

## **What This Document Contains**

### **HR&A Potomac Yard Economic and Fiscal Impact Study**

#### **About the HR&A Potomac Yard Economic and Fiscal Impact Study**

Alexandria Economic Development Partnership (AEDP) hired HR&A Advisors (HR&A) in June 2023 as a technical advisor to conduct an analysis assessing both the economic and fiscal impacts of planned development at the Potomac Yard site, with a particular focus on the difference in impact between two potential development scenarios, one of which includes a new arena and accelerated development of a sports and entertainment district alongside it.

HR&A has extensive experience in analyzing economic and fiscal impact and utilized the IMPLAN input-output model, an industry-standard tool, to consider the impact to the City of Alexandria and the Commonwealth of Virginia on both a one-time basis from construction and an ongoing basis from annual operations once built.

HR&A's role is strictly limited to analysis of economic and fiscal impact, and it is not involved in discussion or development of 1) any underwriting or financing contemplated for development of the project, and 2) non-tax revenue that the jurisdictions may generate from the project/site (e.g., parking revenue from a publicly owned garage, naming rights, etc.).

#### **How the Impact Report Has Helped Inform City and State Planning**

Using the HR&A analysis, the Commonwealth of Virginia and City of Alexandria identified revenues available for use to support a Project Revenue bond financing. The Commonwealth and City have modeled the use of revenues directly attributable to the arena and parts of Phase 1 of the development as available to be pledged to the bonds. Excluded in the model are any carveouts for Commonwealth transportation funding, public school funding, etc. as well as any carveouts for Alexandria stormwater, metro funding, etc. No revenues from Phases 2 or 3 were modeled in bond financing pledge.

HR&A's revenue projections were extrapolated to 2063 at the same growth rate to match Monumental Sports & Entertainment's (MSE) contemplated lease term with the Sports and Entertainment Authority.

The Commonwealth and City used the HR&A analysis to then model a variety of scenarios that would generate additional revenues available to support the project revenue bond financing. Those include a 10% admissions (ticket) tax on arena and performance venue events, below-grade parking revenues, and campus naming rights. The addition of those revenues and their pledge to the revenue bonds creates a 2x coverage ratio.

### **CSL International's Business Model Analysis**

#### **About CSL International's Business Model Analysis**

Monumental Sports & Entertainment hired CSL International (CSL) in 2023 to develop a business model related to the operations of a new arena in Alexandria, Virginia. Based on the firm's analysis, CSL estimates the proposed arena can support 221 events on an annual basis.

CSL found that in the four years prior to the COVID-19 pandemic, an aging Capital One Arena hosted an average of 216 events annually, including a high of 228 events in 2018. A new arena in Potomac Yard would include modern design features that would provide the ability to host NBA and NHL games on the same day, which releases highly sought after event space and days. Moving forward, the arena can shift away from flexibility for the Wizards and Capitals and focus on event maximization, including back-to-back concerts, family shows, combatives, and additional sports content.

In total, CSL has completed over 2,500 consulting and advisory engagements for a variety of clients, including recent studies for a broad array of public and private entities throughout the Washington metropolitan area.



Analyze. Advise. Act.

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MEMORANDUM

To: Alexandria Economic Development Partnership (AEDP)

From: HR&A Advisors, Inc.

Date: January 22, 2024

Re: Potomac Yard Economic and Fiscal Impact Study – **REVISED – Scenario reflecting on-site direct impacts (no offsite spending by new visitors and residents); Assumes 221 arena events and 115 concert venue events annually**

HR&A Advisors (“HR&A”, “Consultant”) was hired by AEDP as a technical advisor to conduct an economic and fiscal impact analysis, which is one of the firm’s core capabilities. The Consultant’s sophisticated and market-tested models measure the impact of development projects in terms of job creation, wages, tax revenues, and overall economic activity.

The consultant conducted an impact analysis to be used by the Alexandria Economic Development Partnership (“AEDP”) in assessing both the economic and fiscal impacts of planned development at Potomac Yard, with a particular focus on the impact generated by two different potential development scenarios.

This memo provides results, by scenario, for the following tasks included within HR&A’s scope of work:

- Economic Impact – Economic impact of Potomac Yard development to the City of Alexandria and the Commonwealth of Virginia, both one-time (construction) and ongoing (annual operations)
- Net Fiscal Impact – Net fiscal impacts for all measured sources of tax revenue (property, sales, income, business, admission, and hotel taxes, alongside special tax districts and stormwater fees) to Alexandria and Virginia, both one-time (construction) and ongoing (annual operations).

**The information provided in this memo is based on updated Monumental Sports and Entertainment (“Monumental”, “MSE”) operations information shared by the City of Alexandria “City” on October 31, 2023, which reflects 221 arena events and 115 concert venue events held annually.**

**This scenario reflects direct impacts associated with on-site activity and zeros any off-site direct spending by new visitors and players for the arena, concert venue, and conference hotel.**

**METHODOLOGY**

***Development Program***

Based on information provided by AEDP, JBG SMITH (“JBGS”), and Monumental, and their partners Clark Construction, HR&A established a development program and construction timeline for two potential development scenarios, (1) a “Baseline” scenario that reflects planned development under current market conditions, and (2) an “Arena + Accelerated Development” scenario that includes a new arena and

entertainment district, as well as an accelerated build out of the site based on increased demand generated by the entertainment uses.

- **Scenario 1: Baseline Development** (Completed 2030-2046)
- **Scenario 2: Arena + Accelerated Development**
  - Arena and Entertainment Uses – Completed 2028:
    - Includes the arena, e-sports facility, music venue, arena parking garage, Wizards team facility, and VT/MSE Headquarters/MSE Studio/Spec office building; all private development is included in Phases I-III below.
  - Phase 1 – Completed 2029
  - Phase 2 – Completed 2031
  - Phase 3 – Completed 2036

Results for each scenario reflect the incremental impact relative to current activity today.

**Proposed Development Program by Scenario (Gross Square Feet)**

Parcel	Scenario 1:		Scenario 2: Arena + Accelerated Development			Scenario 2 Total
	Baseline Development	Arena	Phase 1	Phase 2	Phase 3	
High-Rise Residential	-	-	-	-	1,168,000	1,168,000
Mid-Rise Residential	379,000	-	1,477,000	1,551,000	968,000	3,996,000
Townhomes	-	-	-	-	-	-
Office	840,000	197,000	-	200,000	1,392,000	1,789,000
Hotel	-	-	535,000	239,000	-	774,000
Academic	-	75,000	-	-	-	75,000
Retail	98,000	20,000	114,000	178,000	212,000	524,000
Entertainment	-	70,000	-	-	-	70,000
Conference Space	-	-	100,000	-	-	100,000
Sports	-	933,000	-	-	-	933,000
<b>Total</b>	<b>1,317,000</b>	<b>1,295,000</b>	<b>2,226,000</b>	<b>2,168,000</b>	<b>3,740,000</b>	<b>9,429,000</b>
<b>% of Total</b>	100%	14%	24%	23%	40%	100%
<b>Year of Completion</b>	<b>2030-2046</b>	<b>2028</b>	<b>2029</b>	<b>2031</b>	<b>2036</b>	

Note: Development program and economic and fiscal impact analysis includes the buildout of the site located at 3750 Richmond Highway, which is not owned by JBG SMITH but is expected to be catalyzed for redevelopment by the buildout of the Arena and other Phase I development, per guidance from AEDP and JBG SMITH. The Consultant assumes a 499,000 SF mid-rise residential building with 577 units based on a nearby precedent, The Reserve, with development of this site to occur on the same timeline as Phase 2.

Note: Academic space reflects space tentatively set aside for Virginia Tech to occupy separate from any space associated with its Innovation Center, which is excluded from this analysis.

### ***Economic Impact***

HR&A utilized the [Impact analysis for PLANning \(IMPLAN\) input-output model](#), created by MIG, Inc., to analyze the project's economic impacts from both construction and annual ongoing operations at full build-out of Potomac Yard. For each dollar of spending in the economy, IMPLAN traces the pattern of commodity purchases and sales between 546 industries within the specified geography. The IMPLAN model is used to conduct economic impact analyses by leading public and private sector organizations across the United States.

The economic impact analysis estimates economic output, job creation, and wages/income paid to employees at the following levels:

- Direct impacts: resulting from project construction and operations spending;
- Indirect impacts: resulting from industry-to-industry transactions from project construction and operations;
- Induced impacts: resulting from employee spending in the economy, including employees of directly and indirectly affected businesses.

### ***Fiscal Impact***

The Consultant considered the range of assessed local and state taxes to evaluate one-time and ongoing net fiscal impacts associated with construction and operation of the proposed development. For local taxes, we used the fiscal rate assumptions as reviewed and confirmed in a 6/30/23 check-in call with AEDP. Please see the Appendix for additional detail on the taxes and rates used in the fiscal analysis.

### ***Additional Notes***

- **Public ownership of certain facilities** – Based on guidance provided by AEDP, this analysis currently assumes public ownership of a number of facilities, which are assumed to be exempt from property taxes in this analysis. These facilities include:
  - Arena (including e-sports facility)
  - Concert / music venue
  - Arena parking garage
  - Wizards practice facility
  - Wizards team office space
  - MSE Headquarters and NBC Studio
- **Public Benefits / Proffers** – This analysis excludes any considerations of public benefits or proffers that may be provided as part of this project, which would be confirmed as part of the development approvals process.
- **Revenue and cost escalations** – Unless otherwise noted, all revenues and costs are escalated at a 2.0% inflation rate annually over the 30-year term considered in this analysis, which provides a conservative estimate of revenue/cost growth over time and ensures equal treatment of revenues and costs relative to one another. All net present value (“NPV”) calculations apply a 4.08% discount rate, which reflects the discount rate used by the Commonwealth of Virginia. The discount rate is used to discount future cash flows back to their present value and accurately value future revenues in today's dollars.

## ECONOMIC IMPACT FINDINGS

Note: All Virginia impacts are inclusive of Alexandria impacts.

### Potomac Yard One-Time Construction Impacts

**Table 1 | Potomac Yard Construction One-Time Jobs**

Total Construction Jobs	Scenario 1	Scenario 2	Scenario 2 Detailed			
			Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	345	2,535	655	480	460	940
Virginia	2,380	17,645	4,640	3,335	3,190	6,480

Source: HR&A analysis using IMPLAN

**Table 2 | Potomac Yard Construction One-Time Labor Income (Net Present Value, \$2023)**

Total Construction Labor Income	Scenario 1	Scenario 2	Scenario 2 Detailed			
			Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$29,000,000	\$256,000,000	\$73,000,000	\$41,000,000	\$39,000,000	\$103,000,000
Virginia	\$182,000,000	\$1,347,000,000	\$345,000,000	\$258,000,000	\$245,000,000	\$499,000,000

Source: HR&A analysis using IMPLAN

Note: NPV analysis assumes a 4.08% discount rate; construction costs for the "Arena + Entertainment" phase of development are escalated at 3.5% annually until projected confirmation of costs in 2024 and 2025 based on information provided by Clark Construction and JBGS; all other costs are inflated at a rate of 2% annually for all dollar values.

**Table 3 | Potomac Yard Construction One-Time Economic Output (Net Present Value, \$2023)**

Total Construction Output	Scenario 1	Scenario 2	Scenario 2 Detailed			
			Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$60,000,000	\$451,000,000	\$128,000,000	\$83,000,000	\$79,000,000	\$161,000,000
Virginia	\$1,040,000	\$5,473,000,000	\$1,572,000,000	\$1,003,000,000	\$952,000,000	\$1,946,000,000

Source: HR&A analysis using IMPLAN

Note: NPV analysis assumes a 4.08% discount rate; construction costs for the "Arena + Entertainment" phase of development are escalated at 3.5% annually until projected confirmation of costs in 2024 and 2025 based on information provided by Clark Construction and JBGS; all other costs are inflated at a rate of 2% annually for all dollar values.

### Potomac Yard Permanent (Ongoing) Impacts: Stabilized Year

**Table 4 | Potomac Yard Permanent Jobs: Annual**

Ongoing Jobs (Stabilized-Year)	Scenario 1	Scenario 2	Scenario 2 Detailed			
			Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	9,190	22,340	2,910	1,395	2,535	15,500
Virginia	12,330	29,555	3,735	1,715	3,325	20,780

Source: HR&A analysis using IMPLAN

Note: The stabilized year for Scenario 1 Baseline Development is in 2047, when all development will be in full operation. Portions of the development will be in full operation prior to 2047 and those earlier impacts are reflected in the NPV results below.

**Table 5 | Potomac Yard Permanent Labor Income: Annual (\$2023)**

Ongoing Labor Income (Stabilized Year)	Scenario 2 Detailed					
	Scenario 1	Scenario 2	Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$1,065,000,000	\$2,387,000,000	\$249,000,000	\$80,000,000	\$276,000,000	\$1,782,000,000
Virginia	\$1,264,000,000	\$2,847,000,000	\$303,000,000	\$102,000,000	\$326,000,000	\$2,116,000,000

Source: HR&A analysis using IMPLAN

**Table 6 | Potomac Yard Permanent Economic Output: Annual (\$2023)**

Ongoing Output (Stabilized Year)	Scenario 2 Detailed					
	Scenario 1	Scenario 2	Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$2,917,000,000	\$6,527,000,000	\$633,000,000	\$238,000,000	\$770,000,000	\$4,886,000,000
Virginia	\$3,531,000,000	\$7,960,000,000	\$803,000,000	\$309,000,000	\$928,000,000	\$5,920,000,000

Source: HR&A analysis using IMPLAN

**Permanent Ongoing Impacts: 30-Year Net Present Value**

**Table 7 | Potomac Yard Operations 30-Year NPV of Labor Income (\$2023)**

Ongoing Labor Income (NPV)	Scenario 2 Detailed					
	Scenario 1	Scenario 2	Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$10,900,000,000	\$28,100,000,000	\$4,200,000,000	\$1,300,000,000	\$4,000,000,000	\$18,600,000,000
Virginia	\$12,900,000,000	\$33,600,000,000	\$5,200,000,000	\$1,700,000,000	\$4,700,000,000	\$22,000,000,000

Source: HR&A analysis using IMPLAN

Note: NPV analysis assumes a 4.08% discount rate and 2% annual rate of inflation for all dollar values.

**Table 8 | Potomac Yard Operations 30-Year NPV of Economic Output (\$2023)**

Ongoing Output (NPV)	Scenario 2 Detailed					
	Scenario 1	Scenario 2	Arena +Entertainment	Phase I	Phase II	Phase III
Alexandria	\$29,700,000,000	\$76,600,000,000	\$10,800,000,000	\$3,800,000,000	\$11,100,000,000	\$50,900,000,000
Virginia	\$36,000,000,000	\$93,700,000,000	\$13,700,000,000	\$5,000,000,000	\$13,400,000,000	\$61,600,000,000

Source: HR&A analysis using IMPLAN

Note: NPV analysis assumes a 4.08% discount rate and 2% annual rate of inflation for all dollar values.

## FISCAL IMPACT FINDINGS

Table 9 | Fiscal Impacts by Scenario for the Commonwealth of Virginia (\$2023)

Ongoing Output (NPV)	Scenario 1: Baseline			Scenario 2: Arena + Accelerated Development		
	One-Time Const. Impacts	Stabilized Year Total	30-Year NPV	One-Time Constr. Impacts	Stabilized Year Total	30-Year NPV
Sales and Use Tax – On-site	\$4.9M	\$1.9M	\$25.1M	\$38.6M	\$10.9M	\$179.0M
Sales and Use Tax – Off-site Spending*		\$0.0M	\$0.0M		\$0.0M	\$0.0M
Personal Income Tax	\$7.2M	\$36.4M	\$377.0M	\$53.5M	\$94.9M	\$1,230.7M
Business Income Tax	\$3.2M	\$7.4M	\$77.9M	\$24.6M	\$16.8M	\$219.7M
Hotel Tax		\$0.0M	\$0.0M		\$2.9M	\$46.7M
<b>Total</b>	<b>\$15.3M</b>	<b>\$45.7M</b>	<b>\$480.0M</b>	<b>\$116.7M</b>	<b>\$125.5M</b>	<b>\$1,676.1M</b>
Net Fiscal Cost		\$28.7M	\$292.5M		\$85.2M	\$915.5M
<b>Total Net Fiscal Impact</b>		<b>\$17.0M</b>	<b>\$187.5M</b>		<b>\$40.3M</b>	<b>\$760.6M</b>

Source: HR&A analysis

\*Off-site sales tax revenue zero-ed out in this version of the analysis.

Note: 30-Year NPV analysis assumes a 4.08% discount rate; construction costs for the Arena + Entertainment phase of development in Scenario 2 are escalated at 3.5% annually until projected confirmation of costs in 2024 and 2025 based on information provided by Clark Construction and JBGS; all other costs are inflated at a rate of 2% annually for all dollar values. NPV reflects all one-time and ongoing impacts.

Note: State fiscal information including tax rates and per capita fiscal costs is provided in Tables 31 and 32. Additional detail on specific taxes:

- Sales and Uses Taxes – On-site: Informed by information in Tables 17
- Sales and Uses Taxes – Off-site: Informed by information in Table 26
- Personal Income Tax: Informed by analysis of total employment generation, as computed by IMPLAN and shown in Tables 1 and 4; Total income by employee generated by IMPLAN analysis of industry mix; Given personal income tax in Virginia is applied based on location of residence, calculation of personal income tax takes into account share of Potomac Yard employment projected to live in Virginia (74%) based on existing Census data on commuting patterns.
- Business Income Tax: Informed by analysis of employment generated by all uses, as computed by IMPLAN and shown in Tables 1 and 4.
- Hotel Tax: Informed by information in Table 15



**Table 10 | Fiscal Impacts by Scenario for City of Alexandria (\$2023)**

Ongoing Output (NPV)	Scenario 1 : Baseline			Scenario 2: Arena + Accelerated Development		
	One-Time Construction Impacts	Stabilized Year Total	30-Year NPV	One-Time Construction Impacts	Stabilized Year Total	30-Year NPV
Sales and Use Tax - On-site	\$3.8M	\$1.9M	\$24.0M	\$29.9M	\$10.6M	\$168.9M
Sales and Use Tax - Off-site Spending*		\$0.0M	\$0.0M	\$0.0M	\$0.0M	\$0.0M
Admission Tax		\$0.0M	\$0.0M		\$1.5M	\$25.8M
Business Tax	\$0.2M	\$5.7M	\$58.8M	\$1.6M	\$14.0M	\$170.2M
Property Tax		\$6.3M	\$64.5M		\$42.7M	\$566.1M
Hotel Tax		\$0.0M	\$0.0M		\$6.6M	\$106.7M
Personal Property - Car		\$0.1M	\$1.7M		\$1.6M	\$21.2M
Potomac Yard Special Tax District		\$1.1M	\$11.6M		\$7.7M	\$102.0M
Stormwater Fee		\$0.1M	\$1.0M		\$0.8M	\$11.1M
<b>Subtotal</b>	<b>\$4.0M</b>	<b>\$15.2M</b>	<b>\$161.6M</b>	<b>\$31.5M</b>	<b>\$85.5M</b>	<b>\$1,172.0M</b>
Fiscal Operating Costs		\$10.2M	\$103.7M		\$51.6M	\$707.6M
<b>Total Net Fiscal Impact</b>		<b>\$5.0M</b>	<b>\$57.9M</b>		<b>\$33.9M</b>	<b>\$464.5M</b>

Source: HR&A analysis

\*Off-site sales tax revenue zero-ed out in this version of the analysis.

Note: 30-Year NPV analysis assumes a 4.08% discount rate; construction costs for the Arena + Entertainment phase of development in Scenario 2 are escalated at 3.5% annually until projected confirmation of costs in 2024 and 2025 based on information provided by Clark Construction and JBGs; all other costs are inflated at a rate of 2% annually for all dollar values. NPV reflects all one-time and ongoing impacts.

Note: The City may collect additional revenue from fees collected for any facilities which it owns (e.g., parking revenue from a City garage). This revenue is not reflected within the fiscal analysis since it is not a tax revenue.

Note: Per guidance from AEDP, analysis assumes public ownership of arena, music venue, e-sports facility, MSE headquarters, NBC studio, and arena parking garages. As such, these uses are not subject to property taxes.

Note: Local fiscal information including tax rates and per capita fiscal costs is provided in Tables 29 and 30. Additional detail on specific taxes:

- Sales and Uses Taxes – On-site: Informed by information in Tables 17
- Sales and Uses Taxes – Off-site: Informed by information in Table 26
- Admission Tax – Informed by analysis of total annual visitor projections provided by Monumental and estimated conference space attendees. Admission tax is assumed to apply to 95% of Arena and Entertainment visitors, since school-sponsored events are exempted from admissions taxes, and 50% of conference attendees.
- Business Income Tax: Informed by analysis of employment generated by all uses, as computed by IMPLAN, as shown in Tables 1 and 4.
- Property Tax: Informed by information in Tables 37, 38, and 40
- Hotel Tax: Informed by information in Table 15
- Personal Property – Car: Informed by information in Table 11
- Potomac Yard Special Tax District – Informed by information in Tables 37, 38, and 40
- Stormwater fee – Informed by information in Table 11

**APPENDIX: ECONOMIC IMPACT ASSUMPTIONS AND INPUTS**

**Table 11 | Proposed Development Program by Scenario (Square Feet)**

Parcel	Scenario 1:	Scenario 2: Arena + Accelerated Development				Scenario 2 Total
	Baseline	Arena	Phase 1	Phase 2	Phase 3	
High-Rise Residential	-	-	-	-	1,168,000	<b>1,168,000</b>
Mid-Rise Residential	<b>379,000</b>	-	1,477,000	1,551,000	968,000	<b>3,996,000</b>
Townhome	-	-	-	-	-	-
Office	<b>840,000</b>	197,000	-	200,000	1,392,000	<b>1,789,000</b>
Hotel	-	-	535,000	239,000	-	<b>774,000</b>
Academic	-	75,000	-	-	-	<b>75,000</b>
Retail	<b>98,000</b>	20,000	114,000	178,000	212,000	<b>524,000</b>
Entertainment	-	70,000	-	-	-	<b>70,000</b>
Conference Space	-	-	100,000	-	-	<b>100,000</b>
Sports	-	933,000	-	-	-	<b>933,000</b>
<b>Total</b>	<b>1,317,000</b>	<b>1,295,000</b>	<b>2,226,000</b>	<b>2,168,000</b>	<b>3,740,000</b>	<b>9,429,000</b>
<i>% of Total</i>	<i>100%</i>	<i>14%</i>	<i>24%</i>	<i>23%</i>	<i>40%</i>	<i>100%</i>
<b>Year of Completion</b>	<b>2030-2046</b>	<b>2028</b>	<b>2029</b>	<b>2031</b>	<b>2036</b>	

Source: JBG Smith

Note: The development program used in this analysis includes the buildout of the Alexandria Toyota dealership site, located at 3750 Richmond Highway, as part of Scenario 2. The site is not owned by JBG Smith but its redevelopment is expected to be catalyzed by the buildout of the Arena and other Phase I development. Based on the size of the site and development typology precedent at the neighboring mid-rise multifamily development The Reserve, the Consultant estimates development capacity for a 499,000 SF mid-rise residential building with 577 units. The timeline for development of this site is assumed to align with Phase II. All other private development considered within this analysis would occur on property controlled by JBG Smith within Potomac Yard.

Note: Academic space reflects space tentatively set aside for Virginia Tech to occupy separate from any space associated with its Innovation Center, which is excluded from this analysis.

**Construction and Infrastructure Costs**

**Table 12 | Proposed Development Construction Cost by Use (\$2023)**

Category	Scenario 1: Baseline			Scenario 2: Arena + Accelerated Dev.		
	Est. Hard Costs ('000)	Est. Soft Costs ('000)	Total Est. Cost ('000)	Est. Hard Costs ('000)	Est. Soft Costs ('000)	Total Est. Cost ('000)
High-Rise Apartment	\$0	\$0	\$0	\$458,000	\$138,000	\$596,000
Mid-Rise Apartment	\$116,000	\$42,000	\$158,000	\$1,228,000	\$438,000	\$1,666,000
Office	\$440,000	\$124,000	\$564,000	\$937,000	\$263,000	\$1,200,000
Hotel	\$0	\$0	\$0	\$337,000	\$146,000	\$483,000
Academic	\$0	\$0	\$0	\$38,000	\$12,000	\$50,000
Retail	\$56,000	\$12,000	\$68,000	\$299,000	\$66,000	\$365,000
Entertainment	\$0	\$0	\$0	\$88,000	\$19,000	\$107,000
Conference Space	\$0	\$0	\$0	\$62,000	\$13,000	\$75,000
Sports*	\$0	\$0	\$0	\$1,041,000	\$173,000	\$1,214,000
<b>Total</b>	<b>\$612,000</b>	<b>\$178,000</b>	<b>\$790,000</b>	<b>\$4,488,000</b>	<b>\$1,268,000</b>	<b>\$5,756,000</b>

\*Sports costs include the development of the proposed arena, e-sports facility, and monumental team training facilities. Arena-related parking garage costs are classified separately as an infrastructure expense.

Note: Development construction costs modeled in this analysis exclude contingency costs, as those costs are considered reserves rather than a defined cost, and developer fees.

Note: All costs shown in \$2023; within the analysis, construction costs for the Arena and entertainment uses in Scenario 2 are escalated at 3.5% annually until projected confirmation of costs in 2024 and 2025 based on information provided by Clark Construction and JBGS; all other construction costs across both scenarios are inflated at a rate of 2% annually for all dollar values.

Source: JBG SMITH, Monumental

**Table 13 | Proposed Infrastructure Cost (\$2023)**

Unit	Scenario 1	Scenario 2			
	Scenario 1	Phase 1	Phase 2	Phase 3	Arena
	Estimated Expenditures	Estimated Expenditures	Estimated Expenditures	Estimated Expenditures	Estimated Expenditures
<b>Site Infrastructure</b>					
Hard Costs	\$0	\$0	\$0	\$26,440,000	\$75,360,000
Soft Costs	\$0	\$0	\$0	\$39,470,000	\$26,330,000
<b>Arena/Entertainment Parking Garage Infrastructure</b>					
Hard Costs	\$0	\$0	\$0	\$0	\$228,200,000
Soft Costs	\$0	\$0	\$0	\$0	\$21,210,000
<b>Total</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$65,910,000</b>	<b>\$351,100,000</b>

Source: JBG SMITH

Note: Per JBG SMITH, there are no site infrastructure costs anticipated with development of Scenario 1 since site infrastructure costs are driven by 1) the need to relocate existing utilities to accommodate the arena and 2) the need to upsize utilities for arena requirements (e.g., NBA's dual power feed requirement) and peak usage and 3) the need to run new horizontal connections at the time of the garage design and construction.

**Table 14 | Construction Spending Adjustment**

The Consultant used a construction spending adjustment to estimate the share of construction impacts that occurs locally in Alexandria and in the Commonwealth of Virginia. This adjustment is based on worker commuting patterns, JBG SMITH's regional construction materials sourcing estimates, and IMPLAN data on materials and labor share of spending.

	Local One-Time Impacts	State One-Time Impacts
Labor Share of Costs	43%	41%
Share of Local Labor	13%	74%
Materials Share of Costs	57%	59%
Share of Local Spending	0%	25%
<b>Total Spending Adjustment</b>	<b>6%</b>	<b>45%</b>

Source: HR&A analysis using IMPLAN, JBG SMITH, Census OnTheMap

**Table 15 | Revenue from Proposed Private Development: Hotel (\$2023)**

	Scenario 1: Baseline	Scenario 2: Arena + Accelerated Dev.
Hotel Occupancy	-	75%
Average Daily Rate	-	\$418
Hotel Keys	-	991
Total Room Revenue	-	\$113,510,000
% of Revenue from Rooms	-	85%
<b>Total Hotel Revenue</b>	<b>\$0</b>	<b>\$133,540,000</b>

Source: JBG SMITH

Note: There is no hotel use planned for Scenario 1 ("Baseline"). Tax calculations for fiscal analysis apply a 15% discount to room revenue to remain conservative given the hotel properties of the caliber currently planned do not exist in the local Northern Virginia market.

**Table 16 | Revenue from Proposed Private Development: Retail (\$2023)**

Unit	Scenario 1: Baseline Scenario			Scenario 2: Arena + Accelerated Dev.		
	Sq. Ft.	Sales per SF	Total Sales	Sq. Ft.	Sales per SF	Total Sales
Grocery	10,293	\$625	\$6,433,000	54,721	\$625	\$34,201,000
Day Care	3,743	\$350	\$1,310,000	19,899	\$350	\$6,965,000
Full-Service F&B	18,715	\$600	\$11,229,000	99,493	\$600	\$59,696,000
Limited-Service F&B	18,715	\$950	\$17,779,000	99,493	\$950	\$94,518,000
Gym	7,128	\$500	\$3,564,000	37,896	\$500	\$18,948,000
Miscellaneous Retail	23,394	\$400	\$9,358,000	124,366	\$400	\$49,747,000
Vet	3,743	\$300	\$1,123,000	19,899	\$300	\$5,970,000
Personal Care	2,950	\$1,088	\$3,210,000	15,683	\$1,088	\$17,064,000
<b>Total</b>	<b>88,681</b>	<b>\$609</b>	<b>\$54,006,000</b>	<b>471,450</b>	<b>\$609</b>	<b>\$287,109,000</b>

Source: JBG SMITH; Retail Maxim 2021

Note: Proposed retail mix provided by JBGS. Projected sales per square foot information is based on Consultant analysis of retail data provided by JBGS of the existing Potomac Yard Shopping Center, retail owned by JBGS near Nationals Ballpark in Washington DC, and retail sales per square foot data from Retail Maxim.

**Table 17 | Estimated Annual Retail Sales at the Existing Potomac Yard Shopping Center (\$2023)**

Retail Category	Total Annual Revenue	Replaced in Phase 1	Replaced in Phase 2	Replaced in Phase 3
Home Store				
Electronics Store				
Personal Care				
Clothing				
Miscellaneous and General Retail				
Full Service F&B				
Limited Service F&B				
<b>Total</b>				

Source: HR&A analysis of data from JBG SMITH and Retail Maxim

Note: The existing shopping center will be closed and replaced across the three phases of development in Scenario 2. The analysis of economic and fiscal impacts is structured to reflect the loss of the existing impacts. The sales in this table for existing Potomac Yard retail are netted out from Scenario 2 total sales in the economic impact model across the corresponding phases. All taxes generated by the existing retail center are netted out of the fiscal impact analysis by phase.

**Table 18 | Proposed Private Development Operations: Residential (\$2023)**

Housing Type	Scenario 1: Baseline					Scenario 2: Arena + Accelerated Dev.		
	NSF Per Employee	Vacancy	Net Square Feet	Total Jobs	Sales/Rent per NSF	Net Square Feet	Total Jobs	Rent per NSF
High-Rise Apartment	15,000	5%	0	0	-	934,660	59	\$3.70
Mid-Rise Apartment	15,000	5%	303,040	19	\$3.50	3,196,586	202	\$3.70
<b>Total</b>			<b>0</b>	<b>19</b>		<b>4,131,246</b>	<b>262</b>	

Source: JBG SMITH (development program and pricing), HR&A analysis (SF per employee and assumed vacancy)

Note: There are no high-rise rental, townhome, or condo uses planned for Scenario 1 ("Baseline"). Achievable multifamily rental pricing is expected to be higher in Scenario 2 due to increased interest and demand generated by arena and entertainment district development. Under growth rates modeled in analysis, apartment rents in Scenario 2 will be \$4.09/SF when Phase 1 development stabilizes in 2028.

**Table 19 | Revenue from Proposed Private Development: Conference Space (\$2023)**

	Scenario 1: Baseline	Scenario 2: Arena + Accelerated Dev.
Annual Visitation	-	160,000
Annual Events	-	93
Conference Space Revenues	\$0	<b>\$4,780,000</b>
Conference Space Fees & Services	\$0	\$4,620,000
Concessions and related food and beverage		\$160,000

Source: HR&A Analysis

Note: The Consultant reviewed national conference hotel precedents to reach an estimated average level of events, visitation, and revenues based on the size of the proposed Potomac Yard conference space.

Note: There is no conference space planned for Scenario 1 ("Baseline").

**Table 20 | Proposed Private Development Operations: Office (Non-Arena-Related Office Uses)**

Office Industry	Scenario 1: Baseline			Scenario 2: Arena + Accelerated Dev.		
	Square Feet	SF Per Employee	Total Jobs	Square Feet	SF Per Employee	Total Jobs
Online Retail	59,979	152	395	113,728	152	748
Software Publisher	59,979	152	395	113,728	152	748
Data Processing	59,979	152	395	113,728	152	748
Internet Publishing	59,979	152	395	113,728	152	748
Computer Programming	59,979	152	395	113,728	152	748
Computer Design	59,979	152	395	113,728	152	748
Scientific Research	59,979	152	395	113,728	152	748
Advertising & PR	69,975	152	460	132,682	152	873
Management Consulting	69,975	152	460	132,682	152	873
Management Of Companies	69,975	152	460	132,682	152	873
Design	69,975	152	460	132,682	152	873
Legal Services	69,975	152	460	132,682	152	873
Marketing Research	69,975	152	460	132,682	152	873
<b>Total</b>	<b>839,700</b>	<b>-</b>	<b>5,524</b>	<b>1,592,189</b>	<b>-</b>	<b>10,475</b>

Source: JBG SMITH; CBRE, HR&A

Note: Analysis assumes employment at non-arena-related offices uses is made up of 50% technology jobs (software publisher, data processing, internet publishing, computer programming, computer design, and scientific research) and 50% professional services (advertising & PR, management consulting, management of companies, design, legal services, and marketing research).

Note: Space per office employee is based on analysis by CBRE of average office space per worker in current "post-Covid" environment.

**Table 21 | Proposed Private Development Operations: Academic**

Unit	Scenario 2: Arena + Accelerated Dev.		
	Square Feet	SF Per Employee	Total Jobs
Academic	75,000	300	250

Note: Academic space reflects space tentatively set aside for Virginia Tech to occupy separate from any space associated with its Innovation Center, which is excluded from this analysis.

**Arena and Entertainment Uses - Revenues and Operations (Scenario 2 Only)**

**Table 22 | Proposed Arena and Entertainment Operations Onsite Game/Event (\$2028)**

Category	Estimated Revenues
Parking	██████████
Limited Service	██████████
Sports Retail	██████████
<b>Total</b>	<b>\$116,705,000</b>

Source: Monumental





Note: Reflects activity associated with 221 events at the arena and 115 events at the concert venue annually, as projected by Monumental and CSL data.

**Table 23 | Proposed Arena Team Facility Operations - Non-Payroll (\$2028)**

Category	Estimated Operational Spending
Stadium Operations	\$248,700,000
Performing Arts	\$6,470,000
Headquarters Operations	\$37,550,000
<b>Total</b>	<b>\$292,720,000</b>

Source: Monumental

Note: Reflects activity associated with 221 events at the arena and 115 events at the concert venue annually, as projected by Monumental and CSL data.

**Table 24 | Proposed Arena Facility Jobs - Payroll**

Category	Annual Personnel Payroll	Labor Income per Stadium Operations Job	Total FTE-Equivalent Jobs
Stadium Operations Personnel	\$24,967,000	\$25,825	242

Source: Monumental; HR&A Analysis using IMPLAN

Note: Reflects activity associated with 221 events at the arena and 115 events at the concert venue annually, as projected by Monumental and CSL data. Estimate of non-corporate personnel (e.g., on-site security, etc.), for which the Consultant estimated by applying 25% of Monumental's non-player payroll.

**Table 25 | Monumental Full-Time Office Employment**

Office Industry	Estimated Jobs
Management of Companies	165
Management Services	165
Advertising & PR	165
Marketing Research	165
<b>Total</b>	<b>658</b>

Source: Monumental; HR&A Analysis

Note: Monumental office employment data provided directly from Monumental. The Consultant's analysis assumes total Monumental full-time employment is split evenly across four office-using industries.

**Table 26 | Total Off-Site Spending by Arena-Related Visitors – Annual (\$2023)**

*(Note: Results of this table zero-ed out to remove off-site spending from direct impacts)*

Category	Estimated Revenue
<b>Team-Related Visitors</b>	
Entertainment	\$0
Shopping	\$0
Hotel	\$0
Transportation	\$0
Food & Beverage	\$0
<b>Attendee Offsite Spending</b>	
Entertainment	\$0
Shopping	\$0
Hotel	\$0
Transportation	\$0
Food & Beverage	\$0
<b>Total Off-Site Revenues</b>	<b>\$0</b>

Source: HR&A analysis of Monumental data

Note: Results of this table zero-ed out to remove off-site spending from direct impacts. Off-site spending accounts for all spending that occurs elsewhere in Alexandria and Virginia from demand generated directly by arena development and other entertainment uses (e.g., visitors to the arena, music venue, e-sports facility, etc.). Monumental provided an estimate of total off-site visitor spending based on analysis of the planned facilities. The Consultant applied a discount to revenue numbers provided by Monumental to account for spending that occurs on-site at Potomac Yard (which is already captured within on-site retail spending analysis) as well as spending that occurs outside of Virginia (which is outside the geography considered in this study).

Note: Reflects activity associated with 221 arena events and 115 concert venue events annually, as projected by Monumental and CSL data.

**Table 27 | Total Applicable Player Spend – Annual (\$2023)**

*(Note: Results of this table zero-ed out to remove off-site spending from direct impacts)*

Category	Capitals	Wizards
Total Players in Roster	24	22
Players' Estimated Salaries	\$75,000,000	\$151,000,000
Gross Salary Per Player	\$3,100,000	\$6,900,000
Estimated Effective Tax Rate for Players	45%	45%
<b>Estimated Annual After Tax Income Per Player</b>	<b>\$1,700,000</b>	<b>\$3,800,000</b>
<b>Estimated Annual Spending per Player</b>	<b>\$0*</b>	<b>\$0*</b>
Total Players Currently Living in Virginia	17 (71%)	4 (18%)
Estimated Players Living in Virginia After Arena Construction	18 (75%)	6 (25%)
Share of Players - Net New Residents in Virginia	4%	7%
Share of Income Spent in State	-	-
Share of State Income Spent in City of Alexandria	-	-
<b>Off-site Spend Included in Analysis (%)</b>	<b>0%</b>	<b>0%</b>
<b>Total Annual Net New Player Spend in Virginia</b>	<b>\$0</b>	<b>\$0</b>
<b>Total Annual Net New Player Spend in City of Alexandria</b>	<b>\$0</b>	<b>\$0</b>

Source: HR&A analysis of Monumental data, BLS

\* Results of this table zero-ed out to remove off-site spending from direct impacts



**Table 28 | Total Player's Spend by Category (\$2023) -**

*(Note: Results of this table zero-ed out to remove off-site spending from direct impacts)*

Category	Individual Player Spend Estimated	% Spending in Virginia	Net New Player Spend in Virginia	% Spending in City of Alexandria	Net New Player Spend in City of Alexandria
Food at home	\$0	0%	\$0	0%	\$0
Food away from home - Full-service restaurants	\$0	0%	\$0	0%	\$0
Food away from home - Limited-service restaurants	\$0	0%	\$0	0%	\$0
Alcoholic beverages	\$0	0%	\$0	0%	\$0
Shelter - Mortgage payments	\$0	0%	\$0	0%	\$0
Shelter - Rent	\$0	0%	\$0	0%	\$0
Natural gas	\$0	0%	\$0	0%	\$0
Electricity	\$0	0%	\$0	0%	\$0
Fuel oil and other fuels	\$0	0%	\$0	0%	\$0
Telephone services	\$0	0%	\$0	0%	\$0
Water and other public services	\$0	0%	\$0	0%	\$0
Household operations	\$0	0%	\$0	0%	\$0
Housekeeping supplies	\$0	0%	\$0	0%	\$0
Household furnishings and equipment	\$0	0%	\$0	0%	\$0
Apparel and services	\$0	0%	\$0	0%	\$0
Vehicle purchases (net outlay)	\$0	0%	\$0	0%	\$0
Gasoline, other fuels, and motor oil	\$0	0%	\$0	0%	\$0
Other vehicle expenses	\$0	0%	\$0	0%	\$0
Public and other transportation	\$0	0%	\$0	0%	\$0
Health insurance	\$0	0%	\$0	0%	\$0
Medical services	\$0	0%	\$0	0%	\$0
Drugs	\$0	0%	\$0	0%	\$0
Medical supplies	\$0	0%	\$0	0%	\$0
Fees and admissions	\$0	0%	\$0	0%	\$0
Audio and visual equipment and services	\$0	0%	\$0	0%	\$0
Pets, toys, hobbies, and playground equipment	\$0	0%	\$0	0%	\$0
Other entertainment supplies, equipment, and services	\$0	0%	\$0	0%	\$0
Personal care products and services	\$0	0%	\$0	0%	\$0
Reading	\$0	0%	\$0	0%	\$0

Education	\$0	0%	\$0	0%	\$0
Tobacco products and smoking supplies	\$0	0%	\$0	0%	\$0
Miscellaneous	\$0	0%	\$0	0%	\$0
Life and other personal insurance	\$0	0%	\$0	0%	\$0
<b>Total Off Site Revenues</b>	\$0		\$0		\$0

Source: HR&A analysis

Note: Results of this table zero-ed out to remove off-site spending from direct impacts

## APPENDIX: FISCAL IMPACT ASSUMPTIONS AND INPUTS

**Table 29 | Local Fiscal Revenue Assumptions**

Tax Type	Rate	Note
<b>Local Sales and Use Taxes</b>		
Restaurants	5.0%	Applied to direct restaurant spending, plus indirect spending from residents, students, and visitors
General Retail	1.0%	Applied to total retail sales
Admissions	10%	Applied to any entertainment admission charge, not to exceed \$0.50 per person admitted
<b>Hotel Taxes</b>		
Room Rental Tax	6.5%	Applied to total hotel revenue
Nightly Lodging Fee	\$1.25 per night	Applied to the number of occupied room nights
<b>Business Taxes</b>		
Business Licenses Tax	\$437 per worker	Average estimate per worker, calculated from FY2023 total business license tax revenues in City of Alexandria, divided by the number of employees; Applied to all new employees excluding any employment directly within the arena, since business license taxes for those facilities is capped under current City policy
Business Personal Property Tax	\$188 per worker	Average estimate per worker, calculated from FY2023 total business license tax and business personal property revenues in City of Alexandria, divided by the number of employees; Applied to all new employees
<b>Personal Property Taxes</b>		
Personal Property (Vehicle) Tax Rate	5.33%	Applied to the trade-in value of a vehicle. The City of Alexandria estimates an average personal property tax of \$624 per household for two vehicles; HR&A assumes one vehicle per new household
Average Tax rate per Household Assuming One Car	\$312 per household	
<b>Property Taxes</b>		
Mill Rate	\$1.11 per \$100 assessed value	Applied to the property's assessed value
Potomac Yard Special Tax District Tier I Special Services District Tax	\$0.20 per \$100 assessed value	Applied to the valuation of Land Bay F, G, and H and the multi-family portion of Land Bay I in Potomac Yard
Stormwater Fee: Commercial	\$0.084/SF	Stormwater fee for commercial properties, applied per SF; determined as an effective rate based on estimate of total commercial fee collected by the City divided by total commercial space; Multifamily buildings are included as commercial space for the purposes of this calculation

### Local Fiscal Costs

To calculate the net fiscal impact of construction and operation, HR&A determined costs associated with public services as a result of new development. HR&A determined resident, worker, and student costs per capita by attributing a detailed breakout of existing city costs to each group. Cost per visitor to the arena and entertainment uses are derived based on HR&A analysis of proprietary public service cost data for precedent professional sports venues.

**Table 30 | Local Fiscal Costs (2023)**

Cost Type	Rate	Note
Residents	\$1,200/ resident	Estimated average City spending per resident for services with a marginal cost for new residents
Workers + Residents	\$1,000/ worker or resident	Estimated average City spending per worker and resident for services with marginal costs for both groups
Students	\$15,700/ student	Estimated average spending per student from \$338 million ACPS 2022 Final Budget across 15,700 students; The total cost per student is \$21,500; Based on the City's contribution of 73% of the ACPS budget, cost per student from City budget is \$15,700 annually
Visitors	\$4.22 / visitor	Estimated average City spending per visitor to the arena and entertainment uses for City services with a marginal cost for accommodating new visitors (e.g., public safety)

Sources: HR&A analysis of ACPS 2022 Budget and FY23 City of Alexandria Budget by Department; proprietary data on public service costs for visitors to professional sports facilities.

**Table 31 | State Fiscal Revenues**

Tax Type	Rate	Note
<b>Local Sales and Use Taxes</b>		
General Retail	5.0%	Applied to total retail sales
<b>Hotel Taxes</b>		
Room Rental Tax	3%	Applied to total hotel revenue
<b>Business Taxes</b>		
Business Licenses Tax and Business Personal Property Tax per job	0.4%	Effective rate estimate developed by HR&A based on state business tax revenues divided by Gross State Product (GSP); The effective rate is then applied to expected business value added by Potomac Yard development
<b>Personal Income Taxes</b>		
Personal Income Tax (effective)	5.00%	Personal income tax in Virginia ranges from 2.75-5.75%, based on income; The effective tax rate for any households earning more than \$17,000 is 5.00%

### State Fiscal Costs

To calculate the net fiscal impact of construction and operation at the state level, HR&A determined costs associated with public services as a result of new development by attributing a detailed breakout of existing city costs to resident and worker groups.

**Table 32 | State Fiscal Costs (\$2023)**

Cost Type	Rate	Note
Residents	\$2,600/ resident	Estimated average State spending per resident for services with a marginal cost for new residents; Analysis includes residents on-site at Potomac Yard as well as new residents living elsewhere in Virginia based on employment generated at Potomac Yard
Workers + Residents	\$400/ worker or resident	Estimated average State spending per worker and resident for services with marginal costs for both groups

Sources: HR&A analysis of FY23 Commonwealth of Virginia Budget

**Table 33 | Performers' Personal Income Tax Calculation**

Category	Total	
<i>Ticket Sales</i>		
Total arena ticket sales revenue	\$372,080,000	Per CSL/MSE
Share of arena ticket sales revenue for concerts/events*	31%	Per CSL/MSE
Total concert venue ticket sale revenue	\$23,280,000	Per CSL/MSE
Share of concert venue ticket sales revenue for concerts/events	100%	Per CSL/MSE
<b>Total concert/event revenues from all venues</b>	<b>\$138,620,000</b>	
Performer share of Promoter split	85%	HR&A Est.
Estimated Performer take home share of gross revenues	66%	HR&A Est.
<b>Total estimated performer income from concerts/events</b>	<b>\$77,770,000</b>	
Virginia tax rate for entertainers and performers	5.00%	
<b>Annual Personal Income Taxes (Ticket Sales)</b>	<b>\$3,890,000</b>	
<i>Merchandise</i>		
Merchandise sales per capita	\$12.50	Per CSL/MSE
Profit margin	90%	Per CSL/MSE
Profit to performer	\$11.25	
Total annual concert/event attendees	1,410,000	Per CSL/MSE
<b>Total estimated performer income from merchandise</b>	<b>\$15,830,000</b>	
Virginia tax rate for entertainers and performers	5.00%	
<b>Annual Personal Income Taxes (Merchandise)</b>	<b>\$790,000</b>	
<b>Total Annual Personal Income Taxes from Performers (Ticket Sales + Merchandise)</b>	<b>\$4,680,000</b>	

\*Share of non-sporting event revenue, per CSL, which includes concerts, family shows, and other events.

Source: HR&A analysis of Monumental and CSL data

**Table 34 | Players' Personal Income Tax Calculation**

Category	Capitals	Wizards	Total
<i>Home Players, Virginia Residents (Net New)</i>			
Total Players in Roster	24	22	46
Players' Estimated Salaries	\$75,370,000	\$151,240,000	\$226,610,000
Gross Salary Per Player	\$3,140,000	\$6,870,000	
Total Players Currently Living in Virginia	17 (71%)	4 (18%)	
Estimated Income of Current VA Residents	\$53,380,000	\$27,500,000	\$80,880,000
x Virginia State Taxes for Players	5.00%	5.00%	
<b>Current Income Tax Liability</b>	<b>\$2,670,000</b>	<b>\$1,370,000</b>	<b>\$4,040,000</b>
Estimated Players Living in Virginia After Arena Construction	18 (75%)	6 (25%)	
Income of Future VA Residents	\$56,520,000	\$37,810,000	\$94,330,000
x Virginia State Taxes for Players	5.00%	5.00%	
<b>= Future Income Tax Liability</b>	<b>\$2,830,000</b>	<b>\$1,890,000</b>	<b>\$4,720,000</b>
<b>Net New Personal Income Tax Liability in Virginia</b>	<b>\$160,000</b>	<b>\$520,000</b>	<b>\$680,000</b>
Total Estimated Duty Days in Season	204	195	
Estimated Duty Days in Virginia	123	113	
Share of "Duty Days" in Virginia	60%	58%	
<b>Net New Annual Personal Income Taxes (Home Players, Virginia Residents)</b>	<b>\$90,000</b>	<b>\$300,000</b>	<b>\$390,000</b>
<i>Home Players, Non-Virginia Residents</i>			
Total Players in Roster	24	22	46
Players' Estimated Salaries	\$75,370,000	\$151,240,000	\$226,610,000
Gross Salary Per Player	\$3,140,000	\$6,870,000	
Total Home Players Currently Living Outside Virginia (or State With Reciprocity)	6	15	21
% of Players Living in State Without Reciprocity	25%	68%	46%
Conservative Estimate of Future Non-Virginia Residents Living in State Without Reciprocity	20%	60%	
Estimated Income of Future Non-Virginia Residents	\$15,070,000	\$90,750,000	
X Virginia State Taxes for Players	5.00%	5.00%	
<b>= Net Personal Income Tax Liability in Virginia</b>	<b>\$750,000</b>	<b>\$4,540,000</b>	<b>\$5,290,000</b>
Total Estimated Duty Days in Season	204	195	
Estimated Duty Days in Virginia	123	113	
Share of "Duty Days" in Virginia	60%	58%	
<b>Net New Personal Income Taxes (Home Players, Non-Virginia Residents)</b>	<b>\$450,000</b>	<b>\$2,630,000</b>	<b>\$3,080,000</b>
<i>Visiting Players</i>			
Number of Visiting Players on Roster	24	22	46

Share of Players Subject to Personal Income Taxes	90%	90%	
Average Number of Total Visiting Players Subject to Taxation	22	20	41
Average Total Income of Visiting Players (per Team, Summed by League)	\$95,030,000	\$151,710,000	\$246,740,000
<b>Average Total Team Income Subject to Taxation</b>	<b>\$85,520,000</b>	<b>\$136,540,000</b>	
Total Estimated Duty Days in Season	204	195	
Estimated Duty Days in Virginia	81	82	
Share of "Duty Days" in Virginia	40%	42%	
<b>Average Total Visiting Player Income Subject to Virginia Personal Income Tax</b>	<b>\$33,960,000</b>	<b>\$57,420,000</b>	<b>\$91,380,000</b>
x Virginia State Tax Rate for Visiting Players	5.00%	5.00%	
<b>Net New Annual Personal Income Taxes (Visiting Players)</b>	<b>\$1,700,000</b>	<b>\$2,870,000</b>	<b>\$4,570,000</b>
<b>Total Net New Annual Personal Income Taxes (Home + Visiting Players)</b>	<b>\$2,240,000</b>	<b>\$5,800,000</b>	<b>\$8,040,000</b>

Source: HR&A analysis of Monumental data

Note: Analysis for home player Virginia residents is structured to determine income from player's whose residency in Virginia would be incremental to existing residency.

**Table 35 | Duty Days Analysis for Determination of Player Personal Income Tax Apportionment**

	NHL	NBA
Pre-Season Games	6	4
Regular Season Games	82	82
Share of Games Away	50%	50%
Total Games Away	44	43
Number of Games in States With Income Tax Reciprocity With Virginia*	3.5	2
Total Games Away in States Without Income Tax Reciprocity	40.5	41
Estimated Duty Days Per Away Game**	2	2
Total Estimated Duty Days Outside Virginia	81	82
Total Estimated Duty Days in Season***	204	195
Share of Duty Days In Virginia	60%	58%
Share of Duty Days Outside Virginia	40%	42%

Note: Duty days and the distribution of duty days will vary from player to player and across season based on the specific circumstances of each player (for example, whether a player plays any playoff/all-star/other non-standard games, occurrence of injuries that may restrict traveling with the team, etc. This analysis provides a reasonable estimate of the average duty days a player will reasonably spend in Virginia and in other jurisdictions with which Virginia does not have personal income tax reciprocity.

\* For states with personal income tax reciprocity with Virginia (MD, DC, WV, PA, KY), player activity there will not contribute to duty days out of state or be subject to apportionment. For NBA, count is based on an estimated 4 games per season against the Philadelphia 76ers. For NHL games, count is based on an estimated 7 games per season against the Philadelphia

Flyers and Pittsburgh Penguins. These numbers represent estimated averages for applicable away games across seasons, hence the inclusion of fractions of games.

\*\* Duty days per away game is an estimate developed by HR&A to account for time spent out of state during the season in addition to game days, during which practice, meetings, or other team activities occur.

\*\*\* Total duty days in the season for each league is based on the 2023-2024 season and accounts for the minimum number of duty days for a veteran player, assuming no playoffs or other team commitments outside the preseason and regular season. These numbers represent estimated averages for applicable games across seasons going forward.

**Table 36 | Player Residency for Determination of Income Tax Apportionment**

	NHL		NBA	
	#	%	#	%
<b>Current</b>				
Virginia Residents	17	71%	4	18%
Resident of State with Reciprocity (MD, DC, WV, PA, KY)	1	4%	3	14%
Resident of State without Reciprocity (all other states)	6	25%	15	68%
Total	24	100%	22	100%
<b>Future Estimate (Following Team Relocation)</b>				
Virginia Residents		75%		25%
Resident of State with Reciprocity (MD, DC, WV, PA, KY)		5%		15%
Resident of State without Reciprocity (all other states)		20%		60%
Total		100%		100%

Note: Current data provided by MSE; future estimates are assumptions developed by HR&A based on MSE numbers.

**Table 37 | Property Valuation Approach by Development Type (\$2023)**

Use	Valuation Approach	NOI per GSF	Cap Rate	Equalization Rate*
Retail	Income Approach	██████	██████	██████
Office	Income Approach	██████	██████	██████
Rental Apartment (Scenario 1)**	Income Approach	██████	██████	██████
Rental Apartment (Scenario 2)**	Income Approach	██████	██████	██████
Hotel	Income Approach	██████	██████	██████

\* Equalization rate applied to align market value information with assessed values based on review of assessed values for comparable properties.

\*\* Rental premium for rental family apartment applied for "Scenario 2" based on projected increased residential demand catalyzed by the arena and entertainment uses. Analysis assumes rents of \$3.50/SF/Mo (existing achievable rents in National Landing) for "Scenario 1: Baseline" and rents of \$3.70/SF/Mo. for "Scenario 2: Arena + Accelerated Development" (which escalate to \$4.09/SF/Mo by stabilization of first multifamily rental building in 2028). Premium is based on precedent multifamily rents in similar stadium/entertainment districts.

Source: For income approach valuation, NOI generated from HR&A analysis of JBG rent projection; Cap rate: CBRE; Equalization rate: HR&A analysis.



**Table 38 | Total Property Value at Full Build Out (\$2023)**

	Scenario 1 Total	Scenario 2 Total	Scenario 2 Detailed			
			Phase 1	Phase 2	Phase 3	Arena + Entertainment
Rental						
Apartment						
Office						
Hotel						
Retail						

**Table 39 | Fiscal Impact Summary by Use and Phase - One-Time Construction Impacts**

Fiscal Type	Applicable Uses	Applicable Parcels
Sales and Use Tax - On-site	Construction Materials	<ul style="list-style-type: none"> <li>• Arena Phase and Phase I</li> <li>• Phase II</li> <li>• Phase III</li> </ul>
Business Tax	Construction Employment	<ul style="list-style-type: none"> <li>• Arena Phase and Phase I</li> <li>• Phase II</li> <li>• Phase III</li> </ul>
Personal Income Tax	Construction Employment	<ul style="list-style-type: none"> <li>• Arena Phase and Phase I</li> <li>• Phase II</li> <li>• Phase III</li> </ul>

**Table 40 | Fiscal Impact Summary by Use and Phase - Ongoing Permanent Impact**

Fiscal Type	Applicable Uses	Applicable Phases
Sales and Use Tax - On-site	<ul style="list-style-type: none"> <li>Food &amp; Beverage and Retail Sales</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Sales and Use Tax - Off-site Spending	<ul style="list-style-type: none"> <li>Arena - Player Offsite Spending</li> <li>Arena &amp; Conference Hotel - Visitor Offsite Spending</li> <li>Residential - Resident Offsite Spending</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Admission Tax	<ul style="list-style-type: none"> <li>Arena, Music Venue, and Conference Hotel - Event Tickets</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> </ul>
Business Tax	<ul style="list-style-type: none"> <li>All employment generated*</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Property Tax	<ul style="list-style-type: none"> <li>All privately owned development</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Hotel Tax	<ul style="list-style-type: none"> <li>Hotel Revenue</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> </ul>
Personal Income Tax	<ul style="list-style-type: none"> <li>All employment generated*</li> <li>Arena - Player Salaries (net new players in Virginia)</li> <li><i>Note: Does not include personal income tax from new multifamily residents</i></li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Personal Property Tax - Car	<ul style="list-style-type: none"> <li>Residential - Applied to all new residents from residential development</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Potomac Yard Special Tax District	<ul style="list-style-type: none"> <li>All privately owned development</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>
Stormwater Fee	<ul style="list-style-type: none"> <li>Residential - Applied to all new residents from residential development</li> </ul>	<ul style="list-style-type: none"> <li>Arena Phase and Phase I</li> <li>Phase II</li> <li>Phase III</li> </ul>

\* Employment generation is primarily driven by the Arena and Office uses. Smaller amounts of employment are generated as part of Multifamily and Hotel development, though this employment is much less than the employment generated by Office and Arena uses, which are the primary driver of Personal Income Tax and Business Tax generation.

## APPENDIX: GENERAL AND LIMITING CONDITIONS

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CSL International (“CSL”), with offices in Dallas, Minneapolis, and London, is a global consulting and advisory firm specializing in the sports, entertainment, and convention facility industry. With over 200 years of experience, CSL has advised on numerous NBA and NHL facilities throughout North America, including Kia Center (Orlando, FL), Barclays Center (Brooklyn, NY), Golden 1 Center (Sacramento, CA), Fiserv Forum (Milwaukee, WI), Intuit Dome (Los Angeles, CA), American Airlines Center (Dallas, TX), Wells Fargo Center (Philadelphia, PA), TD Garden (Boston, MA), and Ball Arena (Denver, CO).

CSL’s experience is unmatched in the sports and entertainment industry and extends far beyond major professional arenas. In total, CSL has completed over 2,500 consulting and advisory engagements for a variety of clients, including recent studies for a broad array of public and private entities throughout the Washington metropolitan area.

In 2023, CSL was retained by Monumental Sports & Entertainment (“MSE”) to develop a business model related to the operations of a new arena (“Arena”) in Alexandria, Virginia. The results of our analysis concluded that the Arena can support 221 events on an annual basis.

- In the four years prior to the COVID-19 pandemic, an aging Capital One Arena hosted an average of 216 events annually, including a high of 228 events in 2018;
- Unlike the 27-year old Capital One Arena, a new Arena would include modern design features that would provide the ability to host NBA and NHL games on the same day, which releases highly sought-after event days;
- Scheduling prioritization for the new Arena will shift away from flexibility for the Wizards and Capitals, and focus on event maximization, including back-to-back concerts, family shows, combatives (i.e., boxing and mixed martial arts), and additional sports content; and,
- The live entertainment industry is experiencing significant growth:
  - Introduction of new content including the re-imagination of the Ringling Bros. and Barnum & Baily Circus, Mattel’s Monster Truck Live Glow Party and High Live, new offerings from Cirque du Soleil, etc.
  - Concert activity has seen five percent compound annual growth in last 15 years, with the number of performances and ticket sales increasing over 20 percent in the last full concert season.
  - Emerging sports content including indoor lacrosse, professional volleyball, pickleball, CrossFit Games, PBR Team Series, etc.

Event promoters recognize that the Washington metropolitan area is the fastest-growing and has the highest concentration of high-income households among all 10 North American markets with a dual NBA/NHL arena. Among the nine U.S. markets hosting dual NBA/NHL arenas, the Washington metropolitan area includes the highest level of concert attendance among its residents.