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## AMAZON'S HQ2 ABOUT-FACE | BREAKING NEWS

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### 1. Amazon Plans to Split HQ2 Evenly Between Two Cities

*By Laura Stevens and Shayndi Raice*

NOVEMBER 5, 2018

<https://www.wsj.com/articles/amazon-plans-to-split-hq2-evenly-between-two-cities-1541446552>

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*By Stephanie Stamm*

NOVEMBER 13, 2018

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### 3. How Amazon Picked HQ2 and Jilted 236 Cities

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NOVEMBER 13, 2018

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*By Douglas MacMillan, Eliot Brown and Peter Grant*

NOVEMBER 7, 2018

<https://www.wsj.com/articles/google-plans-large-new-york-city-expansion-1541636579>

### 5. Too Many Jobs, Not Enough Talent Spurs Amazon to Split HQ2

*By Lauren Weber, Eric Morath and Melissa Korn*

NOVEMBER 5, 2018

<https://www.wsj.com/articles/too-many-jobs-not-enough-talent-spurs-amazon-to-split-hq2-1541468276>

# Amazon Plans to Split HQ2 Evenly Between Two Cities

Surprise decision is driven by the need to recruit enough tech talent and to support Amazon's growth



PASCAL ROSSIGNOL/REUTERS

Amazon is in advanced talks with multiple cities but hasn't made a final decision on which two locations it will pick for HQ2.

*By Laura Stevens and Shayndi Raice*

NOVEMBER 5, 2018

Amazon.com Inc. plans to split its second headquarters evenly between two locations rather than picking one city, according to a person familiar with the matter, a surprise decision that will spread the impact of a massive new office across a pair of communities.

The driving force behind the decision to build two equal offices for “HQ2”—in addition to the company’s headquarters in Seattle—is to allow it to recruit more of the best tech talent, according to the person familiar with the company’s plans. The move will also ease potential issues with housing, transit and other areas where adding tens of thousands of workers could cause problems.

Under the new plan, Amazon would split the workforce with about 25,000 employees in each place, the person said.

Amazon is in advanced talks with multiple cities but hasn’t made a final decision on which two locations it will pick, according to people familiar with the matter. The Wall Street Journal reported on Sunday that Amazon was in late-stage discussions with a small handful of communities

including Crystal City in Northern Virginia, Dallas and New York City.

An announcement could come as soon as this week, people familiar with the matter said.

In the ferocious attempt to woo Amazon, finalist cities and states have offered tax-incentive packages—Newark and New Jersey, for instance, proposed \$7 billion in incentives—not to mention the hundreds of thousands of dollars spent on pricey site-selection consultants, advertising campaigns and quirky publicity stunts. The decision to split the locations would give Amazon access to more than one such incentive package

But the plan to halve one of the biggest proposed economic developments in years could also be viewed as a letdown for the 20 locales that

Amazon chose as finalists earlier this year. When Amazon initially announced plans for HQ2 more than a year ago, it promised to bring as many as 50,000 employees and more than \$5 billion in investments to the new location over nearly 20 years.

Amazon expects to view all three of its main U.S. offices as headquarters with similar executive and back-office functions, the person familiar with the effort said. But the split means

the company is essentially creating two offices smaller than its Seattle headquarters, which holds 45,000 workers.

Jeff Finkle, president of the International Economic Development Council, a group that represents economic-development officials across the country, said it is going to be harder now for any one community to claim to have won an Amazon headquarters.

“Many of these communities were hoping to brand themselves as the co-headquarters with Seattle,” he said. “I think it becomes just a regional office or a back office or a major office but not a co-headquarters.”

Still, Mr. Finkle thinks both winning areas will have achieved an economic victory with possibly 25,000 new jobs, the investments associated



Crystal City, Va., which sits just across the Potomac River from Washington, has good access to tech talent and transportation, two factors that rank high on Amazon's wish list.

with a major tech campus and potentially interest from other companies.

The latest shift highlights how unpredictable this site-selection process has been for the 238 cities and regions that submitted proposals more than a year ago. Amazon had defied convention by turning the search into an unusually public beauty pageant.

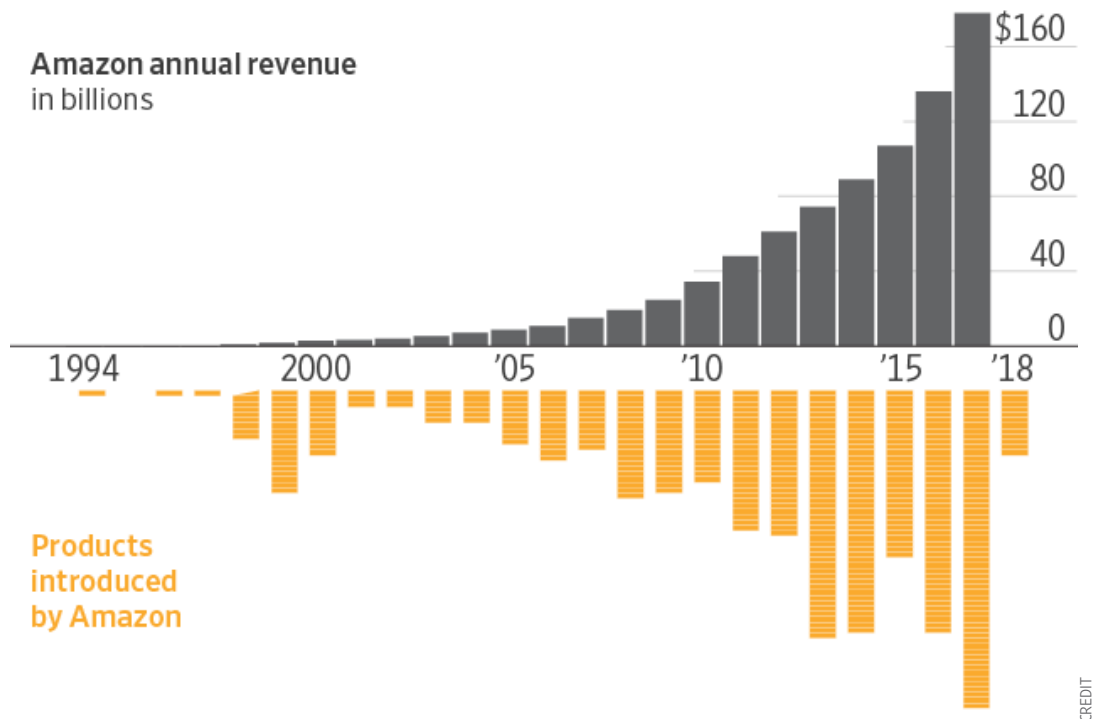
During the process, Amazon's thinking shifted as executives concluded that splitting its offices would allow it access to more tech talent than in just one location, the person said.

A tightening labor market in the U.S. and a period of low unemployment has made competition for workers even fiercer since Amazon began its search. Not only are cash-rich tech giants like Amazon competing to hire the brightest software engineers, computer programmers and artificial-intelligence experts, so are automotive, banking and retail companies. Amazon has been hiring aggressively across many of its businesses, including for its profit-driving cloud-computing division and for its AI assistant, Alexa.

By building two headquarters, Amazon can tap different geographic regions for talent, including some who may not want to move too far from home. It may also not be competing with other major tech giants in a given area, like it does with Microsoft Corp. in the Seattle area. The company will continue hiring experts in machine learning, AI and supply chain—all areas Amazon currently hires for in Seattle.

Additionally, the decision would allow it to lessen the potential headaches for chosen areas. Amazon has wanted to avoid being the only large company in town, something it has dealt with in Seattle, according to people familiar with the company's thinking. Adding 50,000 workers—even over more than a decade—would likely cause some hiccups for transit systems and potentially lead to issues like a lack of affordable housing.

Northern Virginia's Crystal City, a neighborhood in Arlington County, appears to be a front-runner to take one of the two final positions, according to people familiar with the matter. In Northern Virginia, Amazon is already negotiating with government officials on incentives, while it is also talking with JBG Smith Properties, a real-estate investment trust, about the Crystal City real estate it owns. Part of the negotiations there involve nailing down the investment targets Amazon would have to meet to qualify for incentives, one of the people said.



**Making of a Giant: View an interactive graphic at [WSJ.com](#)**

Crystal City, just across the Potomac River from Washington, D.C., has an urban feel, numerous government offices and a ready-to-go campus with empty, older office space. The area has good access to tech talent and transportation, two factors that rank high on Amazon's wish list.

Betting websites have had Northern Virginia as the favorite for most of this year. Amazon Chief Executive Jeff Bezos has a home in the D.C. area and owns the Washington Post. The region was also the only metro area where Amazon named three finalists; D.C. proper and Montgomery County, Md., were the other two.

Another top candidate, Dallas, has a lower cost of living and public-private partnership incentives, in the form of tax abatements, grants, infrastructure cost sharing and other methods to offset project and operational costs. It is also in Texas, which doesn't levy personal income taxes, something that could prove attractive to workers for relocation.

In New York, one neighborhood Amazon has explored is Long Island City, in Queens, the Journal previously reported. That borders the East River overlooking Manhattan and is being developed with high-rise buildings filled with young professionals.



Amazon executives met with New York officials three times between April and September and then again two weeks ago, when Mayor Bill de Blasio made his final pitch, according to a person familiar with the negotiations.

New York's announcement last week that it would invest \$180 million to improve Long Island City's infrastructure was timed to coincide with the city's final push for Amazon, this person said.

After a campaign rally on Monday, New York's governor, Andrew Cuomo, told reporters he was doing everything he can to lure Amazon to the state.

"We've put together a very strong incentive package, and we've had great meetings," Mr. Cuomo said. "It's been very positive. And anything else I can think of that'll get us over the top—anything they want named Amazon. I'll change my name to Amazon Cuomo if that's what it takes, because it would be a great economic boost."

*—Jimmy Vielkind  
contributed to this article.*



# What Amazon Saw in New York And Northern Virginia

While the locations still need to add more tech workers, each already offers other key advantages that factored into Amazon's HQ2 decision

*By Stephanie Stamm*

NOV. 13, 2018

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# How Amazon Picked HQ2 And Jilted 236 Cities

For months, cities vied for Amazon's second headquarters while some executives were realizing that no single place would fulfill its requirements



A Carolina Panthers fan tries to woo Amazon shortly after the company announced its intention to find a second headquarters. Charlotte didn't make the final list.

*By Laura Stevens and Shayndi Raice*

NOVEMBER 13, 2018

In late summer, officials in Northern Virginia were surprised by a rumor that Amazon.com Inc. was going to divide its giant second headquarters—known as HQ2—between two cities.

They had grown confident of landing one of the biggest corporate-development projects in memory, with the prospect of 50,000 jobs and billions of dollars in investments within tantalizing reach of the Crystal City neighborhood in Arlington, Va.

Weeks earlier, they had impressed Amazon's site-selection team during meetings that ended with appetizers at Stomping Ground restaurant. Together, they drank beer and ate mini chicken biscuits, with a Gay Pride flag hanging out front.

Then came the curveball. Amazon confirmed the two-city rumor in a phone call. What neither Northern Virginia nor the other 19 finalists realized was that some Amazon executives had started to believe months earlier that no one city had enough technical talent to accommodate the



company's projected growth, according to people familiar with the company's thinking. The company decided in September it would split HQ2 in two.

On Tuesday, Amazon announced it would split HQ2 evenly between Northern Virginia and New York's Long Island City, while giving Nashville, Tenn., the consolation prize of an operations facility and the promise of 5,000 jobs.



A promotional effort in Philadelphia for their Amazon bid allowed residents to write why they love their city on a chalkboard.

What felt like a jilt to the losers showed just how much of a hold Amazon exerted on a swath of American cities. Some of the more than 200 applicants had invested hundreds of thousands of dollars to woo the company on the promise that HQ2 would reshape their local economies.

Amazon kicked off its beauty contest in September 2017 to showcase the company's economic benefits. In the end, the contest revealed more about its immense power.

"Would it have been better to get 50,000 jobs? Of course," said Alicia Glen, New York City's deputy mayor for housing and economic development.

Stephen Moret, chief executive of the Virginia Economic Development

Partnership, said 25,000 high-paying jobs still stacked up as one of the largest economic-development projects in U.S. history.

The mayor of Dallas, which believed it was still in the running until recently, was told by Amazon of its decision shortly before the public announcement.

“My heart is broken today,” said Mayor Mike Rawlings at a news conference that seemed more like a wake. Nashville’s mayor said he found out officially about the consolation prize when he saw Amazon’s tweet Tuesday. Amazon says it briefed the mayor’s office on Monday.

Amazon kept many of the cities in the dark through much of the roughly 14-month selection process, frustrating some government officials. Seventeen finalists leave empty-handed, despite spending a collective fortune on proposals, data and site visits.

The public spectacle drew comparisons to an unequal and dysfunctional relationship.

“They literally set in motion a bidding war and these communities literally groveled at the table of the possibility of seeing HQ2 located in their community,” said Richard Florida, a University of Toronto professor who studies urban economic development.

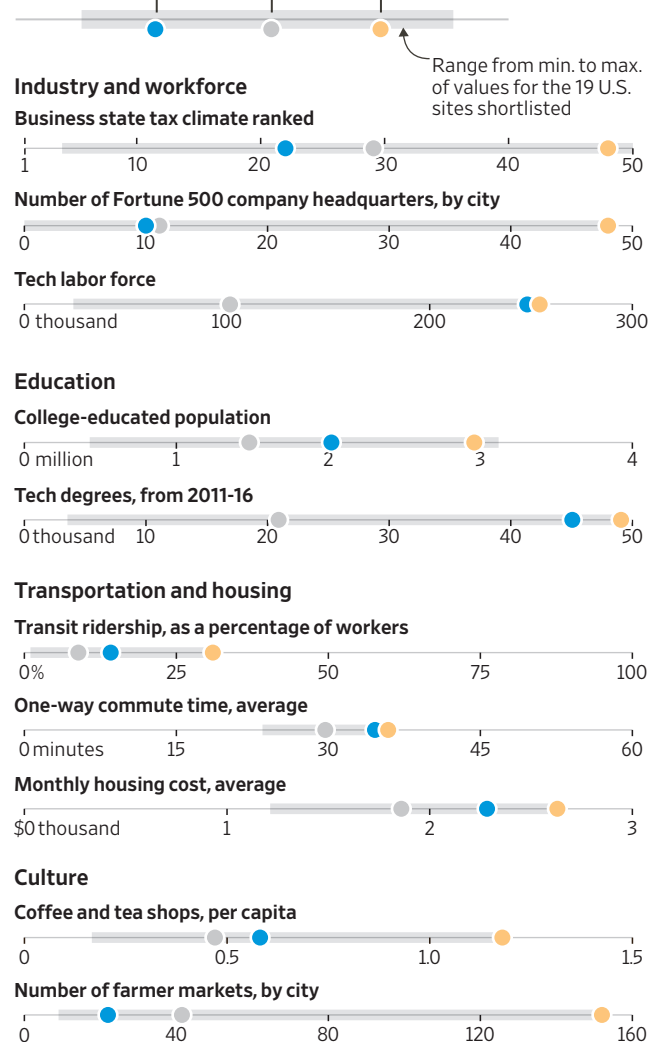
This account of the HQ2 bidding spectacular is based on interviews with dozens of city and state officials, developers and people familiar with the company’s thinking.

At around 3 a.m. West Coast time on Sept. 7, 2017, Amazon made the

## Where the Cities Stand

Amazon selected Arlington County’s Crystal City and New York’s Long Island City as locations for its second headquarters operation

Key: Northern Virginia Average New York



Notes: Data is by most recent year available and for the metro area unless otherwise specified. Northern Virginia’s data includes Washington DC, except for Fortune 500 companies and farmer markets data, which are for Northern Virginia only. Coffee and tea shops per capita is by the square root of the population.

Sources: CBRE (tech degrees, tech labor force); Center for Neighborhood Technology (jobs available); Fortune (Fortune 500 company headquarters); Green Street Advisors, Real Estate Analytics (college educated population); Tax Foundation (business tax climate); U.S. Census (commute times, transit ridership, housing cost); USDA (farmers markets); WalletHub (coffee and tea shops)

unexpected announcement: It would begin a public search for a second corporate home, which Chief Executive Jeff Bezos said would be a “full equal” to its Seattle headquarters.

The message reached municipal leaders across North America as they awoke. Large corporate-development projects can create a few thousand jobs. Amazon promised 50,000, more than the population of roughly 96% of U.S. towns. They would pay average full-time salaries of \$100,000. Amazon said it would invest \$5 billion in its second headquarters over two decades.

Seattle residents referred to Amazon as the “prosperity boom.” Since 2010, Amazon’s Seattle workforce has grown to 45,000 from roughly 5,000. The company has spent more than \$4 billion on about 40 offices in Seattle, helping transform a dilapidated neighborhood of tire shops and small warehouses.

For Amazon, HQ2 was a publicity campaign for the ages. Mr. Bezos was inspired in part by Tesla Inc.’s 2014 search for its \$5 billion advanced battery factory. Nevada won, handing over \$1.3 billion in tax incentives.

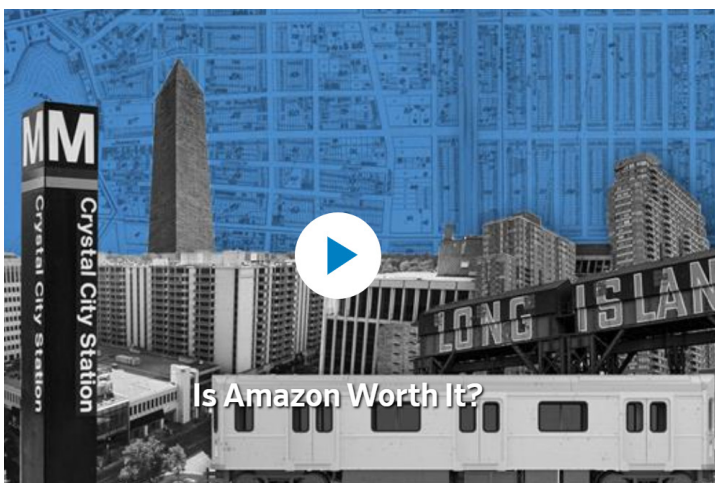
Its requirements were stringent. Amazon wanted a metropolitan area with more than one million people—eliminating all but roughly 70 North American prospects. It asked for a stable, business-friendly environment,

and an urban or suburban location with the potential to recruit top technical talent. The company also wanted a place within 45 minutes of an international airport, 1 or 2 miles from a major highway and easy access to mass transit.

Cities large and small worked overtime on their applications. “Pretty much from when they made their first announcement, we had daily war-room meet-



### What Amazon Saw in New York and Northern Virginia

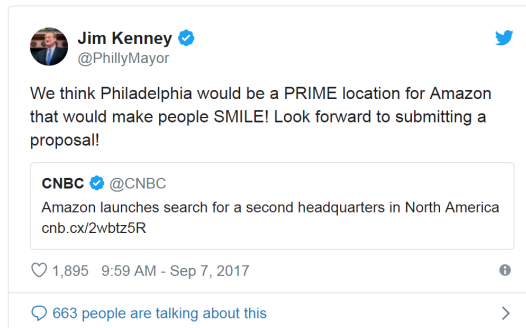


New York and Arlington, Va., traded billions of dollars in incentives for a shiny new Amazon HQ2. But the arrival of the new corporate headquarters could mean some serious challenges for the two cities.



ings,” said Brian Kenner, deputy mayor for economic development in Washington, D.C. “Sometimes we had them twice a day.”

Dozens of cities that didn’t meet all the requirements prepared pitch-



es nonetheless, hoping to grab Amazon’s attention maybe for a future project. Gary, Ind., population 80,000, bought a newspaper ad with a first-person letter to Mr. Bezos that listed its qualities and offered “all the land you need.” The Lower Merrimack Valley in Massachusetts sent a

fake diamond ring with the proposal: “let’s get merri’d.”

For others, the costs seemed too high. “Blindly giving away the farm isn’t our style,” wrote San Antonio officials in an open letter to Mr. Bezos. Little Rock, Ark., flew a banner over Seattle that said, “Hey Amazon, it’s not you, it’s us.”

Some government officials were upset about having to spend limited



J.J. Ament, left, chief executive of the Metro Denver Economic Development Council, and Sam Bailey, the group’s vice president, pose with paper and Kindle versions of their proposal a year ago. Denver was a finalist.

time and budgets on a long-shot bid. Other cities spent hundreds of thousands of dollars on consultants. The chance was too alluring to resist.

By Amazon's Oct. 19 deadline, the 238 HQ2 proposals filled a large conference room at its Seattle headquarters. Amazon went quiet for three months. It drilled into such data as the local market's rate of growth, the willingness of prospective employees to move to each city, as well as local high-school SAT scores.

On Jan. 18, 20 finalists were announced. They included a mix of predictable picks—New York City, Boston and Chicago—as well as a few wall-flowers, including Indianapolis and Columbus, Ohio, cities with smaller airports, weak public transportation and fewer tech workers.

One surprise was the selection of three contenders in the Washington, D.C., metro area. The fix was in, some speculated, because Mr. Bezos owned both the local paper, the Washington Post, and a second home



A rendering for a HQ2 proposed location from Boston, which made the list of finalists.



there. Holly Sullivan, the Amazon executive leading the effort, was the former economic director for Montgomery County, Md., one of the HQ2 finalists.

Among those not invited to the dance were Detroit and Orlando, Fla. Officials were told by Ms. Sullivan they didn't have enough tech workers. "Talent is a very big issue nationwide," Ms. Sullivan told Khalil Rahal, executive director of the group that ran Detroit's bid.

Mr. Rahal said Ms. Sullivan told him most U.S. cities fell short. "There really isn't a place in the country that's got the ability to backfill their order of 50,000 people," Mr. Rahal said.

From that point in the contest, Amazon enforced strict silence. Some officials heard that other cities were cast out early because of leaks. In fact, no cities were booted from the process for leaking information. Indianapolis, one of the finalists, required about 400 people sign nondisclosure agreements.

At this stage, Amazon asked cities what they wanted in return. The requests included ideas to cap home prices, support for more STEM education at schools and mandatory volunteer work for Amazon employees.

Amazon then asked each city to plan a less-than-48-hour visit from company officials. Cities were given almost no instruction, other than to provide sessions on education and talent, as well as site visits.

In Los Angeles, Amazon executives notified officials on a Tuesday they would be visiting the following Monday. Local officials had to juggle a major clean-technology conference scheduled for that day because Amazon executives insisted they couldn't change their plans. The message was clear: Amazon had to take priority.

In June, Amazon sent a letter saying they were still evaluating finalists. Some cities, like Raleigh, N.C., never heard back, after hosting breakfast in



Newark, N.J., has an airport, but not an Amazon office. New Jersey Sen. Cory Booker and then-Gov. Chris Christie at the city's announcement it would enter the HQ2 contest.



*‘It is a big company coming into the neighborhood. My daughter buys all kinds of stuff from Amazon.’*

—Syeda Nurun Nahar  
Long Island City

[Click for slideshow](#)

March at the state governor’s mansion and dinner at the Death and Taxes restaurant.

But Amazon’s team of about eight people made repeated visits to New York City and the Washington, D.C., area.

The July meeting of 30 Northern Virginia officials, Crystal City developers and Amazon’s team at the Stomping Ground was top secret. Owner and chef Nicole Jones was told to set up the buffet, hand over the keys and leave.

The same month, New York City’s Economic Development Corporation brought representatives from 11 area colleges and universities to meet with Amazon executives to make the case they had the necessary talent.

By August, some city officials realized Amazon was shifting its ambitions. During a second visit in Los Angeles, a city official asked whether Amazon should break up HQ2 among several cities because there wasn’t enough tech talent in one location. Ms. Sullivan and her staff appeared to give each other knowing glances.

Inside Amazon, the team had started to believe after the first site visits early in the year that no single city would likely fulfill its requirements.

Amazon made another trip to New York in September, when Amazon executives met with city officials to tour Long Island City. They rode Citi

Bikes and took a sunset cruise on a New York City ferry.

Steven Fulop, the mayor of Jersey City, N.J., across the Hudson River from Manhattan, had his own opinions about the contest. His city entered but wasn't a finalist.

Amazon "used their brand not to have any social impact," he said. "They used it to pit one community against the other and everybody fell for it. Us included."

—*Scott Calvert, Tawnell D. Hobbs. Keiko Morris and Katie Honan contributed to this article.*

### **Corrections & Amplifications**

Amazon.com Inc. chose 20 finalists for HQ2. An earlier version of this article incorrectly implied it chose 21. (Nov. 16, 2018)



A rendering of St. John's Terminal in New York City's West Village neighborhood.

COOKFOX ARCHITECTS

# Google Plans Large New York City Expansion

Nears office property deal in Manhattan's West Village for enough space to multiply city workforce

*By Douglas MacMillan, Eliot Brown and Peter Grant*

NOVEMBER 7, 2018

Google is gearing up for an expansion of its New York City real estate that could add space for more than 12,000 new workers, an amount nearly double the search giant's current staffing in the city, according to people familiar with the matter.

The plan, which hasn't been previously disclosed, would give Google room for nearly 20,000 staff in the city, including those it has now—rivaling the approximately 25,000 jobs Amazon.com Inc. is projected to add if it completes plans for a major new office in New York.



The Alphabet Inc. unit is nearing a deal to buy or lease a planned 1.3 million-square-foot office building at St. John's Terminal in the city's West Village neighborhood, said people familiar with the discussions. The building, planned to be completed by 2022, would give Google space for more than 8,500 staff, based on the industry standard of 150 square feet per employee.

In addition, Google plans to expand its existing property at Chelsea Market by about 300,000 square feet, according to people briefed on those plans. Taken with announced plans for 250,000 square feet of office space at Pier 57, that is enough space for more than 3,500 workers.

A Google spokeswoman declined to comment on any talks about the St. John's Terminal property. She said Google plans to expand Pier 57 to include a community space, winter garden and water taxi landing open to the public. The company announced in March it bought the Manhattan

Chelsea Market for \$2.4 billion but agreed to keep leasing space in the building to food and retail tenants.

The owner of the St. John's Terminal, Oxford Properties Group, a subsidiary of the Ontario Municipal Employees Retirement System, declined to comment.

The expansion is the latest sign of big tech's rapid encroachment into cities beyond the industry's traditional centers on the West Coast. Amazon, Google, Apple Inc. and others are racing to build offices outside of Seattle

and Silicon Valley, in places where real estate and talent are cheaper and where city officials are sometimes willing to strike deals to land a prominent employer with big growth potential.

Amazon's yearlong quest for a second headquarters pitted hundreds of North American cities against each other in a high-profile battle for a deal that promised to bring 50,000 employees and more than \$5 billion in investments to the new location over nearly 20 years. On Monday, The Wall Street Journal reported Amazon plans to split its second headquar-

## Space Search

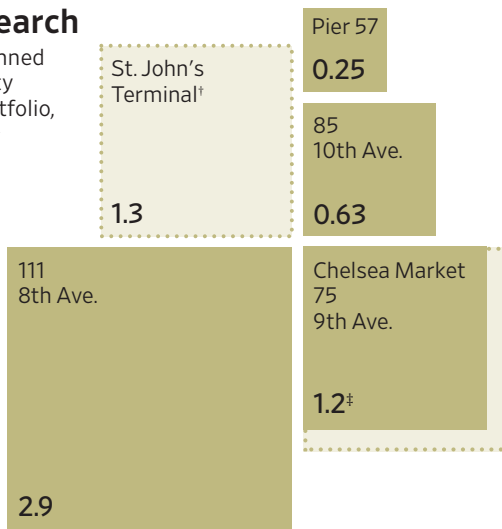
Google's planned New York City property portfolio, in millions of square feet\*

\*Approximate; owned, not necessarily occupied

†In talks to buy or lease

‡Plan to expand by 300,000 sq. ft.

Sources: the company; people familiar with the deals





ters evenly between two locations rather than picking one city, halving the potential number of jobs in each city.

New York is one of a few finalists being considered by Amazon, along with Dallas and Crystal City in northern Virginia. Amazon is negotiating to place one location in Long Island City, Queens, according to people familiar with the matter, although it hasn't been decided.

Google, by contrast, has steadily expanded its East Coast outpost with relatively little fanfare. The company, which opened its first New York office in 2000, moved into the mammoth building at 111 Eighth Ave. in 2006. That property, which Google bought for \$1.9 billion in 2010, has remained its primary office in the city while it has scooped up neighboring office buildings across the street at Chelsea Market, on 10th Avenue, and at Pier 57—a straight line west from Eighth Avenue to the Hudson River.

The company currently employs a little more than 7,000 workers in New York, or about 8% of its global staff.

New York could become the next battleground in a budding rivalry between Amazon and Google, which are increasingly vying to be the first place consumers turn for searches related to product purchases.

The potential flood of new tech jobs to New York is a boon to the efforts of local officials to turn the city into a hub of the booming tech economy. Former Mayor Michael Bloomberg championed the development of a local tech industry, including the \$2 billion Cornell Tech campus on Roosevelt Island, which opened last year.

Other politicians have dangled tax breaks and subsidies to encourage tech business in New York. Gov. Andrew Cuomo earlier this week said he had put together a strong incentive package to lure Amazon, while Newark and New Jersey proposed \$7 billion in incentives to land the e-commerce giant's second headquarters.

Google said it has not applied for subsidies or tax incentives for any of its properties in New York.

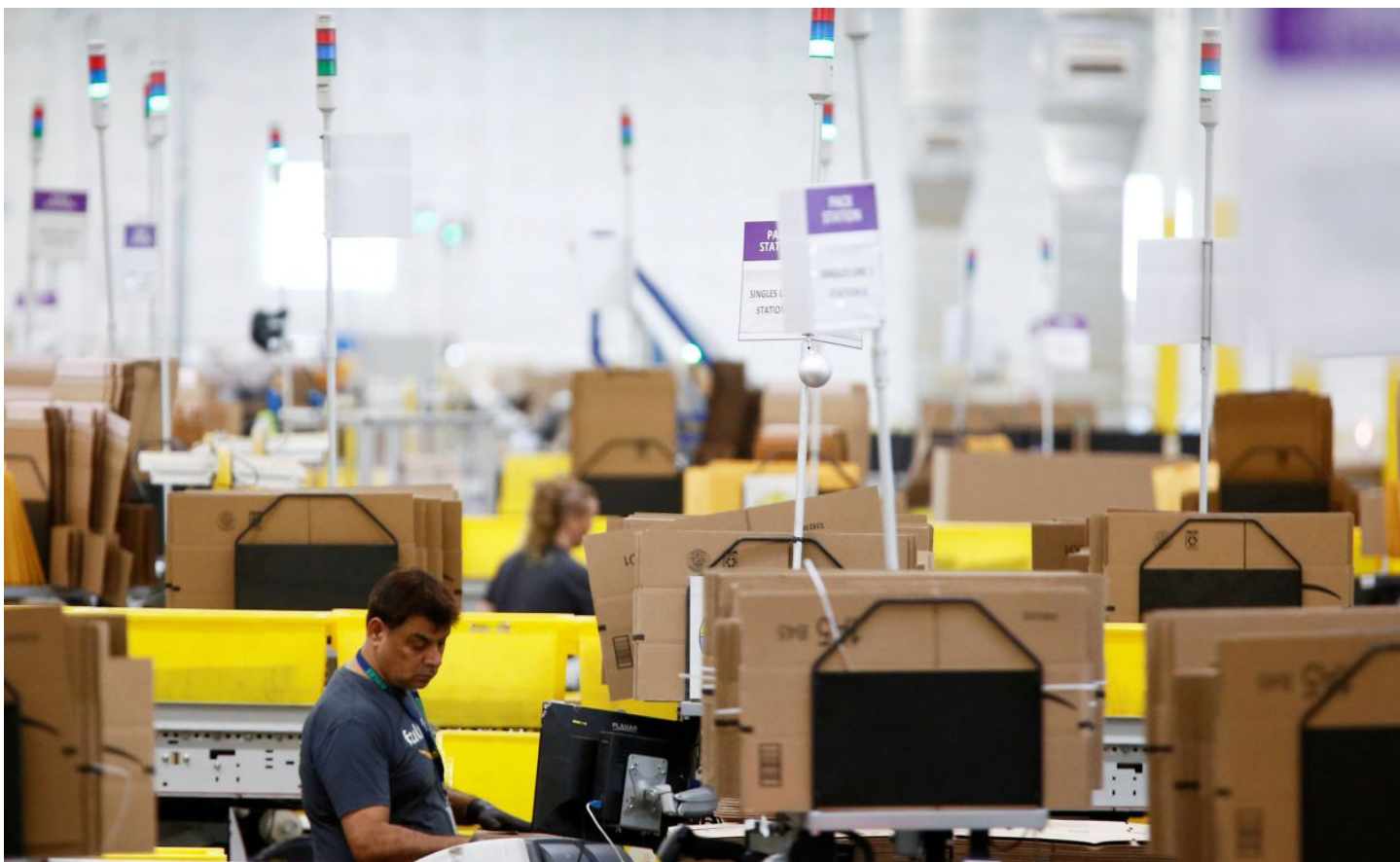
Google's website lists more than 240 job openings for New York, including roles in advertising, sales, design and engineering. Amazon lists more than 600 jobs in the area, from warehouse staff at its nearby New Jersey fulfillment centers to research scientists and recruiters in New York City.

Google has plenty of room to grow within its 4.7 million square feet of existing space in its New York City buildings, which are occupied in part

by other companies on long-term leases. As those leases expire, Google has been moving into the vacant spaces. While it's unclear exactly how much space is leased by others, it is enough square footage for many thousands more employees, people familiar with the matter said.

### **Corrections & Amplifications**

Google's offices in New York form a straight line west from Eighth Avenue to the Hudson River. An earlier version of this article incorrectly stated the East River was west of Eighth Avenue. (Nov. 7)



LINDSEY WASSON/REUTERS

An Amazon fulfillment center in Kent, Wash.

# Too Many Jobs, Not Enough Talent Spurs Amazon to Split HQ2

The prospect of hiring 50,000 qualified people in one market may have spooked the tech giant

*By Lauren Weber, Eric Morath and Melissa Korn*

NOVEMBER 5, 2018

Amazon.com Inc.'s decision to split its new headquarters exposes a secret known to many companies: It is tough to find top tech talent.

As The Wall Street Journal reported Monday, the e-commerce company has scuttled its original plan to pick a single location for a second headquarters, opting instead to build two hubs, according to a person familiar with the matter. The move stems, in part, from Amazon's need for talent—and lots of it—so increasing the number of locations will provide better access, the person said.

The competition for high-tech workers spans all of Corporate America.

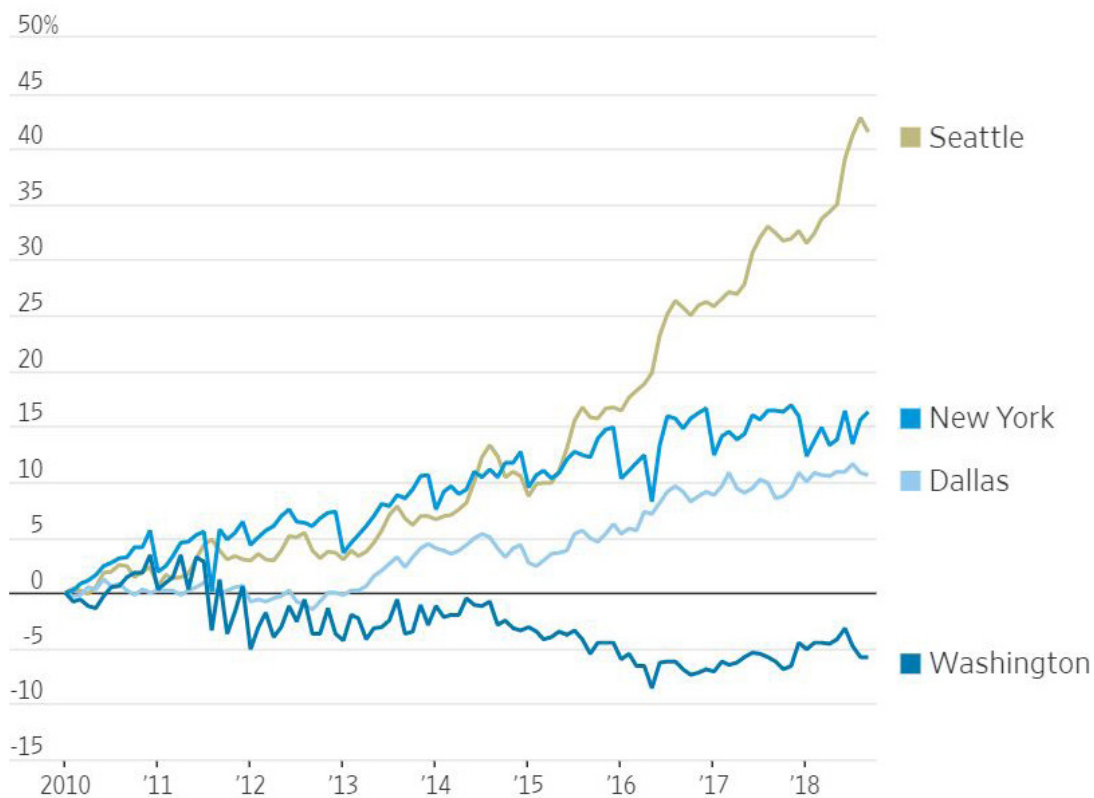
Today, companies from auto makers to insurers to health-care providers are duking it out with West Coast tech firms to attract and retain people with expertise in fields like software development, machine learning and big data.

Colleges and universities have raced to boost their offerings in engineering, data science and other hot tech-related fields, but it is still not enough. Combined, computer and information sciences and engineering accounted for just 9% of the 1.92 million bachelor's degrees awarded in 2016, according to the Education Department.

Deciding on two, rather than one, headquarter locations gives Amazon more leeway. "They have to not only move to a place with a lot of workers they can pull from, but they'll have to continuously pull from a region" to account for turnover, said Andrew Gadowski, who helps large employers execute recruiting campaigns.

## Tech Hubs

Change in employment in the tech-heavy information sector since 2010



Note: Data reflects metro areas

Source: Labor Department

Amazon said early on in its extended search that it was interested in locations with a concentration of universities that could help supply technology workers. The shortlist includes Dallas; New York City; and Virginia's Crystal City, a suburb of Washington, D.C. All have several higher-learning options.

The labor market for tech talent has tightened since Amazon started its search a year ago, said Jed Kolko, chief economist at Indeed.com. Existing tech hubs have had stronger job growth and therefore tend to be places with more expensive housing markets, so trying to attract or hire 50,000 workers to one place puts a strain on both the labor and housing markets, he added.

"One thing to watch is, if two places are ultimately chosen, how similar or different are they?" Mr. Kolko said. "If they are quite different in their housing costs or workforce, that would be a strong sign that Amazon is looking to put different functions in these different locations. If they are similar markets, then it may just be to avoid pushing up the cost of labor and having a large enough pool of workers to choose from."

Hourly wages in the tech-heavy information sector rose more than 30% since the labor market began its postrecession expansion in 2010. That is the best gain among a dozen broad sectors tracked by the Labor Department, and well outpaces the 20% wage growth for all private-sector workers.

"There is a gold rush for certain kinds of tech talent, particularly in the areas of artificial intelligence and machine learning, which Amazon is quickly moving into," said Erik Brynjolfsson, an economist and director of the MIT Initiative on the Digital Economy. He pointed to skyrocketing compensation for people with the right mix of technical skills.

One way big global tech companies have worked around the shortage of talent in the U.S. is to attract workers from outside the country. Amazon is among the biggest employer of students in the Optional Practical Training program, which allows international students to work in the U.S. for one year after graduation. A special waiver can be granted to graduates in science, technology, engineering and mathematics to extend their stay.

The program is widely viewed as a steppingstone to coveted H-1B visas, which the government caps at 85,000 for private employers each year. The H-1B visa program lets employers hire foreigners to work on a tempo-



rary basis in jobs that require highly specialized knowledge and a bachelor's degree or higher.

President Donald Trump ordered a review of the H-1B visa program but hasn't yet cut the number of visas available. Companies and recruiters say that in the past year, the administration is more stringently pushing back on applications, asking more questions about whether companies truly need to hire foreign nationals for certain jobs because qualified candidates cannot be found in the U.S.

"We had been a magnet for tech talent for a long time," Mr. Brynjolfs-son said. "But with the way our immigration policy is headed, both in the laws and the posture, we've frighten away a lot." The White House didn't immediately respond to a request for comment.

President Trump has backed reductions to legal immigration, arguing that foreigners provide unneeded competition for Americans.