

DRAFT

PROJECT COOPER: BRIEFING FOR THE HOUSE APPROPRIATIONS COMMITTEE

November 13, 2018

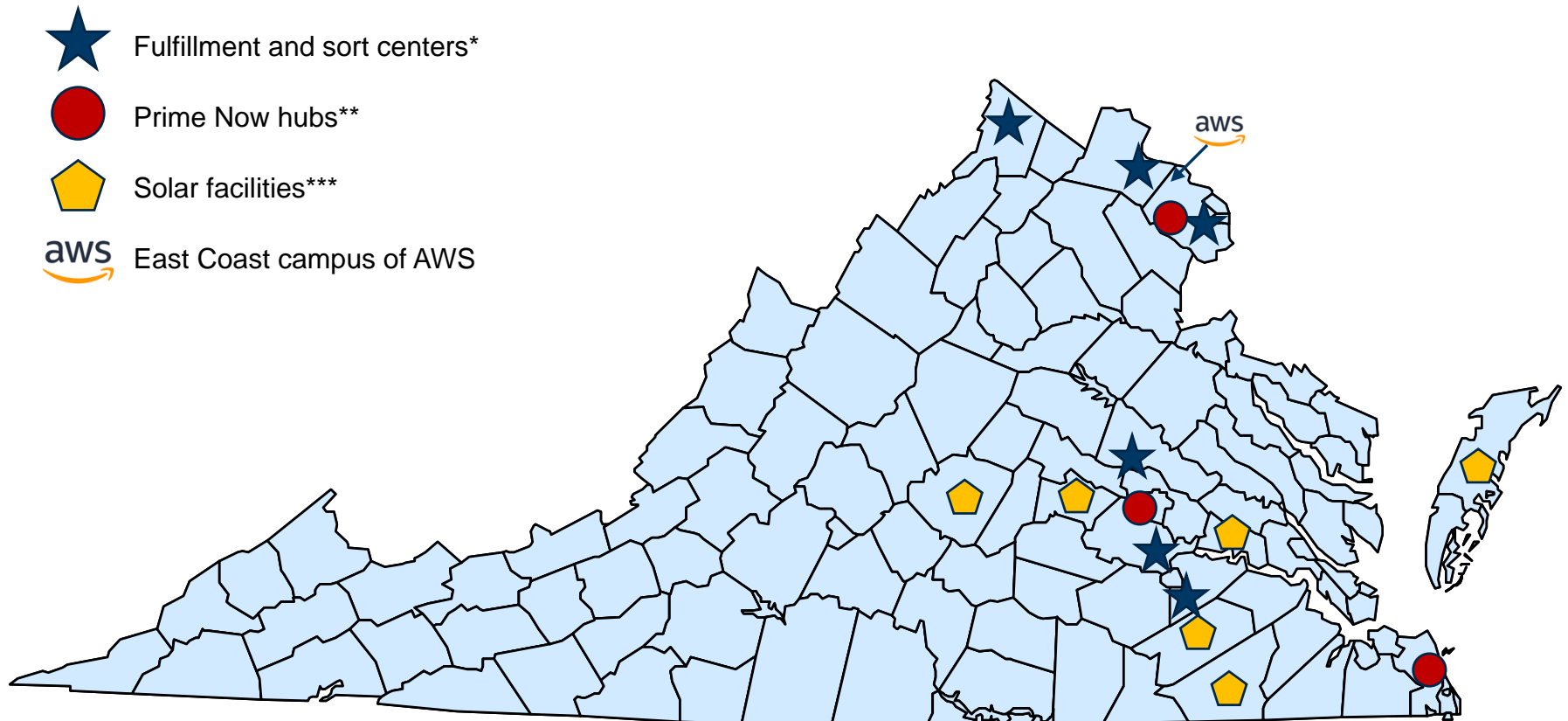
VEDP

Virginia
Economic
Development
Partnership
VEDP.org

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

WITH 10,000 JOBS AND 28,000 SMALL/MEDIUM-SIZE FIRMS SELLING ON ITS SITE, AMAZON'S VIRGINIA PRESENCE IS SUBSTANTIAL



* Ashland, Chester, Clear Brook, Petersburg, Springfield, Sterling

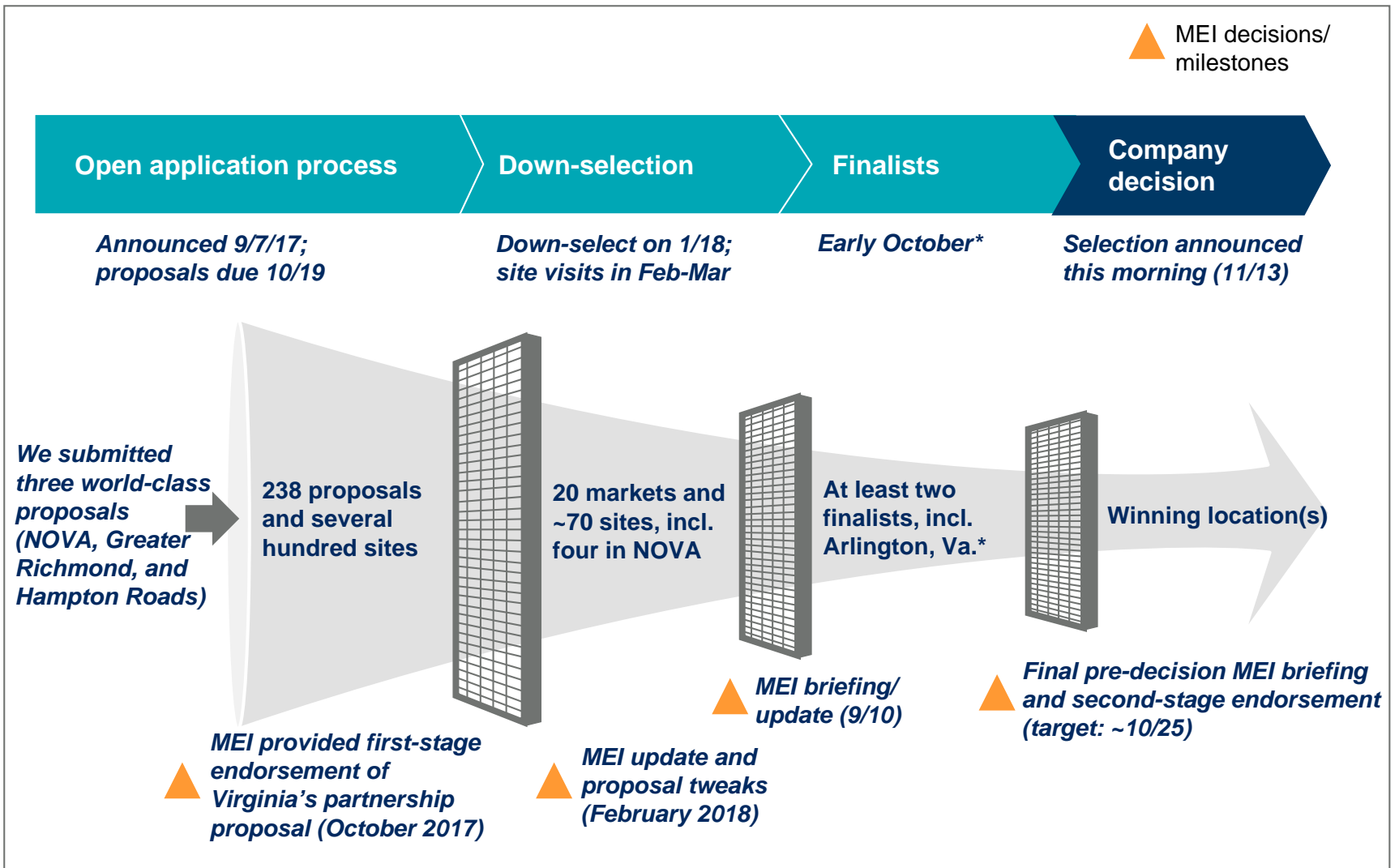
** Richmond, Springfield, Virginia Beach

*** Accomack, Buckingham, New Kent, Powhatan, Southampton, Sussex

Note: Locations of data centers not shown for security reasons – substantially all are located in Northern Virginia

Source: Amazon; VEC; VEDP analysis

HQ2 SITE-SELECTION PROCESS



* Finalists not publicly announced

AMAZON HAS SELECTED TWO LOCATIONS FOR HQ2: ARLINGTON, VIRGINIA AND NEW YORK CITY (LONG ISLAND CITY)

- The company has committed to create a minimum of 25,000 jobs in each location, with average annual wages in excess of \$150,000, escalating by at least 1.5% annually
- Our incentive package reflects a minimum of 25,000 jobs (Phase I), with a potential ramp to 37,850 jobs (Phase II)
- *The remainder of this presentation focuses on the 25,000-job phase to which the company has committed*

EXECUTIVE SUMMARY: OUR DISTINCTIVE, PRUDENT APPROACH FOR HQ2 WOULD HELP POSITION ALL OF VA FOR SUCCESS

- With tens of thousands of new high-tech jobs, the HQ2 project represents a multigenerational opportunity to diversify our economy, reducing our overreliance on the federal government, while dramatically strengthening our largest traded-sector growth industry (technology)
- If implemented as envisioned, HQ2 would: enhance our state fiscal strength; generate at least 15-25% of the additional jobs needed to regain a top 10 state growth ranking; keep thousands more college grads in Virginia; and reverse our trend of net interstate population out-migration
- While our proposal includes a post-performance incentive offering, it focuses primarily on public investments that would benefit firms and citizens across Virginia; in particular: performance-based, statewide investments* to double our tech-talent pipeline (e.g., BS and MS degrees in CS and related fields), which would benefit tech employers across the Commonwealth
- Direct incentives would be paid post-performance, ensuring a positive ROI from day one and a more than 6:1 return over the 20-yr. term; if desired for budget stability and flexibility, incentives could be budgeted equally each year and held in a reserve account until earned
- Recap of total state program over 20 yrs., assuming 25,000 jobs: up to \$1.1B for tech-talent pipeline initiatives (principally expanding production of CS and related degrees*); up to \$195MM NGF for five multimodal transportation projects; up to \$550MM for post-performance incentives
- The scale and character of HQ2 are consistent with citizen-driven community growth plans in Arlington (Amazon's favored location in Va.); all county board members support the project

* Participating schools: Virginia Tech (Blacksburg and Alexandria), GMU, UVA, and W&M, as well as potentially all other publics with CS-related programs (e.g., ODU, JMU, VCU, CNU, Radford, UMW, UVA-Wise), plus VCCS/NVCC

RECAP OF MAJOR POINTS

- A transformational opportunity to drive diversification and innovation
- Retention of college grads and reversal of out-migration trend
- Doubling of Virginia's tech-talent pipeline, benefiting all tech firms
- Post-performance incentives, with positive GF revenues from day one
- Transportation commitments funded by non-GF sources
- Non-incentive elements would be good investments even without HQ2
- \$1.2B+ in net new GF \$s after all obligations (over 20 years at 25k jobs)
- Scale and character of growth aligned with existing community plans
- Modest impacts on rents and traffic mitigated by investments, long ramp up
- ~\$700 million in new higher ed and K12 funding outside of Northern Va.
- A winning package for far less than many others offered (e.g., MD, NYC)

THERE HAVE BEEN SEVERAL POSITIVE DEVELOPMENTS SINCE OUR ORIGINAL MEI-ENDORSED PROPOSAL IN OCTOBER 2017

October 2017

- Average wages of \$100,000
- Flat annual incentive payment for 10 years
- Breakeven on direct company incentives: 4-6 years
- No specific funding sources identified for state transportation commitments
- Fiscal analysis did not account for new K12 state-funding obligations

October 2018

- Average wages of \$150,000+
- Post-performance incentive paid over 12+ years (max \$550MM for 25k jobs)
- Breakeven on direct company incentives: immediate
- Non-GF sources identified to address state transportation commitments
- Fiscal analysis incorporates new state funding required for K12 enrollments



HQ2 IMPACT – BY THE NUMBERS

1 Strengthen Virginia's leadership position in technology, corporate headquarters, business services, and innovation

1x Project HQ2 would directly create about the same number of direct jobs as all greenfield auto plant deals signed in the last 15 years, combined

\$2B+ Capital expenditure at 25,000 jobs would be \$2+ billion, dozens of times greater than Project Gateway (AWS East Coast Corporate Campus)

>6:1 Ratio of 20-year estimated NPV of general fund revenues to NPV of post-performance company incentive payments

\$150k+ Average salary of Amazon workers is expected to be roughly double the prevailing wages in Northern Virginia

15-25% Jobs created in first decade would close at least 15-25% of the 10-year job gap to Virginia's growth aspiration (i.e., getting back to the top 5-10 states)

>\$290MM Size of opportunity to grow state GF revenue per year (by year 15 for ramp to 25,000 jobs)

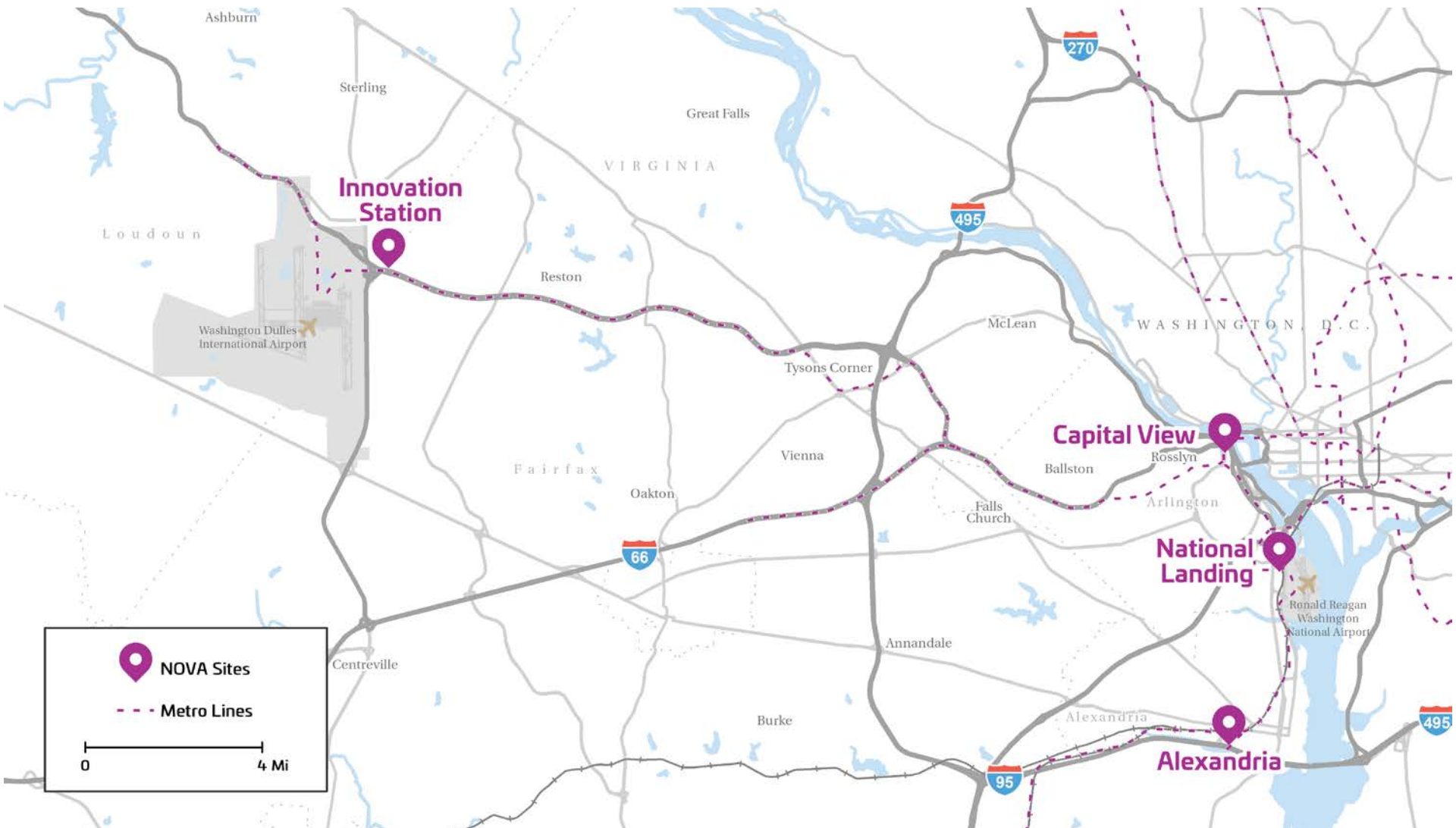
AAA Opportunity to diversify state revenue base and enhance state fiscal strength

OUR COMPETITIVENESS FOR HQ2 REPRESENTS A CULMINATION OF MANY PUBLIC POLICY CHOICES BY THE GENERAL ASSEMBLY

- Legacy of good governance (e.g., no. 2 U.S. News ranking for governance)
- Prudent fiscal stewardship (e.g., AAA bond rating)
- Regional transportation financing solution
- Metro funding solution
- Business-friendly environment
- Stable business tax structure
- One of America's best higher education systems
- Best public schools among the top 20 contenders
- MEI structure for confidential project negotiations with state/GA leaders
- Professional, nonpartisan state economic development organization

The Commonwealth of Virginia has distinguished itself as the kind of partner a company would want to choose when making a multi-decade location decision – HQ2 would represent a capstone for many years of good government in Virginia

PROPOSED HQ2 SITES IN NORTHERN VIRGINIA



PROJECT COOPER BRIEFING: TABLE OF CONTENTS

Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

APPROACH FOR MODELING THE FISCAL IMPACT OF HQ2

- We have estimated new state sales tax and personal income tax revenues associated with HQ2, as well as major new sources of transportation-related revenues (e.g., motor fuels tax)
- Dr. Steve Fuller and his team have estimated regional and local housing and K12 enrollment impacts associated with the project, which we have used as the basis for estimating new state K12 expenditures in NOVA
- We have incorporated two types of new K12 funding obligations: (1) the local share of the education-dedicated sales tax; and (2) state K12 spending increases in NOVA from HQ2-related growth (leveraging VDOE's cost model)
- The fiscal analysis does not include other potential appropriations, as other budget impacts are expected to be immaterial (e.g., Medicaid or corrections) or to represent public policy choices of the GA (e.g., higher ed)
- The fiscal analysis has been refined with input from DPB, money-committee staff, Sec. Layne, State Treasurer, and VDOT, as well as third-party analysis by Dr. Steve Fuller

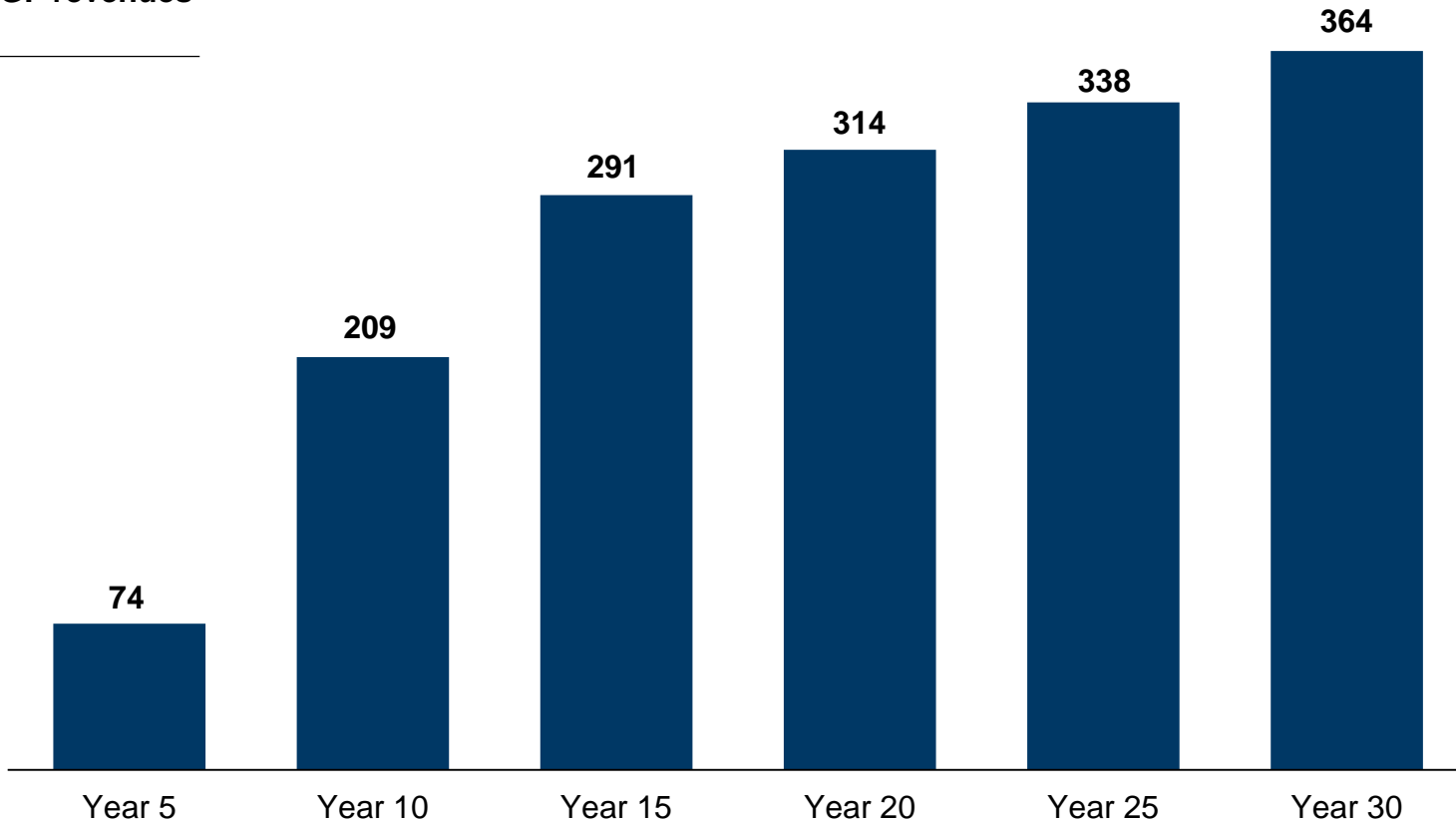
VEDP HAS UTILIZED A CONSERVATIVE APPROACH TO ESTIMATE NEW GENERAL FUND REVENUES ASSOCIATED WITH HQ2

- We included only personal income tax and sales taxes (excluded corporate income taxes and other contributors to the general fund)
- For personal income tax calculations of direct employees, we assumed no capital gains, dividends, or other income streams (only counted HQ2 wages)
- Revenue estimates from Dr. Steve Fuller so far have produced slightly larger values than our estimates, mainly because of our excluded revenues
- We met with TAX (Craig Burns and others) to discuss our revenue estimating model (for GF); Mr. Burns et al indicated that we satisfactorily answered their questions and that they have no concerns about our basic approach
- We assumed no special economic impacts, even though we expect a significant amount of them – we used a multiplier of 2.5 for management of firms rather than the 4-5x suggested by some economists for innovative tech projects
- All revenue estimates include only in-state impacts (e.g., resident employees)
- We fully included new K12 costs with an assumption that 100% of the resident employees are new to Virginia, along with an annual inflation adjustment (1.5%)

HQ2 WOULD GENERATE A LARGE AMOUNT OF NEW STATE GENERAL FUND REVENUE OVER THE NEXT FEW DECADES

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Annual state GF revenues*
\$ Millions



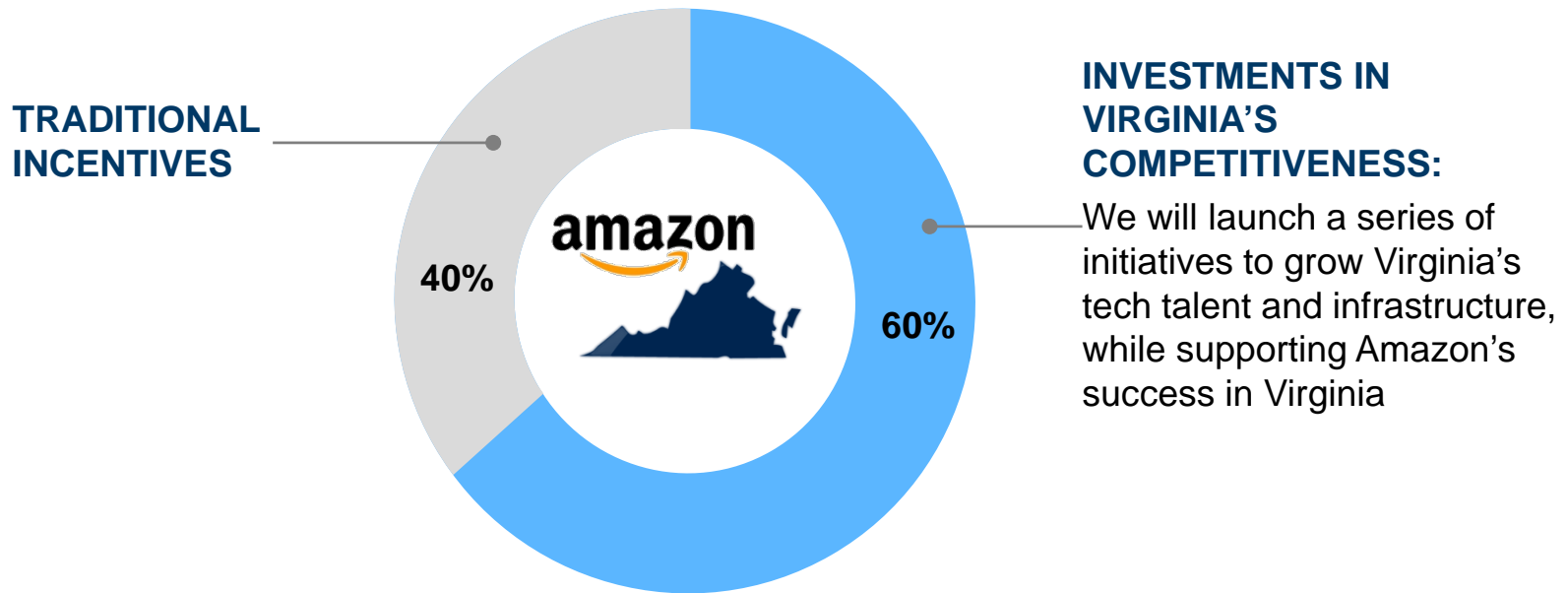
Cumulative GF revenues*
\$ Millions

Year 5	188	942	2,311	3,836	5,478	7,247
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* Approximately 69% of direct, indirect, and induced employment will be Virginia residents for an Arlington location (based on U.S. Census commuting patterns); values include only state sales tax and personal income tax; excludes corporate income tax, other GF revenue sources, and all local taxes; values are in current dollars

WE ARE PURSUING A DISTINCTIVE STRATEGY FOR HQ2 THAT WOULD POSITION OUR ENTIRE TECH SECTOR FOR SUCCESS

From the outset, we committed to **match the scale and structure of the financial commitment for HQ2 with the ambition of the project** through a combination of company commitments and investments in our state and regional competitiveness for all technology firms and corporate headquarters



OUR PROPOSAL FOR AMAZON'S MAJOR NEW HEADQUARTERS INCLUDES A POST-PERFORMANCE INCENTIVE GRANT

- Phase I (up to 25,000 jobs): \$22,000 per job, for a total maximum of \$550 million
- Optional Phase II (25,001-37,850 jobs): \$15,564 per job, for a total potential of \$200 million
- Incentive payments will be paid four years after qualifying jobs (minimum average of \$150,000 per year, plus benefits, escalated at 1.5% annually) are created

Recap of Virginia's financial commitments related to HQ2

Focus area	Component	Description	Size (\$MM)
Company incentive	 Provide post-performance incentive grants	Provide post-performance job-creation grants to offset Amazon's talent acquisition and development costs associated with standing up HQ2	550*
Tech-talent pipeline initiative	 Expand tech-talent pipeline across Virginia	Expand Virginia's statewide tech-talent pipeline, adding 12,500-17,500 bachelor's degrees in computer science and closely related fields in excess of current levels over the next 20 years, as well as invest \$25 million in expanded internship opportunities to connect tech students to tech jobs	Up to 710**
	 Launch tech campus(es) in Northern Virginia	Build a tech campus (or two distinct campuses) alongside a leading anchor university that will attract and retain top talent globally, creating an additional 12,500-17,500 master's degrees in computer science and closely related fields in excess of current levels over the next 20 years	Up to 375**
	 Broaden K-12 tech-talent pipeline	Boost the tech-talent pipeline of the future by further developing and deploying K-12 tech-talent education programming	25
	 Enhance multimodal transportation infrastructure	Provide state support for priority transportation infrastructure projects that will improve mobility in the region	195***
Total of company incentives			550*
Total of state competitiveness investments (tech-talent pipeline initiative and infrastructure expansion)			Up to 1,305****

* Maximum value of \$550 million assumes company creates 25,000 jobs with average annual wages of \$150,000, plus benefits, escalated at 1.5% annually. Up to \$200 million in additional company incentives (for a cumulative total of \$750 million) is available if the company creates a total of 37,850 qualifying jobs within 20 years

** Value represents the maximum new state investment in capital and operational support that may be required to achieve the referenced degree production outcomes. Participating institutions will enter into MOUs that detail their plans for growth, state funding commitments, annual reporting requirements, and future funding parameters associated with performance. The total new state investment to grow bachelor's-level tech-talent education will be determined in part by how much of the growth in computer science and related fields is associated with an overall increase in college graduates at each institution and how much relates to a shift in the degree-field mix that may occur at some institutions

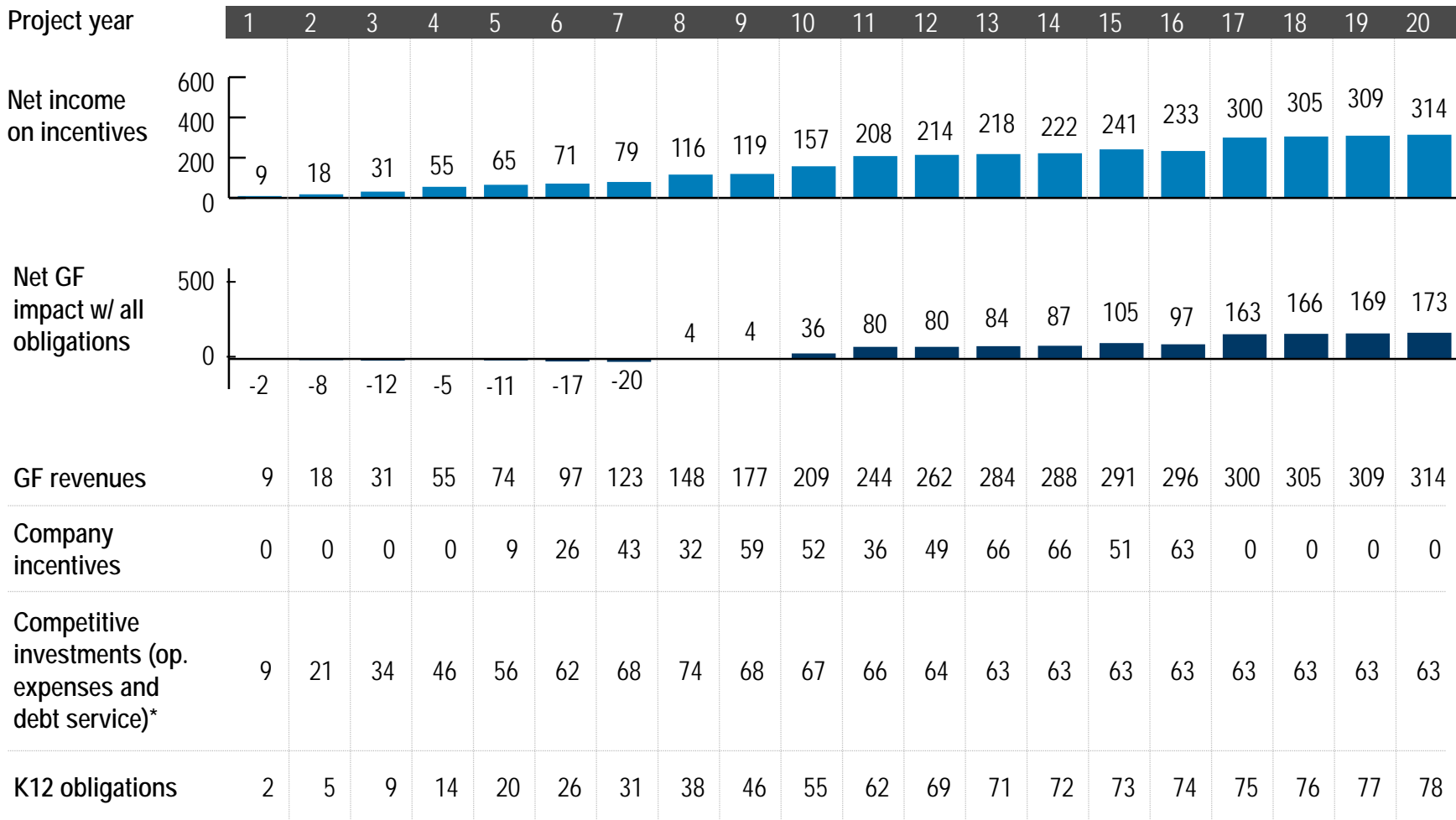
*** Maximum value of \$195 million assumes company creates 25,000 jobs with average annual wages of \$150,000, plus benefits, escalated at 1.5% annually. Up to \$100 million in additional state infrastructure commitments (for a cumulative total of \$295 million) is available if the company creates a total of 37,850 qualifying jobs within 20 years

**** Maximum value assumes company creates 25,000 qualifying jobs and assumes maximum potential state investment for the tech-talent pipeline initiative

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ANALYSIS OF ANNUAL IMPACTS ON GENERAL FUND, INCLUDING ANNUAL RETURN ON INCENTIVES AND NET ANNUAL GF IMPACT

Project GF economics (\$, millions)



* Excludes transportation infrastructure projects that are expected to be funded with NGF sources

KEY TERMS FOR MOU (NOT COMPREHENSIVE) (1 OF 2)

- Two components
 - No. 1: 20-year post-performance incentive and transportation agreement (Amazon and Virginia), with a committed phase and an optional phase
 - No. 2 (outside MOU): Perf.-based tech-talent pipeline initiative for higher ed program
- Post-performance incentive only paid for wages averaging at least \$150,000 per employee, increased by 1.5% per year, with a maximum annual payment; all wages for any employee in excess of \$850,000 don't count for calculation of average wages or incentives
- Company provides an annual, public report of its progress relative to jobs, wages, and capital investment; [JLARC, APA, or SCHEV] monitors and reports on performance of higher education institutions relative to their respective commitments
- Company commits to create at least 25,000 new jobs paying at least \$150,000, plus benefits, with potential for 37,850 jobs; state transportation commitments are associated with cumulative job creation level; two metro projects and connector bridge to DCA to be accelerated; any others to be accelerated based on company commitments

KEY TERMS FOR MOU (NOT COMPREHENSIVE) (2 OF 2)

- State commits best efforts to expeditiously evaluate and implement opportunities to improve the pedestrian experience crossing Rt. 1 (see above) and to secure various approvals required to design and construct a pedestrian bridge to the airport from Crystal City
- VEDP, Secretary of Commerce and Trade, company, and other stakeholders (e.g., Va Tech, localities, developer) form a Partnership Steering Committee to steward the HQ2 partnership
- Where feasible, company commits to actively support Virginia's economic development efforts (e.g., providing leads at partner companies and/or advising VEDP on industry trends)
- VEDP engaged with money-committee and administration staff for input on provisions

MEI APPROVAL PROCESS FOR HQ2

We utilized a two-stage MEI approval process:

1. October 10, 2017: Selected overall financial package option to support, with an approximate split of 60-65% regional and state competitiveness investments and 35-40% incentives directly to HQ2, with initial offer lower than the approved level
2. October 25, 2018: Endorsement of final proposed financial commitments (e.g., performance-based tech-talent pipeline initiative with higher ed, as well as transportation infrastructure program)

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

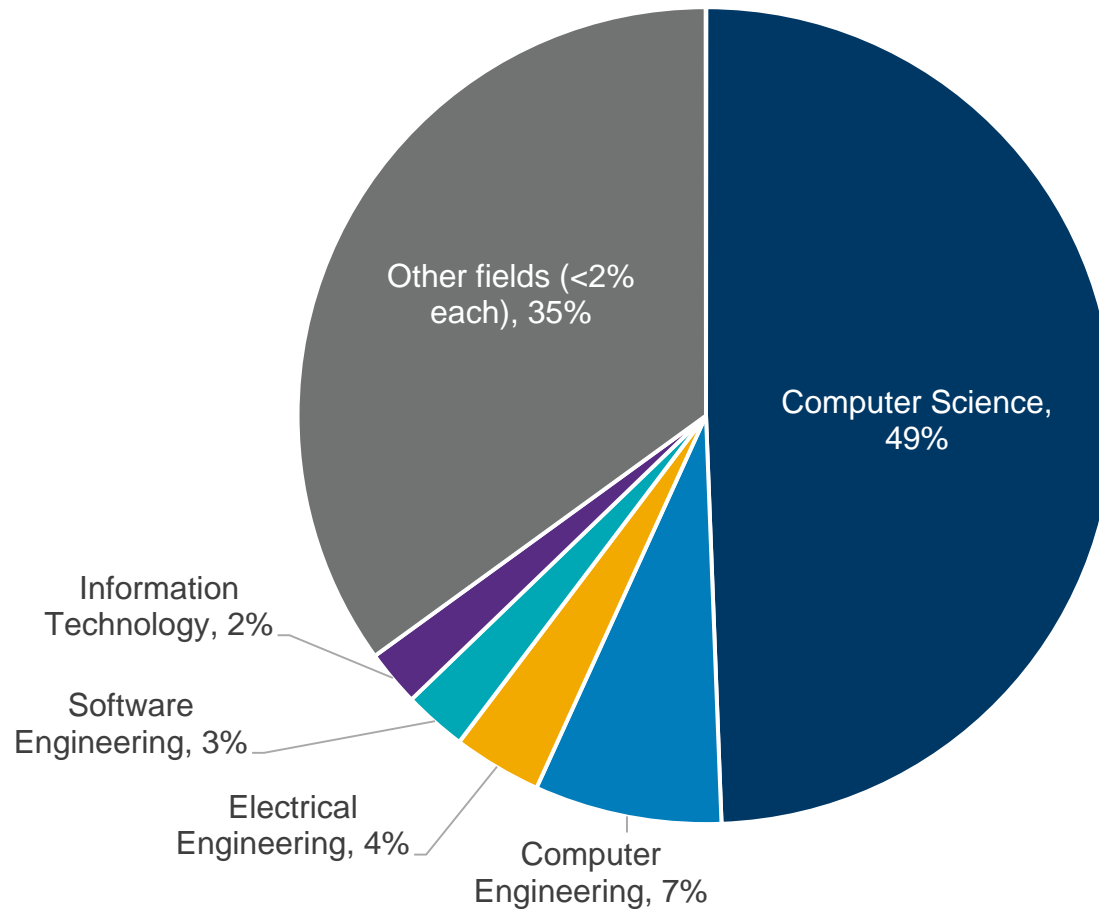
Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

STRENGTHENING THE TECH TALENT PIPELINE IN VIRGINIA

- Expecting the potential for up to 25,000 new tech jobs at HQ2, with a focus on software development engineering, Amazon's top location consideration appears to be the availability of tech talent as well as the tech talent pipeline
- We envision producing approximately 25,000-35,000 new degrees (over and above baseline levels) in computer science and related programs over the next 20 years
- These new grads would help meet HQ2's talent needs while also strengthening the overall tech talent market in Virginia
- Because college grads are highly mobile, we can increase degree production not just in Northern Virginia (George Mason) but also in other places, such as at Virginia Tech, UVA, William & Mary, JMU, VCU, ODU, and others, with additional support from NVCC
- Based on Amazon's roughly 50/50 split between bachelor's and master's grads at HQ1, we envision a similar mix of new degrees
- Master's degrees dramatically reduce the total cost, can be produced much more quickly than BS degrees, and lend themselves to customization
- Amazon has expressed enthusiasm about the concept, as have a few other tech CEOs in Virginia who we've quietly floated the idea with

DEGREE FIELD DISTRIBUTION FOR AMAZON HQ1 EMPLOYEES IN SEATTLE FOR INDIVIDUALS WORKING IN TECH POSITIONS

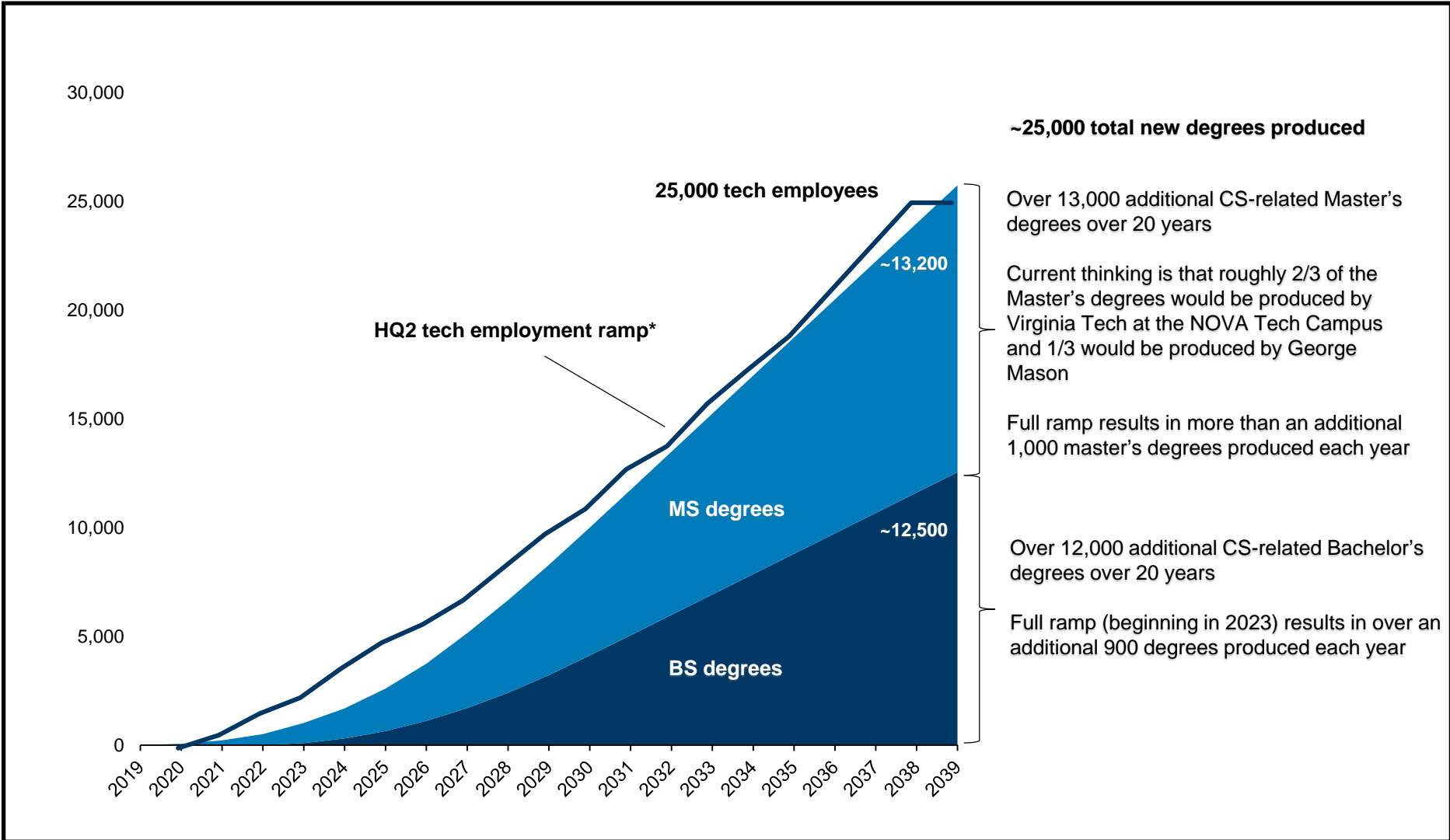
Distribution of degrees by field of study for tech employees at Amazon



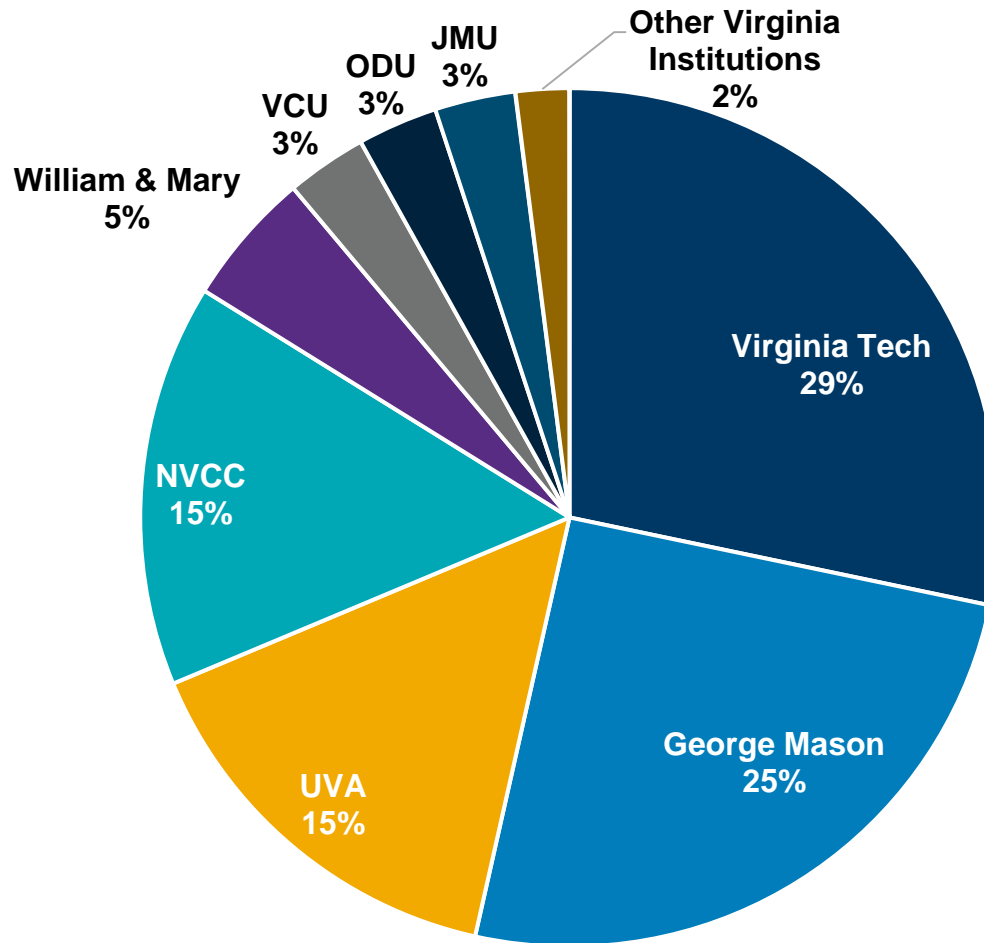
Source: analysis of social media data

RAMP-UP SCHEDULE FOR DOUBLING THE COMMONWEALTH'S TECH TALENT PIPELINE IN COMPUTER SCIENCE AND RELATED FIELDS

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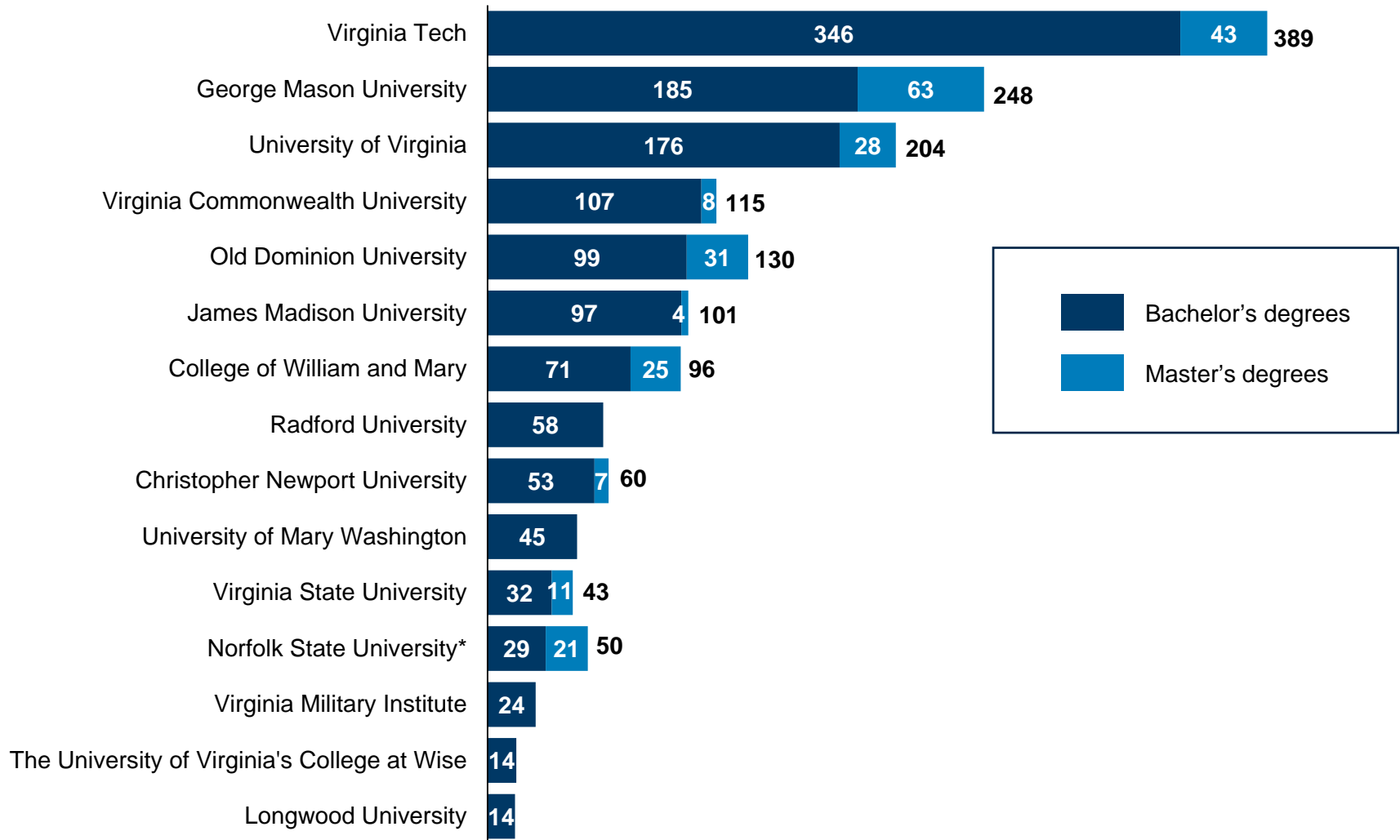


MORE THAN 400 GRADUATES FROM VIRGINIA COLLEGES AND UNIVERSITIES CURRENTLY WORK IN TECH JOBS AT AMAZON



PUBLIC INSTITUTIONS IN VA PRODUCE MORE THAN 1,300 BACHELOR'S AND 200 MASTER'S DEGREES IN CS AND RELATED FIELDS EACH YEAR

Three-year annual average through AY 2017-2018



Note: This data is based on information provided by Virginia's higher education institutions for computer science, computer engineering, and software engineering degrees at the bachelor's and master's levels

*NSU did not provide information; degree production estimated based on IPEDS reporting for related fields

Source: Virginia's public higher education institutions; SCHEV; VEDP analysis

TECH-TALENT PIPELINE DEVELOPMENT: PROCESS TO DATE

- Conference calls with higher ed institutions in September 2017 to brief them on the HQ2 opportunity and discuss ideas for how higher ed could contribute to Virginia's pitch
- Email from SCHEV to provosts in late September 2017 requesting level of interest in expanding graduates in relevant fields (e.g., computer science) as well as interest in and potential institutional role(s) for a STEM/CS campus
- Follow-up from Virginia Tech to selected institutions in late January 2018 seeking additional information about program demand, as well as projected enrollments and degree production
- BS and MS expansion model drafted by VEDP distributed to selected institutions to secure apples-to-apples data on expansion interest and associated implementation assumptions (e.g., graduation rates, startup costs, capital investment needs)
- Several meetings with money-committee staff, SCHEV, and DPB to discuss implementation matters
- Briefings with college presidents for feedback (overall very positive)

DRAFT PERSPECTIVES ON PROGRAM DESIGN

- Performance-based program with institutions receiving sustaining funding only for hitting their growth targets in MOUs; startup funds provided to secure faculty to grow (e.g., startup packages)
- Target degrees principally will be computer science (>75%), computer engineering (10-15%), and closely related fields (e.g., software engineering)
- While Virginia Tech is best positioned and prepared to grow, there will be opportunities for all institutions with relevant programs to participate
- We envision additional master's degrees being funded only in Northern Virginia, with Virginia Tech and GMU; undergrad (BS degree) expansions are envisioned to occur statewide; a transfer program with VCCS also will be included to maximize degree production and state ROI
- We envision allocating new degree slots based on a number of factors, incl. institutional interest, state cost per additional degree (considering GF and capital investment, where applicable, as well as reallocation), and size of degree production increase relative to the baseline level
- Each institution would have an MOU detailing its planned growth in enrollment and degree production in the target fields, with state funding provided initially based on the forecast and later based upon actual results relative to target enrollments and degrees
- Considering both the time available and confidentiality, we have worked with a core group of institutions (Virginia Tech, GMU, UVA, and W&M); others will be engaged following announcement
- The “Op 6” group plus VEDP and SCT would be tasked with evaluating university expansion proposals and negotiating MOUs with each participating institution

VIRGINIA TECH'S NORTHERN VIRGINIA TECH CAMPUS

- Virginia Tech envisions building a new, innovative, technology-focused campus focused on graduate-level education in computer science and related fields that would be located in close proximity to HQ2 (likely in Alexandria); the campus would be a global center of tech excellence and talent production – where people, research, industry, and ideas collide to catalyze transformation in the tech sector
- We have proposed a total commitment of \$500 million over 20 years: \$250 million from Virginia Tech and \$250 million from the Commonwealth (roughly \$100 million of which would be capital investment; the balance would be performance-based funding for master's degree production in computer science and related fields over 20 years)
- Based on a state match of \$250 million, Virginia Tech has pledged a 1:1 match from philanthropy, with other sources adding to its match beyond a 1:1 ratio (public/private developer partnership where developer funds buildings to be leased to Virginia Tech for a period of time, as well as other non-state sources, e.g., F&A recovery from federal research contracts, out-of-state tuition); the other sources could be utilized to backstop philanthropic funds until they come through
- The tech campus is expected to produce at least 10,000 new master's degrees in CS and related fields over the 20-year term of the Amazon agreement
- Virginia Tech has completed extensive planning for the campus as well as preliminary fundraising work with major prospective donors
- GMU has expressed similar interest in growing master's programs at its Arlington campus; they believe they can raise \$125 million in philanthropy with the state's 1:1 match opportunity

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

STATE AND LOCAL OFFICIALS COLLABORATED TO DEVELOP A COMPREHENSIVE TRANSPORTATION PROGRAM FOR HQ2

- Amazon experienced transportation-related challenges in Seattle, where local and state efforts did not keep pace with company growth
- In the previous round, we worked with the Transportation Secretariat, VDOT, DRPT, and local transportation officials to model site-specific transportation needs and develop preliminary solutions
- Given the company's recent focus on National Landing, the Virginia team further evaluated and confirmed the regional and site-specific infrastructure investments needed to support robust, multi-modal connectivity for HQ2 in that area (i.e., Arlington / Alexandria)
- We have established a consensus view and a proposal that will avoid HQ1's mistakes as well as help ensure solid community support

Based on feedback from MEI at our meeting on 9/10, we have identified non-GF sources to support the company's top five priorities

PROPOSED STATE TRANSPORTATION COMMITMENTS FOCUS ON THE COMPANY'S TOP FIVE PRIORITY PROJECTS

\$ Millions

Project	Est. total project cost	Already planned/ committed funding*	Additional needed funding			Proposed state funding source(s) for HQ2 support
			Total	Local/ NVTA Regional	State HQ2 Offer	
Crystal City East Metro Entrance	90.0	6.5	83.5	1.0	82.5	39.6 CMAQ 42.9 I-95 Concession
Potomac Yard SW Metro Entrance	370.0	320.0	50.0	0.0	50.0	50.0 CMAQ
Route 1 Improvements**	250.0	0.0	250.0	0.0	138.4	48.0 NHPP/STP 7.0 CMAQ 83.4 PTF
Connector Bridge from Crystal City to Washington Nat'l. Airport	36.0	8.7	27.3	17.7	9.5	9.5 CMAQ
Pentagon City/Crystal City/Potomac Yard Transitway Expansion	36.7	21.7	15.0	0.5	14.6	14.6 CMAQ
Total	782.7	356.9	425.8	19.2	295.0*	295.0

* Nearly all of the already planned/committed funding is local

** Potential additional funding sources: sale of unlocked land and/or a special assessment recommended by property owners

*** This value includes the optional phase II; if only phase I is completed, the total state support will be \$195 million

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

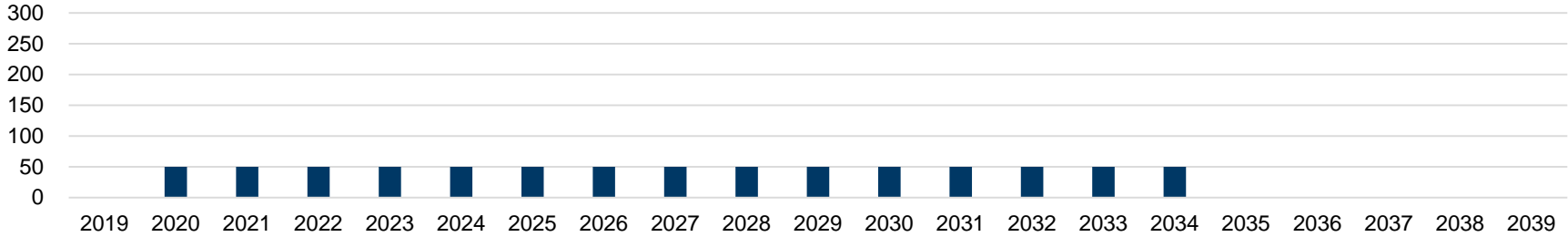
EXECUTION CONSIDERATIONS

- To ensure budget stability and flexibility, incentives could be budgeted at a flat level (e.g., \$50 million annually for 11 years) and held in a reserve account, with payments made only when earned
- Funding for tech-talent pipeline is modeled at a moderate ramp to reduce GF outlays in early years, but it could be accelerated for budget predictability and to better address additional demand, if desired
- Most of our commitments represent investments in public assets that will benefit companies and citizens across the Commonwealth, and the tech-talent pipeline investments in higher ed are performance-based

ILLUSTRATION: RESERVE ACCOUNT MODEL WITH 15 ANNUAL \$50 MILLION DEPOSITS (\$750MM TOTAL) AT FORECASTED JOBS RAMP*

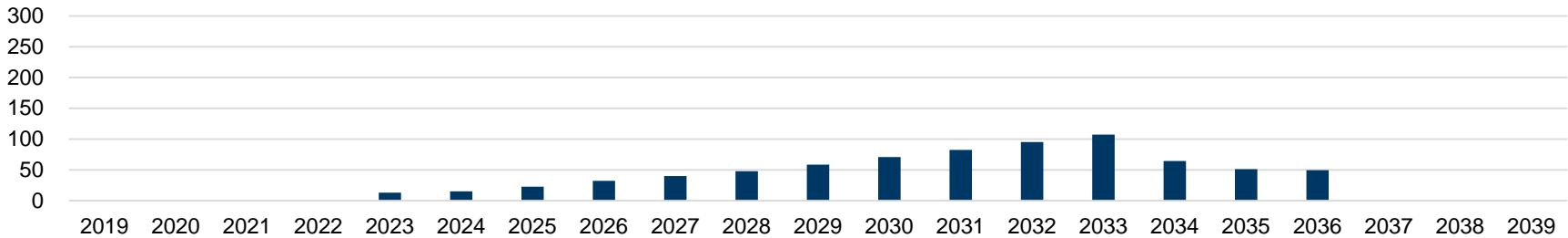
Reserve Account Deposits

\$ Millions



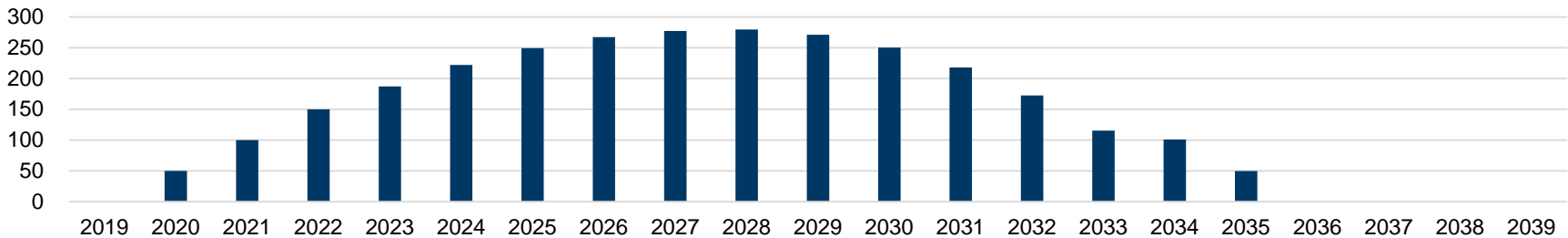
Incentive Payments

\$ Millions



Reserve Account Balance

\$ Millions



* Assumes the General Assembly wants to play ahead for both phases

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

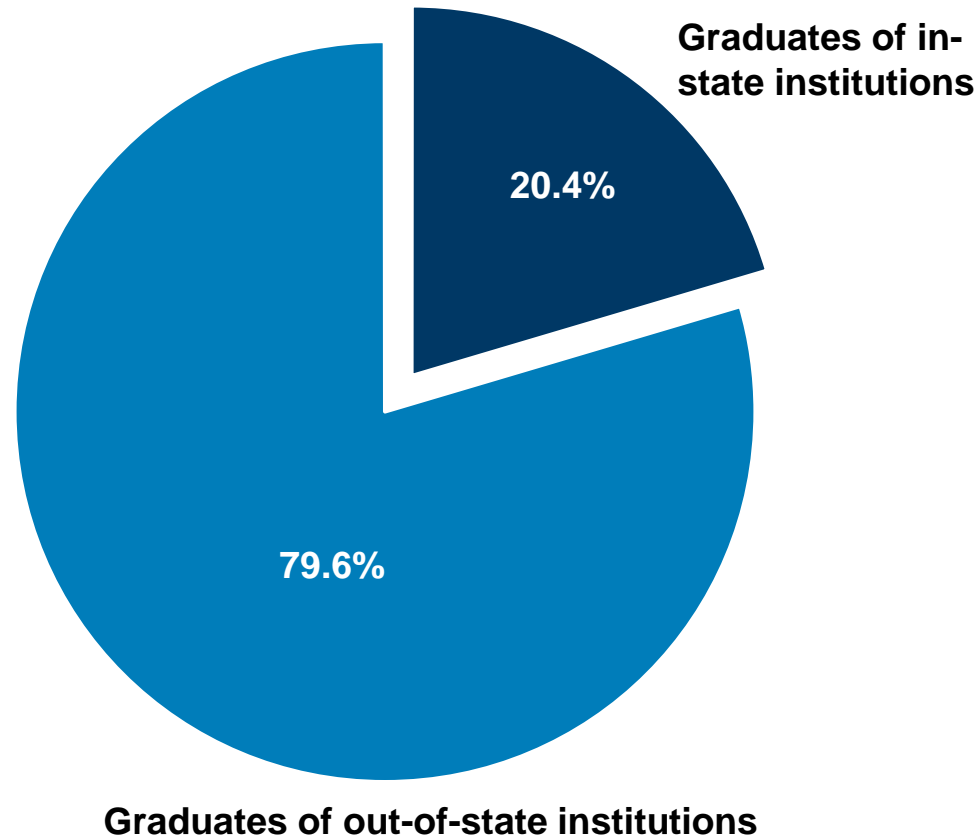
Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

EXECS IN NOVA GENERALLY EXPECT HQ2 WOULD STRENGTHEN THE TECH TALENT MARKET OVER TIME, WITH SOME SHORT-TERM PRESSURE

February 2018 interviews: excerpts of answers to the question, “What would HQ2 in NOVA mean for your company?”

- Fortune 500 CEO: “The economic lift that we get in Virginia, the branding part of it, would be a strong positive for our recruiting efforts. Clearly we will be competing for talent, but that’s fine. I think it’s important for regions to have a diversity of employment options. The economic lift and intellectual lift for the region is a strong, strong positive. I would like to see us get selected.”
- Startup tech company founder: “Short-term it may create some additional distraction in terms of hiring and growing and retaining talent. ... In the mid- and long-term, it will make us better – the best thing you can have is a strong competitor.”
- C-level exec of a Fortune 500 company: “In the short run, it will entail some competition for talent. But it’s very powerful for the region for the long term. We’ve made Virginia our hub. The fastest growing part of our ecosystem is tech – we hire thousands of associates [every year]. We want to have an ecosystem where new tech grads stay here and where there is a desire of folks from around the country to move here.”
- CEO of a midsize tech company: “It would be a big [positive] deal for us. It would tie into our value proposition [for talent] of how high tech the area is. ... Now we’ve got HQ2 in our backyard.”
- CEO of a Fortune 500 firm outside the tech sector: “Net net it would be a big positive. Anything that makes [the DC metro] more vibrant would be a good thing. ... As the guy who runs [this company], it’s good. Short term, it would create more competition for talent. ... It would make those [tech] people more expensive to get. ... But my head of HR agrees long term it’s good because the Amazon effect will attract a heck of a lot of talent that might not otherwise be interested in this area.”
- CEO of successful tech company: “It would be a double-edged sword. Great for the economy. Great for the brand. Long-term it would be good, but it’s another competitor to deal with for talent. ... It would give cachet to our area.”
- CEO of a public tech company: “Over a long period of time, it would result in a richer pool of talent around here.”
- CEO of a tech-focused federal defense contractor: “It would be great for us. We would lose some people to them, but it would present an enormous opportunity for all of us.”

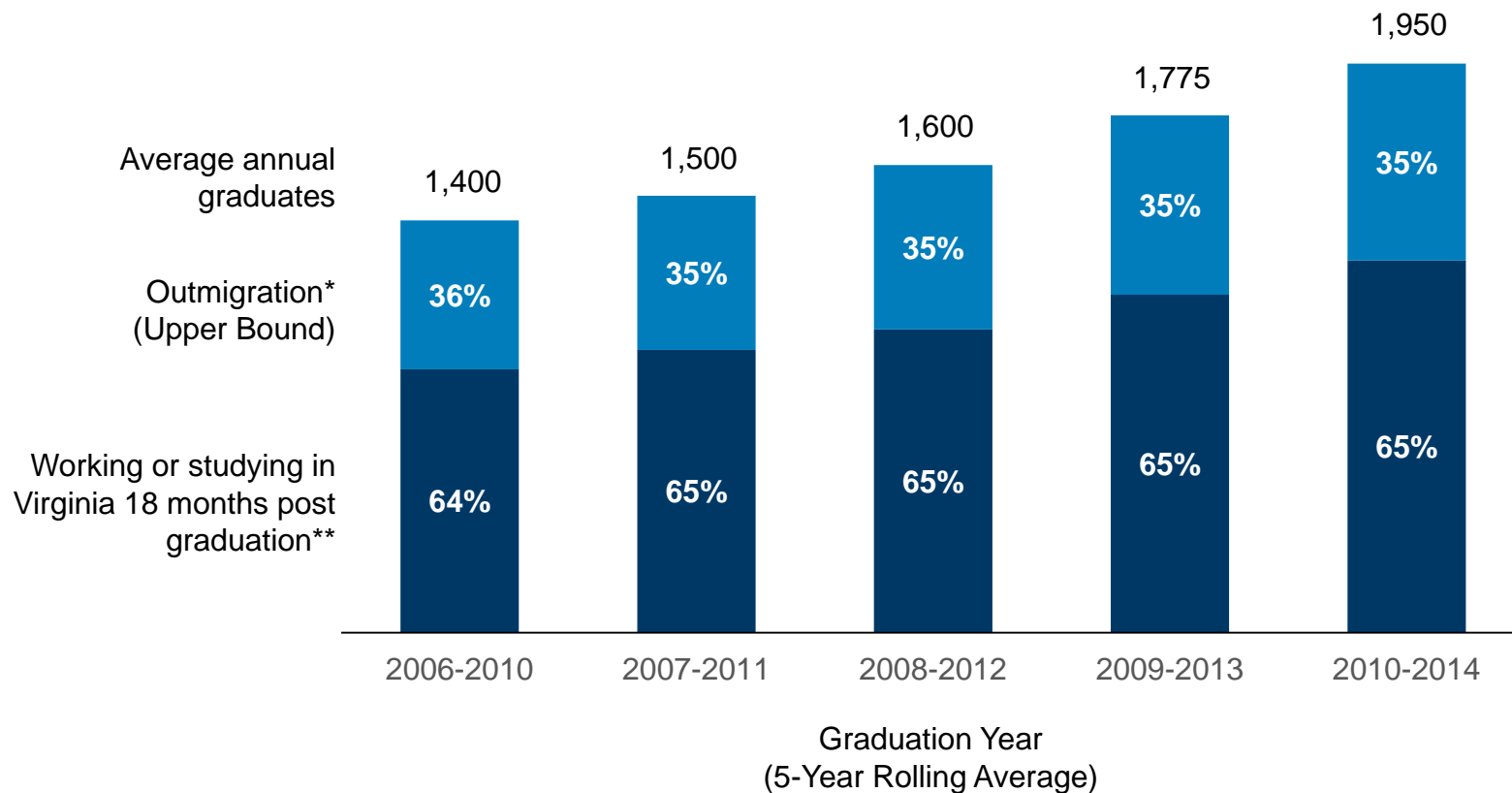
NEARLY 80% OF AMAZON'S COLLEGE-EDUCATED EMPLOYEES AT HQ1 IN SEATTLE ATTENDED OUT-OF-STATE COLLEGES



Amazon likely would be a magnet for talent across the U.S. and the world, as it has been in Seattle

UP TO A THIRD OF GRADS IN CS AND RELATED FIELDS FROM VA INSTITUTIONS APPEAR TO BE LEAVING THE COMMONWEALTH

DRAFT



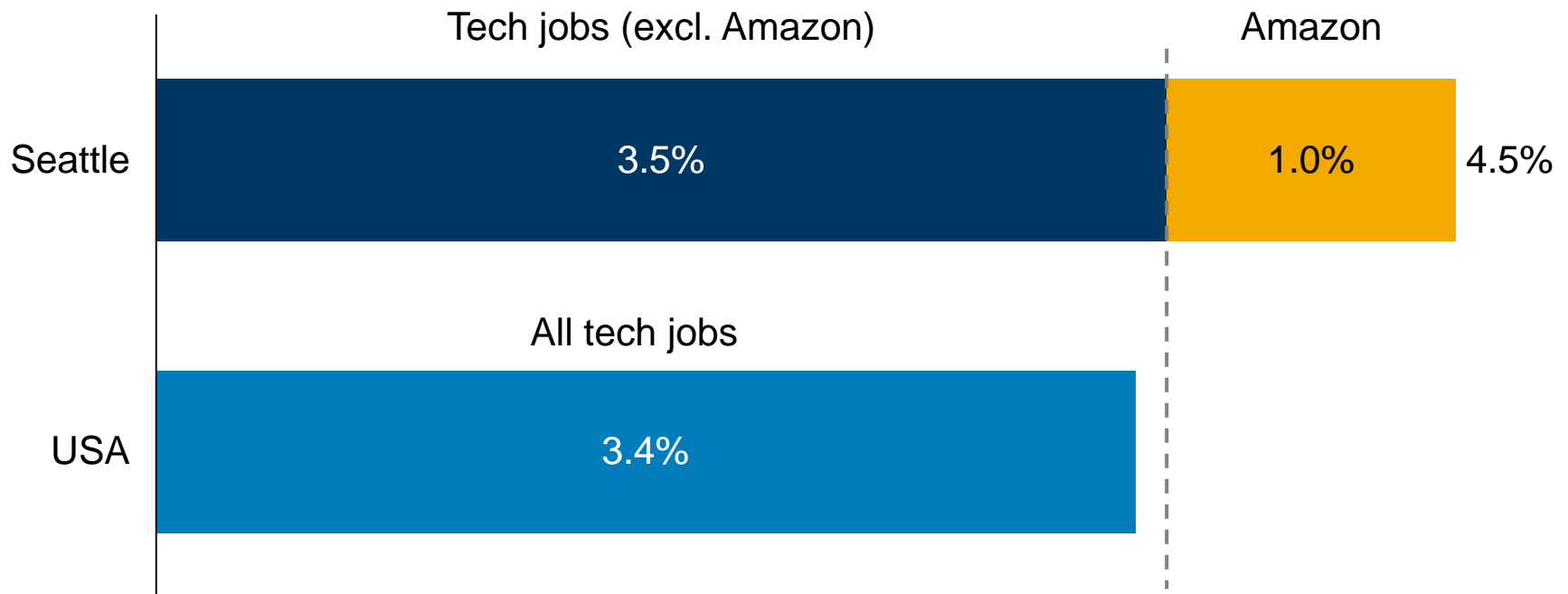
* Based on graduates who were not matched against VEC wage records and Virginia higher education records, and may include some graduates who reside in Virginia but work for employers not on VEC records or are currently out of the labor force

** Using average annual degree production for each five-year rolling average period

Source: Virginia Longitudinal Data System; VEDP analysis

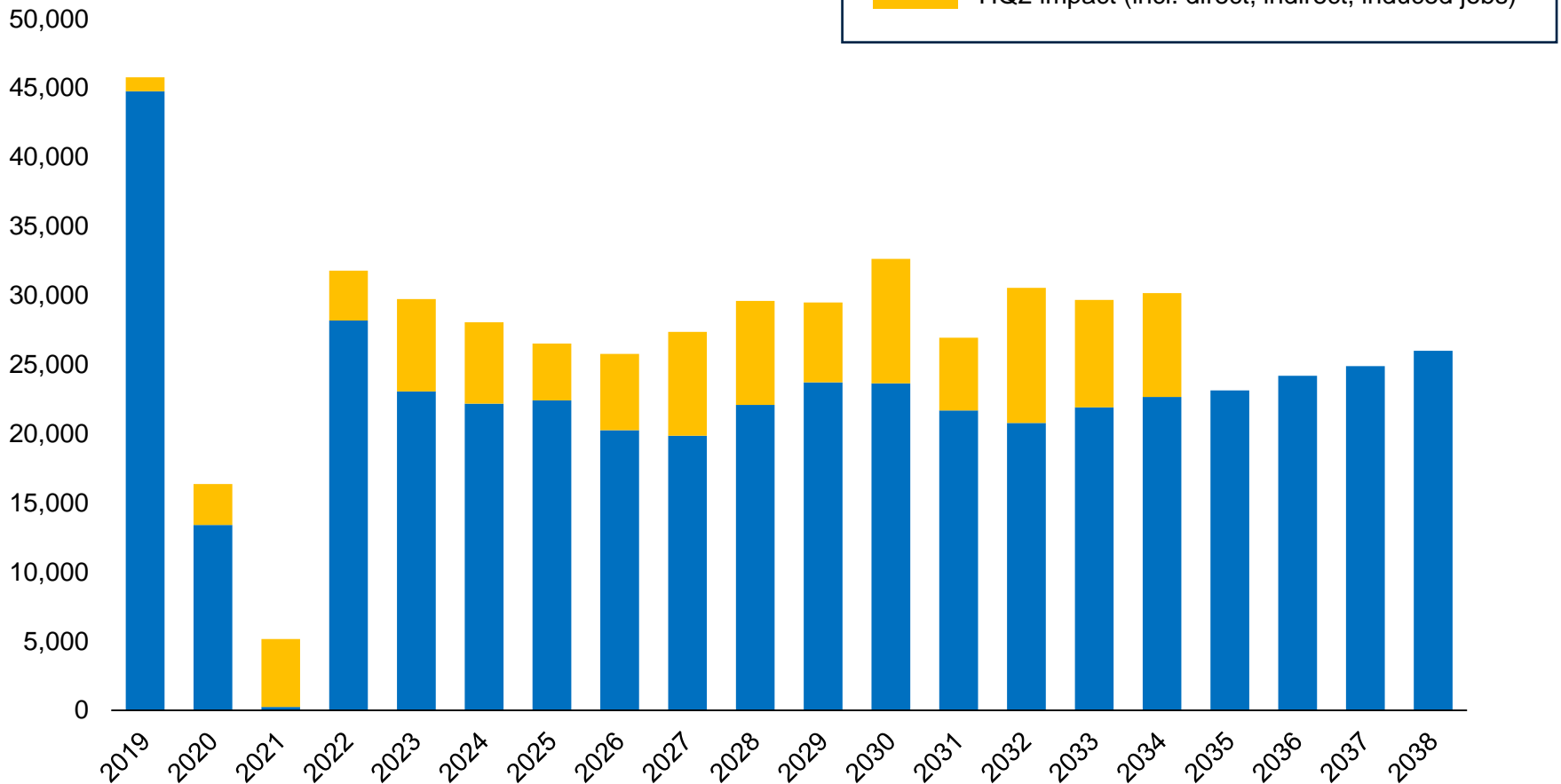
EXCLUDING AMAZON'S DIRECT EMPLOYMENT, SEATTLE'S TECH SECTOR JOBS EXPERIENCED HEALTHY GROWTH FROM 2007-2017

Seattle and USA 2007-2017 tech job CAGR



AMAZON'S HEADQUARTERS WOULD SUBSTANTIALLY INCREASE REGIONAL EMPLOYMENT GROWTH WITHOUT DOMINATING IT

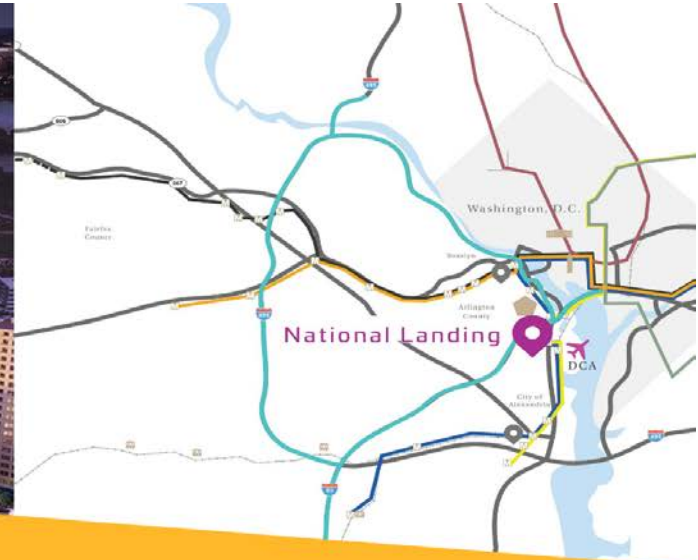
Forecasted regional job growth and HQ2 impact



Note: While the entire DC MSA is only forecast to grow by ~200 jobs in 2021 (meaning the HQ2 impact of nearly 5,000 new direct, indirect, and induced jobs created in that year appears larger than in other years), this is not anomalous for Moody's forecast for the entire U.S., which is forecast to lose over 175,000 jobs in this year. Analysis includes optional Phase II.

Source: Moody's Analytics; VEDP analysis

ADOPTED COMMUNITY PLANS IN ARLINGTON AND ALEXANDRIA ENVISION CONSIDERABLY MORE GROWTH THAN HQ2 REQUIRES



National Landing

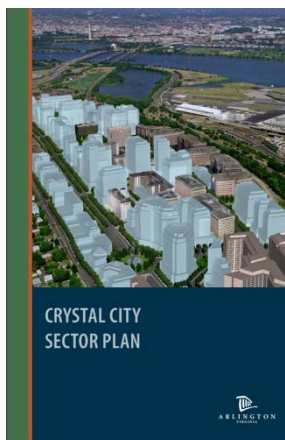
- National Landing is comprised of existing and planned mixed-used neighborhoods known as Pentagon City, Crystal City, and Potomac Yard in Arlington County and the City of Alexandria.
- Over the last two decades, Alexandria and Arlington have worked jointly to craft a **collective vision** for these three neighborhoods, transforming them into **one cohesive new district**. Both communities have adopted small area and sector plans, crafted by residents and stakeholders, that outline expectations for growth and investment. *Amazon could move into a mixture of existing buildings and planned new construction already planned for in the Crystal City Sector Plan and the North Potomac Yard Small Area Plan. **These plans anticipate more than three times the amount of growth than needed by Amazon.***

DEVELOPMENT PLANS ENVISIONED BY AMAZON AND JBG SMITH ALIGN WELL WITH EXISTING COMMUNITY GROWTH PLANS

Amazon will help realize the long-term vision of adopted community plans

The site is well-served by multi-modal transportation services, including Metrorail, VRE commuter rail, Metrobus, local and regional bus lines, bike sharing and car sharing services

- Metrorail and the Metro & ART bus systems can accommodate an additional 50,000 to 70,000 weekday trips in Arlington
- Metrorail weekday ridership in the area is down 20% from the prior peak
- Local and regional bus service also has unused capacity, with Metro Bus weekday ridership down 20% off the prior peak, while ART bus weekday ridership is down 12.5% of the prior peak

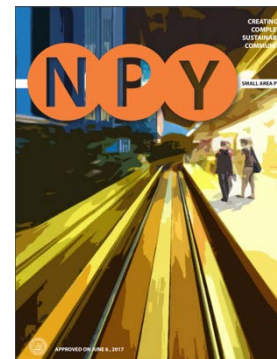


Crystal City Sector Plan/Pentagon City

- 2MM SF of vacant office space in Crystal City today (8MM in Arlington)
- In Crystal City and Pentagon City, sector plans and development plans envision the future addition of 21.5MM SF of mixed-use development
- Immediate implementation of Met Park, Pen Place, Metro Market Square and a new transportation system connecting to workforce housing in Alexandria, Crystal City, Pentagon City and Columbia Pike

North Potomac Yard Small Area Plan:

- More than 10M SF of approved mixed-use density, with supporting infrastructure projects required and planned as development occurs
- With a planned new Metro station, density and growth is required to fulfill the community's vision for a transit-oriented, walkable community



ARLINGTON AND ALEXANDRIA ARE PLANNING TO COLLABORATE TO CREATE MORE AFFORDABLE HOUSING IN THE AREA

New local revenue will support creating additional housing opportunities

Alexandria and Arlington would use some of their new local revenue to expand affordable housing – a to-be-finalized amount of added local investment over 10 years

- The localities plan on executing a memorandum of understanding (MOU) that will allocate a portion of the new revenue to affordable housing projects in each jurisdiction
- Affordable and Workforce Housing will be implemented across Pentagon City, Crystal City, Potomac Yard, Columbia Pike, and Old Town – this can support the achievement of approximately 1,000+ committed affordable units in this geography

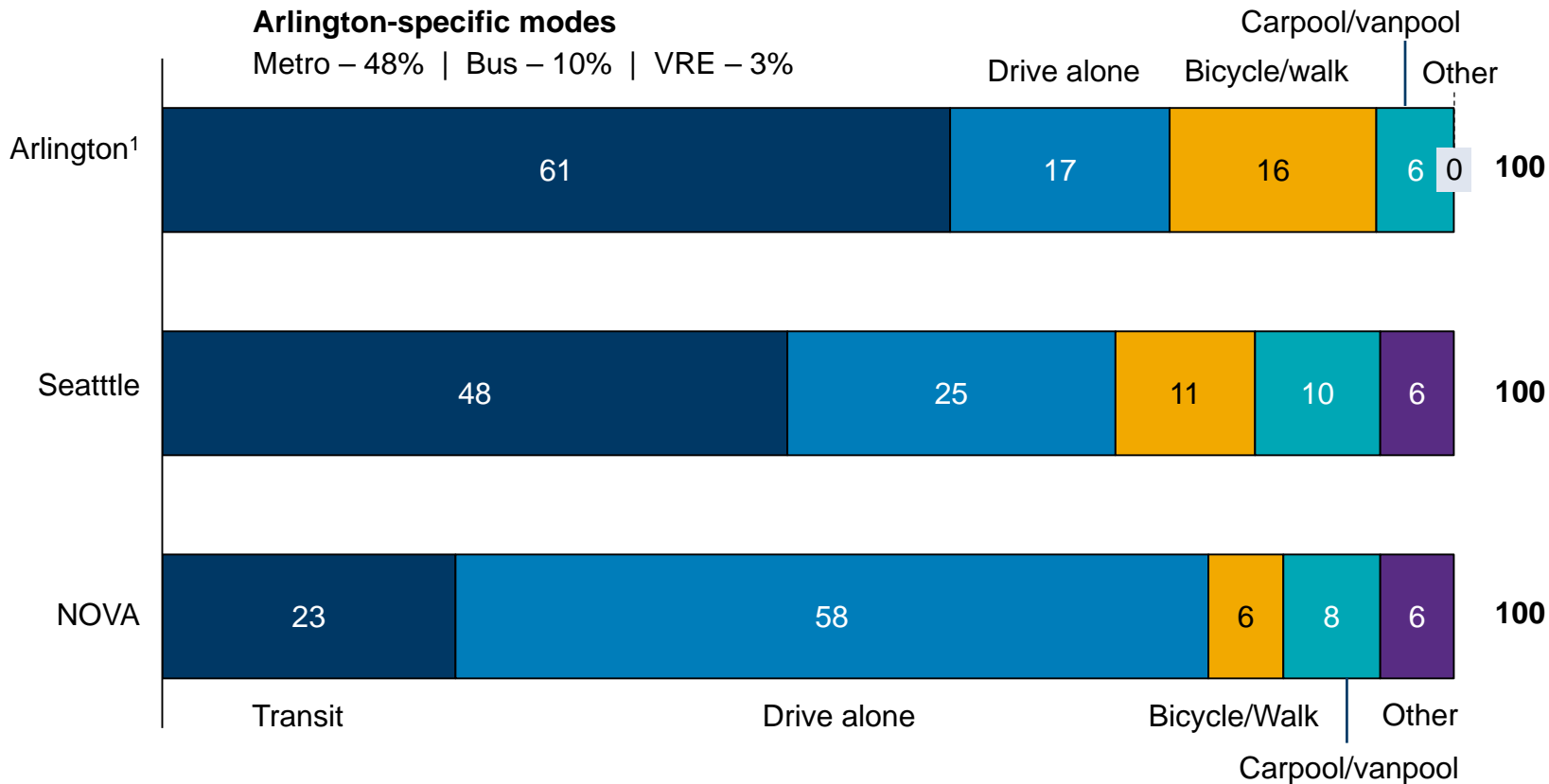
Examples of implementation tools

- Both jurisdictions have established Affordable Housing Investment Funds used to provide predevelopment loans, grants, and other financial support to nonprofit housing developers, housing authorities, and other eligible entities
- A variety of planning tools, including incentive-based and inclusionary zoning, developer contributions, developer built affordable units and changes to existing regulations to encourage Accessory Dwelling Units
- Transfer of development rights
- Funding preservation efforts for existing market rate affordable units

ARLINGTON EXPECTS OVER 75% OF AMAZON'S WORKERS TO WALK, BIKE, OR USE TRANSIT FOR THEIR COMMUTE

Commuting patterns

Share of commuters commuting to work by mode

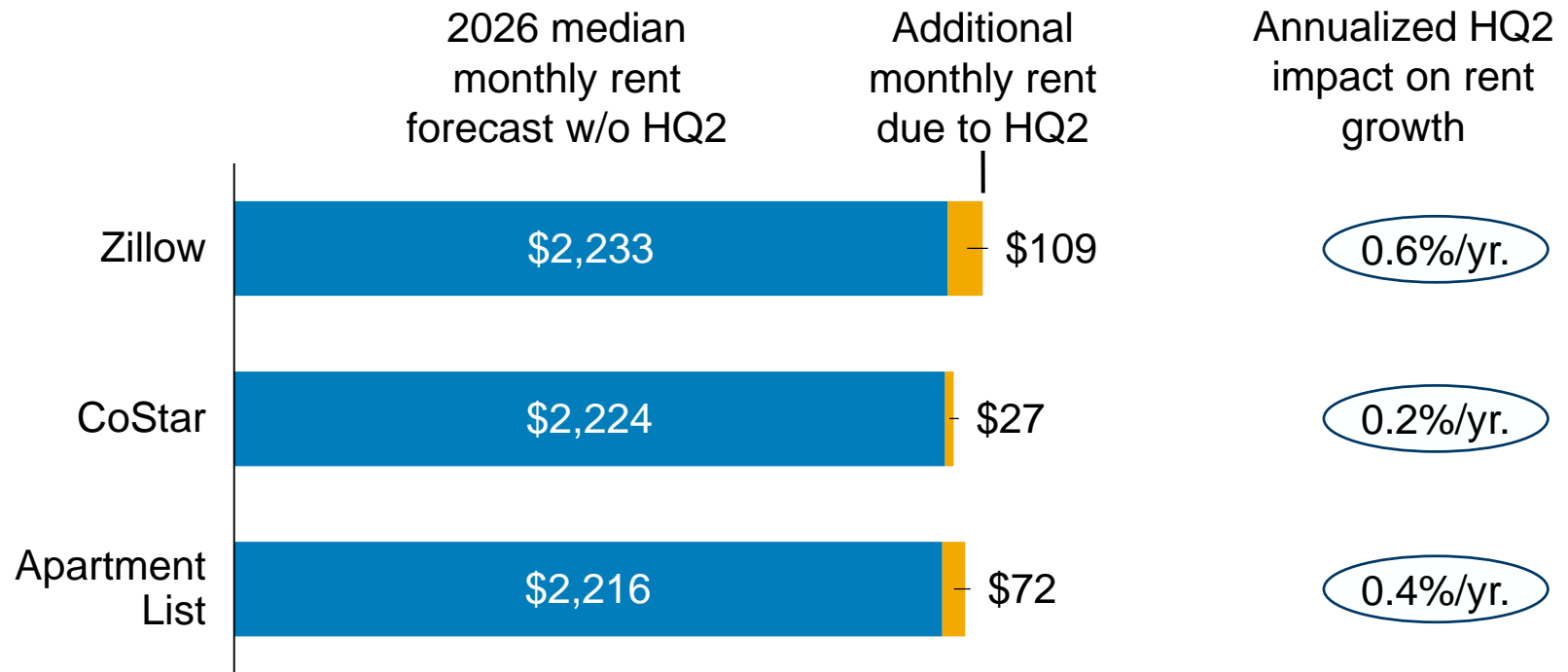


¹ Arlington-only commute trip-making projections based on 50,000 employees; 10M square feet of office; 200 square feet of office per employee; one parking space for every 1,150 square feet of office; 85% daily attendance making 2 trips per day.

Source: Seattle (2017 Center City Commuter Mode Split Survey Results); NOVA includes Herndon, McNair, Alexandria, and Arlington (ACS, 2012-2016); Arlington estimates are from the county planner

3RD-PARTY ANALYSES SUGGEST HQ2 IN THE DC METRO AREA WOULD RESULT IN SMALL INCREASES IN RENT OVER A DECADE

Projected rents in Northern Virginia in 2026



- 2026 median monthly rent expected to be between **\$2,216-2,233/mo.**
- HQ2 expected to add **<\$110** to that monthly bill

* All three studies envisioned employment growth much faster than the latest forecast
 Source: Zillow; Apartment List; CoStar; VEDP analysis

WITH NEW FUNDING COMMITMENTS, THOUSANDS OF AFFORDABLE UNITS ARE EXPECTED TO COME ONLINE OVER THE NEXT DECADE

Locality	Programs and/or neighborhoods	Annual investment, Millions USD	Annual impact Aff. housing units
Arlington	<ul style="list-style-type: none"> • Neighborhoods immediately around the proposed site – Crystal City, Pentagon City, and Columbia Pike areas 	+\$7M/yr.	+100/yr.
Alexandria	<ul style="list-style-type: none"> • \$2 million/year of existing funding • \$5 million/year new funding (beginning in 2018) • \$3 million+/year new funding attributed to new revenue growth from project will be committed to a new regional funding mechanism 	+\$10M/yr.	+150-200/yr.
Virginia Housing Development Authority (VHDA)	<ul style="list-style-type: none"> • Low income housing tax credits in NOVA • Expansion of Homeownership Loan program or launch of an Economic Development Pool • \$152M private activity bond cap for affordable rental housing in NOVA 	+\$17M+/yr.	n/a
10-year totals		\$320M+	2,500+

WITH HQ2, LOCALITIES OUTSIDE NOVA WOULD RECEIVE UP TO \$750-850MM IN NEW HIGHER ED AND K12 FUNDING OVER 20 YEARS

- While tech-talent pipeline funding allocations across higher ed won't be finalized until a later date, we expect the majority of new state funds (up to \$540-590 million*) to be invested outside Northern Virginia
- The local share of new state sales tax revenues dedicated for education outside NOVA are expected to total roughly \$200 million over 20 years
- Additionally, if HQ2 locates in Virginia, the whole Commonwealth will receive a reputation boost that likely would result in increased leads and project opportunities statewide

* Includes GF and capital investment contributions to VT-Blacksburg, UVA, and W&M, as well as potentially other publics with CS-related programs (e.g., ODU, JMU, VCU, CNU, Radford, UMW, UVA-Wise), plus community colleges; actual totals will depend upon institution-specific negotiations, including extent of reallocation vs. overall growth in degrees

PROJECT COOPER BRIEFING: TABLE OF CONTENTS

Executive Summary and Project Overview	1
Project Economics and Partnership Structure	11
Competitive Investments: Tech-Talent Pipeline Initiative	23
Competitive Investments: Transportation Program	32
Execution Considerations	35
Considerations for Localities and the Rest of Virginia	38
Next Steps and Discussion	51
Appendix	55

RECAP OF MAJOR POINTS

- A transformational opportunity to drive diversification and innovation
- Retention of college grads and reversal of out-migration trend
- Doubling of Virginia's tech-talent pipeline, benefiting all tech firms
- Post-performance incentives, with positive GF revenues from day one
- Transportation commitments funded by non-GF sources
- Non-incentive elements would be good investments even without HQ2
- \$1.2B+ in net new GF \$s after all obligations (over 20 years at 25k jobs)
- Scale and character of growth aligned with existing community plans
- Modest impacts on rents and traffic mitigated by investments, long ramp up
- ~\$700 million in new higher ed and K12 funding outside of Northern Va.
- A winning package for far less than many others offered (e.g., MD, NYC)

KEY NEXT STEPS (NOT COMPREHENSIVE)

- Refine performance-based tech-talent pipeline initiative with staff leadership of MEI, DPB, and SCHEV, as well as additional input from higher education leaders
- Presentations at House Appropriations Retreat and Senate Finance Retreat
- 3-4 months of engagement with GA members (briefings, etc.)
- Continued engagement with locality partners

DISCUSSION, Q&A



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THE CASE FOR NORTHERN VIRGINIA

- North America's top producer of tech talent
- A global and inclusive region...on a human scale
- America's only metro leading public and private sector innovation
- A stable and competitive partner with a legacy of exceptional governance
- A portfolio of trophy sites ready to match the scope, speed, and scale of HQ2
- A new model of economic development for the 21st century

PROJECT REVIEW AND CREDIT COMMITTEE (PRACC) FINDINGS FOR HQ2

Risk Assessment of Company: Low

- HQ2 was profitable in each of the last four years
- As of June 30, 2018, HQ2 had cash and cash equivalents of \$27.1 billion
- As of June 30, 2018, net worth was \$35 billion and the current ratio was > 1.0

	June 30, 2018	2017	2016	2015	2014
Net Revenue (\$B)	103.9	177.9	136.0	107.0	89.0
Income After Tax (\$B)	4.2	3.0	2.5	0.6	(0.3)
Profit Margin	4.0%	1.7%	1.8%	0.6%	-0.3%
Cash and Cash Equivalents (\$B)	27.1	31.0	26.0	19.8	17.4
Net Worth (\$B)	35.0	27.7	19.3	13.4	10.7
Current Ratio > 1.00	1.07	1.04	1.04	1.05	1.12

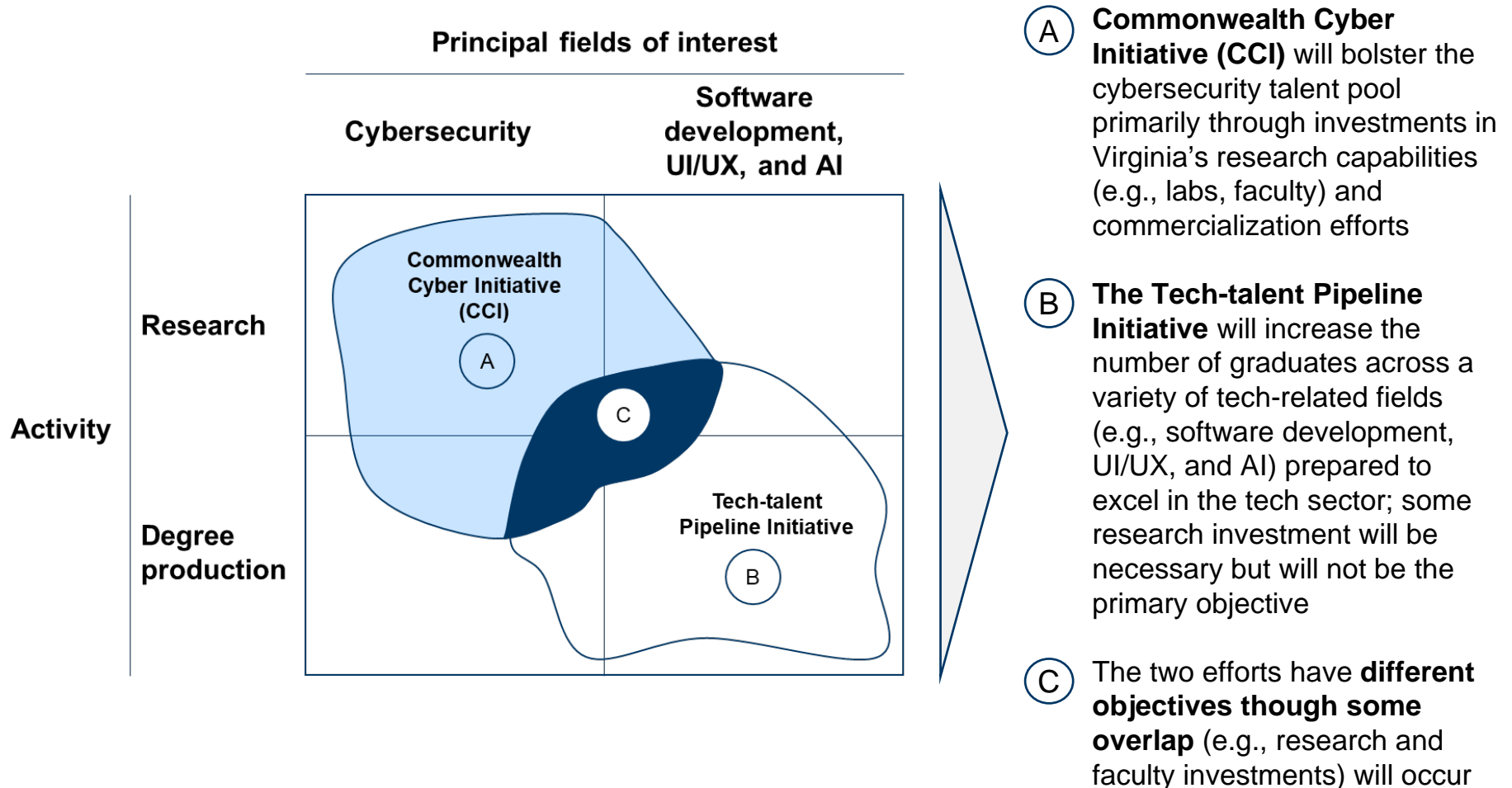
Annual financials are for the year ending December 31

Source: D&B; VEDP analysis

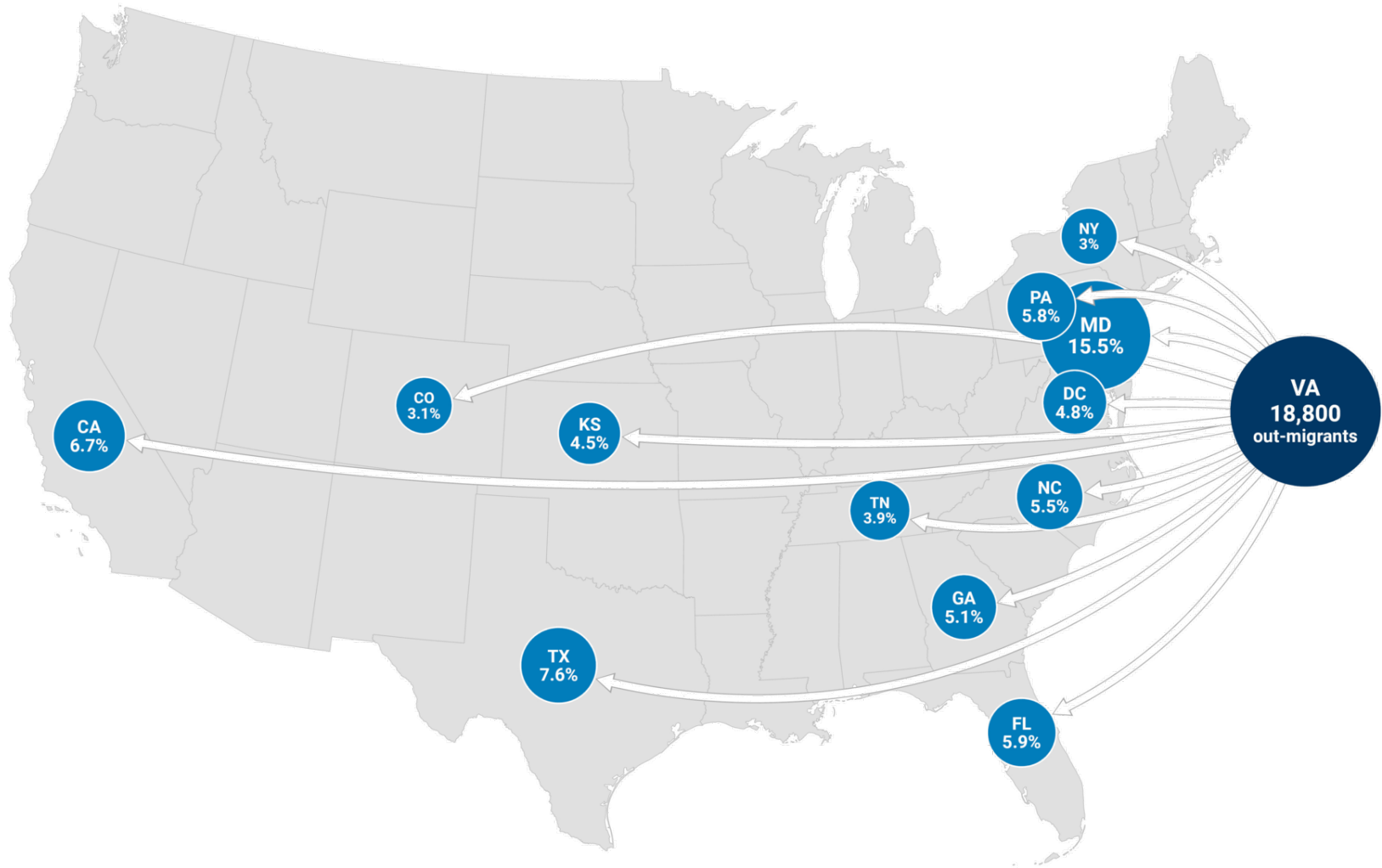
RISK ASSESSMENT OF COMPANY INCENTIVE: LOW

- Well-capitalized, low-risk company with a large presence in Virginia and a history of achieving or exceeding pledged investment and employment
- Perspective on major proposal components
 - Post-performance incentive grants eliminate fiscal risk for incentives
 - Tech-talent pipeline initiatives will benefit tech employers statewide; the entire program would be highly impactful even if Amazon didn't come
 - Transportation infrastructure improvements all benefit thousands of companies and at least tens of thousands of residents

CCI AND THE PROPOSED TECH-TALENT PIPELINE INITIATIVE ARE FOCUSED ON DIFFERENT BUT COMPLEMENTARY THINGS



NEARLY 19,000 COLLEGE GRADUATES WITH COMPUTER SCIENCE DEGREES LEFT VIRGINIA OVER THE LAST FIVE YEARS*



* Includes Virginia residents under age 65 with a Bachelor's degree or above in computer science and related fields who left the Commonwealth between 2012 and 2016

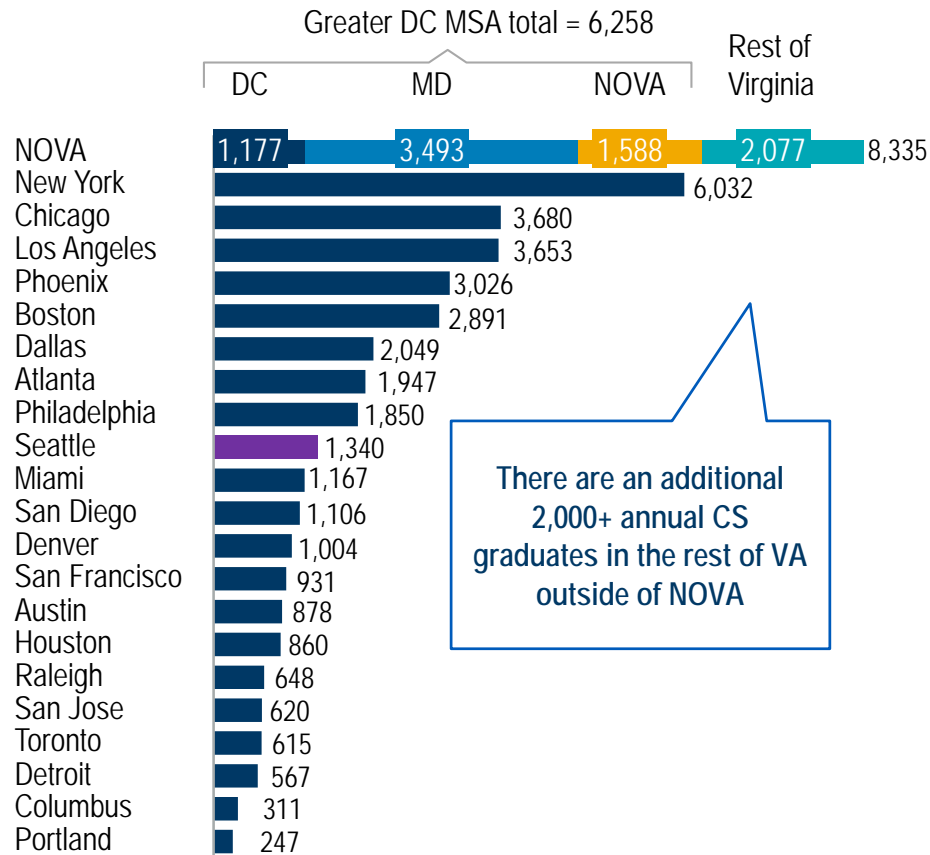
Source: American Community Survey Public Use Microdata Sample (ACS PUMS); VEDP analysis

NOVA HAS MORE CS GRADUATES THAN ALL OTHER METRO AREAS IN NORTH AMERICA, YET WE STILL HAVE A BIG SUPPLY/DEMAND GAP

Virginia is a top location for IT talent...

New computer science graduates, annually (BA and above)

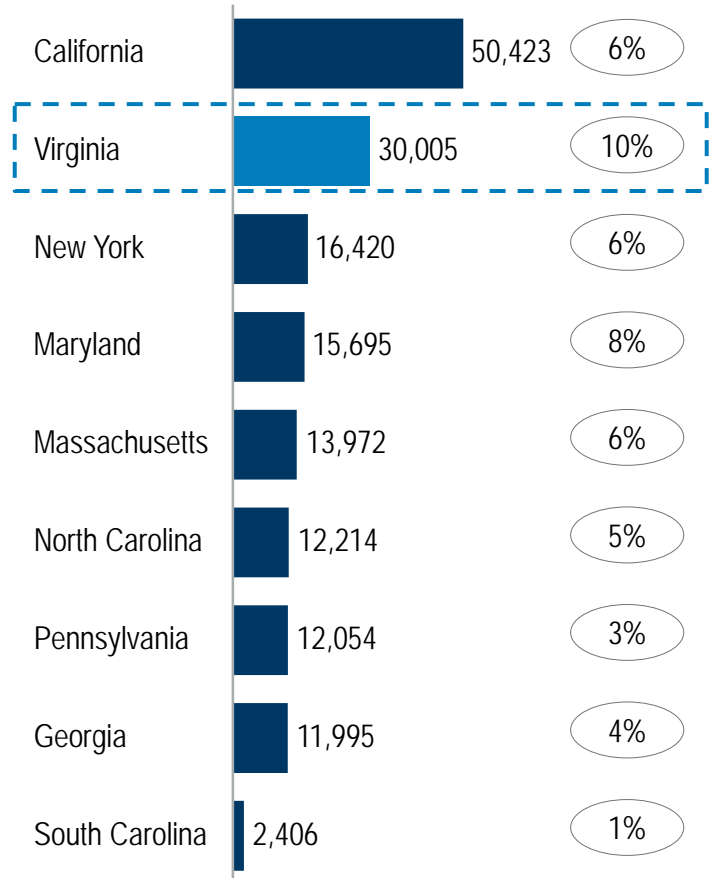
Number of new CS graduates, 2015



SOURCE: National Center for Education Statistics, 2015; Common University Data Ontario, 2015 (based off of top 5 universities from the Toronto CMA)

...yet, it still has one of the highest supply/demand gaps in the country implying the need for more IT degrees

Difference between IT demand and supply



SOURCE: BLS, EMSI, IPEDS

WE HAVE IDENTIFIED MITIGATION STRATEGIES TO ADDRESS EVEN UNLIKELY RISKS

What is the risk?	Mitigation strategy?
Amazon does not ramp up to target jobs on anticipated schedule	<ul style="list-style-type: none"> ▪ Utilize post-performance incentives that ensure Virginia has a positive ROI on every incentive dollar, no matter how many jobs ultimately are created ▪ Option: potentially create clawbacks for a portion of public investments for underperformance on job creation
Amazon is exposed to antitrust litigation	<ul style="list-style-type: none"> ▪ Risk of antitrust litigation is likely at least a few years away; even if Amazon were sued for anti-trust, the litigation period likely would be long, and the project would be revenue positive before it would be resolved ▪ Utilize post-performance incentives that ensure Virginia has a positive ROI on every incentive dollar, no matter how many jobs ultimately are created ▪ Majority of the package is making competitive investments in the Virginia region that are valuable independent of Amazon
Competitive landscape shifts with Amazon no longer number 1 player in the market	<ul style="list-style-type: none"> ▪ Utilize post-performance incentives that ensure Virginia has a positive ROI on every incentive dollar, no matter how many jobs ultimately are created ▪ Majority of the package is an investment in Virginia as an IT/ CS destination for tech companies, independent of Amazon's competitiveness
Leadership shakeup shifts direction of company	<ul style="list-style-type: none"> ▪ Utilize post-performance incentives that ensure Virginia has a positive ROI on every incentive dollar, no matter how many jobs ultimately are created
Higher than expected out-of-state residency proportion	<ul style="list-style-type: none"> ▪ State incentive offering is conservative relative to new GF revenues ▪ Higher ed investments may bolster in-state resident employee counts
VA cannot satisfy Amazon's talent needs	<ul style="list-style-type: none"> ▪ VA invests in growing the talent pool in universities (e.g., computer science) ▪ Transportation investments may help increase labor market size in Virginia

DC AREA COMMUTING PATTERNS (SELECTED LOCALITIES)

Place of Employment	Place of Residence (States)			Place of Residence (Localities)								
	Virginia	D.C.	Maryland	Arlington County, Virginia	Alexandria City, Virginia	Fairfax County, Virginia	Loudoun County, Virginia	Prince William County, Virginia	Rest of Virginia	Washington, District of Columbia	Montgomery County, Maryland	Rest of Maryland
Arlington County, Virginia	72%	7%	19%	24%	7%	26%	2%	7%	5%	7%	5%	14%
Alexandria City, Virginia	76%	6%	17%	6%	25%	32%	1%	8%	4%	6%	3%	13%
Fairfax County, Virginia	88%	2%	8%	4%	3%	53%	10%	10%	8%	2%	3%	5%
Loudoun County, Virginia	88%	1%	5%	1%	0%	16%	57%	5%	9%	1%	1%	4%
Washington, D.C.	28%	30%	41%	6%	3%	12%	1%	3%	2%	30%	14%	27%
Montgomery County, Maryland	6%	4%	87%	1%	0%	3%	1%	0%	1%	4%	64%	23%

Source: U.S. Census (ACS 5-year, 2009-2013); VEDP analysis

REVIEW OF VEDP-ASSISTED HQ DECISIONS WITH EMPLOYEES MAKING \$100,000 OR MORE PER YEAR (CY2007-YTD CY2018)

CY Year	Company	Pledged Investment (\$MM)	Pledged New Employment	Salary*	Total State Grants (\$MM)	Incentive Grants per Job* (Nominal)
2009	Alpha Natural Resources	21	69	\$130,265	4.5	\$77,203
2010	Northrop Grumman Corporation	24	300	\$234,332	13.3	\$51,787
2009	SAIC	25	1,200	\$127,026	20.5	\$20,436
2007	Volkswagen Group of America, Inc.	118	401	\$142,988	6	\$18,651
2008	Orbital ATK	28.3	75	\$121,899	1.2	\$17,675
2017	Nestlé USA, Inc.	39.8	748	\$130,254	11.1	\$15,300
2015	Lidl	77	500	\$135,835	6.5	\$13,796
2014	Corporate Executive Board	149.7	800	\$132,165	10.1	\$13,747
2009	Hilton Worldwide	17	325	\$163,489	3.7	\$13,505
2018	Arconic Inc.	5.2	58	\$347,275	0.8	\$12,900
2011	Bechtel Corporation	18	625	\$154,154	6.9	\$12,636
2018	Appian Corporation	28.4	600	\$115,000	4.3	\$7,100
2015	Bechtel Corporation	10	700	\$136,896	4.5	\$6,792

* Adjusted to present value using average CPI average of 2%

VIRGINIA HAS COMMITTED UPWARDS OF \$70K/JOB FOR STRATEGIC ECONOMIC DEVELOPMENT OPPORTUNITIES

Company	Fiscal Year	Locality	Total State Grants (\$M)	Jobs	Inv. (\$M)	State Grant/Job (Nominal Value)	Total Grants/Capex
Mennel Milling	2005	Roanoke County	0.7	3	30.8	\$233,333	2.3%
Coors	2005	Rockingham County	2.5	12	160.0	\$212,242	1.6%
SRI International	2007	Rockingham County	22.0	140	2.8	\$157,143	785.7%
Celanese Acetate	2013	Giles County	2.7	22	145.0	\$120,455	1.9%
Maersk/APM Terminals	2004	Portsmouth City	24.9	210	450.0	\$118,524	5.5%
Microsoft	2011	Mecklenburg County	5.4	50	150.0	\$107,000	3.6%
Rolls-Royce	2007	Prince George County	56.8	642	501.0	\$88,547	11.3%
Alpha Natural Resources	2010	Bristol City	5.5	69	21.0	\$79,101	26.2%
Phillip Morris	2003	Henrico County	33.5	450	47.3	\$74,462	70.8%
Philip Morris USA	2005	Richmond City	35.6	500	300.0	\$71,122	11.9%

AN EXPERIENCED DEVELOPMENT PARTNER THAT CONTROLS OR OWNS MORE DEVELOPABLE SPACE THAN HQ2 NEEDS: JBG SMITH



- JBG SMITH is the **largest publicly-traded real estate company** (NYSE: JBGS), exclusively focused on the Washington Metro Area, and a S&P 400 constituent that owns, operates, invests in, and develops assets
- The company's mixed-used **portfolio comprises approximately 20 million square feet** of high-quality metro-served office, multifamily, and retail assets – with a **development pipeline of over 18 million square feet**
- The company also brings to bear financial strength, access to capital, and long-term stability. JBG SMITH has a **total market capitalization of more than \$8B** and a **liquidity of approximately \$2.2B**, with access to a broad range of funding sources
- JBG SMITH brings specific expertise in **urban placemaking** and ensuring that the development of HQ2 will be as much about remarkable and functional buildings as it is about the surrounding urban experience: diverse housing options, engaging walk-to retail, and a vibrant quality of life
- **Commitment:** JBG SMITH is committed to working with the Commonwealth and local partners to create a strong partnership with Amazon that focuses on flexibility, innovative thinking, and achievement of mutual goals