landing

Table A-7 New Kent County FY 2023 Non-education Costs: Expenditures per Unit other than Household			
Item	Expenditure	Expenditure per Unit	Unit of Measure/Notes
Bottoms Bridge Sewer	$ 1,500	$ 2.83	Per customer
Bottoms Bridge Water	$ 2,200	$ 2.32	Per customer
Public Utilities Administration (billing)	$89,950	$21.95	Per customer
Reclaim Water	$25,800	$ 6.29	Per customer

* All expenditures exclude fixed cost positions

One Time Costs

Certain one-time costs associated with the development of the Liberty Landing were judged to be fixed costs to the County. These costs are incurred by the County's Department of Building Development and Planning and Zoning Department. Although the service demands on these departments can be expected to increase due to the development of Liberty Landing, it is reasonable to assume that they will be handled by existing staff. Since the increase in demand for services will be temporary, it would not behoove the County to hire additional staff during this period only to terminate them once Liberty Landing is fully developed, It was deemed that sufficient capacity exists in both departments to handle the increased work load from this development

General Government Capital Cost

The development of Liberty Landing would increase the County's number of households by about 3.5%, from projected FY 2023 levels and the number of businesses by 4.6% from the second quarter 2022 metric reported by the Virginia Employment Commission. This was deemed not to be a significant enough increase to cause the County to invest in the purchase of more public park land or libraries nor to cause the County to expand any of its public buildings.

The County currently employs 18 full-time Sheriff patrol deputies and adding the three deputy positions postponed from the current *Budget,* it was calculated that each Sheriff deputy serves about 480 households in the County. The proposed 290 Liberty Landing households would constitute a warrant for one additional Sheriff patrol deputy, particularly since the department has been stretched thin in recent years.

Operating expenses for this deputy are accounted for in the fiscal impact calculations for general government operating costs. However, the new deputy will need to be equipped with a vehicle and equipment and trained. Estimates from nearby counties place the cost of a new Sheriff's vehicle at $80,000 and the one-time cost of recruitment and training at $28,000, plus a one-time equipping cost of $6,500., according to data provided by the County Sheriff. The Sheriff expects the new deputy to be hired as soon as Liberty Landing begins construction in order to provide security to the construction site. According to the Sheriff, a replacement patrol vehicle is assumed to be purchased every three years after that.

The Fire Chief was consulted in 2021 about the ability of the two closest fire stations, numbers 2 and 5, to adequately serve Liberty Landing. The Fire Chief identified Bottom's Bridge as an underserved area since fire service cannot be provided to this area within an acceptable response time according to national standards. A new fire station was already programmed in the County's *Capital Improvements Program* (*CIP*). The Bottoms Bridge fire station had been included in every *CIP* since FY 2017 but the construction and funding date had continually been pushed into the future. In 2021, the Fire Chief stated that the County is reluctant to fund this fire station until increased density in the Bottom's Bridge area justifies a demand for the fire station. At that time, according to the Fire Chief, sufficient demand did not exist. However, the Fire Chief maintained that the development of Liberty Landing would provide the additional demand needed to justify the new fire station.

Furthermore, the Fire Chief stated that fire stations #2 and #5 are both currently exceeding their rated capacity to provide adequate fire protection and medical emergency services to their service areas. The Fire Chief indicated that it would be possible for those fire stations to absorb additional demand, further exceeding their capacities, but not beyond a 25% build-out of Liberty Landing.

In the FY 2024 proposed *CIP,* the Bottoms Bridge fire station was advanced in scheduling for the first time in the eight years during which this fire station has been included in the *CIP*. Also, the estimated cost of the fire station, $8,139,000, included a full, detailed breakdown of expenditure, including design, site acquisition (although no site had been acquired) and equipment. Furthermore, the immediate justification for the new fire station was the pending construction of the County's first garden style apartment complex, which would be located in the Bottoms Bridge service area.

The FY 2024 *CIP* seems to indicate a new seriousness on the part of the County to actually fund this fire station. However, the County's Director of Finance stated that the County's policy is that only projects in the first year of the *CIP* actually have a funding commitment from the County. The Bottoms Bridge fire station is entered in FY 2024/25 and, therefore, cannot be considered to be funded. This still leaves the possibility that approval of the Liberty Landing development would tip the scales to move the Bottoms Bridge fire station to the current *CIP* fiscal year in a succeeding *CIP*.

Ordinarily, the presence of a planned facility in a municipality's *CIP* would indicate that a proposed development would have no capital fiscal impact with regard to that function, since the municipality intends to make the capital expenditure regardless of whether the proposed development is allowed or not. In this case, however, the planned capital expenditure may not occur if Liberty Landing is not allowed and, therefore, the new fire station can be counted as a capital fiscal impact attributed to Liberty Landing. However, since it is unclear whether it is Liberty Landing or the approved apartment complex that would convince the Board of Supervisors that the Bottoms Bridge fire station must be built, a 50% probability that the cost of the fire station should be attributed to Liberty Landing as a capital fiscal impact was assumed.

It is still not reasonable to attribute all of this capital cost to Liberty Landing since the need to improve fire and rescue service for the entire Bottom's Bridge area has been recognized by the County and plans have been made to remedy this infrastructure deficit. Therefore, all of the households to be served by the new fire station will benefit from the increased service level and households currently being served by fire stations #2 and #5 outside of Bottoms Bridge will also receive some benefit from those fire stations reacquiring reserve capacity.

Based upon mean driving time distances from a likely site for a new fire station, it was assumed that the new fire station's service area could extend as far southeast as Roxbury Road/Emmaus Church Road and along Mountain Road (off Emmaus Church Road) to Baileys Ridge Drive. Interstate 64 would effectively be the northeast boundary of the service area except along New Kent Highway where it was assumed that the new fire station would serve houses and businesses located up to and including Woodbrook Road. It was estimated that there are currently approximately 1,150 households and 45 businesses located within this service area. When fully developed and added to the existing households and businesses, approximately 20% of the service demand could be attributed to Liberty Landing. This does not count significant undeveloped land at Patriots Landing that would generate more households and, it does not take into consideration the benefit provided to other households served by fire stations #2 and #5. Therefore, this may be considered to be a conservative estimate.

Thus, 10% of the estimated cost of the new fire station, or $813,900, was counted as capital fiscal impact for fire protection and emergency medical services attributable to Liberty Landing. This was derived by applying a 50% probability of attributing funding of the new fire station to Liberty Landing multiplied by its 20% share of the estimated cost (from the FY 2024 *CIP*). The new fire station was assumed to be built as programmed in the FY 2024 *CIP* and to open in md FY 2026.

No new water and sewer capital costs are expected to be generated by Liberty Landing. The developer will construct all necessary water and sewer lines and a pump station, if necessary. According to the County's Director of Public Utilities, the Bottoms Bridge Service District permit already takes into consideration the eventual development of Liberty Landing and, thus, no additional capacity will be required.

Education Costs

Education costs were estimated separately from other public service costs of local government. Education costs were calculated on a per pupil basis. Student enrollment data was derived from the Virginia Department of Education *Fall Membership Enrollment* website for the 2022-23 school year (SY 2023). This was 3,436 students.

The cost of providing Title I education services was not included in the education cost calculations since Liberty Landing will not generate low-income students eligible for Title 1 programs. These programs are also fully funded with intergovernmental revenue and, so, there is no cost to the County associated with this and other fully funded programs.

Costs for administration and functions that must be provided and are not affected by relatively small changes in student population are considered fixed costs and were excluded. This includes those functions that are provided by a single position at each school. It also includes functions and positions associated with physical plant and other capital items. These include the line items costs listed below:

- Administration
- Advertising
- Capital Outlay Additions
- Clerical
- Contract Services
- Dues and Memberships
- Electricity and Heat
- Groundskeeper and Groundskeeping
- Infrastructure Services
- Lease of Equipment
- Legal Services
- Librarian
- Maintenance Personnel
- Maintenance & Parts Supplies
- Mechanical Helper, Parts Clerk, Mechanic
- Noncap Computer Infrastructure
- Noncap Tech Hardware-Board
- Principals and Assistant Principals
- Professional Services
- Property and Casualty Insurance
- Repair and Maintenance Services
- School Nurse
- Software
- Subscriptions
- Technical and Technicians
- Telecommunications and
- Contingency

Additionally, costs associated with athletic programs—athletic stipends and athletic supplies—were counted as fixed costs since an increase in student population would not lead to additional athletic teams or an increase in the size of those teams. Travel was counted as a fixed cost as it was assumed that this applied either to administrative travel or travel to conferences, neither of which would increase with student population. It was assumed that the cost of field trips would be counted under costs associated with student transportation. Meals were assumed to be provided for staff events or meeting, mostly of an administrative nature. Student food service is an entirely self-supporting enterprise using program income and intergovernmental revenues. Uniforms were counted as a fixed cost as those personnel required to wear uniforms were not viewed as variable cost personnel.

While it is acknowledged that some administrative costs, such as human resources, financial services and purchasing, would increase to some extent to support variable cost functions that would expand with additional students, no data in the *Budget* allowed a calculation of these costs. Services to buildings were counted as fixed costs, as noted above. However, some costs were deemed sensitive to changes in the student population. Custodial services would need to be employed regardless of student population but 25% of this cost was judged to be variable based on additional hours needed for more intense maintenance and cleaning due to increases in student population. Also, 75% of water and sewer costs were considered to be domestic and variable with the remainder assumed necessary for cleaning. Computer Repair was split evenly between IT systems (a fixed cost) and instructional hardware (a variable cost).

By and large, most variable costs were associated with student instruction and student transportation. This included personnel costs and the costs of instruction or transportation related supplies and materials. Personnel costs for vehicle maintenance, however, were considered to be a fixed cost, as the three-person vehicle maintenance staff was deemed sufficient to service the existing fleet and any additions in the foreseeable future.

As noted above, the personnel cost for services to students that are provided on a school-wide basis, such as library and school nurse were counted as fixed costs. However, these may have variable cost components. These variable cost components were included in the computation of per-student costs while the fixed cost component that would not vary with the change in student population was excluded. Identified variable cost components were identified as medical supplies, while library materials were assumed to be included in instructional materials. Other student services were supplied on a division-wide basis and these were assumed to be expandable and sensitive to growth in student population.

Personnel providing these services were included and are listed on the following page.

- Guidance
- Occupational Therapist
- Psychologist
- Social Worker and
- Other Professional.

Certain cost were counted as variable costs. Stipends Instructional & Extra Curricular was counted as part of instructional salary since a determination could not be made how much of the stipend was devoted to extracurricular duties, which would be fixed in nature. The cost of Professional Development was assigned fully to instructional personnel or other variable cost personnel providing student services. While most insurance was considered to be a fixed cost, vehicle insurance was considered to be a variable cost (the number of transportation vehicles needing to be insured varying with student enrollment). Certain consumables, such as office supplies, other operating supplies, postage, and printing & binding, were counted as variable costs. Noncapital equipment and noncapital technology hardware were assumed to be provided to students. Tuition regional programs was assumed to be sensitive to student population as, even though the number of students accommodated by these programs was assumed to be fixed, the County's share was assumed to be based upon student enrollment. Miscellaneous expenses were also assumed to be variable.

The cost of benefits was provided separately in the *Budget* and reported division-wide. These costs then needed to be distributed between variable cost and fixed cost positions. To do this, benefits were added to the variable salary and wage costs reported in the *Budget.* This was done proportionally by dividing the variable cost personnel line item by the total salary and wage cost for the system and multiplying this fraction by the total benefits cost. However, some variable costs—part time and stipends—generate only FICA benefits. In those cases, the variable-to-total salary/wage cost ratio was multiplied by the total amount of FICA benefits only.

Finally, revenues from sources other than the County's operating budget were subtracted from School Board expenditures. These non-local revenue sources included the Commonwealth, the federal government, and various internal sources and program income. These revenue sources were divided into three categories: excluded, categorical and non-categorical. Excluded revenues were those revenues funding specific fixed or excluded costs, or that fully funded a cost category (e.g., textbooks). Categorical revenues were those funding specific programs with variable cost components. Non-categorical revenues could be applied generally to defray expenses.

Table A-8, on the following pages, specifies those revenues received from each source by revenue category.

Table A-8 **Non-local Revenue Sources, by Category**		
Revenue Source/Category	Revenue Type	Amount
Commonwealth		
Excluded Revenues	Career and Technical Education (Technology)	$ 5,100
	ISAEP (GED)	$ 8,225
	Technology VSPA	$ 180,000
	Textbooks	$ 251,450
	Virginia Preschool Initiative	$ 136,000
Categorical Revenues	At Risk	$ 352,675
	Early Reading Intervention	$ 197,875
	ESL	$ 24,975
	Gifted Program	$ 104,475
	Group Life	$ 41,800
	Homebound	$ 6,800
	Prevention, Intervention, Remediation	$ 176.650
	Project Graduation	$ 4,400
	Social Security	$ 579,350
	SOL Algebra Readiness	$ 26,100
	Special Education	$ 1,113,675
	Vocational Education	$ 203,225
	VRS Retirement	$ 1,350,525
Non-Categorical	Basic Aid	$10,312,875
	Compensation Supplement	$ 646.625
	Foster Care	$ 9,675
	Monitor Tracker	$ 825
	Sales Tax	$ 4,407,750
	Other State Revenue	$ 1,198,650
Total Commonwealth		**$21,339,700**
Federal Government		
Excluded Revenues	CARES ESSER	$ 429.000
	IDEA Preschool	$ 16,175
	Title I	$ 259,125
	Title II	$ 63,425
	Vocational Perkins	$ 36,800
Categorical		
	IDEA Part B (Special Education)	$ 700,000
	Title IV (Student Support)	$ 18,050
Total Federal		**$ 1,522,575**

Rounded to the nearest $25

Table A-8 Non-local Revenue Sources, by Category (cont.)		
Revenue Source/Category	Revenue Type	Amount
Other Funding Sources		
Excluded		
	E-Rate Refunds (Technology)	$ 45,000
Categorical		
	Transportation of Pupils	$ 35,000
Non-Categorical	Interest on Investment	$ 3,000
	Sales, Rentals, Insurance Adjust.	$ 47,500
	Special Fees	$ 80,000
	Miscellaneous	$ 5,000
Total Other Funding Sources		**$ 2158,500**
Total Revenues		**$23,077,775**

The local share of all non-categorical, non-excluded costs was then calculated by dividing the portion of the School Board Budget funded by the County's Operating Budget by the sum of the locally funded amount plus Commonwealth, federal and other source non-categorical revenues. This percentage, 52.34%, was applied to the variable costs calculated for each program or line item in the *Budget* after subtracting costs supported by categorical revenue to arrive at the locally funded, variable costs for each program or line item and for school expenditures, as a whole. These locally funded, variable costs were then divided by the SY 2023 estimated number of students to obtain the per-student education fiscal impact. These calculation are represented in the following formula:

$$CVC = (\sum VC - CR) \times L\% / S$$

Where CVC = the County's variable education costs
VC = the variable cost of education line items
CR = Categorical Revenue supporting that education line item
L% = the Local share of non-categorical/non-excluded education costs and
S = the number of New Kent Public School students

and L% = NK / (TC – (CCR + FCR + CE + FE + OC + OE)
Where NK = County contribution to New Kent County Public Schools
TC = Total New Kent County Public Schools General Fund Budget
CCR = Commonwealth Categorical Revenue
CE = Commonwealth Excluded Revenue
FCR = Federal Categorical Revenue
FE = Federal Excluded Revenue
OCR = Categorical Revenue from Other Sources
OE = Excluded Revenue from Other Sources

Per-student costs are detailed in Table A-9 below.

Table A-9
New Kent County School Expenditures, FY/SY 2023
Locally Funded Variable Costs

Item	Variable Cost Expenditure	Categorical Revenue	Expenditure per Pupil	County Expenditure per Pupil
Classroom Instruction	$22,421,950	$4,081,300	$5,337.79	$2,793.70
Computer Repair (50%)	$ 3,000	$ 0	$ 0.87	$ 0.46
Custodial Services (25%)	$ 276,000	$ 0	$ 80.32	$ 42.04
Fuel	$ 330,000	$ 35,000	$ 85.86	$ 44.94
Guidance	$ 1,010,100	$ 0	$ 293.98	$ 153,86
Medical Supplies	$ 21,000	$ 0	$ 6.11	$ 3.20
Noncapital Computer Hardware	$ 423,925	$ 0	$ 123.38	$ 64.57
Noncapital Tech Hardware	$ 31,150	$ 0	$ 9.07	$ 4.75
Occupational Therapist	$ 201,025	$ 0	$ 58.50	$ 30.62
Office Supplies	$ 88,850	$ 0	$ 25.86	$ 13.54
Other Operating Supplies	$ 4,300	$ 0	$ 1.25	$ 0.65
Other Professional	$ 171,600	$ 0	$ 49.94	$ 26.14
Postage	$ 12.625	$ 0	$ 3.67	$ 1.92
Printing & Binding	$ 250	$ 0	$ 0.07	$ 0.04
Professional Development	$ 74,650	$ 0	$ 21.73	$ 11.37
Psychologist	$ 422,475	$ 0	$ 122.95	$ 64.35
Social Worker	$ 85,625	$ 0	$ 24.92	$ 13.04
Transportation Salaries	$ 2,057,350	$ 0	$ 598.77	$ 313.38
Tuition Regional Programs	$ 641,575	$ 0	$ 186.72	$ 97.73
Vehicle Equipment, Parts, Supplies	$ 122.000	$ 0	$ 35.51	$ 18.58
Vehicle Insurance	$ 30,000	$ 0	$ 8.73	$ 4.57
Water & Sewer ($75%)	$ 88,725	$ 0	$ 25.82	$ 13.51
Miscellaneous Expenses	$ 6,500	$ 0	$ 1.89	$ 0.99
Total	**$28,524,675**	**$4,116,300**	**$6,103.71**	**$3,717.95**

Revenues rounded to the nearest $25

In the table above, Classroom Instruction also includes special education, instructional materials and testing supplies. As seen in Table A-8, the locally funded portion of variable cost school expenditure is calculated at $3,717.95 per student.

Education expenditures were assigned to the Liberty Landing project by estimating the number of students to be generated by the project and multiplying this by the per-student cost of education. The New Kent County Public Schools have not calculated student generation rates. A gross student generation rate was calculated by dividing the number of students enrolled in the New Kent County Public Schools, as calculated for SY 2023, by the number of households estimated for FY 2023. This produced a student generation rate of 0.396 students per household. Since nearly all households in the County are single-family dwellings, this rate was used to calculate the number of students to be generated by households living in the Liberty Landing single-family detached product.

Although the townhomes at Liberty Landing are for sale, they are smaller units than are typical for the single family detached housing that makes up the overwhelming proportion of New Kent County housing. Typically, as indicated by student generation rates used in other Virginia localities, they generate a smaller number of students per household. Nationally, as reported recently by the National Association of Home Builders, the average student generation rate for single-family dwellings is 0.39 students per household while the average number of students per townhouse dwelling is 0.31 students per household. The calculated student generation rate for the County was multiplied by the national average ratio of the townhouse and single-family student generation rate to obtain an estimated student generation rate for the Liberty Landing townhouse product, which was 0.315 students per household. Using these student generation rates, the number of students projected to be generated by Liberty Landing was calculated to be 103.

Education Capital Costs

Education capital fiscal impact calculations were performed first under the rules governing the calculation of "reasonable proffers" according to Virginia law governing the offer and acceptance of cash proffers. Virginia's proffer law provides that only the direct impact of a proposed development on existing facilities be considered when determining whether a fiscal impact justifies the offer of reasonable proffers. In calculating this impact, the most recent data available should be used. Quinton Elementary School, with a capacity of 750 students, is now open and is the school to which students from Liberty Landing would be zoned. New Kent Middle School has a capacity of 900 students and New Kent High School has a capacity of 1,400 students.

Enrollment data for each school was derived from the Virginia Department of Education *Fall Enrollment* website for SY 2022+23, the latest data available. Enrollment data from this website was then used to distribute the students predicted to be generated by Liberty Landing to the elementary, middle and high schools using the proportional enrollment for each level. Table A-10, on the following page, shows the capacity and enrollment data for each school, the number of students to be added due to the development of Liberty Landing, and the remaining capacity or capacity shortfall.

Table A-10 Remaining School Capacities After Liberty Landing Development					
School	Capacity	Current Enrollment	Remaining Capacity	Liberty Landing Students	Remaining Capacity After Liberty Landing
Quinton Elem.. School	750	491	259	46	213
New Kent Middle School	900	770	130	23	107
New Kent High School	1,400	1,121	279	34	245

Sources: New Kent County Public Schools; Virginia Department of Education

It is evident from the table above that the test for reasonableness of proffers is not met with respect to school facilities. Significant capacity remains at all schools to which students from Liberty Landing would be zoned after it reaches full development.

In contrast to the proffer analysis conducted above, an analysis of any education capital fiscal impact can include future adjustments to enrollment predictions and school facility capacity. The County Planning Department provided a list of ongoing and approved developments ("pipeline developments") with students zoned for Quinton Elementary, New Kent Middle School and New Kent High School. Developments that would generate students attending Quinton Elementary School were: Dispatch Station Section 2, Pomeroy Park, Robbins Creek and Roxbury Woods. Developments that would generate students for New Kent Middle School and New Kent High School, as well as Quinton Elementary, were: The Arbors at the Farms of New Kent, Beech Springs, Brickshire at the Kentlands, Edenbridge, Maidstone, Oakmont Villas at Kentlands, and Viniterra at The Farms of New Kent. A search of the County's GIS parcel viewer was conducted to identify vacant platted lots for those developments that had begun construction. A comparison of the GIS parcel viewer and Google Maps, which was up to date with satellite imagery, showed that the County's GIS parcel viewer's satellite imagery was substantially accurate.

Table A-11, below, shows remaining school capacities after students generated from pipeline developments and from Liberty Landing are added to current enrollment.

Table A-11 Remaining School Capacities After Liberty Landing Development and Pipeline Development						
School	Capacity	Current Enrollment	Remaining Capacity	Pipeline Development Students	Liberty Landing Students	Remaining Capacity
Quinton	750	491	259	49	46	164
New Kent Middle School	900	770	130	104	23	3
New Kent High School	1,400	1,121	279	152	34	93

As seen in the table above, even considering the addition of students from future pipeline development, Quinton Elementary School retains significant capacity to absorb future development that has not yet been proposed. New Kent High School also retains sufficient capacity to accommodate future unannounced development (estimated to be approximately 720 single-family detached units). New Kent Middle School, on the other hand, will effectively reach its instructional capacity due to students generated by pipeline development whether or not Liberty Landing is developed.

With students from pipeline development likely to push New Kent Middle School within 97% of its instructional capacity, the County's public schools are already considering a future expansion of that school according to the School Superintendent, although nothing has yet been programmed into the County's *Capital Improvements Plan.* With respect to determining whether a capital fiscal impact is created, the pertinent question is whether either pipeline development or the development of Liberty Landing would cause the County to change its fiscal behavior. Since the County's school system is already planning to expand classroom space at New Kent Middle School, whether or not Liberty Landing is developed, it cannot be said that Liberty Landing will be the cause of an educational capital fiscal impact related to classroom space.

While the 23 middle school students projected to be generated by Liberty Landing would fill an entire classroom if they were all placed together, in actuality these students will be distributed over three grades, averaging an additional seven to eight students per classroom. It is most likely that school planners would choose not to add three more classrooms to their current planning due to the development of Liberty Landing, given that students from Liberty Landing would only fill one-third of a classroom per grade. Therefore, it was deemed that no educational classroom capital fiscal impact would be created due to the development of Liberty Landing.

Liberty Landing ostensibly can be expected to generate demand for a new school bus. Data from a nearby County indicates that 15% of school bus riders are special needs students. Therefore, Liberty Landing can be expected to generate about 39 standard school bus riders. The standard school bus riders, however, would fill a regular 64-passenger school bus to 61% capacity, prompting the need for another school bus. Elementary school busses are assumed to be reused for middle and high school students who operate on different schedules and the demand for high school riders is assumed to be reduced due to students driving to school.

However, students from pipeline development are expected to generate 49 students attending Quinton Elementary School and needing bus transportation. Of these, 42 would ride a standard school bus. Therefore, the total number of students requiring standard bus transportation would be 81, which would fill a standard school bus to capacity leaving 17 students requiring some other means of transportation to school. Since these students would fill a standard school bus to only 26.5% of capacity, it is assumed that the County public schools would seek to accommodate those students on other routes that may have the capacity to transport additional students.

Students generated from pipeline development would cause the County to purchase a school bus whether or not Liberty Landing is developed. Liberty Landing students would simply fill the remaining capacity on that bus and be distributed to existing bus routes. Considering this, it can be said that it is not Liberty Landing that is creating this capital fiscal impact for the County, but pipeline development.

With regard to special needs students, it is assumed that transportation is provided to students at all grade levels by a single special needs bus route serving an elementary school. Therefore, special needs ridership is to be calculated as 15% of all students generated by proposed development. Thus, 15 special needs students can be expected to require transportation from Liberty Landing. This would likely require the purchase of a 21-seat capacity special needs school bus. While pipeline development can be expected to generate an additional 16 special needs students, the total needing special needs buses serving Quinton Elementary School, 31 students, would require the purchase of two special needs buses (or a larger capacity special needs bus), since it is assumed that the ten excess riders could not be accommodated by other special needs ridership routes. Therefore, one bus was attributed to Liberty Landing and one bus to pipeline development.

A Virginia firm selling school buses estimated the cost of a new 21-seat special needs school bus at between $85,000 and $100,000. Conservatively, the higher cost estimate was used. A new bus was assumed to be purchased once students would fill 33% of its capacity, which would occur in FY 2028.

15798616.1 030567.00012