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DC ECONOMIC STRATEGY

IDEAS. OPPORTUNITY. GROWTH.



STRATEGY REPORT

MARCH 2017

Letter from the Mayor

Dear District residents and entrepreneurs,

As Mayor of Washington, DC, I am pleased to share with you our new economic strategy. Shaped by conversations with hundreds of residents, business owners, investors and community leaders, and backed up by comprehensive data analysis, this strategy is a principal cornerstone of my Administration, a progressive agenda of inclusive prosperity to ensure that we continue growing our economy and creating jobs so that all DC residents have pathways to prosperity.



The last several years have ushered in unprecedented economic growth in our nation's capital. Tax revenues are increasing, unemployment is falling in every ward, and new businesses are taking root in neighborhoods all across Washington. And, people around the country are beginning to take note: in 2016, CNBC ranked Washington, DC the third best place in America to start a business, and in the top five for diversity of entrepreneurs.¹ In 2017, US News and World Report ranked Washington, DC the 4th Best Place to Live in the USA²; and, also in 2017, SmartAsset named Washington, DC the #1 city for women in tech.³ But, there is still much more we must do to reach our full potential. Washington, DC, our world-class city, can grow to be even better - a place where every resident, regardless of neighborhood, background or income, has a fair shot to succeed and thrive. Two goals guide this strategy: first, to grow DC's private sector economy to \$100 billion (by 20%), by the end of 2021. Second, we will foster economic prosperity for all Washingtonians by creating more jobs and reducing employment disparities. Specifically, we will reduce employment disparities across wards, races, and educational attainment levels, bringing unemployment levels below 10% in all segments by the end of 2021.

Throughout the strategy development process, we asked not just what the District government can do to advance inclusive economic growth, but what we can do together - government, business, and community institutions. We aspire to amplify our impact through collaboration, and I invite all members of the District's community to partner with us as we work to execute the strategy over the next several years.

Finally, the strategy is meant to be a flexible framework, balancing intention with responsiveness. The initiatives detailed in the strategy are not a holistic list of everything DC can, should, or will do to build a healthy economy. They are a collection of high-impact and ambitious, yet feasible priorities that will receive focused effort and resources. Throughout the year, we will highlight progress at www.DCEconomicStrategy.com, the strategy's web-based home, and annually we will determine whether to add new high-impact initiatives that fit within the action framework. This approach offers clarity and predictability to stakeholders through an overarching direction, while allowing for nimbleness and responsiveness when new challenges or opportunities arise.

I want to thank the Economic Strategy Advisory Committee and the many community leaders who shared their expertise and innovative ideas to help create this strategy. Together, we will make Washington, DC the global model for inclusive economic prosperity and resilience, showcasing how diversity and innovation can drive equitable economic growth.

A handwritten signature in black ink that reads "Muriel Bowser". The signature is fluid and cursive, with the first name "Muriel" and last name "Bowser" clearly legible.

Muriel Bowser
Mayor

Acknowledgements

Many people contributed to the development of DC's Economic Strategy and several deserve special recognition.

The Economic Strategy Advisory Committee: Comprising executives and thought leaders from the public and private sectors (listed in full in Appendix A, page 93-98), this body provided guidance and bold ideas at critical junctures in the process.

DC government agencies: Representatives from 22 departments, including those in the clusters represented by the Office of the Deputy Mayor for Planning and Economic Development, the Office of the Deputy Mayor for Greater Economic Opportunity, the Office of the Chief Financial Officer, the Office of the Chief Technology Officer, and the Office of Public-Private Partnerships, regularly engaged with the strategy team to ensure alignment and coordination. In particular, Katherine Mereand from the Department of Small and Local Business Development and Tanya Stern and Sakina Khan from the Office of Planning were key collaborators.

Outside experts and business leaders: Several outside experts contributed their knowledge, time, and resources to support strategy development and stakeholder engagement.

- **DC Chamber of Commerce:** Margaret Singleton and Erika Wadlington coordinated multiple convenings and focus groups that informed the strategy.
- **Urban Institute:** Researchers Peter Tatian, Leah Hendey, Brett Theodos and Don Baylor created the initial set of inclusive prosperity indicators and led a workshop with stakeholders to develop them.
- **Think Local First DC:** Raj Aggarwal and Orlando Watson helped shape the stakeholder discussion on the Local Economy.
- **S & R Foundation:** Chief Operating Officer Kate Goodall and Halcyon House Program Director Ryan Ross shared their expertise on social enterprise to kick off the stakeholder discussion on DC's impact economy.
- **Brookings Institution:** Strategic Partnerships and Global Engagements Director Marek Gootman shared his expertise on foreign direct investment and exports to start the stakeholder discussion on DC's role in the global economy.
- **Melissa Bradley,** Adjunct Faculty/Professor of Practice at Georgetown University McDonough School of Business, provided input on a draft of the inclusive prosperity metrics and shared her expertise on the sharing and gig economies at a stakeholder discussion.
- **WeWork:** DC Market Manager Kley Sippel and staff from WeWork Wonderbread and WeWork Dupont hosted stakeholder discussions.

Anchor institutions: Representatives from DC's universities and hospitals (including researchers, administrators, students and entrepreneurs) made vital contributions to the development of the economic strategy and will be essential partners to advancing several initiatives. See the Economic Climate page 19 for details.

DC residents and business community stakeholders: Hundreds of stakeholders participated in more than 25 in-person discussions and shared their ideas via www.DCEconomicStrategy.com to help shape the strategy and make DC an even greater city.

We are grateful to everyone who invested their time and energy to produce the economic strategy and strongly believe that this kind of cross-sector, stakeholder-driven collaboration is part of what will make DC an even better place to do business in the future.

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Current State of DC's Economy

In the past several years, the District of Columbia has experienced robust economic growth, which has been driven largely by the private sector. By many indicators – GDP, unemployment, tax revenues, and population – DC has demonstrated strong economic performance. However, this growth has not equally benefitted all areas of the city. Looking forward, there is uncertainty on the horizon, and continuing the momentum of the last several years will require nurturing nascent and emerging industries and effectively harnessing innovation. In short, the District is in a strong position but faces a complex challenge: finding new ways to power economic growth, while ensuring that it is inclusive and equitable.

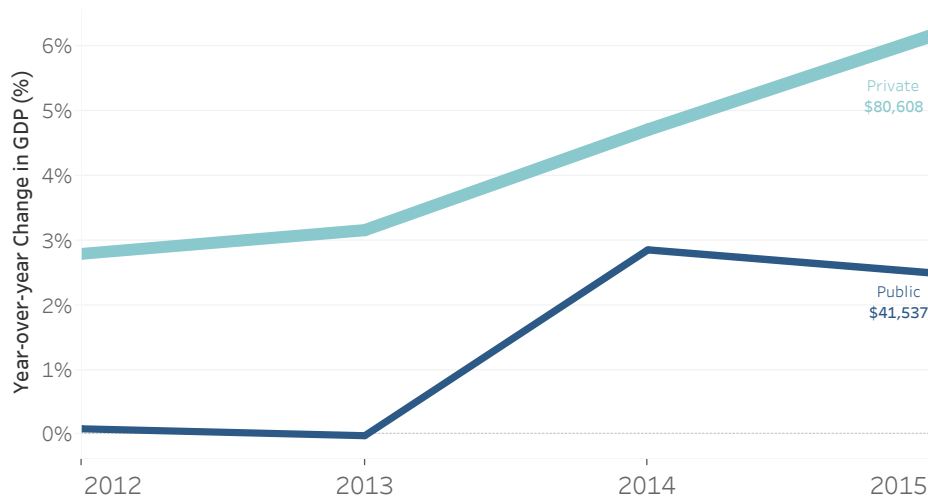
Since 2012 when the District last published an economic strategy, the DC economy has undergone significant growth. For example:

- **Real gross domestic product** (GDP) is up 11.6%,⁴ and the District's median household income of \$75,628 is second-highest among states, up from fifth in 2012.⁵
- **Unemployment** stands at 6.1%, down from 8.7% in 2012.⁶
- There were an estimated 783,200 **jobs** within the District as of October 2016, an increase of 5.7% or 42,400 jobs, over the 740,800 jobs in June 2012.⁷
- DC's tax **revenue** in FY16 was \$7.08 billion, an increase of \$1.22 billion from FY12.⁸
- DC's **population** reached 681,000 in 2016, up 7.2%, outpacing the growth of surrounding jurisdictions.⁹

Much of the growth of the DC economy in the last four years has been driven by the growth of the private sector economy. Stability in the federal sector insulated the District from the Great Recession, with federal jobs and related industries withstanding losses other cities incurred. However, fiscal cutbacks and uncertainty constrained the growth of the federal sector, with the sector growing by only 0.5% annually between 2011 and 2014, compared to 4.2% annual growth in the DC private sector between 2011 and 2015.¹⁰ As an indication of these structural changes within the District economy, there were 52,300 more private sector jobs in DC in 2016 compared to 2011 (an 11% increase) while the number of government jobs has remained largely constant.¹¹

District of Columbia GDP (Millions of Current Dollars) by Sector, 2011 - 2015

Line thickness shows relative GDP in each sector



Source: Bureau of Economic Analysis

Figure 1: DC GDP by Sector, 2011 - 2015

The District has benefited from an influx of highly-educated millennials and others increasingly looking to live, work, and play in urban environments. DC's millennial population grew at a rate 60% above that of the total U.S. in 2012 and 2013¹², and even though this has slowed recently, the city remains more attractive to millennials than other American cities. Among American cities¹³, DC has one of the highest millennial shares of population, second only to neighboring Arlington, Virginia.¹⁴ Neighborhoods such as Capitol Riverfront, Columbia Heights, the H Street Corridor, and NoMa have experienced significant investment, resulting in thousands of new residents.¹⁵ Spurred in part by the rising preference for urban living, the DC population reached 681,000 in 2016, up 7.2% from 2012. Population growth in DC has outpaced surrounding DC metro-area jurisdictions, and DC is likely to continue to be the fastest-growing jurisdiction in the region, reaching a population of almost 1 million in 2045.¹⁶ This population growth has attracted companies seeking to hire talented people, as well as businesses that tap into this customer base.

DC has opportunities to grow its economy by building on its urban character, technology expertise, workforce with a passion for policy and impact, and its strengths in services. However, despite these positive trends, DC also faces several challenges. The federal government still accounts directly for about 30% of the DC economy, and government spending has remained largely flat since the 2011 Budget Control Act came into force. The future of federal government spending under the new presidential administration is uncertain. Already the Trump Administration has ordered a federal hiring freeze and a long term plan from the Office of Management and Budget for reducing the size of the workforce, suggesting that federal employment will be significantly constrained for years to come. The new administration's decisions could also affect private sector contracting. There are potential economic benefits as well, including boosts to the professional services sector (namely legal and lobbying) and security technology industry, infrastructure investments, potential rollbacks of federal regulation affecting business, and increased local spending resulting from increased large-scale convenings and organized demonstrations. Overall, this uncertainty reinforces the need to further diversify DC's economic base to reduce reliance on the federal government - one of the primary objectives of DC's Economic Strategy.

A slow-down in private sector growth poses another potential challenge to DC's continued growth. Year-on-year private sector job growth in July 2016 was only 1%.¹⁷ The U.S. economy has expanded in the seven years since the Great Recession ended, and economists are divided over whether the national economic environment will show the steady, moderate GDP growth of the last few years, or if a new recession may take place. The slowdown of private sector growth points to the importance of ensuring that the DC business environment remains conducive to job creation, and that the DC local economy further builds indigenous businesses.

DC's growth has also been experienced unevenly among residents, with economic inequality in the District higher than most other states and major metropolitan areas. DC's income gap ranks in the top 5 among the 50 largest U.S. cities. The average household income of the top 5% of DC residents is 52 times the income of the bottom 20%.¹⁸ As economists Chris Benner and Manuel Pastor have noted, this inequality may be a barrier to DC's economic growth.¹⁹ Other economists, such as Joseph Stiglitz, have theorized that a reduction in the middle class (i.e., greater inequality) leads to less consumer spending, ultimately reducing growth prospects.²⁰

As DC faces a new set of opportunities and challenges, the Office of Mayor Muriel Bowser has refreshed the District's economic strategy and identified priorities for the next several years. The strategy that follows will serve as a flexible framework for action, helping to guide decisions about priorities and resource allocation. The strategy was developed through extensive data and economic trend analysis, as well as consultation with residents and community groups, local and federal government, global, national and local businesses of all sizes, and industry experts. Finally, through the economic strategy, the Bowser Administration hopes to align the efforts of many actors - government, residents, investors, the business community, and philanthropic institutions - towards a collective vision for inclusive prosperity in DC. The initiatives identified in this strategy include not only high-

impact priorities that the DC government will execute, but also priorities spearheaded by business and community leaders that require cross-sector collaboration. By working collectively towards this common vision, we can help DC reach its full potential and bring opportunity to all Washingtonians.^A

A Vision for DC's Future Economic Growth

DC's Vision

Mayor Bowser's vision is for Washington, DC to become the global model for inclusive prosperity and resilience, showcasing how diversity and innovation can drive equitable economic growth. This vision was shaped by conversations that took place in fall 2016 with over 450 stakeholders, including business executives, local entrepreneurs, nonprofit leaders, neighborhood residents and many others. Across all of these conversations, near consensus emerged on several topics:

- DC must grow inclusively and equitably and not become a city accessible only to those with wealth and privilege.
- DC's diversity is a strength that positions the city to innovate, but it must also be actively preserved and cultivated.
- DC is in a strong economic position, but must continue to be proactive and forward-looking to continue our momentum and remain economically vibrant.

The concepts of growth, inclusiveness, innovation, and economic resilience are defined as follows:

- **Growth** means continuing to support and encourage a thriving economy via increased commercial tax base and job creation across all of DC's major economic sectors.
- **Inclusiveness** means people from all backgrounds, neighborhoods, and incomes - longtime and new - have an opportunity to contribute to, benefit from and live in a prosperous District.
- **Innovation** involves harnessing the potential of new technologies, processes, or methods to grow and disrupt traditional industries, as well as exploring new and emerging business models and sectors.
- **Economic Resilience** involves developing an economy that is diversified in its focus across industrial sectors, and minimizes inequalities of, for example, wealth, income and access to opportunities.

Goals and Metrics

Two overarching goals guide the economic strategy. We will use the related metrics and align agency performance plans to track progress toward our vision:

1. **Grow a vibrant and resilient economy driven by private sector expansion.** Specifically, grow the DC private sector economy to \$100 billion (by 20%), by the end of 2021. Private sector GDP as of 2Q16 was \$83.4 billion.
2. **Foster economic prosperity for all Washingtonians by increasing job opportunities and decreasing employment disparities by the end of 2021.** Reduce unemployment across wards, races, and educational attainment levels, bringing unemployment levels below 10% in all segments by the end of 2021.

Private Sector Expansion Goal

These two bold goals and accompanying metrics will transform DC's vision into accountable action. Growing the private sector economy by 20% to \$100 billion means that private sector GDP will have to grow at 3.4% annually.²¹ For context, while the annual growth rate for DC's private sector GDP from 2Q12-2Q16 was 4.2%, and the annual growth rate for total GDP (public and private sectors) was 3.5%, more recent figures suggest that DC economic growth has been slowing.²² Year-on-year private sector

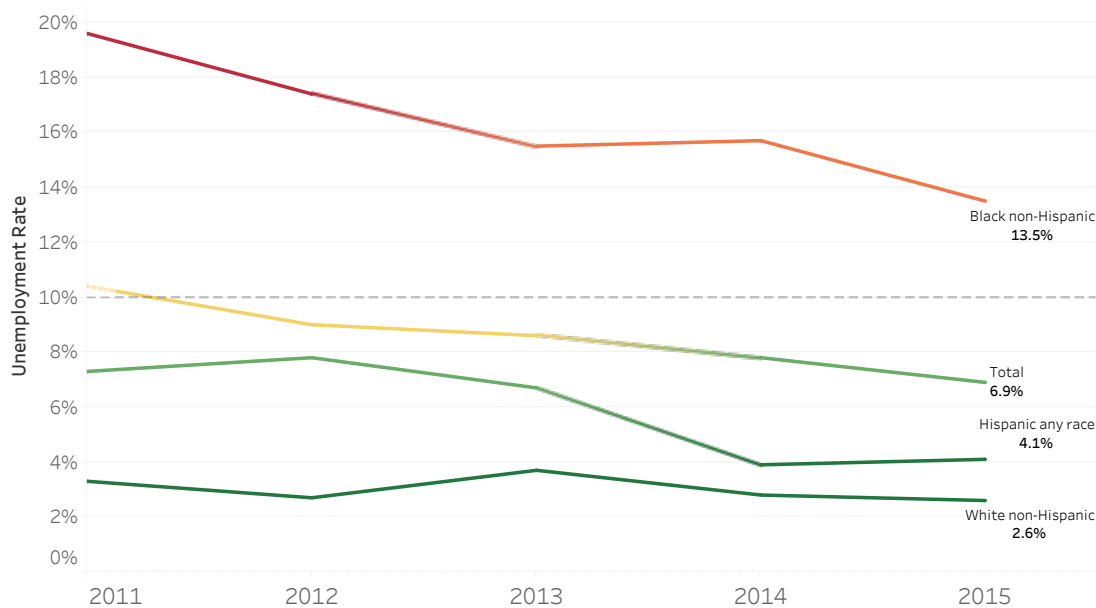
growth in July 2016 was only 3.5%, while recent employment data shows the number of jobs in DC growing by only 1.8%.²⁴ A larger private²³ sector economy means more jobs and revenue for the city, and will also enhance economic resilience by diversifying the DC economy away from its focus on the federal government. The Framework for Action section describes initiatives intended to strengthen the core sectors of the DC economy and grow new opportunity areas in order to achieve private sector economic growth.

Employment Goal

The second goal of fostering economic prosperity for all Washingtonians by increasing job opportunities and decreasing economic disparities will be measured using unemployment rates across the dimensions of ward, race, and education levels. Achieving this target would require creating jobs for District residents from all walks of life, with a special focus on opportunities for residents without four-year educational degrees and returning citizens. This goal translates to the following targets:

- **Reduce unemployment levels of African-American residents.** African-American residents face an unemployment rate of 13.5%. This is higher than DC's overall unemployment rate and over 5 times that of Caucasian residents (2.6%).
- **Reduce unemployment levels of high school graduates without a Bachelor's degree.** The unemployment rate of high school graduates stands at a staggering 15.6% compared to the 3.3% for those with a Bachelor's degree (or higher).²⁵
- **Reduce unemployment levels of Wards 7 and 8.** The 12-month average unemployment rates (November 2015-16) for Ward 7 and 8 were 10.9% and 13.4%, respectively. Unemployment levels in other wards were consistently below 10%.

Unemployment by Race/Ethnicity, 2011 - 2015

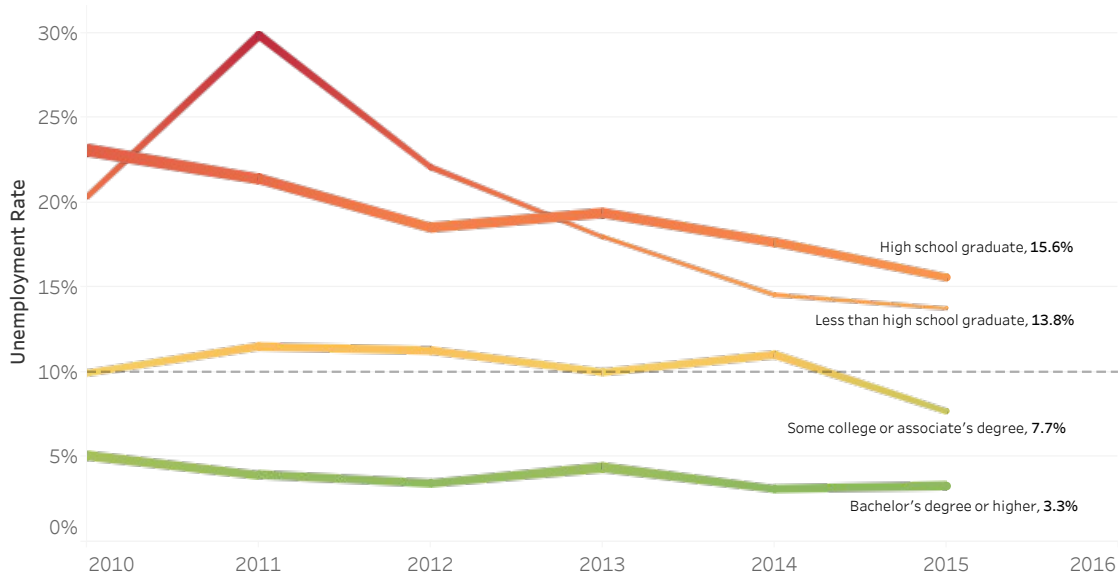


Source: EPI analysis of Current Population Survey microdata. Data reflect 12-month calendar year averages.

Figure 2: Unemployment by Race/Ethnicity, 2011 - 2015

Unemployment by Educational Attainment, 2010 to 2015

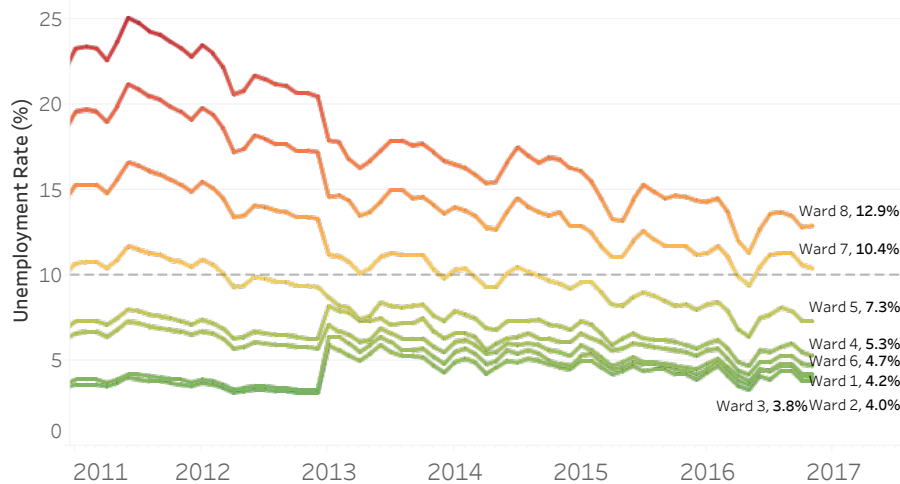
Line thickness shows relative number of unemployed individuals in each educational attainment subgroup



Source: Data are from the American Community Survey, 1 year estimates. Chart shows educational attainment by employment status for population 25 to 64 years old.

Figure 3: Unemployment by Educational Attainment, 2010 - 2015

Unemployment by Ward, January 2011 to November 2016



Notes and Sources: Data are from DOES. Data are not seasonally adjusted.

Figure 4: Unemployment by Ward, 2011 - 2016

Measuring Inclusive Prosperity

In addition to the two goals outlined above, the Office of the Deputy Mayor for Planning and Economic Development (DMPED) is developing an inclusive prosperity dashboard—a set of indicators that collectively define components of a business environment that drive inclusive prosperity. This will provide government, residents, and business and community leaders a shared empirical definition of inclusive, equitable economic growth and also enable all parties to monitor progress toward it. The indicators measure whether quality jobs are available, businesses can thrive, and residents are

prepared for, and can access work. The metrics and accompanying dashboard will be beta tested and refined over the next year.

Performance metrics will be created to track the individual initiatives within this strategy as initiatives are fleshed out to ensure accountability. Each year, the District will report on progress toward the strategy's initiatives and determine whether to add new initiatives.

Scope

The economic vitality of a place is affected by numerous factors. A strong, smart economic strategy is cognizant of these factors and honest about its limitations. The parameters below define the scope of this strategy.

Focus and Complementarity with Other Plans

This strategy is focused on promoting the District's economic growth via the business climate – that is, by growing the commercial tax base, creating jobs, and fostering innovation (including entrepreneurship). It is meant to complement other plans and efforts addressing topics critical to the economic health of the District, particularly those related to affordable housing, which is essential to DC's continued growth, prosperity and inclusiveness. The strategy is thus closely coordinated with Preservation Strike Force Plan for Affordable Housing, the Consolidated Plan, the Comprehensive Plan, and other plans related to transportation, education, culture, health and community development.

The District's Workforce Innovation & Opportunity Act (WIOA) Unified State Plan (2016-2020), is a particularly important complement to the economic strategy. The WIOA plan identifies five in-demand sectors – business administration and information technology, construction, healthcare, hospitality, security and law – as priorities for workforce development, and departments within the Deputy Mayor's Office for Greater Economic Opportunity (DMGEO) cluster are developing sector-focused career pathways for each of these five areas, with a focus on pathways for residents that do not have a bachelor's degrees. These five priorities intersect with many of the growth opportunities identified in the economic strategy, and the relevant agencies (including the Office of the Deputy Mayor for Planning and Economic Development, the Department of Employment Services, the Workforce Investment Council, and others) will work together to further develop career pathways within these areas over the next several years. The WIOA State Unified Plan is available at:

https://dcworks.dc.gov/sites/default/files/dc/sites/dcworks/publication/attachments/WIOA_DC_Unified_State_Plan_Final.pdf.

Supports Plans that provide a foundation for economic growth and complement the economic strategy	
Affordable Housing	<p>CONSOLIDATED PLAN - Consolidated Plan: Priorities for the District's housing and community development needs (2016)</p> <p>COMPREHENSIVE PLAN - 20-year framework that guides future growth and development (2011)</p> <p>PRESERVATION STRIKE FORCE REPORT - An action plan to preserve the District's existing affordable housing covenants set to expire in 2020 (2016)</p> <p><i>Support economic growth by producing a housing supply that enables residents of all income levels to safely live in DC</i></p>
Transportation And Mobility	<p>MOVE DC - 25-year vision for the transportation system of DC (2014)</p> <p><i>Supports DC's economic growth by ensuring a reliable, safe and multi-modal transportation network that ensures workers can get to jobs across the region</i></p>
Sustainability	<p>SUSTAINABLE DC - 20-year plan to make DC the healthiest, greenest, and most livable city in the U.S. (2013)</p> <p>CLIMATE ACTION PLAN - Plan to reduce the carbon footprint of the DC government and overview of actions that others can take to address greenhouse gas emissions from our community as a whole (2011)</p> <p><i>Both Support DC's economic growth by creating a green and healthy city attractive to talent and employers and by making DC more resilient</i></p>
Education	<p>A CAPITAL COMMITMENT - DCPS's Strategic Plan to build a high-quality, vibrant school district (2017)</p> <p><i>Supports DC's economic growth by preparing youth with the skills needed to succeed in our economy</i></p>
Demographics	<p>AGE-FRIENDLY DC - Strategic plan for DC to become an age-friendly city under the terms of the WHO Age-Friendly Environments Initiative (2014)</p> <p><i>Supports DC's economic growth by making the District a place where people can thrive at all ages</i></p>
Influenced Plans that informed the content of the economic strategy	
Workforce	<p>WIOA UNIFIED STATE PLAN - 4-year workforce development strategy for DC's workforce and adult education system (2016)</p> <p><i>Informed Strategy's high-demand growth sectors and talent initiatives</i></p>
Technology	<p>PATHWAYS TO INCLUSION REPORT - Report highlighting the current state of tech inclusion in DC and how the District can create the most inclusive innovation ecosystems on the East Coast (2016)</p> <p><i>Several Strategy initiatives were recommended in the report, e.g. Tech Career Pathways Pledge</i></p>
Business Environment	<p>BUSINESS REGULATORY REFORM TASK FORCE REPORT - Report outlining 16 recommendations to improve DC's business environment (2014)</p> <p><i>Informed Strategy's permitting redesign initiative and will help guide workplan for execution</i></p>
Coordinated Plans that informed and were informed by the economic strategy	
Jobs	<p>WORKING GROUP ON JOBS, WAGES AND BENEFITS - Recommendations to improve DC's competitive position, attract and retain businesses, protect and promote commercial diversity, promote the creation and retention of well-paying jobs, and create pathways to the middle class. (in development)</p> <p><i>Expert testimony from the Working Group informed the strategy, and economic analysis and stakeholder feedback from Strategy engagement informed the Working Group report</i></p>
Arts & Culture	<p>CULTURAL PLAN - Developing plan that will define a vision for how together we can strengthen and invest in people, places and communities that define culture within the nation's capital (in development)</p> <p><i>Stakeholder feedback from Cultural Plan and Economic Strategy engagements was shared between respective teams to shape action</i></p>
Long-Term Growth and Land Use	<p>COMPREHENSIVE PLAN - 20-year framework that guides future growth and development (2011)</p> <p><i>Provided long-term plan for growth that informed Strategy; also stakeholder feedback from Comprehensive Plan amendment and Economic Strategy engagements was shared between respective teams to shape action</i></p>
Technology	<p>SMARTER DC - 20-year framework that guides future growth and development (2011)</p> <p><i>Provided long-term plan for growth that informed Strategy; also stakeholder feedback from Comprehensive Plan amendment and Economic Strategy engagements was shared between respective teams to shape action</i></p>
Resilience	<p>RESILIENT DC - A roadmap for environmental and economic resilience (coming in 2017)</p> <p><i>The Strategy offers guidance for the roadmap's economic resilience approach, and early roadmap planning discussions informed the Economic Strategy's concept of resilience.</i></p>

Figure 5: DC Plans and Strategies

Timeframe

The strategy provides a framework that will help guide decisions about priorities, resources and policy for the next three to five years. It also identifies initiatives that will be acted on immediately to optimize results for DC's communities.

Dynamism and Comprehensiveness

This strategy outlines a framework and priorities for action. The initiatives detailed in the strategy are not a holistic list of everything DC can, should, or will do to build a healthy economy. They are a collection of high-impact and ambitious, yet feasible priorities that will receive focused attention, effort and resources. Acknowledging that DC is a dynamic and ever-changing environment, this strategy is meant to be a flexible framework that can be adapted for years to come. Each year, the District will report progress toward the goals and determine whether to add new high-impact initiatives that fit within the action framework. Throughout the year, we will highlight progress on this strategy at www.DCEconomicStrategy.com, the strategy's web-based home. In short, this approach balances intention with responsiveness. It offers clarity and predictability to stakeholders through an overarching direction, while recognizing the need to be nimble and responsive when opportunities and challenges that are impossible to anticipate inevitably emerge.

Regional Cooperation

The District of Columbia is the nation's fifth largest metropolitan region by GDP, comprising the core of a broader regional economy spanning Maryland, Virginia, and West Virginia. No city economy functions in isolation, and the District embraces its economic interdependence with neighboring jurisdictions. This economic strategy was developed with that regional context in mind. Actions set forth in the strategy take into account opportunities to drive forward the regional economy through both independent and collaborative approaches, including the industry clusters identified via The Roadmap for the Washington Region's Future Economy (2016) and other regionally-focused analyses. However, this strategy also recognizes the limits of District government's authorities and resources, and most importantly, its commitment and responsibility to the residents of the District.

Progress through Collective Action

Throughout the strategy development process, the project team consistently posed the following question:

How can we advance inclusive prosperity for DC? What can District government do? What can business, community, and other institutions do? What can we do together to achieve our vision for DC?

The planning process to develop this strategy served as a call to action and partnership between the DC government, established businesses of all sizes, entrepreneurs, philanthropies, non-profits, universities, neighboring jurisdictions and regional entities, and the community. The economic strategy, while now complete, continues that call for collaboration. We welcome opportunities to partner with DC's many stakeholders.

Methodology

To create this economic strategy and identify key priorities, DMPED established and led a core strategy team that included the Washington DC Economic Partnership (WDCEP), strategy consultants and economic analysts from Monitor Deloitte, and communications and design professionals from Ghost Note Agency, a certified business enterprise (CBE) founded by native Washingtonians. An intra-government network informed the process, and a public-private sector advisory committee provides guidance.

The strategy team synthesized findings from research and data analysis, as well as feedback from key stakeholder groups. Figure 6 below illustrates the various phases of the analysis, while Appendix A contains a more detailed description of the methodology.

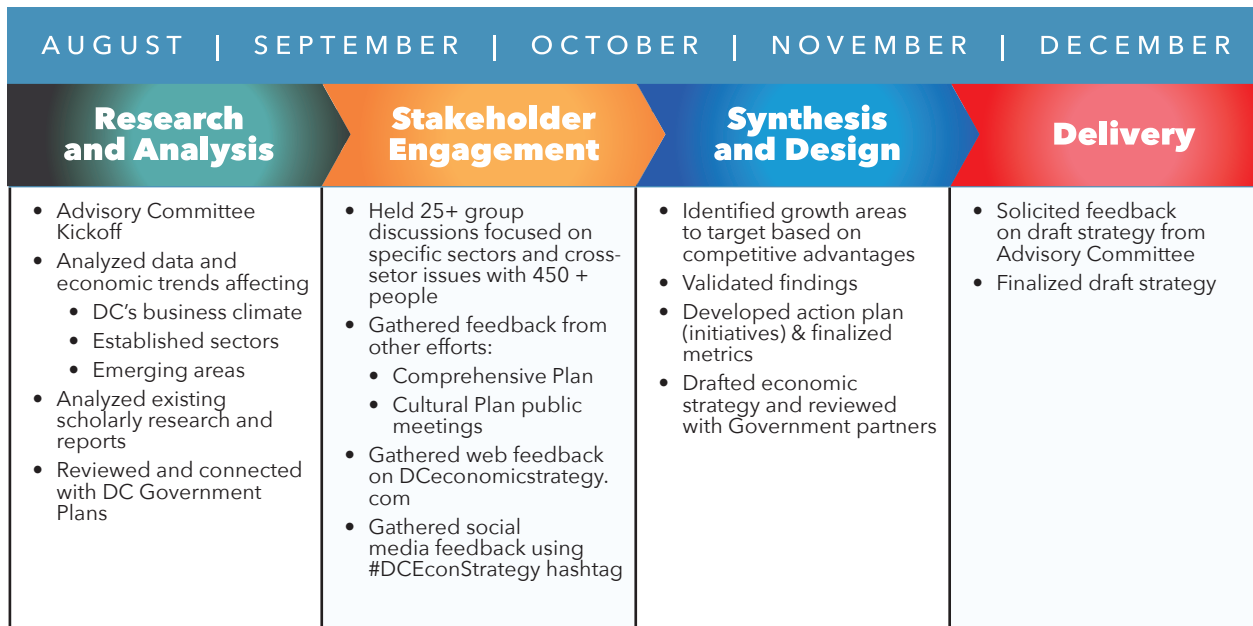


Figure 6: DC Economic Strategy Process

To ensure that the recommendations in the strategy were evidence-based, the strategy team conducted a comprehensive environmental scan and quantitative data analysis of trends in the business climate in DC, the core sectors of the District economy, and potential opportunity areas for inclusive prosperity. This included original data analysis of the DC economy based on publicly available data (particularly from the Bureau of Labor Statistics and the Bureau of Economic Analysis), scholarly research on inclusive growth strategies, searches on local business press, as well as reviews of case studies applicable to DC that included specific approaches to inform and inspire the action plan. Furthermore, the team incorporated insights and recommendations from related assessments and reports, such as Pathways to Inclusion (2016) and the Business Regulatory Reform Task Force Report (2014).

The strategy team actively engaged the community in order to get input from diverse sources, validate the analysis, and make the strategy an actionable, shared strategy. The stakeholder engagement process involved more than 25 sector-specific and cross-sector discussions with more than 450 stakeholders from all types of businesses, sectors, backgrounds, and communities of the District. These stakeholder engagement sessions took a variety of formats, including sector-specific focus groups and larger format cross-sector meetings.

In addition to these discussions, this strategy incorporated community feedback from a variety of other sources, including nearly 2,000 visitors to the DCEconomicstrategy.com website, video sessions taped with stakeholders (available on the website), and social media conversation using the #DCEconStrategy hashtag. The strategy team reviewed and coordinated with existing DC government plans and documents in order to incorporate and amplify other DC efforts underway. This included ongoing community engagement efforts, such as the Office of Planning's Comprehensive Plan amendment meetings and Cultural Plan engagement sessions.

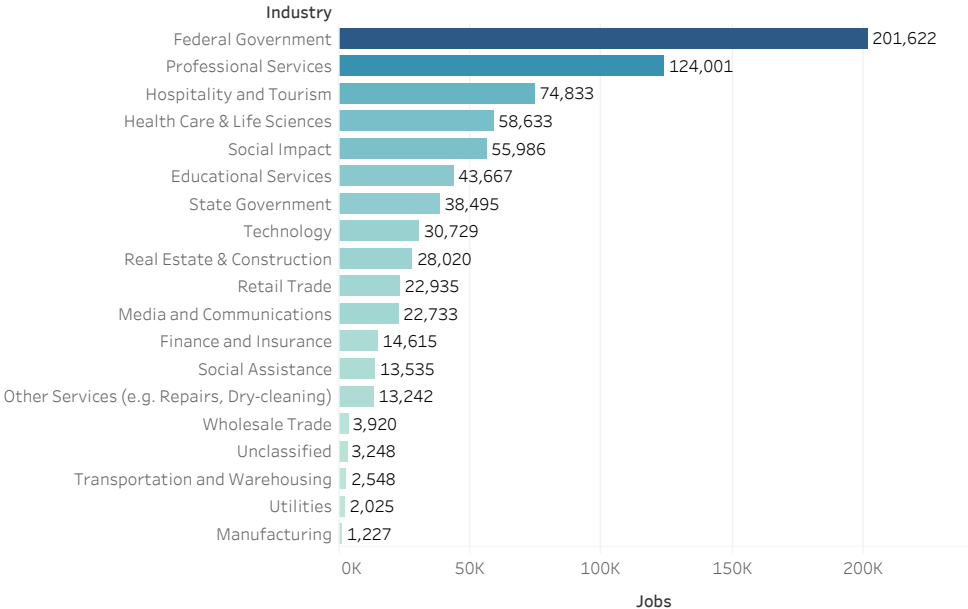
Economic Climate

The following sections analyze the overall business and economic climate of the District along several different dimensions: industrial composition of the District economy and resilience; workforce capabilities; equity; the regional and global reach of the DC economy; innovation; and enablers (quality of life, infrastructure, and transportation).

Industrial Composition of the District Economy and Resilience

DC’s economy is largely a service economy – 98% of the 787,000 jobs in the District in October 2016 were service-based, one of the highest rates of any city or state in the country.²⁶ The figure below shows the breakdown of the jobs in DC by sector. The federal government is the largest source of jobs, accounting for 202,000 jobs or 27% of the jobs in DC. Other key sectors include professional services (124,000 jobs), hospitality including accommodation, food service, and entertainment (75,000 jobs), health care and life sciences (59,000 jobs), and social impact jobs (56,000 jobs).²⁷

Jobs in DC, 2Q16



Source: Bureau of Labor Statistics

Figure 7: Jobs in DC, 2Q16

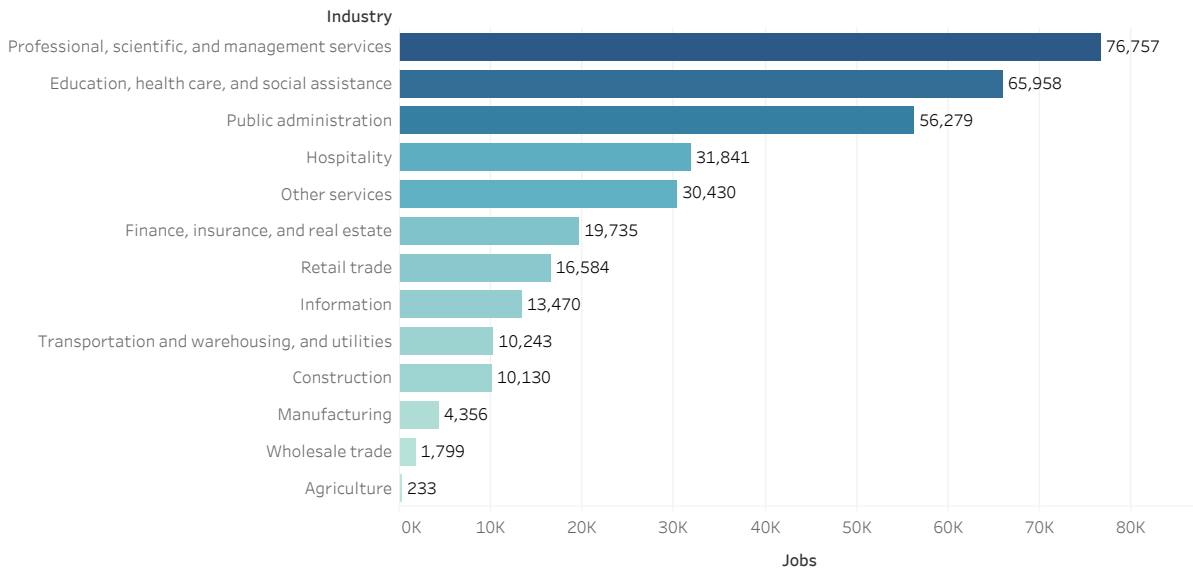
While private sector growth has outpaced public sector growth in recent years, the federal government remains central to the District’s economy. The federal government presence offer various benefits: it creates a large customer base, attracts a highly educated workforce, and makes DC the place where standards for regulated industries (e.g. cybersecurity, health/life sciences) are set. The federal presence also has a multiplier effect, as the DC economic ecosystem interacts with and builds on the federal economy. However, the significant role of the federal government in the District’s economy creates an over-reliance on local federal spending and thereby poses risks to the District’s economic resilience and ability to respond to acute shocks, such as federal shutdowns or substantial reductions in federal spending. As discussed above, the new administration’s federal hiring freeze and workforce reduction order, potential federal fiscal cutbacks, and further uncertainty underscore the need for continued economic diversification of DC’s industry base, including prioritization of technology startups,

innovation, and entrepreneurship as key growth areas.

Jobs in DC form about 24% of the DC metro area's 3.28 million jobs.²⁸ Many of those jobs are held by commuters from outside DC, with the main sources being Prince George's County, Maryland (140,000 commuters daily), Montgomery County, Maryland (110,000), Fairfax County (95,000), and Arlington County (50,000).²⁹ Conversely, almost 25% of DC residents commute out of DC for work.³⁰

The sectors accounting for the most jobs held by District residents are highlighted in Figure 8 below. Due to data limitations, these sectors are not always directly comparable to the sectors in Figure 7 (e.g. jobs in education, health care, and social assistance are aggregated).

Jobs of DC Residents by Sector, 2011-2015



Source: American Community Survey 2011-2015

Figure 8: Jobs of DC Residents by Sector, 2011 - 2015

Finally, while DC faces uncertainty that may have economic implications, its solid financial position offers some ability to buffer potential shocks. The District's FY 2016 Comprehensive Annual Financial Report received a clean/unqualified opinion from independent auditors for the 20th consecutive year. As of February 1, 2017, the District had enough liquidity to cover 56 days of operations (\$1.165 billion). In addition to increased revenues, the District's pensions are fully funded and bond ratings are strong.³¹

Workforce Capabilities

The DC workforce is highly educated, with 89% of resident adults possessing a high school diploma and 55% of all adults over 25 possessing at least a Bachelor's degree, well above the national average of 30%.³² While DC has a reputation as a center for public policy and law, the District also has a strong science and engineering base that makes it well-suited for many high-growth industries of the future. STEM (science, technology, engineering, and math) degrees made up 41% of all degrees granted by DC institutions in 2013, and 10% of all those employed in DC in 2014 were in science and engineering occupations.³³ However DC continues to face a significant workforce opportunity: reportedly, the most difficult occupations to fill are computer programmers, software developers for applications and systems software, civil engineers, and registered nurses.

DC's workforce also has some challenges. The biggest threat to DC's workforce lies in the future of the job market for those not pursuing a traditional 4-year full-time college degree. Approximately 60,000 residents lack a high school credential, and a Georgetown study projects that in four years, 76% of all jobs in DC will require some postsecondary education, whether academic or technical. This is the highest rate of any state in the country and higher than the projected national figure of 65%.³⁴ The District has constraints in its ability to provide technical/vocational education, with the University of the District of Columbia Community College (UDC-CC) as its only community college. The District's workforce development plan, the WIOA Unified State Plan (2016-2020), is focused on addressing this challenge, and has identified five in-demand sectors for prioritization and career pathway development for residents without advanced education. Insights from the economic strategy will also inform these efforts. The WIOA Plan is available at: <http://bit.ly/2oSeZg6>.

Equity

According to a Brookings Institution study, DC has the seventh highest level of income inequality among major American cities.³⁵ Top earners make, on average, 54 times as much as those in the bottom quintile.³⁶ This income disparity is seen along geographic, racial/ethnic, and gender dimensions. These trends are reflected regionally as well. In 2013 and 2014, white households in the DC metropolitan area had a net worth 81 times that of black households, or \$284,000 compared to just \$3,500.³⁷

DC has made incremental progress in some areas. The Harvard Equality of Opportunity project ranks DC a respectable 37th among the 100 largest counties in America in terms of providing equality of opportunity.³⁸ Another area of strength is DC's leading share of women-led small businesses, higher than that of any other metro area. DC is ranked third among cities with the highest levels of diversity among business owners across the country.³⁹

DC has shown a focus on helping underrepresented communities succeed in innovation and entrepreneurship. Pathways to Inclusion, the first-ever DC government report on the current state of inclusion in the District's tech, innovation, and entrepreneurship economy, sets bold goals to expand opportunities for District residents, including creating 5,000 new tech jobs for underrepresented workers and 500 new tech businesses founded by underrepresented entrepreneurs. In 2016, the District invested \$1 million to create the Inclusive Innovation Incubator (In3), a new space at Howard University operated by Luma Labs, which is set to open in 2017. The incubator will support underrepresented entrepreneurs and businesses that provide products and services to underserved communities. The DC government also supported the launch of Beacon, a campaign dedicated to supporting women founders and entrepreneurs.

Regional and Global Reach

The District is the economic heart of the various jurisdictions that make up the Greater Washington Region. The DC metro area (defined as the Washington-Arlington-Alexandria, DC-VA-MD-WV metropolitan statistical area) has 6.1 million residents (6th largest in the country), 3.28 million jobs, and a GDP of \$491 billion (5th largest).⁴⁰ Adding the Baltimore metro region and other surrounding counties brings the region's population to 9.6 million (4th largest nationwide) and GDP to \$681 billion (3rd largest).⁴¹ Competition over business attraction and federal spending has often characterized the relationships between DC metro area jurisdictions. Greater cooperation in targeted areas could enable the region as a whole to better compete with other metropolitan areas domestically and internationally, to the benefit of individual jurisdictions. For example, the region could draw on the relative strengths and complementary assets of jurisdictions, such as the attractiveness of DC's walkable urban environment for talent and the availability of land and existing IT infrastructure for data centers in Northern Virginia.⁴² The region could also build on longstanding cooperation around tourism through efforts such as Capital Regional USA (CRUSA) and joint international trade missions to secure additional direct flights to growing markets and increase foreign direct investment and exporting. The recent announcement of a direct Dulles-New Delhi flight is a good example of the economic benefits

of inter-jurisdictional cooperation. The new route will have an estimated \$40 million economic impact on the region (\$10 million on the District).

DC is well-situated to capitalize on the increasingly global nature of the U.S. economy and U.S. services. As the nation's capital, DC is home to numerous organizations and human capital with expertise and experience in operating internationally, drawing on the expertise of diplomats and development workers, immigrant communities, international organizations such as the World Bank, and the over 170 embassies in the District. DC also has world-class transportation connections, including three airports that collectively serve 68.5 million passengers.⁴³ The District thus has a competitive advantage in understanding and exporting services to emerging markets, which account for a growing share of global foreign investment by U.S. firms. Investment in emerging markets has diversified beyond the BRICS markets, as seen in the growth over the last decade of emerging markets in the Middle East and Africa, requiring even more specialized country and regional expertise. DC also remains a popular destination for investment from overseas, spurred by the continued attractiveness of the U.S. as a safe investment destination, the certification of DC as a Targeted Employment Area for EB-5 (visas for Immigrant Investors) investment, as well as new tax legislation benefitting foreign investors.⁴⁴

Innovation

Innovation involves harnessing the potential of new technologies and trends to grow and disrupt traditional industries, as well as exploring new and emerging business models and sectors. The DC metro area is a leader in a number of high-technology, research-intensive sectors, including cybersecurity and life sciences. The DC metro area ranked first among American cities in the Kauffman Index of Growth Entrepreneurship, and DC houses 38.6% of the region's startups.⁴⁵ It also scored well on the US Department of Commerce's Innovation in American Regions Index, which measures regional innovation using human capital, economic dynamics, productivity and employment, and economic well-being. However, Maryland and Virginia may be disproportionately driving regional innovation.⁴⁶ In 2015, 167 patents were filed in DC, equivalent to 248 per 1 million people. This is a lower count of patents per capita than either Maryland or Virginia, which stand at 326 and 265 per 1 million people, respectively.⁴⁷ Area universities have not fared well on measures and rankings for innovation, either. The only area university that made the Reuters' World's Most Innovative Universities list was the University of Maryland system.⁴⁸ That said, the DC metro area has major research and development centers, in the form of the national research labs and the National Institutes of Health. The proximity to the US Patent and Trade Office, and thus the regional concentration of intellectual property protection expertise, also benefits DC.

Availability of venture capital may be limiting innovation in DC, not just because of access to funds but because it also reduces access to critical sources of mentorship, network access, and strategic guidance. DC venture capital ranks 8th among states, with \$2.10 of venture capital per \$1,000 of GDP in 2014, far behind California (\$11.75) and Massachusetts (\$10.17).⁴⁹ Entrepreneurs commented that there is a lack of gap funding and skill support to help entrepreneurs transition from R&D to commercialized products, and that the local research and tech ecosystem of research universities, incubators, and anchor institutions in the private sector could be strengthened.

Business and Regulatory Environment

According to the Thumbtack survey, several factors shape business and investor perception of a state's overall business environment, including corporate and income tax rates, the prevalence and effectiveness of tax credits, the ability to attract and retain innovative businesses, the perceived ease of obtaining licenses, and business' attitudes toward the region's economic strategy. The DC metro area received a B grade on the Thumbtack.com national 2016 Small Business Friendliness Survey, with strong scores for ease of hiring but weaker ones for ease of starting a business.⁵⁰ (In comparison, Virginia received an overall A- grade and Maryland a C grade on the same survey.) In multiple stakeholder discussions conducted by the strategy team, stakeholders described the main factors that shaped negative perceptions of DC's business environment, including the need for multiple

trips to receive various licenses, the difficulty for small businesses of understanding how to navigate the DC government and its various licensing and incentives, and the complexity of DC government procurement rules and schedules that acted as a barrier to innovative businesses contracting with the government (e.g. the process for qualifying as a CBE is not integrated with the process for qualifying for the DC Supply Schedule).

Enablers

The high quality of life in DC has helped the city benefit from the increased preference for living in urban environments. DC was the highest-ranked American city after Honolulu in the Economist Intelligence Unit's Global Liveability Ranking.⁵¹ In 2017, U.S. News and World Report ranked Washington, DC the 4th best place to live in the United States.⁵² The city recently was ranked the 7th most walkable city in the U.S.⁵³, and it has high levels of mobility enabled by multiple modes of transportation, including the best public transit system in the U.S.⁵⁴ The Trust for Public Land ranked DC the 3rd best city in the country in meeting the need for parks.⁵⁵ The increasing attractiveness of DC from a quality of life point of view may ameliorate some traditional concerns over the District not being able to tax commuters by attracting more residents. However, while the quality of life attracts talent to the city, concerns over housing affordability and access to quality K-12 education may influence the willingness of families to stay in the District. Infrastructure issues such as traffic congestion, perceived deterioration of public transit quality due to Metro interruptions, and aging utilities infrastructure could also hinder economic growth in DC. In particular, many stakeholders identified Metro's reduced hours, frequent problems and poor reputation for safety as a major challenge to employees getting to work and a potential barrier to economic growth.

Anchor Institutions

Anchor institutions, or organizations – often mission-driven – that have a deep and significant stake in a community, are a vital component of DC's economy. The DC metropolitan area has the 3rd and 5th highest employment cluster of educational institutions and health service sectors, respectively, in the nation.⁵⁶ While anchors can include a variety of organizations, universities and hospitals are some of the most notable. Anchors are unique in the breadth of contributions they can make to a local economy, including through quality jobs, local procurement, research and innovation, talent attraction and development, workforce development, entrepreneur support, and place-based promotion and marketing. DC's anchor institutions contribute to the local economy in all of these ways. They also made vital contributions to the development of the economic strategy and will be essential partners to advancing several initiatives.

Contributions to Strategy Development (selection)

- Presidents of UDC, American, Consortium of Universities, Children's National Hospital, Sibley Memorial Hospital served on the Economic Strategy Advisory Committee.
- University scholars participated in sector-focused stakeholder discussions based on area of expertise (e.g. tourism, manufacturing, sharing and gig economies) to lend academic perspective to these industries; several also separately advised the strategy team on ideas that emerged (e.g. innovation districts, cybersecurity workforce), sharing insights from their research.
- University and hospital representatives participated in the post-secondary education and healthcare and life sciences sector discussions
- Leaders from GWU and Children's Hospital helped frame and organize a stakeholder discussion on tech transfer and research commercialization, which led to the development of the DC FedTech strategy initiative
- Students participated in various stakeholder discussions

Anticipated Involvement in Strategy Implementation

- We hope that many of the anchors will participate in the anchors collaborative, an initiative highlighted in the strategy led by Coalition for Nonprofit Housing and Economic Development (CNHED) and supported by DMPED that will support anchors in advancing local procurement and potentially other efforts to boost local businesses, entrepreneurs and workers eventually.
- Universities and hospitals, District government and others will continue to collaborate to increase regional exports and via the Global Cities Initiative and Middle East Trade Mission.
- Business students and other aspiring entrepreneurs can engage with DC FedTech.
- Hospitals, government and hopefully universities and local businesses will work together to advance health and life sciences innovation.
- District government will promote Catholic University's rollout of a new program that provides capacity building and capital access support to small businesses.
- Universities could provide industry analysis, workforce development and entrepreneurial energy to catalyze the growth of the security technology and data science opportunity areas.

Sector Analysis

Overview

To reach our goals of growing the private sector economy and reducing unemployment disparities, we must work to sustain and catalyze commercial activity and job creation in key sectors. Building on the findings presented in the Economic Climate section, the strategy team examined the largest sectors of the DC economy, identifying major trends, challenges and opportunities.

The sector analysis that follows is organized into two categories - core sectors and opportunity areas:

- **Core sectors** are industries that currently have a significant presence in the DC economy, in terms of employment and/or GDP contribution, and, as such, should be supported and enhanced. For the purposes of this analysis, we have excluded local government and K-12 education, as growth of these sectors should be driven by the needs of constituents, rather than factors such as employment. While smaller sectors of the DC economy, such as finance and insurance, wholesale trade, and manufacturing, do not have individual sections in this analysis, stakeholders from those industries were consulted in developing this strategy, and all DC businesses - regardless of sector - will continue to be supported and welcomed.
- The six **opportunity areas** represent cross-cutting industry clusters that offer high potential for tax revenue growth, industry development, and/or an increase in living-wage (or better) jobs for workers with various levels of educational attainment. These areas are poised for growth due to their strong existing activity, growth potential, ability to play to DC's comparative strengths and workforce assets. It is important to note that the opportunity areas are in various stages of maturity. They include specialties and capabilities that cut across the traditional industrial definitions.

The opportunity areas also reflect, to varying degrees, the advanced industrial clusters identified as appropriate targets for the Washington region in The Roadmap for the Washington Region's Future Economy based on competitive advantage, lack of federal dependence, sales to non-local markets, high-value added jobs, and above-average growth trends. Elements of The Roadmap's seven industrial clusters align with DC's opportunity areas as identified below in Figure 9. By cultivating the regional clusters in ways that align with DC's comparative strengths and priorities, the District will advance economic growth that not only benefits DC residents, but the region as a whole.

Roadmap Industrial Cluster is reflected in **Strategy Opportunity Area**

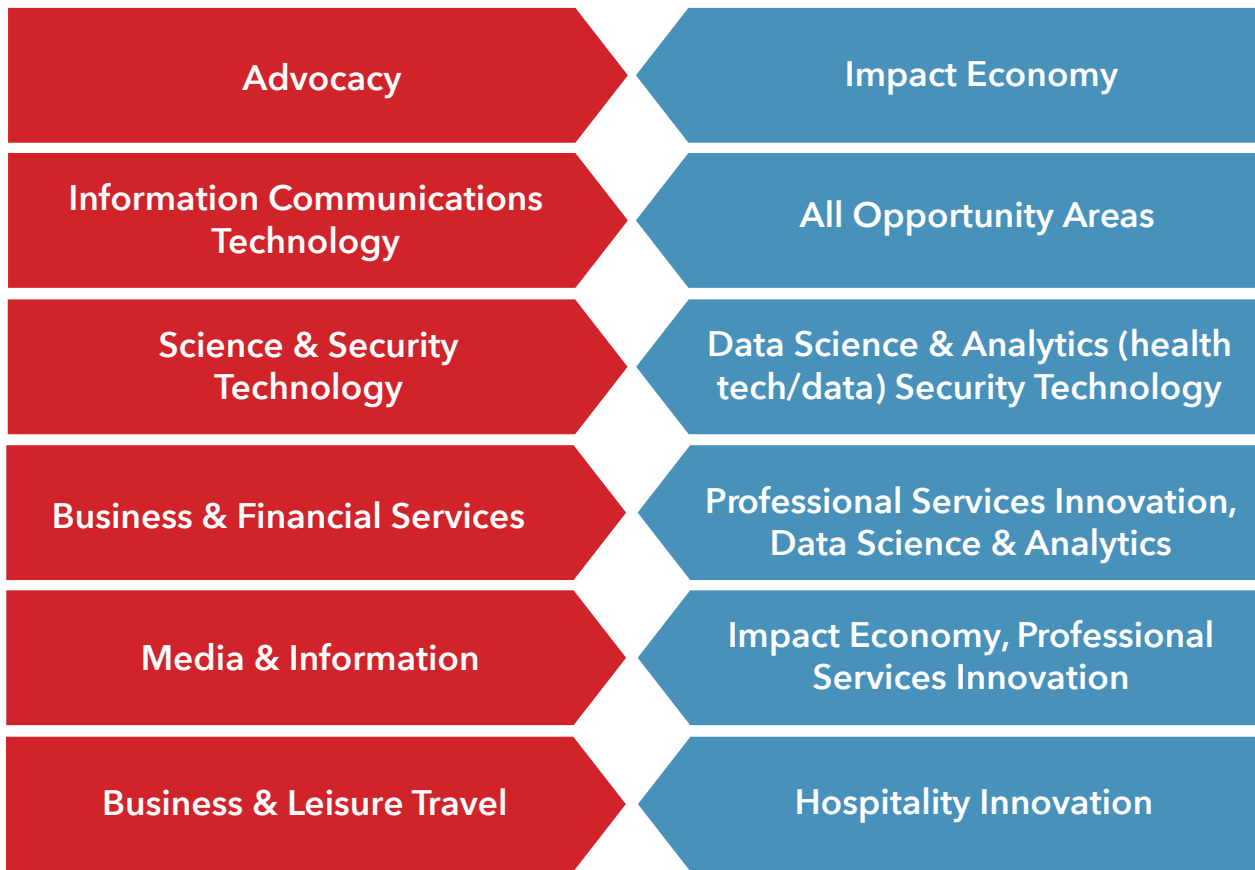


Figure 9: Mapping of Roadmap Industrial Clusters to Strategy Opportunity Areas

This section will discuss each of the core sectors and opportunity areas in greater detail providing context to how each sector plays a role in this economic strategy.

The action framework and initiatives section of the economic strategy describe high-impact actions the District will pursue, some in coordination with private sector partners, to support the core sectors and advance the development of the opportunity areas. Visit www.DCEconomicStrategy.com for the interactive initiatives search tool to see how we will take action to support and sustain the core sectors as well as develop the opportunity areas.

Core Sectors to Support and Enhance



Figure 10: Core Sectors



Impact Economy

Organizations and private entrepreneurs in the ecosystem of private companies, non-profits, and foundations whose missions involve addressing social and public sector challenges.

EXAMPLES

- Social enterprises
- Social impact consulting
- Philanthropic foundations
- Advocacy




Smart Cities & Civic Solutions

Innovation in urban infrastructure, transportation, sustainability, including “smart cities” technologies.

EXAMPLES

- Autonomous vehicles
- ‘Smart city’ sensors, integration, and data analysis
- Green building design and construction




Professional Services Innovation

Innovations, including technology, that augment or disrupt the professional services sector.

EXAMPLES

- Enterprise technology and integration of back-end functions
- Applications that improve client experience



Hospitality Innovation

Innovations, including technology, services and entrepreneurship, that augment or disrupt the hospitality sector.

EXAMPLES

- Hospitality apps
- Food trucks, food incubators
- Event tech



Security Technology

Cybersecurity technologies (protecting networks from attack and preventing unauthorized access to data), and physical access and identification technologies.

EXAMPLES

- Threat monitoring and detection
- Incident response
- Digital identification
- Physical identification



Data Science and Analytics

Big data analysis, management and policy, particularly in areas where data is sensitive.

EXAMPLES

- Electronic health record analysis
- Financial predictive analytics
- Credit data analysis

Figure 11: Opportunity Areas

Core Sectors to Support and Enhance

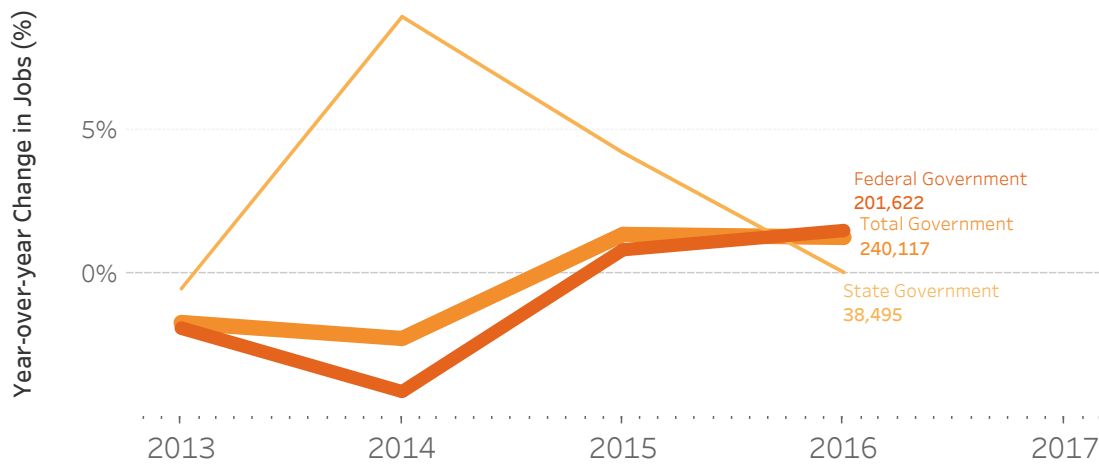
Federal Government

Overview

At over 30% of DC's GDP, the federal government continues to account for the largest share of the District economy of any sector. It is the largest employer in the District, directly employing over 200,000 people and contributing significantly to the demand in other core sectors, such as professional services and real estate. However, while the federal government sector helped to anchor the DC economy during the Great Recession, growth in the federal government sector in DC has been near-flat in the 2010s and, as discussed above, federal jobs are expected to decline over the coming years as the federal government works to shrink the size of its non-military workforce. The sector grew by 1.2% annually from 2010 to 2014, compared to private-sector growth of 2.9% in the same period.

Job Growth in Government Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 12: Job Growth in Government Subsectors, 2012 to 2016

Major Trends Affecting the Sector and Implications

Tighter federal budgets will continue to limit overall federal spending

Trends: Sequestration and federal budget caps will likely continue to constrain spending into the next decade. The 2011 Budget Control Act stipulates that federal discretionary spending cannot increase more than a compound annual growth rate (CAGR) of 1.7% from FY14 to FY21.⁵⁷ The transition to a new presidential administration has also created further uncertainty around the levels and direction of federal spending, but it is clear that existing contracts will be scrutinized for opportunities for cost reductions.

Implications: To mitigate the impact of federal spending caps and potential additional reductions, DC will need to further diversify its economy by catalyzing private sector growth in areas well suited to its strengths and comparative advantages.

Spending on cloud computing, data analytics, digital services, and cybersecurity

Trends: While overall federal spending may have plateaued, the federal government continues to spend on moving towards cloud-based computing. For example, in fiscal year 2016 8.5% of the federal government's IT spending was budgeted for cloud systems or services – a total of \$6.7 billion. IDC Government estimates such spending to increase to \$11.5 billion by fiscal year 2019.⁵⁸ Federal agencies have also increasingly come to use data analytics and digital services to deliver greater insights for decision-makers and more efficient service delivery for citizens, such as in health IT or credentialing within the US transport system. The increased use of cloud-based, digitally-enabled data platforms has been accompanied by increased spending on cybersecurity, which topped \$30 billion in 2014 alone.⁵⁹

Implications: The increased focus on technology creates opportunities for federal contractors and adjacent private sector firms in DC that can meet federal demand in cloud, data, digital, and cybersecurity.

Federal spending continues to diversify outside of DC and outside of the region

Trends: Jurisdictions in the DC metro area still compete to be the site of federal agency offices: for instance, the FBI is considering moving its 2.4 million square foot headquarters out of DC to Prince George's County, Maryland or Fairfax, Virginia.⁶⁰ Additionally, some agencies have been shifting functions out of the DC metro area entirely. In the past two years, the Departments of Defense, Homeland Security, and State have all opened offices in California and Boston, seeking proximity to entrepreneurial, innovation-focused businesses.

Implications: This could have an impact on the available office space and jobs in DC, as well as on the focus of federal agencies on the District as a source of innovative ideas.

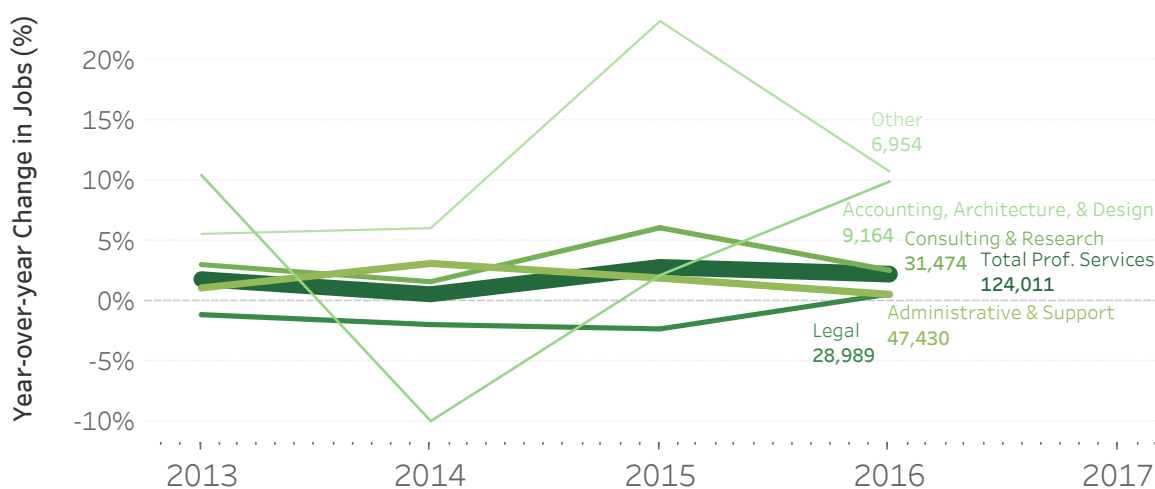
Professional Services

Overview

After government, the professional services industry is the largest employer in the District, with almost 125,000 jobs. While the professional services sector encompasses a diverse range of specialties, the four largest subsectors of this sector in the District by employment are administrative and support services (47,430 jobs), consulting and research (31,474), legal services (28,989), and accounting, architecture & design (9,164). Proximity to major clients, quality of life in the District, prestige of a DC office for law firms, and the presence of a highly-educated population that forms a strong talent pool for recruitment, all contribute to the competitiveness of DC in professional services. The District has competitive advantages in public sector management and technology consulting, federal government consulting, and legal services (DC has nine times more lawyers per capita than New York City, for example).⁶¹

Job Growth in Prof. Services Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 13: Job Growth in Professional Services Subsectors, 2012 to 2016⁶²

Major Trends Affecting the Sector and Implications

Technology transforming professional services delivery and demand

Trends: The use of technologies such as data analytics, workflow automation, and artificial intelligence are transforming professional services. For example, the Big Four accounting firms are using technology to analyze entire financial records instead of sampling, while law firms are starting to employ efficient, accurate computer-assisted document review processes. On the demand side, firms' clients are increasingly demanding mobile and digital professional services.

Implications: These changes have implications on staffing models that have traditionally been based on apprenticeship and manual work, requiring professional services firms to be more technology-focused and to deliver services with fewer people. Many law and consulting firms have already undertaken a technology-enabled shift of non-client-facing staff and back office functions out of DC to lower-cost areas. However, the rise of technology also creates opportunities for the District to grow technology firms that transform or augment the professional services space.

Growing global demand for professional services

Trends: The international demand for professional services is growing. In particular, there has been growing demand for public sector management consulting and infrastructure project management from Middle Eastern countries seeking to undergo economic transformations. For example, the Saudi Arabia consulting market is growing by 15% to \$1.3 billion in 2015.⁶³

Implications: DC is well-placed to grow its exports of professional services, drawing on the plethora of expertise among its professional services firms and other organizations in skills such as public sector management, international law and arbitration, and management of large infrastructure projects. To do so, the District could build up trade relationships and promote DC's professional service exports internationally.

Hospitality and Tourism

Overview

The hospitality and tourism industry is one of DC’s strongest sectors, supporting almost 75,000 jobs in the District, including many jobs for those without college degrees.⁶⁴ The three main sub-sectors of the industry are accommodation (15,000 jobs), food services such as restaurants (52,000 jobs), and arts and entertainment (8,200 jobs). In 2015, spending on accommodations grew by 5.3%, food and beverage by 5.1%, and entertainment spending by 2.6% over 2014.⁶⁵

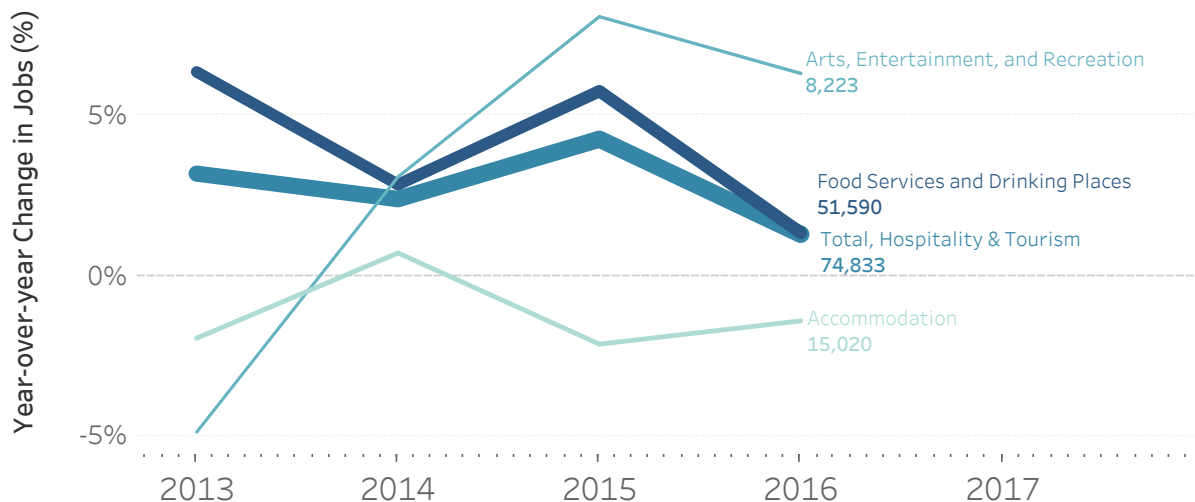
The number of visitors to DC has increased each of the previous five years, including a record 21.3 million visitors in 2015 – a record high that includes more than 2 million overseas visitors.⁶⁶ Visitor spending in 2015 totaled \$7.1 billion – the fifth consecutive year that it surpassed \$6 billion.⁶⁷ This represents more than \$757 million in new tax dollars for the District. The District continues to perform strongly as a center for meetings, conventions, and exhibitions, as well as in the areas of medical and education-related travel. 2016 saw a total of 15 large city-wide conventions with an estimated total economic impact of \$277.9 million, while 21 city-wide conventions with an economic impact of \$357 million are expected in 2017.⁶⁸

While the traditional tourist attractions of the city and the convention and events business continue to drive this sector, growth in the sector was also boosted by the rise of DC’s restaurant and nightlife scene. The city’s dining scene is gaining international attention, named “Restaurant City of the Year” by Bon Appétit, and recently became the fourth North American destination to receive a Michelin Guide to its restaurants. In addition, cultural assets, such as theater, festivals and other performance arts, offer opportunities to expand tourism across the District.

The DC metro area is also a major center for the corporate functions of the hospitality industry. The corporate headquarters for major hotel brands such as Marriott, Hilton, Choice Hotels, and Host Hotels are all located within the DC metro area.

Job Growth in Hospitality Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 14: Job Growth in Hospitality Subsectors, 2012 to 2016

Major Trends Affecting the Sector and Implications

Increasing use of technology in hospitality

Trends: Millennials are estimated to spend \$200 billion each year on tourism and hospitality by 2017, beating out baby boomers as the generation spending the most and thus driving key trends in growth in the sector. Driven by Millennials – 85% of whom currently own a smartphone – customers have been drawn to the convenience of services such as Airbnb because of their convenience, mobile accessibility, and user-friendliness. Traditional hotel chains such as Starwood, Hilton, and Marriott are also embracing technology to customize the travel experience.^{69,70} There is also convergence between digital startups and analog travel and hospitality organizations, through strategic affiliations and alliances such as the Hilton-Uber and KLM-Airbnb partnerships.⁷¹ The data collected through these tech enhancements can be used to identify guest preferences and to drive insights from predictive analytics for long-term planning and revenue enhancement.⁷²

Implications: The increasing integration of technology into all aspects of the hospitality business creates opportunities for the District to grow technology firms and foster technology partnerships that transform or augment the hospitality space, building on its well-educated talent pool and the presence of major hospitality brands.

Expansion in variety and location of food and nightlife scenes

Trends: Over the past five years in particular, the District has seen a surge in the number and variety of restaurants, including healthy eating concepts, up-and-coming fast-casual options, new food halls, and artisanal markets. The District had more than 2,100 food-service and drinking establishments as of 2014, up 29% from a decade earlier, and 3 of the top 100 nightclubs and bars by revenue in the country.^{73,74} The restaurant scene in DC has expanded across the city from the once top dining destination of Dupont Circle, to 14th St, Capitol Hill, and other neighborhoods.⁷⁵ Perhaps appropriately for the home of go-go and hardcore punk music, nightlife and bars have also emerged as drivers of economic growth in neighborhoods such as the H Street Corridor (anchored by the Atlas Theater) and the U Street Corridor (anchored by the U Street Music Hall and the 9:30 Club). In fact, 2015 was a banner year for DC's hardcore punk scene after breaking nationally and introducing a new crop of artists and cache.⁷⁶

Implications: There are opportunities to market attractions and DC destinations beyond the traditional tourist attractions (e.g. museums) to travelers – for example the neighborhood restaurant scene and thriving theater and cultural sector.

Health Care and Life Sciences

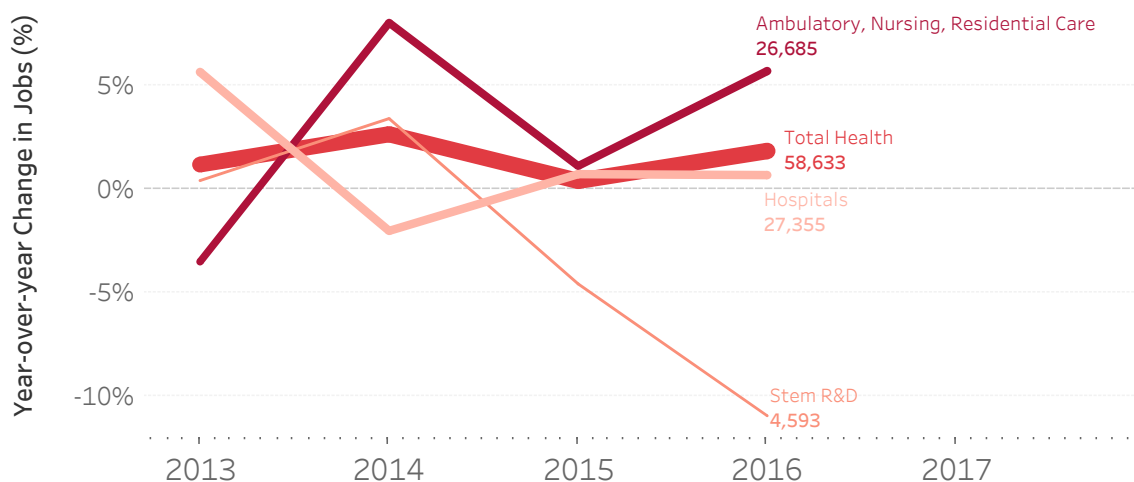
Overview

With 16 medical centers and hospitals located within the District, DC continues to be a national center for patient care and medical research and the leading medical center of the Greater Washington Area. The healthcare and social assistance sector accounted for 59,000 jobs in the District, with the majority working in hospitals (27,000), ambulatory health care services (20,000), and nursing and residential care facilities (7,000).

The DC metro region also continues to be a hub for biomedical research, anchored by the presence of the world's largest funder of biomedical research, the National Institutes of Health, in Bethesda, Maryland. The heart of the life sciences industry in the metro area is Montgomery County, Maryland, along the I-270 Corridor, which hosts large employers such as Medimmune and Qiagen. DC's research universities and the Children's Research Institute at Children's National Hospital drive life sciences research within the District, including in areas such as medical devices, genomics, health education, pharmacology, and pediatric research. The presence of major federal health agencies in DC and the DC metro area, including the Department of Health and Human Services and the Food and Drug Administration (FDA), also means that the District has significant influence on healthcare policy.

Job Growth in Health Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 15: Job Growth in Health Subsectors, 2012 to 2016

Major Trends Affecting the Sector and Implications

Growing demand for healthcare and life sciences IT and data analytics

Trends: The increasing use of Electronic Health Records (EHR), as mandated by the Affordable Care Act, not only creates opportunities in EHR system design and implementation, but also opportunities to derive insights from the data collected and provide customized care for patients. Moreover, many of the major trends in life sciences research, such as precision medicine and the Cancer Moonshot Initiative, require high levels of data analytics and bioinformatics expertise. The North American health care IT market is forecasted to grow at an annual compounded rate of 13.5% to \$104.3 billion from 2015 to 2020, driven in large part by increasing demand for precision medicine, specialized hospital information management systems, and healthcare information exchange systems.⁷⁷ The increasing

digital nature of health records and their inherently sensitive nature creates a need for cybersecurity. The U.S. Department of Health & Human Services estimates that 175 million personal health data records have been compromised since 2009.⁷⁸

Implications: There is thus opportunity to build on DC's strong IT and analytics base, its biomedical expertise, as well as its experience with handling and protecting sensitive data for federal health agencies, to grow health and life sciences IT and data analysis jobs and firms.⁷⁹

Growing demand for non-hospital health care

Trends: The demand for non-physician medical professionals remains strong nationally.⁸⁰ By 2022, nearly one in eight U.S. jobs is projected to be in the healthcare sector, due to aging demographics and increased technology needs.⁸¹ Within the DC metro region, healthcare employment is projected by the Greater Washington Workforce Development Collaborative to grow 12% by 2021.⁸² An increased emphasis on ambulatory care, home health, and preventive medicine, in particular, is likely to create significant growth in non-hospital jobs such as home health aides or physical therapists nationwide.

Implications: This suggests an opportunity to align the District's workforce development plans for those without four-year degrees with the vocational needs of the health care sector.

Significant growth and investment in life sciences in the DC metro area

Trends: As mentioned above, healthcare employment is forecasted to grow significantly over the next several years. IT employment, which can intersect with health and life sciences, is also expected to grow – by 6% by 2021.⁸³ In addition, both Maryland and Virginia are seeing government and venture capital investment in the life sciences sector. For example, Inova Health System announced plans to create a \$100 million venture fund for precision medicine investments.

Implications: The BioHealth Capital Region branding campaign spearheaded by MedImmune presents opportunities for DC, Virginia and Maryland to go to market together as a single biotechnology region, competing against other major biomedical research centers such as Boston and San Diego. Growing the region as a biomedical hub would also have implications on the hospitality industry, as DC is already a magnet for medical conferences. There may also be opportunities to bolster intra-regional partnerships in life sciences among the region's major research institutions such as NIH, local universities, and research hospitals.

Higher Education

Overview

Education is one of the most important industries in the District, accounting for \$3.9 billion of GDP.⁸⁴ Education accounts for 44,000 jobs in DC, with post-secondary education alone accounting for 27,000 jobs. The influx of graduate and undergraduate students into DC also increases demand for other sectors of the economy, such as real estate. DC has the highest percentage of students to population of any state in the nation, with close to 10% of its adult population composed of students attending one of its not-for-profit, public, and for-profit institutions. The largest universities in DC are George Washington University (26,000 students), Georgetown (18,000 students), and American University (13,000 students).⁸⁵

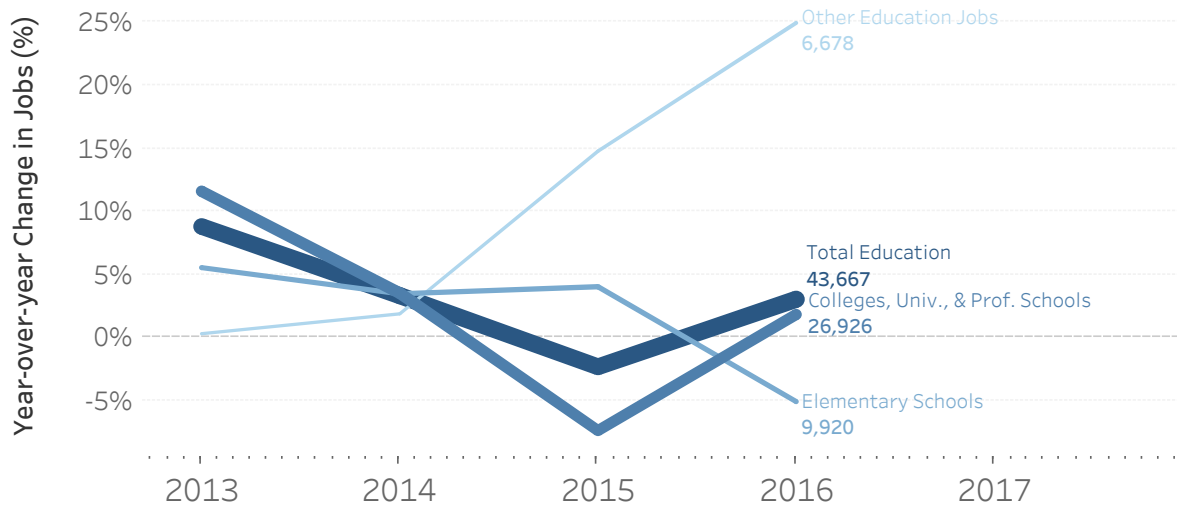
Boosted by the attractiveness of the urban location and access to national centers of policymaking, DC universities such as Georgetown, George Washington, Howard, and American have seen steady or increasing application and enrollment rates, compared to a national trend of decline in traditional college enrollment (e.g. the U.S. saw a 2% drop in enrollment in 4-year degree programs in 2015).⁸⁶ Stakeholders expressed concern that student enrollment caps, which limit enrollment for universities within residential neighborhoods (including American, Georgetown, and George Washington Universities), are preventing growth despite growing demand.

Besides being a major industry in itself, higher education in DC develops much of the future workforce for the entire economy, and research universities are potential major sources of innovation and technology transfer.

Not For Profit	Public	For Profit
<ul style="list-style-type: none"> • American University • Catholic University of America • Gallaudet University • George Washington University • Georgetown University • Howard University • Trinity Washington University • Washington Theological Union 	<ul style="list-style-type: none"> • National Intelligence University • University of the District of Columbia 	<ul style="list-style-type: none"> • Strayer University • University of Phoenix - DC Campus • University of the Potoma - DC Campus

Job Growth in Education Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 16: Job Growth in Education Subsectors, 2012 to 2016

Major Trends Affecting the Sector and Implications

Growth of community colleges and vocational education programs

Trends: Higher education in the District is dominated by traditional four-year degree-granting institutions. Nationwide, however, 42% of all undergraduates (and 25% of full-time undergraduates) are enrolled in community colleges. Efforts such as America’s College Promise, the Obama Administration’s push to make tuition for two-year community college programs free, have elevated the focus on community colleges and vocational educational as a viable pathway to good jobs for those not pursuing traditional four-year college degrees.⁸⁷

Implications: Community colleges and other vocational training alternatives to the four-year college degree could increase access to job opportunities for DC residents without post-secondary degrees or certifications. UDC-CC should continue to build relationships with employers and train students for specific job placements in order to create a pipeline to jobs in growing industries.

New forms of credentialing disrupting higher education

Trends: Several innovations in learning models have been reshaping the way that higher education is defined, away from the in-person four-year college model. Massive Online Open Courses (MOOCs), made available for free by organizations such as DC-based Blackboard, Coursera, or Khan Academy over the Internet, have popularized the concept of online education focused on specific skillsets. Another model of education is “microcredentialing,” or the bestowing of credentials for completing coursework in rapid development of skillsets, largely in the technology sector. Organizations such as General Assembly and the Software Craftsmanship Guild offer three-to-six-month in-person boot camp programs, often focused on coding. Another potentially disruptive model of education is competency-based degree programs that allow students to progress through courses at their own pace, often by incorporating an online digital component. Such programs, already in place in Utah’s Western Governor’s University and the University of Wisconsin, are particularly useful for nontraditional students such as adult learners, veterans, and individuals working while attending school.⁸⁸

Implications: Growing the education sector and building the talent pipeline in identified opportunity

areas need not be restricted to expanding enrollment in traditional four-year college programs. In addition, as DC universities start to incorporate these models of virtual learning, enrollment caps could be revised to take into account the fewer days that students spend on campus.

Universities increasingly de-linked with home cities and states

Trends: Many leading universities, both private and public, have set up satellite campuses outside their home state. Several universities such as University of California at Berkeley, Arizona State University, and New York University have set up satellite programs in the District itself. Meanwhile, universities based in the District, such as George Washington, have started to set up satellite campuses or research facilities in the surrounding region, in part driven by enrollment caps but also cost of space.

Other institutions have established international branch campuses. Since 2006, the number of international branch campuses in the world has increased by 43%.⁸⁹ Some cities, such as Abu Dhabi and Singapore, have specifically targeted attracting international educational institutions to bolster their domestic talent capabilities.⁹⁰ DC could serve as a prime target given the significant levels of government spending in engineering on research and development, particularly in STEM fields.

Implications: While the trend thus far has been for U.S. institutions to set up branches abroad, DC's globally known brand might provide an attractive option for both domestic and international institutions looking to open a branch in or send students to the U.S., particularly those looking to further develop expertise in the computer science or engineering fields.

Technology

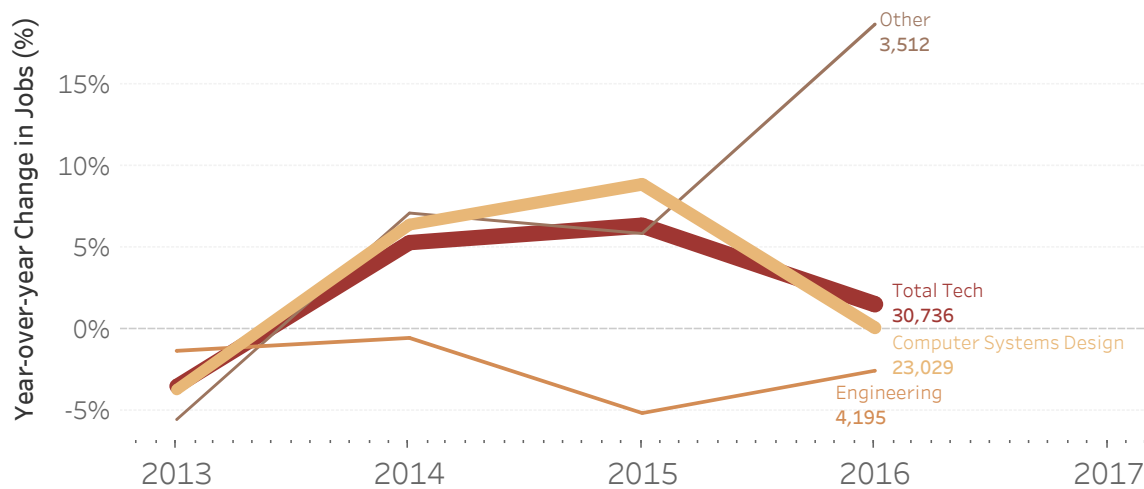
Overview

Technology is a major driver of employment and innovation in DC. According to the Census Bureau's classifications, the technology sector accounts for 31,000 jobs in DC, a figure that underestimates the influence of the industry, given that technology is also an important part of other industries such as consulting and life sciences. Historically, the federal government has attracted a large number of information and communications technology (ICT) businesses to the DC area, supporting the hardware, software, and data needs of federal agencies. Helped by a large federal client base, the DC metro region is an epicenter for cybersecurity and other security technologies, cloud computing, and digital services. Tech is a target growth area for DC, Maryland, and Virginia, creating intense regional competition for the location of new and existing tech companies, including through tax and relocation incentives, investment funding mechanisms, and university partnerships.

The District has also had business-to-business (B2B) technology successes that are less federal-dependent, such as Blackboard, a supplier of software and services for higher education, and HelloWallet, an enterprise provider of workplace financial wellness benefits. The DC area has climbed in nationwide rankings as a tech hub, growing jobs in the sector by over 50% in the last decade and attracting numerous tech startups, including Blackboard and Social Tables.⁹¹ As further evidence of the growth of the tech sector, the DC Tech Meetup has grown to over 18,000 members since 2011 and is now one of the largest Meetups in the world.⁹² In 2015, the software industry brought \$94.5 million from 10 investment deals to the District, including a \$52.6 million deal for MapBox Inc., a company that makes mapping software for developers. This lagged behind Northern Virginia, where \$280.6 million came in through 35 different deals.⁹³

Job Growth in Tech, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 17: Job Growth in Tech, 2012 to 2016⁹⁴

Major Trends Affecting the Sector and Implications

The tech sector is dependent on access to a pool of specialized talent

Trends: Successful tech sectors are dependent on access to a pool of specialized talent. Witness the impact that Stanford and MIT have had on establishing Silicon Valley and Boston, respectively, as the leading technology centers of America. DC has a highly-educated population, many with

STEM degrees, and the DC metro area has larger concentrations of computer and math occupations compared to the U.S. as a whole.⁹⁵ However, the DC metro area is not home to many top-ranked computer science and engineering programs. This makes it harder for tech firms to find talent. The top-ranked computer science program in the region is the University of Maryland's, which U.S. News and World Report ranks as 15th among American graduate computer science programs.⁹⁶

Implications: Schools such as University of Maryland and Georgetown University are making progress in developing stronger tech portfolios, and there are high-quality local secondary school programs. However, there is room for improvement in the tech programs of local universities.⁹⁷ DC could also help connect students at the District's universities to paid internships at DC technology companies, in order to encourage tech talent to remain in the District.

The federal government provides an attractive foundation for growth

Trends: Despite the slowdown in federal expenditures, the government still remains an important partner in the development of tech in the region. Many agencies that shape the tech industry are located in the DC area, such as the National Institute for Standards and Technologies, the Federal Communications Commission and the Department of Homeland Security. Also, as the federal government develops its own in-house digital initiatives spearheaded by groups such as 18F and the U.S. Digital Services, and as agencies look for contractors to drive government-wide IT modernization efforts, large government contractors and civic-focused tech startups have incentives to locate in DC.⁹⁸ One drawback of the dependence on federal clients is that the citizenship requirements that sometimes accompany federal contracts may make government technology contractors reluctant to hire skilled tech immigrants.

Implications: To grow the tech sector in DC, it may be useful to focus on areas of technology that leverage the large federal client base but can also apply to a private sector context, such as cybersecurity, advanced physical security technologies, or analytics of big data. Small and medium sized companies may need support scaling in size, particularly when it comes to figuring out how to access federal contracts.

Inclusiveness in the tech industry remains a challenge nationwide

Trends: The national tech industry continues to struggle with inclusiveness and diversity. Nationwide, less than 1% of venture capital-backed company founders are African-American,⁹⁹ less than 3% of venture capital firm employees are African-American,¹⁰⁰ and minority-owned businesses were 22.2% less likely to receive investment from the venture capital industry.¹⁰¹ Income disparity between gender groups in tech is noticeably higher than it is for other demographics, with only 35% of female workers earning more than \$80,000, compared to 51% of males. White men dominate the IT industry in the District as well. Of businesses surveyed for the Pathways¹⁰² to Inclusion report, white male-owned IT firms outnumber similar black male-owned firms by a rate of 34:1.¹⁰³ Men also dominate the ownership of IT firms, with white male-owned IT firms outnumbering white women-owned firms by a rate of 3:1.¹⁰⁴ That said, a SmartAsset study rated DC as the top city for women in technology with women holding 40% of tech jobs.¹⁰⁵ Stakeholders in technology indicate that wealth disparities in networks make it hard for minority entrepreneurs to cross the funding hurdle of the 'friends and family' round of startup financing.

Implications: There are opportunities to leverage the diversity of the District's population and the existing advantages in inclusion of DC's tech industry to make DC a center for inclusive tech innovation. The main customer in DC, the federal government, has specific preferences for small businesses that are women-owned, minority-owned, and/or veteran-owned. Efforts such as the Inclusive Innovation Incubator (In3) at Howard University to support local businesses and Groundwork (a \$10 million investment fund in DC to fund and grow startups launched by minority founders)¹⁰⁶ could be scaled to help tech startup CEOs that face disproportionate challenges access capital. There may also be

opportunities to help DC-based tech companies introduce local K-12 students to coding and the tech sector.

Creating a Region-Wide Security Technology Network

Trends: While the tech industry may be built on global competition and high-speed telecommunications, firms still find value in clustering near each other in regions such as Silicon Valley, where they can hire from a local pool of skilled workers, exchange information, and build relationships with funders face to face. Tech stakeholders in DC commented that the networks in the DC technology space (e.g., companies, universities, incubators, funders) are disparate.

Implications: Strengthening tech networks in DC could foster innovation. The District could leverage its influence as a convener to facilitate new connections in the tech community and mitigate fragmentation. It could also explore the value of using District-owned space to cluster tech companies to create density and drive tech innovation.¹⁰⁷

Real Estate and Construction

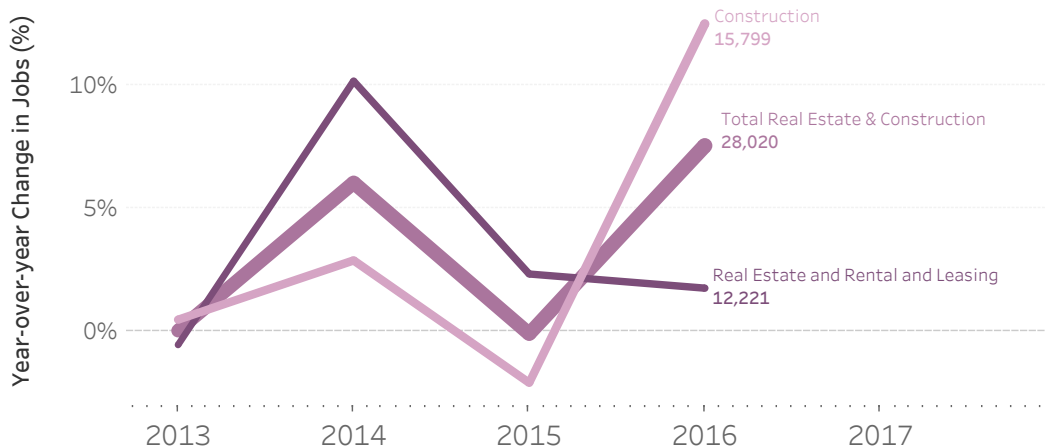
Overview

The DC commercial real estate market, historically reliant on the federal government, has had to diversify as government spending and government demand for office space has plateaued. During the 1980s through the early 2000s, federal tenants accounted for 25-30% of leasing activity in DC.¹⁰⁸ However, following the 2008 recession and the impacts of sequestration, vacancies increased to 11.5% in 2009 and rents fell. Law firms, traditionally the anchors of the Trophy and Class A office markets in DC, cut costs by shrinking their footprint and real estate portfolios (about 4.5 million square feet) of space was returned by large law firms into the market between 2009 and 2014).¹⁰⁹ Stability has recently returned to the office real estate and construction market, with construction activity in the District totaling 2.5 million square feet at the end of 2015, and a significant percentage of construction in established submarkets being pre-leased.¹¹⁰ However, the glut of office space in suburbs such as Tysons Corner is creating a competitive market, with discounts and incentive programs to attract tenants to their jurisdictions.¹¹¹ Nationally, the DC office market is competing with low-cost places that offer cheaper space, lower taxes, and generous incentives, such as Austin and Raleigh.

In the residential real estate market, the current supply of available homes for sale does not meet demand.¹¹² At recent construction rates, the Washington metro area is producing 13,000 fewer housing units per year than needed to meet job and household growth. While there has been an uptick in construction (the current level of construction in the Washington area is 18% above the long-term average) and improvements in vacancy rates, home affordability continues to hover below the national average.¹¹³ In May 2016, the median home price was \$570,000 in DC and \$375,000 in the DC metro area.¹¹⁴

Job Growth in Real Estate & Construction, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 18: Job Growth in Real Estate & Construction, 2012 to 2016

Major Trends Affecting the Sector and Implications

DC's office market will be driven by the private sector, not the federal government

Trends: The negative impacts of federal cutbacks on the region's office market have been exacerbated by the moves of the General Services Administration (GSA) to consolidate more federal agencies in owned space, reduce the amount of square footage per employee, and relocate several agencies to lower-cost spaces.¹¹⁵ From 2012 to 2015, the total amount of office space leased by GSA in the region

declined by three million square feet and the average rent for GSA leases dipped by about \$4.50 per square foot, and this is expected to continue.¹¹⁶ In the near term, leasing activity in DC will likely continue to be driven by high-tech, healthcare and media companies, as well as the continued growth of nonprofit organizations, associations, and government affairs entities.

Implications: The private sector office market is more price conscious, more volatile, and has less need for downtown spaces near federal agency headquarters than the relatively stable market of the federal government, law firms, lobbyists, associations and nonprofits. An increased emphasis on private sector leases may thus put downward pressure on commercial real estate market.¹¹⁷

Changing preferences in office space

Trends: While office demand has stabilized, tenants are demanding different, and often smaller, office space configurations.¹¹⁸ Law firms, for instance, are seeking more windowed offices and less interior space in the 20,000 to 30,000 square feet range, not 50,000 to 60,000 square feet.¹¹⁹ Co-working spaces are increasingly popular both nationally and locally. By 2020 an estimated 3.8 million professionals globally will work in co-working facilities.¹²⁰ With over 70 co-working or on-demand office spaces¹²¹, DC is the country's sixth largest market for co-working, and co-working made up nearly 20% of all leasing activity in DC in 2016.¹²²

Implications: Co-working spaces provide a new set of design, leasing, and occupancy parameters that offer more flexibility and may be better suited for a more demand-based market such as DC. However, while demand for shared office spaces is growing, it is not likely to replace the majority of conventional office space demand in the near future. The changing preferences for office space pose challenges for the office buildings built in 1980-2000 in core markets such as Metro Center and the Pennsylvania Avenue corridor. There may be opportunities to explore how to better match vacant space with newer demands. At a minimum, a concentrated effort to grow emerging sectors of the economy (and thereby increase office space demand) will be needed, and a targeted office market retention, expansion, and attraction approach could help alleviate the challenge.

Baby boomers and millennials define the housing market

Trends: The DC area's housing market is primarily being influenced by the preferences of two generations: baby boomers and millennials. Boomers are more likely to work than previous generations in their age group – the 2014 national labor force participation rate among the 65+ population was 19%, up from 12% in 1990¹²³ – and more likely to stay in their homes and age in place than prior generations, with the mobility rate for individuals age 65 and older dropping from 5.0% in 1990 to 4.1% in 2014.¹²⁴ Millennials, on the other hand, have been slower to establish households than previous generations. As of 2014, 32% of those aged 18-34 still live with their parents, a figure that historically has been closer to 30%. In addition, DC millennials prefer to live in urban areas. A ULI Washington survey of Beltway millennials suggests that 36% plan to be living inside DC itself in three years, while only 5% plan to move to the suburbs outside the Beltway.¹²⁵

Implications: Boomer trends of aging in place and desire to remain in the District mean that the population of seniors is likely to increase. This will have an impact on the demand for senior-friendly housing, as well as for services within the 'silver economy' (i.e., the economic activities relevant to the needs of older adults). The Age Friendly DC Strategic Plan 2014-2017 already sets out a plan to shape DC's urban environment and civic supports in a way that promotes active and healthy aging. To continue attracting and retaining millennials, especially as they begin to start families, high quality education, transportation, healthcare, and affordable childcare and housing will be essential.

Impending Infrastructure Upgrades

Various key pieces of infrastructure in the District are aging and expected to undergo major upgrades or investments in the near future, creating opportunities for new jobs and career pathway development. See the Smart Cities and Civic Solutions Opportunity Area for a more detailed description.

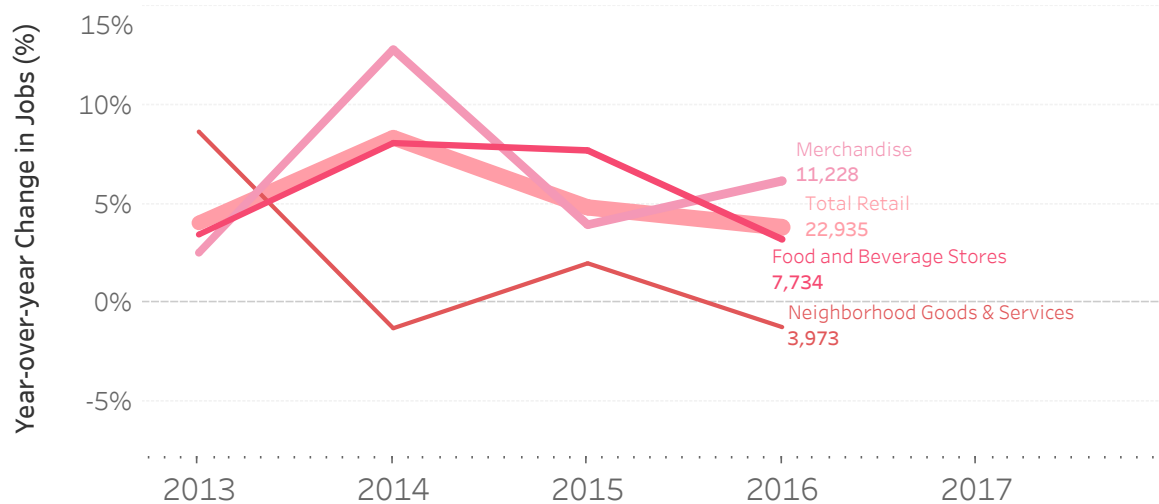
Retail

Overview

Retail represents \$1.5 billion of GDP for the District, and provides 23,000 jobs.¹²⁶ The DC retail sector is diverse, consisting of 12 subsectors, including: motor vehicles and parts; home furnishings; electronics; building materials; food and beverage; health and personal care; gas; clothing; general merchandise; and specialty retailers. While food and beverage stores remain the largest retail employers in the District, accounting for 7,700 jobs, general merchandise stores – a category that includes big-box retailers such as Target and Wal-Mart – have grown to become the second-largest employers in the retail sector. Fueled by strong demand from population and income growth, as well as the rise of ride-sharing apps that make it easy for people to reach areas without extensive public transportation, new retail centers of gravity have been created in DC, such as the Bloomingdale neighborhood. Since 2001, over seven million square feet of retail space have been built in the District and another 1.5 million square feet are currently under construction.¹²⁷ Many of these new retail areas have been industrial redevelopment projects, such as Union Market, renewed in 2012 as a restaurant, retail space and incubator. As of the end of 2015, shopping center vacancy throughout the greater DC metropolitan area was fifth-lowest in the United States at 4.8%.¹²⁸ These retail districts also have a positive effect on quality of life, by providing amenities for residents, as well as new job opportunities. However, while certain submarkets appear to be doing well with new retailers/restaurants, other areas (particularly Wards 7 & 8) are still in need of basic retail such as grocery stores.

Job Growth in Retail Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 19: Job Growth in Retail Subsectors, 2012 to 2016 Major Trends Affecting the Sector and Implications

Increased interest in localization

Trends: In urban retail, people are showing more interest in niche independent or smaller-chain options.¹²⁹ Nationally, the consumer culture is turning toward supporting locally owned, independent retailers who contribute to the community, as well as businesses that make their products within the local community.¹³⁰ Retail stakeholders in DC have reflected that there is strong pride in the DC brand, local retailers need support in adjusting to selling to the city's changing demographics. There are also barriers to entry for local retailers, including licensing and certification processes, lack of cash flow and access to capital, affordable commercial space and affordable housing for employees.

Implications: By marketing the local economy, including through its “Made in DC” campaign, DC can increase DC’s brand as a retail and restaurant hub. There could also be opportunities to improve the ease of doing business through regulatory process reforms. Local small businesses, particularly longstanding businesses, also need support accessing information about available resources and finding mentors.

Food has been central to retail growth

Trends: With several large-format retailers right-sizing to account for changing demographics and shopping patterns landlords and developers are turning toward “experiential retail” (e.g. restaurants, entertainment, health & fitness) to anchor their retail projects. Restaurants (including the rise of “fast casual” eating places such as Sweetgreen and &pizza) have driven much of national growth in retail real estate development. In DC, restaurants often serve as anchors or first adopters for new retail space, attracting visitors to the neighborhood and creating additional foot traffic, which can help prove the market and attract other retailers such as those in the clothing & accessories subsector.¹³¹ Grocery stores have also accounted for a significant share of retail growth. Of the 51 existing grocery stores the Washington, DC Economic Partnership tracks, 33 are either new or undergone significant expansion since 2000. The centrality of food to retail growth is driven in part by the fact that Americans are eating out more (2015 was the first time Americans spent more on restaurants and bars than on groceries)¹³², and also because food-related retail is inherently shielded from online competition.

Implications: Stakeholders in the District have expressed that the permitting process for restaurants and bars could be streamlined. In addition, the ability to sell and serve alcohol is a major revenue source for food-related businesses. Moratoriums on alcohol-related licenses can hinder growth of these types of businesses.

Blending technology and a personalized retail experience

Trends: Shopping at physical locations still makes up 90-95% of all retail sales, but e-commerce is growing rapidly at an estimated 17% annually.¹³³ To compete with e-commerce, retailers nationwide such as Burberry and H&M have been using technology and physical space enhancements to create environments that invite consumers to enjoy omnichannel experiences. Conversely, online retailers have increasingly pursued a “clicks-to-bricks” strategy of opening physical locations to offer a more compelling brand experience directly to consumers.¹³⁴ For instance, the District alone has Bonobos, Rent the Runway, and Warby Parker stores. Matching the demographics of their consumers, these “clicks-to-bricks” stores tend to locate in traditional shopping areas, such as Georgetown, and areas with high concentration of young professionals, such as Shaw.

Implications: These trends should inform business development strategy and marketing efforts to retailers, and economic development professionals should be aware that the “clicks-to-bricks” trend might make it harder to attract retailers to areas with lower incomes and lower access to the Internet that need retail services. DC will also need to adapt its business environment to make sure existing regulations do not hinder new retail ideas from starting or expanding into DC, even if they do not conform to traditional retail concepts (e.g. concepts that blend wholesale and retail or manufacturing and retail).

Media and Communications

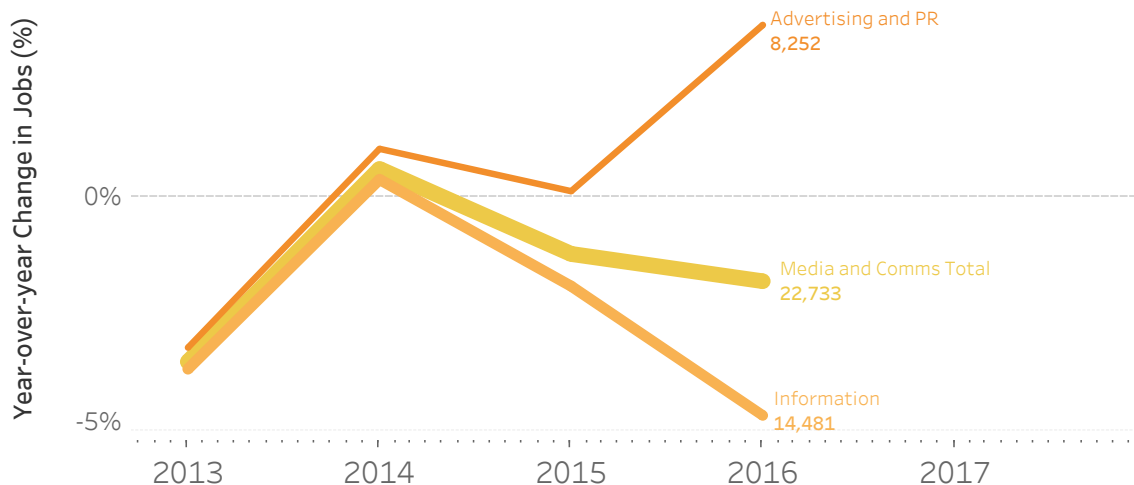
Overview

DC has been a strong center for the media industry, particularly news and documentary production. News companies such as the Washington Post, Atlantic Media, NPR, and US News are headquartered in the District, while all other major news providers have prominent DC bureaus. There has been a 4% increase in journalists accredited to cover Congress (including press, periodicals, radio and television, and photographers) between 2009 and 2014, increasing from 6,544 to 6,816.¹³⁵ Beyond news, DC and the DC metro area are home to several large media players, including Discovery and National Geographic, and a wide variety of advertising and public relations firms. Advertising and PR agencies account for 8,300 jobs in the District, and marketing and advertising companies represent 8.8% of all startups in the region.¹³⁶

However, the media industry is transforming and becoming increasingly fragmented. The way media is consumed is shifting, both in terms of media providers and channels, with consumers increasingly moving towards digital consumption through non-traditional providers like Netflix, iTunes, and YouTube. The \$170 billion US television market will thus probably contract. Forecasts indicate the daily TV minutes for the adult population will continue to fall at a steady rate.¹³⁷ The trend towards “cord-cutting” - former paid TV subscribers who completely cancel paid TV service - is also projected to grow from 4.4 million households nationwide in 2014 to 8.4 million in 2020, a 91% increase.¹³⁸ The DC media and communications industry has thus seen a resulting 6% decrease in the number of total jobs, from over 24,000 in 2012 to under 23,000 in 2016.

Job Growth in Media Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each subsector



Source: Bureau of Labor Statistics

Figure 20: Job Growth in Media Subsectors, 2012 to 2016 Major Trends Affecting the Sector and Implications

News consumption shifting towards digital and social media

Trends: Overall U.S. newspaper circulation (print and digital combined) continues to fall, as does advertising revenue. Consequently, national newsroom employment figures showed a 10% decline in 2015, greater than in any year since 2009, leaving a national workforce of 33,000 full-time newsroom employees, over 20,000 fewer than 10 years prior.¹³⁹ While TV news saw both ad and subscriber revenue growth from news in 2015 and 2016, television news faces challenges from social media.

62% of US adults overall now get news on social media sites, many of which took steps over the last year to enhance their video streaming capabilities.¹⁴⁰ Jobs in media increasingly require handling multiple tasks that might have been separate jobs in the past: a journalist might also have to do some videography, and manage her social media presence, for instance.¹⁴¹

Implications: The transformation in the news industry is transforming the way that news companies are doing their business, which has significant implications for DC. Journalism experts question whether the once required “DC Bureau” is becoming obsolete.¹⁴² This has implications not just for journalist jobs, but for the ecosystem of jobs that support media production, such as ad sales, camera crews, and printers.

News companies focusing on alternative revenue models

Trends: Media companies have started to use their storytelling skills, subject matter expertise, and knowledge of live content to develop conference and events divisions that are major drivers of revenue. AtlanticLive, for instance, produces more than 100 events across the country, and brings in 20% of Atlantic Media’s revenue.¹⁴³

Implications: The presence of national leaders, policy experts, and thought leaders in DC make the District a natural home for conferences and events centered on policy and impact. DC can explore how to encourage media companies to continue organizing high-profile events in the District.

Media and communications can play a role in branding of the District

Trends: Outside of DC, the DC brand is still associated with being the seat of federal government. However, the District’s thriving private sector creative class has changed DC culture - for example, Travel and Leisure magazine noted DC’s global and innovative restaurant scene, with “a host of pioneering chefs, bartenders, and entrepreneurs.”¹⁴⁴

Implications: Media and communications firms can play a role in marketing the brand of DC nationally as a center for innovation and innovative businesses, not just the seat of government. For example, a SXSW-like event could put DC on the map for media. DC can help foster existing partnerships among tourism and hospitality industry players such as restaurants and museums, cross-promoting different kinds of culture.

Creative Economy

Overview

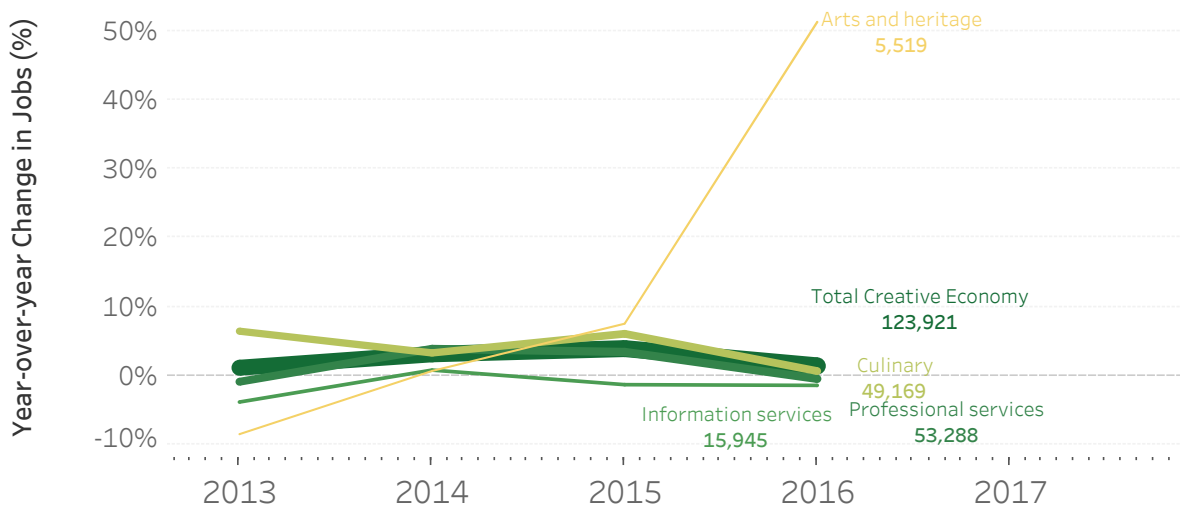
As outlined in the DC Creative Economy Strategy (2014), the creative economy in DC comprises four areas that span different core sectors of the DC economy: arts & heritage; culinary arts (i.e., restaurants); information & technology (largely focused on media); and professional services (specifically, creative professional services, such as architecture, graphic design and fashion design).¹⁴⁵ These sectors account for 124,000 private sector jobs, or 16% of DC employment.¹⁴⁶ Due to data limitations, it is important to note the following:

- These job numbers **overlap** with those presented in the retail, media, technology, and professional services sector.
- This estimate does not include creative occupations that make up small fractions of other sectors - for example, distilleries and breweries, which fall under wholesale trade, and other types of maker activities, which may be classified as manufacturing. It is impossible to disentangle such activities from available data, so they are not accounted for in the graph below, but from an economic development standpoint, we consider them important components of DC's creative economy.

Growing the creative economy not only has direct positive economic effects; it also adds to the District's ability to attract young talent and innovative companies and helps establish a District branding and identity beyond being the nation's capital.

Job Growth in Creative Economy Subsectors, 2012 to 2016

Line thickness shows relative number of jobs in each sector



Source: Bureau of Labor Statistics

Figure 21: Job Growth in Creative Economy Subsectors, 2012 to 2016

Major Trends Affecting the Sector and Implications

Cultural organizations have unique space needs

Trends: Arts and cultural organizations in the District require affordable space for artistic use, as well as infrastructure that supports cultural production (e.g., high-speed broadband that can support video live streaming).

Implications: To improve access to affordable space and resources, DC could make it easier for cultural businesses to find resources – for example, by creating a registry of space available and encouraging organizations with available space to make it available for cultural purposes.

Limited industrial land and space constrains growth of the creative economy

Trends: Various segments of the creative economy, such as breweries, distilleries, certain makers, and others, depend on industrial-zoned land and spaces, such as warehouses. The District has very little industrial-zoned land compared to neighboring jurisdictions and peer cities, and what does exist is shrinking due to conversions to other uses. In addition, there is a supply-demand mismatch of industrial space – existing spaces are substantially larger than what is sought by users.¹⁴⁷

Implications: The reduction of industrial-zoned land and inaccessibility of small-footprint industrial spaces constrains the growth of the District’s creative economy. Preserving industrial-zoned land and finding ways to make large-footprint industrial spaces usable to consumers with lesser needs could help alleviate these constraints.

Regulatory hurdles make things difficult for small, under-resourced cultural organizations

Trends: Creative organizations face regulatory and permitting hurdles that are difficult to address given their small size.

Implications: A District bureaucracy that is easier for small organizations to navigate could benefit not just cultural organizations but also small enterprises more generally. For example, improved coordination between the various procurement arms and schedules of the DC government (e.g., CBE, DC Supply Schedule, etc.) could help smaller businesses in the creative economy.

Opportunity Areas Poised for Growth

The six opportunity areas represent cross-cutting industry clusters that offer high potential for tax revenue growth, industry development, and/or an increase in living-wage (or better) jobs. These areas are poised for growth due to their strong existing activity, growth potential, and ability to play to DC's comparative strengths and workforce assets. The opportunity areas are in various stages of maturity - some are well established with potential for further significant growth; others are nascent but well positioned to develop. They also include career opportunities for workers of various skillsets and educational attainment levels.

The Framework for Action section of the economic strategy describes a handful of high-impact initiatives the District will pursue, some in coordination with private sector partners, to advance the development of these opportunity areas and career pathways into them. In-progress efforts by the District's workforce development agencies to create career pathways in high-demand and growing sectors (business administration and information technology, construction, healthcare, hospitality, security and law) will also feed into this work, and the District's economic development and workforce development agencies will collaborate to ensure these strategies are complementary.

See the Initiatives section of the strategy (page 70) for initiatives related to each of the Opportunity Areas, or visit www.DCEconomicStrategy.com for an interactive search tool.

Impact Economy

Overview

Definition: Organizations and private entrepreneurs in the ecosystem of private companies, non-profits, and foundations whose missions involve addressing social challenges and other issues pertaining to the public good.

Example Industries and Organizations	Example Worker Specialties and Skills
<ul style="list-style-type: none"> • Non-profit organizations • Social enterprises • Philanthropy • Social issue advocacy • Social impact consulting 	<ul style="list-style-type: none"> • Social entrepreneurship • Impact investment • Policy analysis and advocacy • International development • Business administration and development (e.g. fundraising) • Performance and project management • IT development and support • Computer user support specialists

The Impact Economy comprises organizations and private entrepreneurs in the ecosystem of private companies, non-profits, and foundations whose missions involve addressing social challenges, including, for example, public health, neighborhood empowerment, and education. The scope of their work can range from a global to hyper-local. Types of organizations that make up this sector include:

- **Non-profit organizations:** purpose-driven organizations focused on addressing social issues
- **Social enterprises:** for-profit organizations with a double bottom line - a stated mission focused on creating improvements in human well-being, in addition to being commercially viable
- **Philanthropy:** foundations, limited liability companies, or individuals focused on funding other mission-driven organizations, philanthropy often functions as the venture capitalists and angel investors of the impact economy
- **Advocacy:** organizations or associations including media/communications companies, working to change attitudes, policies or practices on social issues, ranging from broadly ideological to issue-specific
- **Social impact consulting:** non-profit and for-profit consulting firms focused on using a values-based approaches to solve issue-based problems for clients
- **Impact investors:** firms and individuals that invest in companies, organizations, and funds with the intention of generating social or environmental benefits in addition to a financial return

The impact economy is one of the fastest growing sectors of the US economy, accounting for 10% of all jobs nationwide.¹⁴⁸ Impact economy organizations, including grantmaking, social advocacy, civic, social, professional, labor, and religious organizations, account for 56,000 jobs in the District. This number likely undercounts the size of the impact economy, as it does not account for social enterprise entities and other for-profits in the space. For example, 69% of startups in region identify as “double bottom line business” (i.e. they measure success by metrics beyond financial that correspond to a social mission), and 41% say they operate in the impact space.¹⁴⁹ Additionally, this sector has strong millennial representation. When looking at nonprofits, the backbone of the impact economy, millennials made up 51% of those employed by the sector in DC in 2015 (as compared to 38% in 2014).¹⁵⁰

The DC government could help map and convene the impact economy ecosystem, adding coherence by bringing together organizations focused on creating different types of impact

DC can help create opportunities to connect social entrepreneurs with funders in new settings in order to help build trust between groups in a more authentic way

Stakeholder Session Feedback

DC could stake a claim on the brand of the impact economy, elevating its story to give the space legitimacy and better drive funding to organizations in this space.

DC can procure solutions based on problems, rather than through traditional contracting, in order to mobilize players in the impact economy that otherwise would not engage.

DC's Comparative Advantage

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

Vibrant impact economy ecosystem including presence of major funders

The presence of Congress, the Executive Branch, and the headquarters of major American non-profits such as the American Red Cross in DC and the DC metro area make the District a center for policy and thought leadership on issues related to social and policy impact, and thus an ideal location for mission-based advocacy, social enterprise, and other impact economy organizations. In a joint Halcyon-Capital One study, DC was ranked the number one city in the U.S. for social entrepreneurship, based on the health of the components of its social enterprise ecosystem: funding, quality of life, human capital and regulatory environment/receptivity to social enterprise.¹⁵¹ In addition, as the base of US federal government agencies (which fund a significant amount of the sector's work), and multilateral donor organizations such as the World Bank and the Inter-American Development Bank, DC is an attractive location for impact economy firms and organizations that want proximity to major funders of impact work.

Workforce with experience in mission-oriented work

DC attracts a socially-conscious workforce that has expertise working with public policy, from former government employees to policy thought leaders and new entrants to the workforce from the local universities.

Activating this Opportunity Area

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Uniting the Impact Economy

DC's impact economy is fragmented due to the number and diversity of organization type, size, and issue area located in the region - many identify with a particular industry, but not under a shared umbrella identity. Many local stakeholders in this space expressed a desire for a stronger network of such organizations and related resources. Coalition building would help add coherence and density to the impact economy, resulting in increased sharing of resources, knowledge, and talent across organizations, and increased access to financing. Mapping DC's impact economy would help in understanding opportunities for collaboration and support. Additionally, making the supports available to social enterprises easier to find and navigate could help draw prospective entrepreneurs out of the woodwork.

Building Investor Understanding

Based on what we heard from stakeholders in the impact economy, private sector funders generally do not have a strong understanding of what to expect when investing in social enterprises. The higher perception of risk has resulted in limited private sector investment nationwide in these types of ventures. There are thus opportunities to better educate funders about social enterprises and connect them with social entrepreneurs in ways that build trust. The mapping described above could help meet this objective by providing a tool that enables them to become familiar with the local landscape of social enterprises. Furthermore, the District government could help credential or certify social entrepreneurs to assist private funders in recognizing legitimate investments.

Challenge-Based Procurement

While the DC government procures solutions for public and social sector problems, many in the impact

economy have cited DC's procurement process as challenging to navigate. Following the example of the federal government's Challenge.gov or Philadelphia's FastFwd programs, DC could reform current procurement practices or implement challenge-based (also known as problem-based) procurement, which involves defining a challenge and soliciting creative solutions from the private sector.

Creating Spaces for Impact Economy Organizations

One theme raised by stakeholders across sectors was the need for more affordable commercial space. DC's impact economy organizations, particularly newer social enterprises, face challenges when identifying spaces to locate their organizations in the District. By building on the success of established working spaces and incubators such as ImpactHub DC, Cove, Halcyon House, and WeWork, including their existing programs targeted at impact economy organizations, DC could help create density for impact economy organizations, in order to facilitate knowledge sharing.

Smart Cities and Civic Solutions

Overview

Definition: Emerging approaches to urban infrastructure, transportation, energy and sustainability, including government-focused and “smart cities” technologies.

Example Industries and Businesses	Example Worker Specialties and Skills
<ul style="list-style-type: none"> • ‘Smart city’ sensors, integration, and data analysis • Sustainability infrastructure, including green building design and construction • Municipal service delivery innovation • Civic/government tech • Transportation and mobility, including autonomous vehicles, non-motorized transit and congestion solutions 	<ul style="list-style-type: none"> • Sustainability, energy and infrastructure upgrades and retrofitting • Engineering and computer science • Data science, management and analytics • Urban planning • Urban agriculture and food systems • Business administration and development (e.g. sales) • Legal and regulatory • Operations and customer support • Computer User Support Specialists

The need to keep up with the demands placed on urban infrastructure and transportation by rapid urbanization and technological advances creates an opportunity areas focused on issues ranging from modernization of infrastructure (e.g., updating energy, water, and transportation infrastructure), using information technology and open data to enhance city operations and services, and advancing environmental sustainability. Known as the smart cities industry, it is expected to grow to an estimated \$88.7 billion globally by 2025.¹⁵² Smart city transformations are taking place in cities of all sizes, enabled by the developments in city-related connected devices (i.e., the Internet of Things or IoT), solar and battery technology, and mobile and data-enabled transportation technologies. Columbus, Ohio won the U.S. Department of Transportation’s \$40 million Smart City Challenge in June 2016 to fully integrate innovative technologies (self-driving cars, connected vehicles, and smart sensors) into their transportation network.¹⁵³ Columbus is matching the USDOT and Vulcan grants with \$90 million in pledges from public and private sector partners.¹⁵⁴ Beyond their high economic growth potential, smart cities and civic solutions create a positive externality benefiting the cities in which they are incubated.

DC has been a hotbed of activity for innovation aimed at solving urban problems (particularly in the transportation space), enabling greater civic participation in government, and delivering citizen services.¹⁵⁵ Existing initiatives and policies to support smart cities and civic solutions include the Pennsylvania 2040 Project, a public-private partnership to implement Internet of Things technologies on Pennsylvania Avenue NW, and the 2016 Renewable Portfolio Standard Expansion Amendment Act to increase DC’s renewable portfolio standard to 50% by 2032.¹⁵⁶ Companies such as Uber, Lyft, RideScout, and Bridj have started a movement not just within the transportation space, but in using mobile technology and data to transform the way that people interact with cities.

DC should use existing efforts, such as the Pennsylvania 2040, Office of the Chief Technology Officer, and St. Elizabeth's as springboards to grow the DC smart cities industry

There is a need for reliable transportation for workers commuting into the city (including those in the service industry who work late shifts)

DC needs to address excessive traffic congestion by incentivizing shared commuting and create a disincentive to personal commuting.

Stakeholder Session Feedback

DC should use sustainability innovation efforts to create opportunities for workers without post-secondary degrees (e.g. DCSolar Works to increase solar installation jobs)

Challenge-based procurement model can encourage the growth of companies with innovative solutions to urban problems

DC's Comparative Advantage

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

DC's Urban Environment

DC offers several advantages as a location to grow the smart cities and civic solutions sector. Its status as the national capital gives it a branding advantage to attract firms that want to demonstrate that their city solutions work in a major American city. As a city that can make policy without the friction of having to contend with state government, DC has jurisdictional simplicity that makes it easier to test out new ideas. DC also has strong public transit and air travel infrastructure compared to many other American cities.¹⁵⁷

High Concentration of Thought Leadership and Policy Expertise

A significant amount of expertise on the subject of urban sustainable development is located in the District. These include public sector organizations, such as the Environmental Protection Agency, U.S. Department of Transportation, the World Bank, think tanks, and professional associations developed around smart city and other civic issues. This advantage is amplified given the high concentration of expertise in data management and confidentiality. This concentration of expertise, which is unique to DC, creates a significant opportunity in being first adopters and innovators in new technologies that involve significant regulatory questions such as autonomous vehicles. Ultimately, creating a "smart city" requires not just the adoption of new technology, but also the soft infrastructure, including the regulatory and legal expertise, underpinning the smart transformation.

Existing Urban Solutions in Sustainability and Resilience

DC's existing commitment to finding solutions to the urban challenges of environmental sustainability and climate change could also be drivers of innovation in areas that cities around the world are facing. For example, the District's recently adopted Renewable Energy Portfolio Standards will boost the District's uptake of renewable energy, and the District also has some of the nation's most progressive storm water management standards for new buildings. DC is pursuing several long-range goals for maximizing sustainability and minimizing the negative impacts of climate change, through its 2013 Sustainable DC Plan and 2016 Climate Action. In addition, the District began the process of creating a resilience roadmap in February 2017 as a new member of the Rockefeller Foundation's 100 Resilient Cities program, and it will soon hire a chief resilience officer to lead the effort. All these commitments not only foster environmental resilience, but also provide an opportunity to develop integrated solutions that DC firms could then export to meet similar challenges in other cities.

Activating this Area of Growth

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Creating a Smart City and Civic Solutions Policy Ecosystem

Given the concentration of policy expertise located within the region, DC has an opportunity to become a leader in smart city policy. DC can develop and implement new policies and regulations (e.g. build on the new open data policy with data protection laws) that can provide a first-mover advantage capable of spurring smart city entrepreneurship. These can help serve as an example to other cities that are becoming increasingly connected. Furthermore, DC has an opportunity to explore new city-led partnership models that brings together governments, universities, established businesses, entrepreneurs, foundations, and social sector entities to address increasingly multi-dimensional urban challenges.

Given the concentration of policy expertise located within the region, DC has an opportunity to become a leader in smart city policy. DC can develop and implement new policies and regulations (e.g. build on the new open data policy with data protection laws) that can provide a first-mover advantage capable of spurring smart city entrepreneurship. These can help serve as an example to other cities that are becoming increasingly connected. Furthermore, DC has an opportunity to explore new city-led partnership models that brings together governments, universities, established businesses, entrepreneurs, foundations, and social sector entities to address increasingly multi-dimensional urban challenges.

New Procurement Mechanisms

Government procurement and adoption of smart cities and other urban solutions has also been a driver of innovation in these industries, by providing an initial source of revenue and customer feedback, as well as allowing firms to prove that their technologies and innovations work. For example, Barcelona has started to use challenge- or problem-based procurement. Instead of using traditional contracting, the city has identified challenges faced by the city and has opened solving them to entrepreneurs.¹⁵⁸ Other cities have also taken this approach, including Singapore, whose water industry was spurred by government procurement of leading-edge water reclamation technology. DC can take a similar approach, using new procurement mechanisms to help encourage holistic solutions to its urban challenges. By transitioning to challenge-based procurement and using new mechanisms (including prizes, competitive grants, and broad agency announcements), DC can mobilize a diverse set of businesses and entrepreneurs to tackle urban problems in new ways, creating benefits in the city and promoting economic growth.

Impending Infrastructure and Utility Upgrades

Key pieces of infrastructure in the District are aging and expected to undergo major upgrades or investments in the near future. Examples include grid upgrades, DC water infrastructure improvements, Anacostia Riverfront remediation, and bridge replacements. These projects offer opportunities to catalyze smart city solutions and will increase the demand for construction and trades labor. Paired with anticipated retirements of workers at DC Water and the forthcoming real estate academy at the MLK Incubator announced in December 2016, these projects could help strengthen pathways into smart cities careers and support economic mobility for workers with less educational attainment.

Hospitality Innovation

Overview

Definition: Innovation, including technology, services and entrepreneurship, that augment or disrupt industries within the hospitality and tourism sectors.

Example Industries and Jobs	Example Worker Specialties and Skills
<ul style="list-style-type: none"> • Technology or applications that aid event/convention planning and management (event tech) • Food business model innovation e.g. food trucks, food incubators • Applications that support or enable new modes of acquiring hospitality-related services or products, including lodging, touring, and payment services • Artificial intelligence that enhances the hospitality experience 	<ul style="list-style-type: none"> • Management consulting • Software development • Entrepreneurship • Culinary • Content marketing and social media • Event management • Business administration and development (e.g. sales) • Computer user support specialists

While hospitality - one of the District's largest sectors of employment after the federal government¹⁵⁹ - includes industries that traditionally emphasized a 'personal touch' and in-person interactions, technology plays an increasingly important role in these industries. Travel apps such as Airbnb and TripAdvisor have transformed the hospitality and tourism industries by making it easier to develop a customized travel experience, while traditional hotel chains are also experimenting with technologies such as location-based marketing (using a user's location to send communications via Bluetooth and wifi), smart controls, and even virtual reality for marketing. On the back end, predictive analytics can be used to identify customer preferences and gather insights on customers. The hospitality industry has also seen non-technology-based innovation, such as the boom in food incubators in the District, or the growth of innovative food business models such as food trucks, which have used a combination of mobility and digital engagement to effectively build their customer base.

As restaurants evolve and innovative food companies such as food trucks are increasingly becoming restaurants, businesses need training on scaling a business

DC needs a showcase of innovation (e.g. SXSW) to connect smaller, under resourced companies across sectors

DC attracts the growing hospitality and events tech sector because 35% of all the rooms in the world are managed by companies headquartered in DC

Stakeholder Session Feedback

DC's Comparative Advantage

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

Strong Sector Expertise and Customer Base

The strong base of expertise, talent and infrastructure in hospitality and tourism primes DC to continue growing these industries through innovation. DC is a major tourism and convention destination with 21.3 million visitors in 2015.¹⁶⁰ Many DC hotels undergo renovations every 5 to 7 years to stay competitive, which offers opportunities for new technology to be tested and implemented. The DC metro area also contains the corporate headquarters for major hotel brands such as Marriott, Hilton, Choice Hotels, and Host Hotels, providing access to a major influential customer base.

Food-Related Innovation

DC has a number of food-focused accelerators and incubators, including Eatsplace, Mess Hall, Union Kitchen, and Startup Kitchen, where innovative food entrepreneurs can test out restaurant concepts, access shared resources such as commercial kitchens or walk-in refrigeration, and learn from shared institutional knowledge. DC is also the regional center of “alcohol production renaissance”, thanks in part to District laws that allow producers to self-distribute, rather than having to go through wholesalers.¹⁶¹ This has resulted in several distillers and brewers, including Republic Restoratives and DC Brau, locating in the District, with many clustering in Northeast DC.

Technology Capabilities

DC has strong technology capabilities to support the hospitality industries. This includes a highly-educated workforce, as well as a number of startup accelerators including 1776, In3 at Howard University, technology and e-commerce focused GP Labs, Fortify, and Accelerprise.¹⁶²

Activating this Area of Growth

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Foster Cross-Sector Collaboration

Creating opportunities for hospitality companies to network with DC technology companies would allow tech firms to understand the challenges of these firms and workers in hospitality and tourism fields and together explore new technologies or approaches. Government can serve as a convener of actors who may not otherwise connect – for example, event managers and full stack developers.

Go to market with new products between new entrants and incumbents

In the hospitality industry, digital startups and analog travel and hospitality organizations have often partnered as a quick and cost-effective way to adapt their business strategies in a disruptive marketplace.¹⁶³ For example, Uber's on-demand delivery service, UberEats, has formed alliances with various restaurants across the US. DC has an expansive network of start-ups, small, mid-sized, and large companies within each industry. There is thus an opportunity to assess the landscape of current partnerships and facilitate new ones. Innovations of DC firms in the hospitality and tourism sectors could also be highlighted during innoMAYtion, the District's month-long celebration of innovation during the month of May.

Integrate workforce programs and training

With its wide range of entry level to management positions, the hospitality industry already offers

significant opportunities for career development and economic mobility. Many programs and institutions, including Hospitality High Schools/National Academy Foundation, Goodwill Industries, UDC Community College, DC Central Kitchen, Carlos Rosario Academy, and others are preparing DC residents for promising careers in this field. Where appropriate, such programs could incorporate the industry trends into educational curriculum and build training pathways accordingly, possibly leveraging the increasing number of technology-related training resources. By the same token, coding academies could gear some of their curriculum toward hospitality and event-related technology.

Professional Services Innovation

Overview

Definition: Innovation, including technology, services and entrepreneurship, that augment or disrupt industries within the hospitality and tourism sectors.

Example Industries and Jobs	Example Worker Specialties and Skills
<ul style="list-style-type: none"> • Technology or applications that aid event/convention planning and management (event tech) • Food business model innovation e.g. food trucks, food incubators • Applications that support or enable new modes of acquiring hospitality-related services or products, including lodging, touring, and payment services • Artificial intelligence that enhances the hospitality experience 	<ul style="list-style-type: none"> • Management consulting • Software development • Entrepreneurship • Culinary • Content marketing and social media • Event management • Business administration and development (e.g. sales) • Computer user support specialists

Like the hospitality and tourism sector, professional services is one of DC’s largest after the federal government, and many industries within it are experiencing significant innovation. New technologies and approaches are being applied to increase productivity, as well as bring innovative offerings and improved service to clients. For example, apps specialized for industries such as consulting and accounting can meet clients’ increasing demands for mobile and digital professional services, as well as professionals’ own desire to use technology to enhance their work. Predictive analytics, workflow automation, and artificial intelligence are increasingly transforming how professional services are executed and delivered. Legalist, a data-backed litigation financing firm, uses a database of legal records to determine the likelihood that a case will succeed, funding the suit in exchange for up to 50% of the judgment.¹⁶⁴ Artificial intelligence may also change how services are executed by, for instance, making legal discovery increasingly a technology-driven process.¹⁶⁵ Enterprise technology also plays a crucial role in the back-end functions of professional services firms by improving collaboration and knowledge management and enabling access to the firm’s IT infrastructure on the road.

DC's Comparative Advantage

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

Strong Sector Expertise and Customer Base

The strong base of expertise, talent and infrastructure in professional services positions DC to continue growing these industries through innovation. District-based companies have significant expertise in law, public sector management and technology consulting, as well as federal government consulting. The federal government also serves as a major potential customer base. In addition, national and international associations, many of which have headquarters in DC, enhance the market for more efficient and integrated professional services and related technologies.¹⁶⁶

Technology Capabilities

DC has strong technology capabilities to support professional services industries. This includes a highly-educated workforce and various startup accelerators, including 1776, technology and e-commerce focused GP Labs, Fortify, Accelerprise, and a pipeline of university-based entrepreneurial talent.¹⁶⁷

Activating this Area of Growth

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Fostering Cross-Sector Collaboration

As with the hospitality innovation opportunity areas, creating opportunities for professional services companies to network with DC technology companies would allow tech firms to understand the challenges of these firms and explore new technologies. Many professional services firms are creating their own innovation centers that offer a tech or digital-focused space to host clients, for example Booz Allen's Innovation Center located in downtown DC or Deloitte's Greenhouse. Companies with versatile tech-focused spaces could serve as a meeting center for innovative professionals, such as accountants, lawyers, lobbyists and financial managers, developing cross-sector networks and promoting further collaboration.

Stakeholder Session Feedback

The DC address provides credibility and prestige to professional services firms globally, given the concentration of public and development expertise

Security Technology

Overview

Definition: Cybersecurity technologies (protecting networks from attack and preventing unauthorized access to data)

- Physical access and identification technologies

Example Industries and Businesses	Example Worker Specialties and Skills
<ul style="list-style-type: none">• Threat monitoring and detection• Incident response• Insider threat detection• Digital identification• Physical identification (e.g. biometrics)	<ul style="list-style-type: none">• Engineering and computer science• Biometrics• Post-secondary education• IT support• Business administration and development (e.g. sales)• Computer User Support Specialists

Both public and private sector organizations have increasingly complex cybersecurity and physical security technology requirements. These requirements include network security, protection of data and physical assets, security compliance, risk management, identity and access management (e.g., through biometrics, smart cards, tokens, and authentication and authorization technologies), detecting and addressing insider threats, and training. The expertise required in this field includes development of security technology, data analytics, technology policies and governance, and technology implementation. A security technology industry has emerged to fill these needs, spanning small startups to large established technology and security firms.

The public and private markets for security technology have been growing as a result of the increasing amount of sensitive data being used in government and business functions, the increase of objects connected to the Internet of Things, an uptick in high-profile data breaches at public and private organizations, and the use of new IT systems in federal offices. The federal information security market alone is expected to grow from \$7.8 billion in FY15 to \$10 billion in FY20 at an annual growth rate of 5.2%.¹⁶⁸ The DC metro area had 27,246 cybersecurity job postings in 2015, far outpacing the next two markets (New York at 17,982 and Silicon Valley at 13,869).¹⁶⁹ Cybersecurity specialists also commanded an annual salary premium of about \$6,500 compared to others in the IT sector.¹⁷⁰

DC could build relationships with global cities also focusing on security technology (e.g., incubator exchange programs, etc.)

DC could use its expertise in the policy and legal space to support these sides of the security technology business.

Stakeholder Session Feedback

The region should build a strong brand in security technology, going to market together.

DC could better help companies navigate the government contracting process.

DC's Comparative Advantages

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

Proximity to Federal Government Agencies with Leading Security Capabilities

The DC metro area is home to national security, defense, and intelligence federal agencies with security technology needs such as U.S. Cyber Command and the Defense Information Systems Agency, as well as civilian agencies with massive amounts of sensitive data to protect, like the Internal Revenue Service. This creates a natural base of customer demand for security technology, enabling the growth of other technology firms in DC, particularly contractors, startups, and research groups.¹⁷¹ This demand has created a workforce with expertise in cybersecurity and other security technology, including federal employees, government contractors, and those working for innovative, data-driven security technology firms. DC also has a workforce with significant policy and legal expertise in security technology. As security requirements for government become increasingly complex and stringent, there is a competitive advantage to those that can understand these requirements, and DC firms' proximity to the customers give them an advantage in being able to more quickly adapt to changing requirements. The size of the federal market and the cross-sector applicability of certain security technology solutions (e.g. biometrics) also means that the security solutions developed for

the government have the potential to set and shape industry standards for the private sector. These regional advantages have led major Silicon Valley security technology players to open DC metro offices, both to cater to the region's strong market and to hire from the local talent pool.

Strong Regional Ecosystem of Small Businesses, Entrepreneurs, and Federal Research Labs

Demand in the federal cybersecurity market has resulted in the emergence of a regional start-up and technology transfer cluster that pioneers technology with significant promise to shape the industry. Between 2011 and 2014, three major DC-area cybersecurity companies (NetWitness, SourceFire and Mandiant) were acquired for a total of \$4.1 billion.¹⁷² These companies focus on a variety of issues across the security technology space, ranging from cyber threat prevention, employee training, and measurement and reporting. A majority of the region's security technology startups are located outside of the District, with an especially high concentration in Virginia.¹⁷³ The growth of this ecosystem has been helped by regional accelerators such as the Center for Innovative Technology and Mach37.

Activating this Opportunity Area

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Creating a Region-Wide Security Technology Network

Given the high concentration of security technology companies in the region, DC could work with Maryland and Virginia to create a stronger regional network, strengthening the resources available for existing security technology entrepreneurs and recruiting new players. This will help the region address rising competition from cities and regions such as Silicon Valley, Austin, and San Antonio. DC specifically can build on its policy and legal expertise by incubating and attracting companies focused on technology development, increasing the region's security technology footprint. This could be done in concert with the research institutions and universities in DC. Furthermore, Washington, DC's status as the nation's capital and center for security and defense can help promote this network as an internationally known brand.

Supporting Government Contracting

Stakeholders reflected that while many regional entrepreneurs and small businesses have been driving breakthroughs in the security technology space, many have faced challenges in navigating the federal contracting landscape. DC has an opportunity to support these organizations and help them scale by continuing to link them to contracting expertise (e.g., companies that have gone through similar processes), thereby tapping on the local knowledge base of navigating the federal government procurement process. This could mean raising awareness of the Procurement Technical Assistance Center (P-TAC) at the Department of Small and Local Business Development, and potentially also enhancing the program.

Facilitating Technology Transfer

Stakeholders discussed security technology opportunities related to the local and regional presence of several federal research labs and large research universities. Specifically, DC can grow its security technology industry by facilitating technology transfer, helping these research centers navigate the process of commercializing innovative developments.

Data Science and Analytics

Overview

Definition: Data science, analysis, management and policy, particularly in areas where data is sensitive (e.g. health care, national security) or new approaches are emerging (e.g. big data)

Example Industries and Businesses	Example Worker Specialties and Skills
<ul style="list-style-type: none">• Electronic health record analysis• Financial predictive analytics• Credit data analysis	<ul style="list-style-type: none">• Data science, analysis and statistics• Business analysts• Research• Engineering and computer science• Machine learning• Post-secondary education• Business administration and development (e.g. sales)• Product managers• Computer user support specialists• Medical records and health information technicians

Data analytics - the analysis of large amounts of data to uncover patterns and correlations that give business insights such as customer preferences and market trends - can help organizations and firms raise productivity, improve decision making, and gain competitive advantage. Market research firm IDC estimates the global market for big data and business analytics hardware, software, and services will increase by over 50% to \$203 billion in 2020.¹⁷⁴ IT services and business services make up more than half of the data analytics market, while data analytics software makes up over a quarter.

Technology and policy have further created new streams of data to analyze. As electronic health records are increasingly used by healthcare organizations (spurred in part by regulation), they create new potential for insights from the data generated, leading to even greater demand for data analytics capabilities. In particular, financial sector, insurance, and health care IT are projected to require high levels of data analytics expertise. The precision medicine market, for example, is expected to top \$88 billion by 2022, a significant portion of which will go not to life sciences firms but to technology brands such as IBM and Intel for analytics capabilities.¹⁷⁵

The Hospital Association has been engaging with the district to align workforce development with vocational needs, so these efforts could be built upon (including the soft skills required to support low-income communities)

Firms need an increasingly versatile, digitally fluent workforce

DC should leverage the expertise of Virginia and Maryland, as the Capital BioHealth Region (compete together against Boston and San Diego)

Stakeholder Session Feedback

DC's Comparative Advantage

Based on our analysis and stakeholder interviews, DC has the following comparative advantages:

Existing Strength of Data Analytics Industry

The DC metro area has a number of leading data analytics firms focusing on business intelligence (helping organizations get insights and make more informed decision through analysis of their data). These firms include APT (business analytics software for large, consumer-facing businesses), Logi Analytics (interactive data visualization products for business intelligence and business analytics), and MicroStrategy (business intelligence analytics platform). With DC's strong analytics base, there is opportunity to grow the healthcare IT and consulting base to respond to increasingly complex data needs.

Expertise in Meeting Demand for Big Data Analysis from Federal Agencies

The ability to extract insights from data is increasingly crucial to the way federal agencies work; DC's proximity to government agencies thus puts data analytics firms near a major customer base. Fourteen major federal departments and agencies, as well as the District, now have Chief Data Officers, and federal spending on big data solutions (primarily services) is projected to increase from \$1.95 billion in FY16 to \$3.55 billion in FY21, an annual growth rate of 13%.¹⁷⁶ Private sector federal contractors in the DC metro area have supplied much of the desired analytics capabilities. The DC metro area can build on this existing expertise in management of large data sets, as well as on extracting and applying insights from big data.

Intellectual Hub for Data Privacy and Other Data Policy Issues

Data privacy is a major issue for big data analytics. Companies that misuse data not only face regulatory consequences, but also consumer reluctance to entrust the firms with their data. The consequences are even starker when it comes to sensitive data about individuals such as personal health, tax, or financial data.¹⁷⁷ Stakeholders commented that DC's status as an intellectual hub for data policy issues and DC-area firms' expertise in analyzing, handling, and protecting federal government and citizen data combine to make the District a natural center for data analytics of sensitive data. DC

is also a center for the use of data to study policy, as seen in the creation of the Massive Data Institute at Georgetown's McCourt School of Public Policy to study high-dimensional data and answer public policy questions.

Activating this Opportunity Area

Based on our analysis of this sector and stakeholder interviews, the following actions could help develop this opportunity area:

Expose and Train the Future Workforce on Data Analytics

There is a supply and demand imbalance in data scientists, particularly in experienced data scientists and statisticians who know how to uncover and solve complex problems for businesses and organizations.¹⁷⁸ There are thus opportunities to increase exposure of DC residents and university students to data analytics as a potential career, and to provide them with experience working with data, including by making data sets available through the DC government's open data initiatives.

Promote DC as a Thought Leader in Data Analytics

Given the District's strengths in both data analytics and hosting conventions, it could attract more data-focused conferences to establish DC as a center for thought leadership in data analytics. The District could also convene and facilitate networks between government and private sector leaders in this space, as both types of organizations face similar challenges in analyzing data.

SWOT Assessment

Informed by the analysis and stakeholder input, the strategy team developed a SWOT (Strengths, Weaknesses, Opportunities, and Threats) Assessment of the District's economic climate.

Strengths

- Presence of the Federal government creates customer base and sets industry standards for regulated industries (e.g. health, security)
- Concentration of global institutions and global expertise
- Local representation of major industries and companies; international cachet and branding
- Workforce has high levels of education (large number of STEM graduates) and significant expertise in public policy, professional services, government-related technology
- As a major metropolitan center, DC has benefited from people increasingly looking to live, work, and play in urban environments
- Improvements of quality of life drivers (e.g. DC's food scene and food manufacturing; thriving creative economy)
- Burgeoning technology industry with a number of technology start-ups
- Rising levels of tourists and other visitors to DC
- Large number of students and continued demand for DC as a post-secondary education destination creates a potential talent pipeline
- Growing retail sector, including new districts and converted spaces
- Abundance of multi-modal transportation options (metro, air, bike, etc.)
- Geographic centrality enables DC to draw workers from around the region

Weaknesses

- Federal spending has plateaued
- Continued perception of the DC economy as predominantly an "industry town" (i.e. the federal capital) may affect ability to market other strong sectors of the economy
- District universities have not historically ranked highly on traditional measures of innovation (e.g., patents granted)
- Tech community, particularly those from underrepresented communities, has difficulty finding financing at certain stages of growth
- Challenge of creating a jobs pipeline for those not pursuing 4-year college degrees and/or certain disadvantaged populations (large literacy gap), as jobs in DC increasingly require skill, and as training does not always result in jobs
- Desirability of the District as a place to live imposes affordability challenges, especially for families and low- and fixed income residents.
- One of the highest rates of economic inequality, compared to other cities and states
- Traffic congestion and perceived deterioration of public transit quality
- Difficulty in navigating DC's regulatory environment, including knowing where to go, as well as the need for repeated visits for permitting and licensing

Opportunities

- Build on the existing capabilities and skill base of the District to expand to growing adjacent industries (e.g. health IT/data analytics)
- Create jobs for those without 4-year degrees in high-demand sectors: healthcare, hospitality, business/IT admin, construction, security
- Take advantage of DC pride and of growing consumer interest in locally owned, independent retailers
- Boost tech transfer from local universities and national research labs
- Build on growing demand for security technology and big data needs in areas such as health IT from both federal and commercial markets
- Leverage the growing importance of technology in DC's major sectors, for instance increased spending on cloud computing and digital services by government, or the use of technology in professional services and hospitality
- Allow companies to use the city as an incubator and test-bed for innovative urban technologies through supportive regulation that allows access to DC's data and infrastructure
- Capitalize on factors that make DC an ideal location for the impact economy (funders, academic and professional expertise, high levels of local receptivity to mission-based work)
- Be the center for inclusive technology by branding and building networks
- Build on increased desirability of DC as a place to live (projected population growth to almost 1 million by 2045)
- Take advantage of international business opportunities (e.g., international service exports)

Threats

- Lack of diversification could create over-reliance on federal economy at a time when the federal government is not growing and also moving outside the District
- Wages fell for many groups of DC residents during the recession and have grown unevenly since the start of the recovery
- K-12 education quality and affordability may cause residents to leave the District for suburbs or other competing cities
- Aging transportation and utilities infrastructure could affect quality of life and access to jobs
- Data analytics, workflow automation, and artificial intelligence are disrupting professional services which could affect size of one of the District's major sectors
- Increased intra-regional competition (incentives etc.) to establish technology hubs could cause tech firms to start up outside the District
- Other cities have started positioning themselves as test-beds for innovation
- Retail nationally (outside of food) has been affected by competition from e-commerce
- Significant projected population growth (almost 1 million by 2045) could displace low-income residents without preventative action

A Framework for Action

Overview

To achieve the goals of growing private sector GDP to \$100 billion and reducing employment disparities, we must take strategic, focused action. The Framework for Action identifies five areas where we will focus our efforts. Within this framework fall initiatives, or specific actions that will be implemented over the next several years. Every initiative falls into the action framework, supporting at least one, but often multiple pillars.



Business Environment

Creating a customer-centric business and regulatory environment that improves the ease of doing business in DC, supports an entrepreneurial ecosystem, and leverages DC government procurement to foster innovation.



Funding

Improving access of local businesses in various stages of growth to capital and funding opportunities, particularly for those facing disproportionate challenges accessing capital such as women and minorities, in order to drive economic diversification and continued growth.



DC Identity & Promotion

Supporting the local economy by promoting and preserving the unique identity of DC and sub-markets, and enabling new opportunities for local entrepreneurship and community wealth-building.



Talent

Attracting and retaining talent in DC; providing residents the capabilities to thrive economically through industry-advised career pathways, well-integrated workforce development, and capacity building pipeline for building skills in growing sectors and opportunity areas.



Space, Housing and Supports

Strengthening the supporting drivers of inclusive economic growth, including access to affordable housing and commercial real estate; fostering networks of people; quality k-12 public education system and mobility infrastructure; and promoting safe and healthy neighborhoods.

The action framework is built to be flexible. Each year, the District will report progress toward the goals and determine whether to add new high-impact initiatives that fit within the action framework or to amend or stop those that are not working or have achieved their purpose. Throughout the year, we will highlight progress on this strategy at www.DCEconomicStrategy.com, the strategy's web-based home. In short, this approach balances intention with responsiveness, offering clarity and predictability to stakeholders through an overarching direction while recognizing the need to be nimble and responsive when, inevitably, opportunities and challenges emerge that are impossible to anticipate.




































These initiatives are not a comprehensive list of everything DC can, should, or will do to build a healthy economy. Instead, they are a collection of high-impact and ambitious yet feasible priorities focused on the economic climate that will receive focused attention, effort and resources. See Figure 23 for the Initiatives.

The following section elaborates on each of the framework pillars and the initiatives that fall under them.

Initiatives Index

The initiatives are a collection of high-impact, ambitious yet feasible priorities that will received focused attention, effort and resources. Throughout the year, we will highlight progress at www.DCEconomicStrategy.com.

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
1	Redesign permitting and licensing systems	FY18-19	DMPED/ DCRA / DSLBD	
2	Create a business supports navigator	FY17-18	DMPED/ DSLBD / WDCEP	
3	Coordinate business retention, expansion and attraction efforts through a data-driven, public-private committee	FY17-18	DMPED	 
4	Pilot challenge-based procurement and support institutions with local procurement	FY17-19	DMPED / DSLBD / OCP / CNHED (external)	 
5	Produce the Green Book, a forecast of spending needs to help SBEs find procurement opportunities, and IT procurement app	In-Progress	DSLBD / OCTO	 
6	Create inclusive innovation fund	FY17-20	DMPED/ DISB	 
7	Pilot "One Square Mile," an approach to catalyzing economic development in underserved communities	FY18	DMGEO	   
8	Convene tech CEOs and thought leaders	FY17-18	DMPED/WDCEP	  
9	Enhance mentoring available to mature businesses	FY18	DMPED (Great Streets) / DMGEO / DSLBD	 
10	Help businesses pursue government contracts through Procurement Technical Assistance Program (P-TAC)	In-Progress	DSLBD / DMPED	 
11	Enhance Great Streets grant program	In-Progress	DMPED	
12	Coordinate DC marketing campaigns	FY17-18	DMPED / WDCEP / Destination DC	
13	Engage West Coast investors and entrepreneurs	FY17-19	DMPED/WDCEP	 
14	Expand Middle East trade and investment	FY17-18	DSLBD / DMPED	 
15	Catalyze international tourism	FY17-18	Destination DC / DMPED	
16	Secure major conventions on topics that leverage DC's comparative convention advantages: education, medical, bio/pharmaceuticals and technology	FY17-18	Destination DC	
17	Showcase innovation in DC via InnoMAYtion	In-Progress	DMPED	
18	Promote businesses that design, produce or assemble in DC via Made in DC	In-Progress	DSLBD	
19	Showcase and support DC's creative economy via 202Creates	In-Progress	OCTFME	
20	Promote and advance health innovation	In-Progress	DMPED	
21	Connect entrepreneurs, inventors from federal labs, and support providers to advance research commercialization	FY17-18	DSLBD / DMPED	 







































Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
22	Expand on-ramps into technology career pathways through coordinated internship	FY17-18	DMPED / DOES	
23	Create an industry-advised solar installation and job training program	In-progress (NOFA released Dec. 2016)	DOEE / DOES	
24	Support Beacon, a campaign to empower DC's female entrepreneurs	In-progress (launched Nov. 2016)	External (Beacon)	 
25	Build a business/worker cooperative learning community	In-progress (began Dec. 2016)	DSLBD	 
26	Pilot Aspire for Entrepreneurship	In-Progress	DSLBD	 
27	Train DC residents for DC government jobs through LEAP	In-Progress	DOES	
28	Provide constructive, skill-building work for DC youth for Summer Youth Employment Program	In-Progress	DOES	
29	Open the Inclusive Innovation Incubator (In3)	FY17	Luma Lab / DMPED	 
30	Help longtime businesses address high-cost commercial space	FY18-20	DMGEO / DMPED / DSLBD	  
31	Create real estate career academy and incubator via MLK Gateway project	In-progress (began Dec. 2016)	DMPED/ DHCD	   
32	Assess how to best support maker space(s)	FY17-20	DMPED / DSLBD / OCTFME	 
33	Create and use a dashboard of inclusive prosperity indicators	FY17-18	DMPED	
34	Develop major District-owned parcels to increase affordable housing supply, create jobs for District residents, and strategically catalyze business activity and achieve a community-shaped development vision	FY17-20	DMPED	
35	Create a resilience roadmap for DC	In-Progress	OCA	
36	Engage with the Greater Washington Partnership and other regional bodies	In-progress (began Dec. 2016)	External (JPMC)	 
37	Implement the District's open data policy and build data inventory	In-progress (est. Jan. 2017)	OCTO	
38	Make DC the global center of mobility technology and policy	FY17-20	DMPED w/OCTO, DDOT, DMV	  
39	Strengthen the social enterprise and impact economy ecosystem	FY17-20	External / DMPED / WDCEP/DOES	  
40	Showcase DC's data expertise through an art show featuring data visualizations and data-centric art and related data policy summit	In-progress (announced January 2017)	CAH + OCTO	
41	Become a global leader of smart city innovation through the Council of Global City CIOs, Smart Gigabit Communities and Global Team Challenge (NIST)	In-progress (established January 2017)	OCTO	
42	Make DC the nation's first "Lighthouse City" by pioneering Internet of Things and smart cities solutions	In-progress (launched in 2016)	OCTO	 
43	Create a smart city proof of concept on Pennsylvania Avenue	In-progress	OCTO, GOLDEN TRIANGLE BID	

Figure 23: Initiatives Index

I. Business Environment

Definition: create a customer-centric business and regulatory environment

This pillar involves several types of actions:

- Improving the District's regulatory requirements and workflows to reduce unnecessary burdens on business of all types – small and large, new and old – and create a simpler, more efficient business environment in DC.
- Improving the DC government's ability to foster innovation through new procurement approaches, i.e. government as customer.
- Creating a business environment in which resources and opportunities, including individuals and potential collaborators, are accessible and easy to navigate. Recognizing the importance of relationships and social capital, this includes action aimed at fostering connectivity among actors in the business ecosystem.

To promote growth, it is important to evaluate the incentive and regulatory environment as well as government responsiveness. Improving the District's regulatory requirements and associated workflows can reduce unnecessary burdens on business of all types – small and large, new and old – and create a simpler, more efficient business environment in DC. For example, streamlining the District's licensing and permitting requirements, while still safeguarding customers and citizens, could improve the predictability and clarity of the process and reduce the time needed to get through it, resulting in cost savings for businesses. Licensing improvements could include increasing the speed of processing individual licenses, reducing the number or types of activities for which licenses are required, exempting small businesses and startups from certain licensing requirements, and redesigning license processes from a customer-centric point of view. For instance, designing a common form could allow licensees to apply for multiple licenses at one time.









Another aspect of this pillar involves relationships and networks among the business community and those entities that support it. Awareness of business assistance organizations, regional attitudes toward collaboration and knowledge sharing, and perceived opportunities for meaningful networking all play a key role in fostering networks that support thriving industries.

Additionally, this pillar includes the District government's ability to foster innovation through new procurement techniques and funding models. Alternate procurement techniques, such as challenge-based procurement focusing on soliciting creative solutions to a challenge, can encourage adoption of innovative technologies and ways of working.

Several resources already exist to help entrepreneurs quickly and efficiently navigate the business and regulatory environment, including the annual Doing Business Guide published by the Washington DC Economic Partnership, the International Business Guide, <https://business.dc.gov/>, and the Green Book, which identifies all anticipated opportunities to contract with the DC government. In addition, the District's current procurement rules require that 35% of large District government contracts go to CBEs, and CBE procurements have increased by \$600 million under Mayor Bowser's Administration.¹⁷⁹ This preference helps to expand the availability of business opportunities for local CBEs. The new initiatives that fall into this pillar will build on that existing foundation.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
1	Redesign permitting and licensing systems Redesign DC's permitting and licensing system using customer-centered design processes, interactive user engagement, and design thinking methodology.	FY 18-19	DMPED/DCRA/DSLBD	
2	Create a business supports navigator Create a one-stop, user-oriented (industry/business-type conscious), web-based tool that provides clear and simple guidance about resources and requirements for businesses in DC, leveraging existing resources. Begin by launching a searchable database of all existing incentives and District-funded supports in January 2017. Establish an intra-government working group and user group to inform the design process.	FY 17-18	DMPED/DSLBD/WDCEP	
3	Coordinate business retention, expansion and attraction efforts through a data-driven, public private committee Develop a systematized approach to business retention, expansion and attraction that leverages intelligence from DC data, news, the brokerage community, and stakeholder engagement (including digital communication) to prioritize and target business outreach. Create a coordinating committee of DMPED, WDCEP, DSLBD, BIDs, Chamber and possibly others through which intelligence can be shared.	FY 17-18	DMPED	 
4	Pilot challenge-based procurement and support institutions with local procurement Use procurement to power local businesses and innovation by 1) piloting a challenge-based procurement process focused on addressing challenges facing DC (e.g. traffic congestion, access to transit, affordable housing) modeled on Philadelphia's FastFWD urban innovation accelerator; and 2) supporting development of a collaborative (spearheaded by CNHED) of vanguard anchor institutions interested in learning best practices for maximizing the local impact of their purchasing power.	FY 17-19	DMPED/DSLBD/OCF/ CNHED (external)	 
5	Produce the Green Book, a forecast of spending needs to help SBEs find procurement opportunities, and IT procurement app Publish annually an agency-by-agency overview of SBE spending availability and website (CBEconnect.dc.gov) that provides an online platform for SBEs to search for opportunities and expand use of a new mobile application that enables companies to identify IT procurement opportunities	In-Progress	DSLBD/OCTO	 

II. Funding

Definition: Improve access to capital and financing opportunities

This pillar involves several types of actions:

- Building the capacity of DC entrepreneurs to access capital and tap new markets – particularly under-represented entrepreneurs, who face disproportionate barriers to accessing capital – through mentoring, training programs, and accelerators
- Strategic grant-making or investments of public resources aimed at mitigating barriers for under-represented entrepreneurs, spurring growth in key sectors and/or enabling significant growth and scaling
- Facilitating connections between entrepreneurs and investors

The funding pillar addresses capital and financing opportunities throughout the business lifecycle, from inception as a startup to growth into a mature business. Accessibility of public, non-profit, and private investment for DC business is crucial for economic diversification and continued growth in DC. Venture capital is critical for the financing of young, innovative companies, with venture capital-backed companies accounting for 57% of the market capitalization and 82% of the R&D spending of all public U.S. companies founded since 1979.¹⁸⁰ DC is ranked 8th globally among cities for venture capital investment with \$835 million, a 2% share of global venture capital investment. In the US, DC falls behind San Francisco (\$6.4 billion), Boston (\$3.1 billion), New York (\$2.1 billion), Los Angeles (\$1.4 billion), and San Diego (\$1.4 billion).¹⁸¹ However, the DC region has been trending upwards. In 2015, the region's overall venture capital deals hit the highest point since 2001: the region's companies secured 169 deals totaling \$1.41 billion, up from 197 deals totaling \$1.09 billion in 2014. On average, the region's firms received \$8.4 million in venture capital in 2015, up from \$5.5 million a year earlier. That said, it is important to note that a significant amount of this investment was directed towards firms outside of DC, including regional players Virginia and Maryland.¹⁸²















Despite this concentration of funds, stakeholders from a variety of industries, including the technology, impact economy, health and life sciences, and creative economy sectors, all cited funding challenges. These were prevalent at several phases of the business lifecycle; entrepreneurs and medium-sized businesses alike faced challenges accessing capital that would allow them to scale. These challenges not only hinder access to capital, but also to critical sources of information and guidance, as venture capitalists play a critical role in mentorship, network access, and strategic guidance.

The funding challenge is particularly acute for minority and underrepresented entrepreneurs. Nationwide, minority-owned businesses are 22.8% less likely to receive venture capital and 21.7% less likely to receive private equity funding.¹⁸³ DMPED's Pathways to Inclusion report found that entrepreneurs from underrepresented backgrounds disproportionately do not receive venture capital or seed funding, and lack visibility and access to the networks that yield funding.¹⁸⁴ Research for this economic strategy reinforced that these findings apply beyond the technology sector.

This section outlines a number of initiatives focused on how to help DC entrepreneurs – particularly entrepreneurs who face disproportionate barriers – better leverage venture capital, angel investment, and public sector grants by jump-starting both District and regional investment capabilities. These efforts are intended to complement the many existing resources, both public and private, that currently exist for this purpose, such as the various incubators and accelerators operating in DC and existing District funding programs, including the Department of Insurance, Securities, and Banking's (DISB) loan programs, the Great Streets Grants Program. This targeted investment will bolster DC's inclusive economic growth and pathways to entrepreneurship.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
6	<p>Create inclusive innovation fund Establish a fund or fund(s) aimed at growing business activity in DC's opportunity areas (i.e. impact economy, urban innovation/smart cities, hospitality & professional services innovation, data, security tech) and enabling access to capital by underrepresented entrepreneurs. Awards could be made via pitch competition and/or matching fund over the course of several months and would require applicants to have an inclusive growth plan. Explore opportunities for public-private partnership and, over time, ways to maximize the impact of District investments via alternative fund structures.</p>	FY 17-20	DMPED/DISB	 
7	<p>Pilot "One Square Mile," an approach to catalyzing economic development in underserved communities Pilot an approach to catalyzing development in underserved areas of the District by that involves integrating services, supports and investments in a targeted one square mile and building partnerships with community and institutions to leverage existing assets and connect the area to new opportunities.</p>	FY 17-18	DMGEO	   
8	<p>Convene tech CEOs and thought leaders Convene dinners/breakfasts with the Mayor/Deputy Mayor, business owners, investors and thought leaders aimed at strengthening peer-to-peer relationships, fostering loyalty to DC, and building stronger connections within the city and to investors.</p>	FY 17-18	DMPED/ WDCEP	  
9	<p>Enhance mentoring available to mature businesses Enhance mentoring opportunities available to mature DC businesses, building on existing programs such as Project 500, Great Streets, Main Streets, and others, and partnering with new programs, such as Catholic University's new program to support 100 established DC businesses with accessing to capital.</p>	FY 17-18	DMPED (Great Streets)/ DMGEO/ DSLBD	 
11	<p>Help businesses pursue government contracts through Procurement Technical Assistance Program (P-TAC) DSLBD Procurement Technical Assistance Center offers personalized business counseling and competitive insights for navigating the government contracting process successfully.</p>	In-Progress	DSLBD / DMPED	 
11	<p>Enhance Great Streets grant program Enhance Great Streets -- a grant program that supports businesses in the District's key commercial corridors with capital upgrades and strategic support -- by expanding eligibility criteria to include longtime businesses that have made significant contributions to DC's identity and culture, irrespective of location.</p>	In-Progress	DMPED	

III. Local Identity and Promotion

Definition: support the local economy by promoting and preserving the unique identity of DC; enable new opportunities for resident entrepreneurship and wealth building

This pillar involves several types of actions:

- Elevating the real identity of Washington, DC - a place that is vibrant, diverse and innovative - to regional, national and international audiences
- Promoting DC's competitive advantages and key industry capacities
- Supporting local businesses and residents through opportunities for entrepreneurship, capacity building, and wealth building
- Encouraging local buying by other actors with significant purchasing power

One of DC's biggest assets is its brand. As a longtime seat of power and the home of the U.S. government and more recently a thriving urban center, DC offers businesses - at least in some markets - an advantageous brand associated with power, credibility, and quality. However, that brand also has negative connotations tied to government gridlock and being too focused on one single industry (i.e., government). Locally, DC is viewed as a vibrant, diverse and innovative city with an exploding food and entertainment scene, a cosmopolitan populace, charming neighborhoods. In short, it is so much "more than monuments." In many stakeholder discussions, "the real DC" identity was raised as a competitive advantage that needs to be better promoted.












The local businesses and entrepreneurs that call DC home are a critical part of the District's economy. They cut across all industries and include decades-old family enterprises, start-ups, and everything in between. They are what make DC distinct from any other city in the world and create the District's unique identity. By further nurturing and promoting this identity, DC can create new opportunities for local small, medium, and large-sized businesses.

Beyond the brand, supporting local business and entrepreneurs is essential to economic growth because doing so creates a local multiplier effect, recirculating those dollars to other businesses in the ecosystem. Business owners who are also residents have a vested interest in the future of our city. The initiatives in the DC Identity and Promotion pillar involve not only promoting the DC identity and business capacities externally, but also encouraging consumers to support local businesses and entrepreneurs and creating opportunities for wealth building and long-term success.

There are many programs and resources already in existence to sustain DC's robust local economy. These include the Made in DC policy and brand, Project 500, which is helping 500 resident-owned businesses primarily in Wards 7 and 8 through mentoring, technical assistance and capacity building, and DMPED's Great Streets grants program. However, there are opportunities to expand the benefits of local economic growth to more DC residents, as illustrated by the initiatives below.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
12	<p>Coordinate DC marketing campaigns Coordinate marketing efforts aimed at promoting the real DC -- a diverse and innovative city full of creative and entrepreneurial people, vibrant neighborhoods, and exciting destinations -- and focus on major visitor entry points (such as airports, Union Station, DC taxis, hotels, and events, e.g. Cherry Blossom Festival, H St. Festival) and at events around the country and world that draw entrepreneurs and investors. Leverage existing initiatives (e.g. DC Cool, We DC.)</p>	FY 17-18	DMPED / WDCEP / Destination DC	
13	<p>Engage West Coast investors and entrepreneurs Develop and execute a DC West Coast promotion strategy focused on building relationships with investors, recruiting entrepreneurs to DC, and providing intelligence to DC-based businesses. This will include attending select conferences to promote DC and assessing the possibility of opening a DC West Coast office.</p>	FY 17-19	DMPED / WDCEP	 
14	<p>Expand trade with and investment from the Middle East Enhance trade and exporting between DC and Middle East markets (particularly exporting of professional services related to international law, urban design and development, international development, and smart cities) by making an inaugural mission in 2017, exploring the possibility of opening an international business office (ideally in collaboration with a neighboring municipality(ies)), and working with the Global Cities Initiative to develop a regional export support system.</p>	FY 17-18	DMPED	 
15	<p>Catalyze international tourism Catalyze international tourism by hosting IPW, the world's largest convention of tour operators, and securing a direct India-Dulles flight.</p>	FY 17	Destination DC / DMPED	
16	<p>Secure major conventions Secure major conferences and meetings focused on health/medicine, education, and technology</p>	FY17-19	Destination DC	
17	<p>Showcase innovation in DC via InnoMAYtion InnoMAYtion is a month-long initiative showcasing DC's innovation ecosystem and how ideas from local entrepreneurs are reshaping the District.</p>	In-Progress	DMPED	
18	<p>Promote businesses that design, produce or assemble in DC via Made in DC The Made in DC program promotes and supports businesses that design, make/produce, and/or assemble products in DC. The Made in DC program will function as a citywide campaign and platform, creating opportunity for Makers to come together for resource and experience sharing, as well as function as a conduit and messenger between Makers and local government. Made in DC pop-ups will take place throughout 2017.</p>	In-Progress	DSLBD	
19	<p>Showcase and support DC's creative economy via 202Creates 202Creates showcases the artists, makers and entrepreneurs who contribute to the District's creative industries and engages residents to build community in all 8 wards.</p>	In-Progress	OCTFME	
20	<p>Promote and advance health innovation Spur health innovation by advancing a shared regional brand for biotech and life sciences (BioHealth Capital Region) and securing major health conferences, strengthening the ecosystem through coordinated programming with hospitals, universities, and entrepreneurs, and bolstering industry involvement in health career pathway development.</p>	In-Progress	DSLBD / DMPED	

IV. Talent

Definition: retain talent and empower residents to thrive through industry-advised career pathways and well-connected pipelines

This pillar involves several types of actions:

- Retaining and bolstering DC's already strong talent base
- Building talent pipelines and career pathways into growing sectors to promote economic mobility
- Facilitating connections that build social capital
- Empowering all DC residents with the capabilities to thrive economically

The District, like many other major metropolitan centers in the US, has benefited from people, including a large contingent of millennials, increasingly looking to live, work, and play in urban environments. DC has grown from 635,040 in 2012 to 681,170 residents in 2016.¹⁸⁵ This growth is forecasted to continue, with DC projected to reach almost one million residents by 2045.¹⁸⁶ This increase in population, in turn, attracts companies that want to hire talented people and businesses that want to tap into this growing customer base.












The talent initiatives are focused on finding ways to attract, retain and bolster DC's already strong talent base and to empower all DC residents with the capabilities to thrive economically. The initiatives are intended to create career pathways that are aligned with DC's key industries for all DC residents, including those without four-year college degrees. In four years, 76% of all jobs in DC will require some postsecondary education, whether academic or technical.¹⁸⁷

The initiatives in this section complement the District's Workforce Innovation & Opportunity Act Unified State Plan (2016-2020), which serves as the guiding document for DC efforts to address such employment challenges. The WIOA plan identifies five in-demand sectors - business administration and information technology, construction, healthcare, hospitality, security and law - as priorities for workforce development, and the Deputy Mayor's Office for Greater Economic Opportunity (DMGEO) are developing sector-focused career pathways for each of these five areas, with a focus on pathways for residents that do not have a bachelor's degrees. The WIOA State Unified Plan is available at: <http://bit.ly/2oSeZg6>.

In addition, the talent initiatives are designed to build up the DC skill base in the identified opportunity areas and create a bridge between training and other workforce development programs with available jobs.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
21	<p>Connect entrepreneurs, inventors from federal labs, and support providers to advance research commercialization Launch the DC FedTech initiative -- a program aimed at connecting DC entrepreneurs and inventors from federal research labs to foster innovation through research commercialization and tech transfer. Activities will include regular inventor/entrepreneur pitch sessions preceded by seminars aimed at familiarizing businesses with intellectual property procedures and working with federal labs; trainings and student engagement; and pursuing legislative changes to remove constraints on UDC faculty IP ownership. Explore interest in establishing fed tech courses at university MBA programs and feasibility/value of developing a patent pool (DSLBD).</p>	FY 17-18	DMPED / DSLBD	 
22	<p>Expand on-ramps into technology career pathways through coordinated internships Expand on-ramps into tech career pathways by securing commitments from 100 tech companies to host an intern and volunteer 4 staff hours monthly for DC student engagement (totaling 100 internships and 4800 student engagement hours). Leverage Summer Youth Employment Program for paid internships and create a bootcamp run by an external party to prepare students for tech-related internships.</p>	FY17-18	DMPED / DOES	
23	<p>Create an industry-advised solar installation and job training program Create SolarWorks DC, a comprehensive, year-round solar installation and job training program that includes an industry-advised career pathway component.</p>	In Progress (NOFA re-released Dec. 16)	DOEE / DOES	
24	<p>Support Beacon, a campaign to empower DC's female entrepreneurs Support the development of Beacon, a campaign to connect DC's female entrepreneurs and make Washington DC the most influential and supportive city for women entrepreneurs.</p>	In-Progress (launched November 2016)	External (Beacon)	 
25	<p>Build a business/worker cooperative learning community Develop a community of learning/practice via open stakeholder groups. Raise awareness about cooperative models through education of procurement offices and financial institutions.</p>	In-Progress (began Dec. 2016)	DSLBD	 
26	<p>Pilot Aspire for Entrepreneurship Pilot program for up to 25 justice-involved individuals with a conviction for a misdemeanor or a felony as an adult. There will be a training phase and a business phase. Modules will cover life and business skill topics such as computer training and entrepreneurship. CAAB will match savings in an escrow account, savers agree to complete financial education & use their savings for asset-building purposes.</p>	In-Progress	DSLBD / DMGEO	
27	<p>Train DC residents for DC government jobs through LEAP Learn Earn Advance and Prosper is a program designed to train DC residents for DC government jobs. Residents are trained on the job for entry level positions during a 12-month period while working toward a degree or industry certification.</p>	In-Progress	DOES	
28	<p>Provide constructive, skill-building work for DC youth for Summer Youth Employment Program Locally funded initiative that provides District youth ages 14 to 24 with enriching and constructive summer work experiences through subsidized placements in the private and government sectors.</p>	In-Progress	DOES	

V. Space, Housing and Other Supports

Definition: ensure that companies have space to grow; residents have affordable housing, and other supporting drivers of inclusive prosperity are strong

This pillar involves several types of actions:

- Enhancing businesses' ability to secure office or commercial space
- Preserving or producing affordable housing for residents
- Strengthening other factors that are essential to inclusive prosperity, but outside the scope of the economic strategy (e.g. world-class transit system and transportation infrastructure, safe and healthy neighborhoods, high quality schools, etc.)

Many supporting variables are needed to support a robust and inclusive economy, including office and commercial space for businesses, affordable housing for residents and workers, a reliable, multi-modal transportation network, quality schools, and safe, healthy neighborhoods. While the economic strategy is focused on growing the private sector economy, creating jobs, and fostering innovation and entrepreneurship, it is critical to acknowledge the importance of these enabling supports, some of which fall outside the scope of the economic strategy. The Space, Housing and Other Supports action area describes several initiatives directly pertaining to office/commercial business space and other supporting factors.

Beyond the Scope of the Economic Strategy

During the many consultations that informed this economic strategy, stakeholders across sectors consistently highlighted two key supports as critical to DC's continued economic growth: housing affordability for residents across the income spectrum and age groups (from millennials starting families to boomers aging in place) and transportation infrastructure. Stakeholders stated that DC's transportation infrastructure (i.e., Metrorail, the bus system, three airports, Amtrak and Marc, highways, and the growing cycling infrastructure) has been a competitive advantage, but operational deficiencies and reductions and traffic congestion are negatively affecting the business climate.


















Housing affordability is one of the Bowser Administration's top priorities. Between January 2015 and December 2016, the District produced 3095 new affordable units and, as of December, had another 8393 in the pipeline.¹⁸⁸ The Mayor's \$100 million commitment to the Housing Production Trust Fund represents a larger investment in affordable housing per capita than any city in the country, and the District's Inclusionary Zoning (IZ) Program requires 8-10% of the residential floor area be set-aside for affordable units in new residential development projects of 10 or more units and rehabilitation projects that are expanding an existing building by 50 percent or more and adding 10 or more units. In addition, the Mayor recently increased funding available to help DC residents purchase homes through the Home Purchase Assistance Program (HPAP). The Department of Housing and Community Development's Consolidated Plan and Preservation Strike Force Report provide full details on the District's affordable housing efforts.

Similarly, establishing a world-class transportation system is a priority for the Bowser Administration. Move DC, the District's long-range multi-modal transportation plan and associated two-year action plan, describes the many efforts underway. To ensure the long-term viability of Metro, a sustainable financing mechanism is essential, and Mayor Bowser continues to push tenaciously for a regional solution.

See Figure 5 on page 15 for more information about how the District is strengthening essential supports through other strategies.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports














Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
29	Open the Inclusive Innovation Incubator (In3) Open the Inclusive Innovation Incubator (In3), an incubator and community space located at Howard University for underrepresented entrepreneurs and entrepreneurs addressing innovation that support underserved communities (seeded by DMPED investment).	FY 17	Luma Lab / DMPED	 
30	Help longtime businesses address high-cost commercial space Support longtime DC businesses developing one or more pilot programs to incentivize affordable commercial space for small businesses and CBEs, including opportunities for businesses to purchase their real estate. The programs could employ CBE requirements flexibility, entitlements flexibility, funding or tax incentives to support the costs.	FY17-18	DMGEO / DMPED / DSLBD	  
31	Create real estate career academy and incubator via MLK Gateway project Development project to bring a tech incubator, more than 200 jobs, and needed retail to Ward 8. The development will include a Real Estate Entrepreneurship Career Academy and an incubator to support the creation of local technology firms.	FY18-19 (announced Dec. 2016)	DMPED/ DHCD	   
32	Assess how to best support maker spaces(s) Assess how to support one or more Innovation Space and Marketplace that incubate the local maker community and Made in DC businesses by providing space for work and sales as well as programming, drawing from best practices in other cities.	FY17-20	DMPED / DLSBD / OCTFME	 
33	Create and use a dashboard of inclusive prosperity indicators Develop and put into use a dashboard of inclusive prosperity indicators that include a racial equity lens. Launch a beta version of the dashboard focused on components of a business environment that drive inclusive growth in January 2017; collect feedback and refine in year 1. Explore opportunities to expand scope.	FY17-18	DMPED	
34	Develop major District-owned parcels in alignment with a community-shaped development vision Plans for District-owned parcels (including Walter Reed, St. Elizabeth's, McMillan, Hill East, Poplar Point and Skyland) will be developed with community input via the OurRFP process, and all will strive to increase affordable housing supply, create quality jobs for DC residents, and catalyze business activity in key sectors.	FY17-20	DMPED w/DMGEO	
35	Create a resilience roadmap for DC Create a resilience roadmap for the city that ensures long-term environmental and economic resilience	FY 17-18	OCA	
36	Engage with the Greater Washington Partnership and other regional bodies Support and engage with the Greater Washington Partnership, a new super-regional partnership of CEOs.	In-progress (announced Dec. 2016)	External (JPMC)	 
37	Implement the District's open data policy and build data inventory Implement open data policy (Jan 2017) to ensure robust public access to DC government. Develop District data inventory/integrated data assets directory and use it to help advance entrepreneurship in the smart cities and government technology field.	In-progress (established Jan. 2017)	OCTO	

VI. Catalyzing Sector Development

The following initiatives focus primarily catalyzing or supporting the development of opportunity areas by employing various actions from the above framework.

Initiatives

FRAMEWORK KEY:  Business Environment  Funding  DC Identity & Promotion  Talent  Space, Housing & Supports

Init. No.	Initiative	When will this happen?	Leads & Key Partners	Framework for Action
38	<p>Make DC the global center of mobility technology and policy Make DC the global center of policy discussion and technology development pertaining to mobility, including autonomous vehicles and the future of work, and other emerging 'smart' transportation technologies and software subject to significant regulations in an urban environment. Approach: 1) sponsor annual MobilityTalks International; 2) review regulatory environment and adjust accordingly; 3) identify existing activity happening in DC and create more opportunities to showcase related innovation, possibly in coordination with neighboring jurisdictions that have more available land for testing space.</p>	FY17-20	DMPED w/OCTO, DDOT, DMV, DFHV	  
39	<p>Strengthen the social enterprise and impact economy Strengthen the impact economy by promoting DC as a hub of social enterprise beyond the Beltway (e.g. SOCAP), hosting significant conferences, and strengthening the local ecosystem with external partners.</p>	FY17-19	External / DMPED / WDCEP	  
40	<p>Showcase DC's data expertise through an art show featuring data visualizations and data-centric art and related data policy summit Showcase DC's data expertise to the world by hosting an international "data as art" show featuring beautiful data visualizations, possibly focused on DC's core competencies and competitive advantages (transportation, impact, health analytics, government). Follow the art show with a policy summit that addresses emerging data policy issues, e.g. big data, data security.</p>	FY18-19	CAH / OCTO / DMPED	  
41	<p>Become a global leader of smart city innovation through the Council of Global City CIOs, Smart Gigabit Communities and Global Team Challenge (NIST) In September 2016, the Council of Global City CIOs (CGCC) was formed, a collective and governing body to bring together CIOs from major cities to share data and use technology to transform cities. The CGCC will focus on 1) Developing a smart cities model 2) Bringing broadband connectivity to everyone and 3) Accelerating the digitization of government through open source code-sharing. DC has also joined the US Ignite network of Smart Gigabit Communities, a partnership with NSF, to develop six gigabit applications that serve community needs, and lead public safety cluster collaborations via NIST's Global City Team Challenge.</p>	In-progress (announced January 2017)	OCTO	
42	<p>Make DC the nation's first "Lighthouse City" by pioneering Internet of Things and smart cities solutions Partnership with Cisco to make DC the US's first "Lighthouse City". As part of the partnership, Cisco will open 2 new coding academies at DC public schools in FY17 and work with DC to pioneer Internet of Things and smart city solutions.</p>	In-progress (launched in 2016)	OCTO	
43	<p>Create a smart city proof of concept on Pennsylvania Avenue This initiative utilizes wireless service to improve maintenance and transportation management and user experience to Pennsylvania Ave corridor. Smart streetlights will be installed that serve as wifi hotspots as well as traffic monitors. Other smart city infrastructure will be installed as well such as water sensors and soil monitors to reduce unnecessary water usage and 5 trash cans that can sense and report fill levels to optimize trash collection.</p>	FY17-20	DMPED w/DMGEO	 

Conclusion and Call to Action

DC's Economic Strategy is a reflection of the innovation, ambition and creativity of Washington, DC. With the input of hundreds of residents and the local business community, we defined our vision: to become the global model for inclusive prosperity and resilience, showcasing how diversity and innovation can drive economic prosperity. To guide our pursuit of this vision, we set clear, measurable goals focused on growing the economy through private sector expansion and creating new employment opportunities accessible to a broad range of District residents, and we identified our strongest opportunity areas for economic growth that benefits all Washingtonians

The strategy will serve as our north star for economic development, guiding decisions about policy, priorities and resources. Over the next several years, we will implement the initiatives laid out within the Action Framework, each year assessing our progress and refreshing our outlook.

Throughout the strategy development process, the team consistently asked stakeholders not only what District government can do to advance inclusive prosperity in DC, but what District government can do in collaboration with partners in business, philanthropy and the community. The strategy itself reflects this spirit of cooperation - cross-sector, inter-jurisdictional and intra-governmental - and we look forward to working together to help DC reach its full potential. Please continue to share your valuable recommendations, insights, and commitments on the economic strategy website at www.DCEconomicStrategy.com. Together, we can make our great city even stronger - a place where businesses and people from all communities can thrive.

Appendix A: Methodology

To create this economic strategy and identify key priorities, the Office of the Deputy Mayor for Planning and Economic Development (DMPED) established and led a core strategy team that included the Washington DC Economic Partnership (WDCEP), strategy consultants and economic analysts from Monitor Deloitte, and communications and design professionals from Ghost Note Agency, a certified business enterprise (CBE) founded by native Washingtonians. The strategy team also established the DC Economic Strategy Advisory Committee comprising public and private sector leaders, and an inter-agency economic strategy network within District government. See list and descriptions of advisors and Stakeholders engaged in the process below (Figure 24).

Strategy Team Member	Role
Office of the Deputy Mayor for Planning and Economic Development (DMPED), District of Columbia	Led economic strategy development; provided strategic direction on development process and content; executed stakeholder engagement
Washington DC Economic Partnership (WDCEP)	Provided input from a business perspective on strategy development process and content
Monitor Deloitte	Supported DMPED and WDCEP with strategic direction, environmental/economic trends scan, data analysis, stakeholder engagement, and synthesis
Ghost Note Agency	Provided creative direction and produced communications, web platform, and videos for the economic strategy; supported stakeholder engagement
Advisors and Stakeholders	Role
Economic Strategy Advisory Committee	Public-private committee spanning various sectors that provided input and feedback on overall strategy
DC Government partners	Provided insights on related work and input to strategy development to ensure coordination and alignment with current and future initiatives
Sector & Community Stakeholders	Provided input on opportunities for and challenges to economic growth

Figure 24: Economic Strategy Process

Core Strategy Team

Sharon Carney, Economic Strategy Director, DMPED
Erica Soutanian, Program Analyst, DMPED
Daryl Sng, Manager, Monitor Deloitte
Shrupti Shah, Managing Director, Monitor Deloitte
John Cassidy, Senior Manager, Monitor Deloitte
Sahil Joshi, Consultant, Monitor Deloitte
Jessica Roberts, Consultant, Monitor Deloitte
Chad Shuskey, Vice President for Real Estate and Research, WDCEP
Brandon Ellis, CEO, Ghost Note Agency
Steven Jumper, President, Ghost Note Agency
Reggie Snowden, Chief Creative Officer, Ghost Note Agency
Teia Atkins, Web Developer, Ghost Note Agency

Advisers

Andrew Trueblood, Chief of Staff, DMPED
Karima Woods, Director of Business Development and Strategy, DMPED
Tim White, Deputy Chief of Staff, DMPED

Figure 25 below illustrates the various phases of the analysis.

AUGUST SEPTEMBER OCTOBER NOVEMBER DECEMBER			
Research and Analysis	Stakeholder Engagement	Synthesis and Design	Delivery
<ul style="list-style-type: none"> • Advisory Committee Kickoff • Analyzed data and economic trends affecting <ul style="list-style-type: none"> • DC's business climate • Established sectors • Emerging areas • Analyzed existing scholarly research and reports • Reviewed and connected with DC Government Plans 	<ul style="list-style-type: none"> • Held 25+ group discussions focused on specific sectors and cross-sector issues with 450 + people • Gathered feedback from other efforts: <ul style="list-style-type: none"> • Comprehensive Plan • Cultural Plan public meetings • Gathered web feedback on DCeconomicstrategy.com • Gathered social media feedback using #DCEconStrategy hashtag 	<ul style="list-style-type: none"> • Identified growth areas to target based on competitive advantages • Validated findings • Developed action plan (initiatives) & finalized metrics • Drafted economic strategy and reviewed with Government partners 	<ul style="list-style-type: none"> • Solicited feedback on draft strategy from Advisory Committee • Finalized draft strategy

Figure 25: Economic Strategy Process

The strategy team actively engaged the community in order to get input from diverse sources, validate the analysis, and make the strategy an actionable, DC-owned strategy. The stakeholder engagement process included 25 in-person discussions with over 450 stakeholders from all types of businesses, sectors, backgrounds, and parts of the District. These stakeholder engagement sessions took a variety of formats, including small group sector-specific meetings, larger format cross-sector meetings, and roundtable discussions.

Stakeholder Discussions			
Small Group Sector-Specific Meetings	Specific Group Engagement	Large Format Cross Sector Meetings	Other Ongoing DC Government Planning Efforts
<ul style="list-style-type: none"> • Tourism and Hospitality • Government • Retail • Real Estate & Construction • Technology • Healthcare & Life Sciences • Professional Services • Media & Communications • Security Technology • Post-Secondary Education • Manufacturing 	<ul style="list-style-type: none"> • Economic Strategy Advisory Committee (2) • Developer Roundtable • BID Council Meeting • ONE (Organizing Neighborhood Equity) DC 	<ul style="list-style-type: none"> • Economic Intelligence Roundtable: Inclusive Economic Growth Metrics • Technology Transfer • Global Economy/Global City • Local Economy • Infrastructure, Transportation, Sustainability Businesses • Sharing and Gig Economy 	<ul style="list-style-type: none"> • Office of Planning Comprehensive Plan Public Meetings • Cultural Plan Public Meetings • Working Group on Wages, Benefits and Jobs

Figure 26: Stakeholder Discussions

Business Climate	Core Sectors to Sustain	Opportunity Areas to Grow
<ul style="list-style-type: none"> • Economic Diversification • DC's Regional Position • Quality of Life as an Economic Driver • Industrial Composition • Workforce Skills / Job Market • DC's Integration in the Global Economy • Foreign Investment • Innovation and Technology Transfer • Transport Infrastructure • Utilities • Equity and Inclusion 	<ul style="list-style-type: none"> • Government • Professional Services • Hospitality and Tourism • Higher Education • Real Estate & Construction • Retail • Technology • Media • Creative Economy 	<ul style="list-style-type: none"> • Social and Mission Focused Advocacy • Life Sciences • Security Technology • Manufacturing and Engineering • Transport, Infrastructure, and Sustainability • Analytics

Figure 27: Topics Covered in Stakeholder Discussions

In addition to these discussions, this strategy incorporated community feedback from a variety of other sources, including the DCEconomicStrategy.com website, video sessions taped with Stakeholders (available on the website) and social media conversation using the #DCEconStrategy hashtag.

The strategy team reviewed and coordinated with existing DC government plans and documents in order to incorporate and amplify other DC efforts underway (see Figure 28 below). This included ongoing community engagement efforts such as the Office of Planning's Comprehensive Plan amendment meetings and Cultural Plan engagement sessions. The strategy also acknowledges and is closely coordinated with many of the ongoing efforts across the District government related to housing, transportation, education, and culture.

WHAT WENT INTO DEVELOPING THIS PLAN?

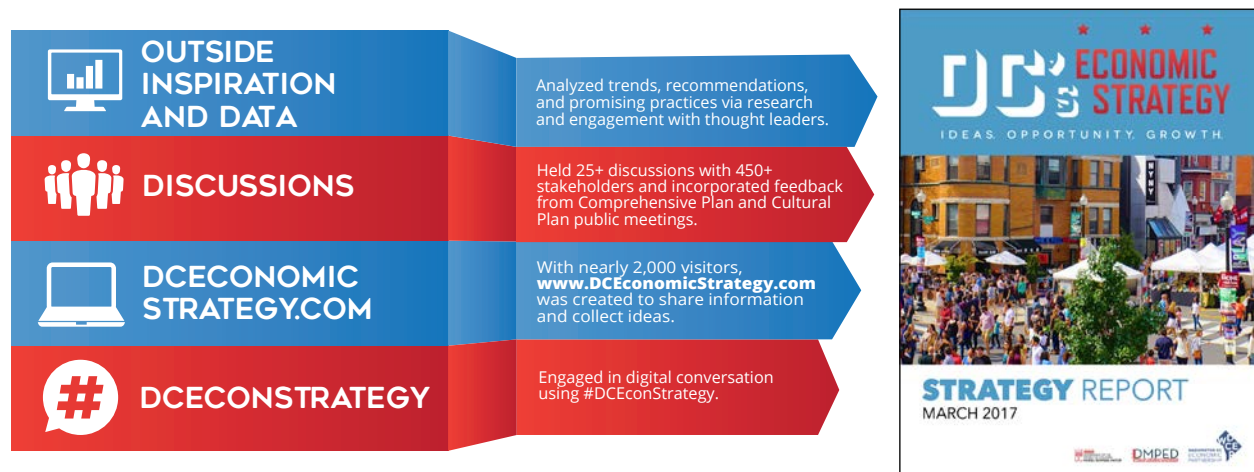


Figure 28: Strategy Inputs

Economic Strategy Advisory Committee

In addition to stakeholder engagement, the strategy team worked with a diverse set of cross-sector community stakeholders to solicit inputs and feedback on overall strategy. This group consisted of the following individuals:

Jonathan Aberman, CEO, Amplifier Strategies, Tandem NSI
Raj Aggarwal, Chairman, Think Local First/Made in DC, and Owner, Provoc
Brian Argrett, President and CEO, City First Bank
Tim Atkins, Chief Administrative Officer, Blackboard
Ross Baird, Executive Director, Village Capital
Chuck Bean, Executive Director, Metropolitan Washington Council of Governments
Dan Berger, CEO, Social Tables
Melinda Bolling, Director, DC Department of Consumer and Regulatory Affairs
Jennifer Bradley, Director, Center for Urban Innovation, Aspen Institute
Olivia Byrne, Partner, K & L Gates
Deborah Carroll, Director, DC Department of Employment Services
John Cavanaugh, CEO, Consortium of Universities
Kevin Clinton, Chief Operating Officer, Federal City Council
Richard Davis, President, Sibley Hospital
Jeff Dewitt, Chief Financial Officer, DC Office of the Chief Financial Officer
Jim Dinegar, CEO, Greater Washington Board of Trade
Odie Donald, Director, Workforce Investment Council
Polly Donaldson, Director, DC Department of Housing and Community Development
Leif Dormsjo, Director, DC Department of Transportation
Councilmember Jack Evans
Leila Finucane
Angela Franco, President and CEO, Greater Washington Hispanic Chamber of Commerce
Allen Gannett, CEO, Track Maven
Steve Glaude, Executive Director, Coalition for Nonprofit Housing and Economic Development
Miles Gray, Founder, Smith Public Trust
Ana Harvey, Director, DC Department of Small and Local Business Development
Kathy Hollinger, President & CEO, Restaurant Association Metropolitan Washington
Solomon Keene, President and CEO, Hotel Association of Washington
Cornelius Kerwin, President, American University
Todd Lee, Director, DC Housing Finance Agency
Lisa Mallory, CEO, DC Building Industry Association
Ronald Mason, President, University of the District of Columbia
Gregory McCarthy, Vice President, Washington Nationals
Doyle Mitchell, Jr., President and CEO, Industrial Bank
Councilmember Brianne Nadeau
Kurt Newman, President and CEO, Children's Hospital
Oramenta Newsome, Executive Director, DC LISC
Thomas Sanchez, CEO, Social Driver
Aaron Saunders, CEO, Clearly Innovative
Brian Finch, Executive Director, Corporate Responsibility, JPMorgan Chase & Co.
Keith Sellars, President and CEO, Washington DC Economic Partnership
Eric Shaw, Director, DC Office of Planning
Margaret Singleton, Vice President of Contracts and Programs, DC Chamber of Commerce
Kley Sippel, City Lead (DC), WeWork
Courtney Snowden, Deputy Mayor for Greater Economic Opportunity
Sarah Rosen Wartell, President, Urban Institute
Tommy Wells, Director, DC Department of Energy and Environment
Charles "Sandy" Wilkes, Chairman, Developers Roundtable, and CEO, The Wilkes Co.

Intra-government Economic Strategy Network

In addition to the directors on the Economic Strategy Advisory Committee, the strategy team relied on a network of District government partners to inform the strategy and coordinate related work.

Arthur Espinoza, Executive Director, Commission on the Arts and Humanities
Michael Bigley, Deputy Director, Commission on the Arts and Humanities
Tania Jackson, Chief of Staff, DC Council
Ruth Werner, Committee Director, DC Council
Lori Parris, Deputy Director, Department of Consumer and Regulatory Affairs
Amanda Stout, Special Assistant to Economic Development, District Department of Transportation

Ernest Charappah, Director, Department of For-Hire Vehicles
Shirley Kwan-Hui, Chief Operating Officer, Department of For-Hire Vehicles
Allison Ladd, Chief of Staff, Department of Housing and Community Development
Danilo Pelletiere, Housing Development Advisor, Department of Housing and Community Development
Stephen Taylor, Commissioner, Department of Insurance, Securities and Banking
Dana Sheppard, Acting Deputy Director for Market Compliance, Department of Insurance, Securities and Banking
Faith Leach, Chief of Staff, Office of the Deputy Mayor for Greater Economic Opportunity
Giz Andargeh, International Business Manager, Office of the Deputy Mayor for Planning and Economic Development
Karissa Barnett, Great Streets Program Analyst, Office of the Deputy Mayor for Planning and Economic Development
Pia Brown, Tourism and Hospitality Sector Manager, Office of the Deputy Mayor for Planning and Economic Development
Sybongile Cook, Great Streets Director, Office of the Deputy Mayor for Planning and Economic Development
Joycelyn James, Technology Sector Manager, Office of the Deputy Mayor for Planning and Economic Development
Marie Whittaker, Economic Intelligence, Office of the Deputy Mayor for Planning and Economic Development
Joy Whitt, Program Analyst, Office of the Deputy Mayor for Planning and Economic Development
Glynis Steffy, Corporate Assistance Analyst, Office of the Deputy Mayor for Planning and Economic Development
Connie Boddie, Staff Assistant, Office of the Deputy Mayor for Planning and Economic Development
Ben Stutz, Special Assistant to the Director, Department of Energy and Environment
Brian Holland, Deputy Director, Workforce Development, Department of Employment Services
Adam Albanese, Program Analyst, Workforce Development, Department of Employment Services
Eric Rogers, Chief of Staff, Department of Small and Local Business Development
Jon Brady, Exports DC Program Manager, Department of Small and Local Business Development
Katherine Mereand, Project Manager of Tech & Innovation, Department of Small and Local Business Development
Harrison Newton, Director, 100 Resilient Cities Launch, Office of the City Administrator
Betsy Keeler, Deputy Director, Office of the Chief Financial Officer
Angie Gates, Director, Office of Cable Television, Film, Music and Entertainment
Herbert Niles, Deputy Director, Office of Cable Television, Film, Music and Entertainment
Maryann Lombardi, Chief Creative Economy Officer, Office of Cable Television, Film, Music and Entertainment
Barney Krucoff, Chief Data Officer, Office of the Chief Technology Officer
Sakina Khan, Deputy Director for Citywide Strategy and Analysis, Office of Planning
Tanya Stern, Deputy Director for Planning, Engagement and Design, Office of Planning
Joshua Ghaffari, Facilities/Community Planner, Office of Planning
Seth Miller Gabriel, Director, Office of Public-Private Partnerships
Judah Gluckman, Deputy Director and Counsel, Office of Public-Private Partnerships
Elizabeth Groginsky, Assistant Superintendent of Early Learning, Office of the State Superintendent of Education
Melissa McKnight, Director, College and Career Readiness, Office of the State Superintendent of Education
Eva Laguerre, Director, Licensing & Compliance, Office of the State Superintendent of Education
Dennis Taylor, General Counsel, Office of the Tenant Advocate
Johanna Shreve, Chief Tenant Advocate, Office of the Tenant Advocate
Carlynn Fuller, Executive Director, Real Property Tax Appeals Commission
Lauren Scott, Program Manager, Workforce Investment Council

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