Improving the Washington Region's Global Competitiveness

Prepared for The 2030 Group

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Table of Contents

Introduction: the Importance of a Globally Fluent Region

The Washington DC Metropolitan Area (WMA) boasts many inherent advantages relative to its competitiveness in the global marketplace. The region is the seat of power of the wealthiest and most powerful nation in the world. It has one of the best educated and most highly skilled workforces of any metro area. It is a leading destination for tourists from all over the world. It is home to the headquarters of many international corporations. It has a substantial population of foreign-born residents and nonstop air service to dozens of international destinations. It has a wealth of cultural resources and amenities. All of these advantages are rooted in Washington's historical role as a company town for the Federal government.

During the second half of the 20th Century the Federal government increased its presence in the region in terms of both direct employment and procurement spending. The expansion of the Federal government fueled a trend of sustained economic growth and prosperity in the region for more than 60 years. Since 2010, though, the Federal government has reduced both its workforce and spending on procurement in the region, leading to a slowdown in the region's economic growth. This trend has done harm to the Washington metro area's economy: the rate of job growth in the region has slowed considerably in recent years, and most job gains have been in lower-wage sectors and occupations. With additional Federal cutbacks expected in the future, these trends will likely continue unless action is taken to alter the structure of the regional economy.

The Washington metro area faces a new imperative: it must activate the private side of its economy. Doing so will likely mean increasing the region's competitiveness in the global economy, as the domestic economy is simply not expected to grow at a very strong rate in the near future. According to the IMF's World Economic Outlook[1] the United States' GDP is expected to grow at an annual rate of less than 3.0 percent between 2014 and 2019, compared with a global GDP growth rate of 3.6 to 3.9 percent. In order to grow its economy the Washington region will therefore need to expand its appeal to investors and trade partners from around the globe.

In 2013 the Brookings Institution released a study called, "The 10 Traits of Globally Fluent Metro Areas," which documented the characteristics of metropolitan areas that are succeeding in the global economy. This research effort assembled background information and benchmark data on the 100 largest U.S. metro areas, as well as leading international metro areas. The study identified recurring themes that related to what it termed, "globally fluent" regions. In Brookings' view a globally fluent region is ideally positioned to increase exports, attract more foreign investment, improve its workforce, and promote innovation.[2] The commonalities of such regions include:

[1] http://www.imf.org/external/pubs/ft/weo/2014/01/

[2] Ibid., p. 13

- A coordinated regional vision and leadership structure
- A clear global identity that highlights distinct areas of economic specialization
- A culture of openness, connectivity, and innovation
- Sources of funding for strategic investments

As part of its report Brookings published profiles on 42 metro areas from around the world, including Washington.[1] Though Washington's profile highlighted the region's advantages, it also identified some of the region's shortcomings as an aspiring global center of commerce. Several challenges were identified:

- **Perception as a government town.** Washington's identity to the global marketplaces is as the seat of government power, but not as a business hub.
- **Lack of corporate engagement.** According to Brookings: "companies are now in the region, but are not focused on the region or philanthropy, just operating in the market for strategic reasons."
- **Multiple state level governments**. The political and cultural differences among the District of Columbia, Maryland, Virginia, and West Virginia, make it very difficult to have a unified vision. The transiency of the region's population also hinders its ability to build a regional identity.
- **Weak base of export activity.** The Washington metro area ranked 99th out of the 100 largest U.S. metros in terms of the share of its GRP comprised of exports, and 70 percent of its export activity was of services; nationally, services represent only 33 percent of exports.
- **The region got to where it is by accident.** The region's global profile is largely an incidental byproduct of the Federal government, and is not the result of any sort of coherent regional growth strategy. The report characterized Washington as "a global city, but not…a global marketplace."[2]

The conclusion from the Brookings study is that, in spite of its many natural advantages, the Washington region has a long way to go in order to maximize its competitive position in the global marketplace. This report begins with a deeper examination of the Washington region's status relative to Brookings' 10 traits, evaluates Washington's competitive position relative to other major U.S. metros, discusses what other regions in the U.S. are doing to compete at a global scale, and puts forth an agenda for the Washington region to improve its global fluency.

[1] http://www.brookings.edu/~/media/Multimedia/Interactives/2013/tentraits/Washington_DC.pdf
[2] Ibid., quoting Tom Morr, former CEO of the Greater Washington Initiative

Part I
Evaluation of Metro Washington Relative to the 10 Traits

Trait 1. Leadership with a Worldview

"Local leadership networks with a global outlook have arguably the greatest potential for impact on the global fluency of a metro area."[1]

Local Political Leadership: A Legacy of Federal Control

Over the past 200 years the characteristics of the Washington metropolitan region's leadership and power structure have primarily been shaped by the Federal government. In addition to being the seat of Federal power, the District of Columbia was under direct Federal rule for most of its history, with municipal affairs under the management a commission whose members were appointed by the President and supervised by Congress.[2] As a result, not only did the District lack the ability to govern itself, there was no impetus for collaboration with the neighboring states of Maryland or Virginia.

As the District had no control over its local affairs until the 1973 passage of the District of Columbia Home Rule Act, a local political leadership structure never developed. Following the establishment of home rule the local power vacuum was quickly filled by Marion Barry, who served as Mayor from 1978 to 1990 and established such a stranglehold on power that he became known as "Mayor-for-Life."[3] Though Barry's rule was interrupted by a prison sentence in 1990 his power persisted, and he was again elected Mayor in 1994.[4] Soon after, the poor state of the city's finances spurred Congress to effectively suspend home rule in 1995 with the establishment of the District of Columbia Financial Control Board, which lasted until 2001.[5] It is truly only in the past 13 years that the District of Columbia been able to function in the manner of a "normal" municipal government.

Since 1950, when the District of Columbia's population peaked at over 800,000, most growth in the Washington metro area has occurred in its suburbs, particularly in the three largest suburban counties: Fairfax County, VA, Montgomery County, MD, and Prince George's County, MD (see Trait 2, p. 9). Each of these three counties shares a similar history to the District in that the local political leadership network was dominated for a long period of time by leaders who were either not locally elected and/or were not acting in the best interests of their citizens.

- Montgomery County was subject to Maryland's county commissioner system, which placed ultimate authority with state government. Prior to 1948, when the county passed a home rule charter, it was effectively run by Col E. Brooke Lee, a state legislator, attorney, and

[1] This quote and the others that support each trait are taken from McDearman, B., et. al., op. cit.
[2] Jaffe, H. and Sherwood, T., *Dream City: Race, Power, and the Decline of Washington, D.C.*, pp. 27-28.
[3] Ibid., p. 181-184.
[4] http://en.wikipedia.org/wiki/Marion_Barry
[5] http://en.wikipedia.org/wiki/District_of_Columbia_Financial_Control_Board

developer, who oversaw all of the county's affairs from his position in Annapolis.[1] Even after establishing home rule, the county did not have an elected executive until 1971.[2]

- Prince George's County remained under the commissioner system until 1970. The absence of a local elected authority created an atmosphere of rampant corruption, leading to a series of bribery scandals involving real estate developers and county commissioners.[3] The county's reputation for corruption was recently reinforced with the 2011 conviction of former County Executive Jack Johnson on bribery charges.[4]
- Though Fairfax County has elected its county Supervisors for more than 100 years, its local government was harmed by a bribery scandal related to land use cases, which led to the conviction of three Board members and five other county officials in 1966. In the wake of this scandal the county Board took aggressive steps to curb growth and development, a trend that continued for the next decade and muddied local politics for many years thereafter.[5]

All of the region's jurisdictions have taken great strides away from their past histories of control by various outside forces. Still, the legacy of weak and/or corrupt leadership is that many local governments have had to focus on building their own capacity rather than working to position their jurisdictions to broader national or global audiences.

Regional Political Leadership: Good Intentions, but Little Authority

The first step towards organizing the region's varied political entities was the establishment of the Metropolitan Washington Council of Governments (MWCOG) in 1957.[6] MWCOG has long excelled at completing foresighted plans, particularly for transportation, but the region has an uneven record of realizing these plans due to difficulties in convincing the necessary local and state authorities to fund their implementation.[7]

Two other regional entities that have formed since that time have been geared towards a specific type of infrastructure. The National Capital Transportation Agency was formed in 1960 to build and operate the Metrorail system, a responsibility shifted to the Washington Metropolitan Area Transit Authority (WMATA) upon its creation in 1967.[8] The Metropolitan Washington Airports Authority (MWAA) was formed in 1987 to take over control of Dulles International and Reagan National Airport from the Federal government.[9]

Over the past several decades these regional entities have unquestionably helped build cooperation and sustain dialogue on key issues related to the region's future. Still, the actual

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[1] Foley, J.T., "Legends of the Victory Garden," online publication, http://jrfoley.com/legendsSEEBL.html
[2] Montgomery County Historical Society: *Montgomery County, Maryland, Our History and Government*, pp. 15-17.
[3] Brandly, C., "Prince George's County: Learning from the Past, Planning for the Future," pp. 5-6.
[4] Castaneda, R. and Spivack, M.S., "Johnson, ex-county executive in Prince George's, pleads guilty to taking bribes"
[5] Banham, R., *The Fight for Fairfax*, pp. 57-61.
[6] http://www.mwcog.org/about/
[7] McClain, J., "Reflections on the National Capital Region: Transportation for the Past Half Century," p. 12.
[8] Ibid., p. 8.
[9] http://www.metwashairports.com/263.htm

decision-making authority in regard to approving and funding projects still lies at the local, sub-regional, or state-level (see Trait 8, pp. 51-53). This model makes it extremely challenging for elected officials to make decisions for the good of the region, as they typically answer to voters who are either more interested in local issues or live in parts of Maryland or Virginia that are located far from Washington. The need for a regional authority that could both formulate and implement transportation and development plans was recommended as far back as 1959[1], but has yet to be realized.

Public universities also play a strong role in the leadership structure of the Washington region, though their impact is inherently limited by jurisdictional boundaries and institutional constraints. The region's two largest universities—University of Maryland and George Mason University—have been integral to economic development activities in their respective locales, but their ties to state university systems prevent them from fully collaborating across the Potomac River. Both universities are part of the 14-member Consortium of Universities of the Washington Metropolitan Area[2], which provides a platform for the universities to share ideas but has not been deeply involved in regional development issues to date. The region also contains nine public community colleges, one in DC, four in Maryland, three in Virginia, and one in West Virginia; there is no multi-state organization representing these institutions.

Business Leadership: Real Estate and the "Potomac Ocean"

Given the dominance of the U.S. government and historic lack of major corporations or international financial institutions, Washington's business and cultural elite has perpetually consisted of Federal officials, lawyers, and lobbyists. Throughout most of its history the region's primary source of wealth generation and business activity has been the acquisition, development, and selling of real estate.[3] As a result the region's business leadership has been consistently tied to its community of real estate developers, investors, contractors, and attorneys. Since real estate interests in the region have historically focused their energies on one specific sub-area, the leadership structure of the region has traditionally been separated along jurisdictional lines. This separation has reinforced the lingering divide between Maryland and Virginia that is often referred to as the "Potomac Ocean."[4]

In the District the business establishment has been represented since 1889 by the Board of Trade of the District of Columbia, now known as the Greater Washington Board of Trade.[5] The absence of a local political hierarchy in the District fostered an environment in which the Board of Trade took precedence in municipal affairs: prior to 1973 Board of Trade "had immense power and control, perhaps more than any other local business group in the nation."[6] Throughout its long history much of the Board of Trade's activity has been shaped by real

[1] McClain, op. cit., p. 12.
[2] http://www.consortium.org/consortium/index.cfm/about/members/
[3] Jaffe and Sherwood, op. cit., p. 145.
[4] http://blogs.nbc12.com/decisionvirginia/2014/01/crossing-the-potomac-ocean.html
[5] http://dchistorymatters.org/introduction.php?mod=29
[6] Jaffe and Sherwood, op. cit., p. 44.

estate developers and attorneys.[1] The District's business leadership has also been represented since 1954 by the Federal City Council (FCC); though this group was founded by Philip Graham, former publisher of the *Washington Post*, the real estate community has always maintained a leading voice in the organization.[2]

The first step in the direction of regionalism by the business community came as far back as 1946, when the Board of Trade decided to accept members from Maryland or Virginia.[3] However, the organization did not change its name to reflect a regional focus until 1959, and most of its efforts over the next several decades were aimed at developing civic and cultural facilities in the District. It would be many more years before the Board of Trade pursued initiatives that went beyond the District's borders.[4]

Private sector leadership in the suburban counties followed a similar pattern to those in the District. Prior to 1970 the suburban counties had little commercial activity, contained few local institutions, and the primary economic activity in these counties was the development of real estate. Private sector leadership was mostly focused on the development of land in each jurisdiction, with little attention paid to regional issues. This pattern repeated itself across each of the three major suburban counties, where private sector leadership in each jurisdiction coalesced around a real estate attorney turned power broker: E. Brooke Lee (Montgomery)[5]; John T. "Til" Hazel (Fairfax) [6]; and Peter O'Malley (Prince George's).[7]

In the Maryland jurisdictions, the business community has not been able to effectively organize beyond involvement in Chambers of Commerce and statewide organizations. In Northern Virginia, though, the business community has been able to sustain a more permanent voice. The difference was leadership from the academic world, particularly by former George Mason University president George Johnson, who in 1978 organized a business group known as "The 123 Club," a group that later evolved into the Northern Virginia Roundtable. Still, leadership in these groups during their early years was primarily concentrated in the real estate world, with peripheral participation by Federal contractors.[8]

More recently, a key organizing point for business leadership has been the region's technology economy. This economy has emerged over the past 50 years from the presence of Federal contractors and advanced research conducted by Federal agencies like the Defense Advanced Research Projects Agency (DARPA) and the National Institutes of Health (NIH). However, the groups that have formed to fill these purposes have limited themselves to one side of the river; examples include: the Northern Virginia Technology Council, the Tech Council of Maryland, and

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[1] Jaffe and Sherwood, op. cit., pp. 140-160.
[2] http://www.federalcitycouncil.org/what-we-do
[3] Ibid., p. 5.
[4] Clarke, C. "Washington Board of Trade: Overview"
[5] Foley, J.T. op. cit.
[6] Banham, op. cit., pp. 183-195.
[7] Bernstein, A., "Peter O'Malley III, Pr. George's lawyer and Democratic power broker, dies at 72."
[8] Banham, op. cit., pp. 183-195.

the Chesapeake Regional Tech Council. There is no broader organization that crosses state boundaries to promote technology development at the regional level.

In more recent years a handful of small, but high-profile, organizations such as the Economic Club of Washington, DC, and the 2030 Group have been formed to advance regional-level thought and discussion. While these organizations have certainly opened new avenues for dialogue both in and about the Washington region, they still struggle to overcome the jurisdictional divides that have plagued the region for so long.

Summary: Global Orientation of Regional Leadership is Still Emerging

For most of the history of the Washington, DC region, political leadership has been inwardly focused, due to a variety of structural and cultural factors. In the District of Columbia the dominance of the Federal government prevented the emergence of a local political leadership class. In suburban jurisdictions, state control and rampant corruption prevented the evolution of stable political structures. As a result, it is only in the past two decades that local political leaders have truly been able to look beyond their borders and seriously confront the region's issues.

The region's private sector leadership has long been dominated by the real estate sector, an industry that is inherently local in its orientation. Though the leadership of the region's business organizations has always included those from other circles, most notably the media, higher education, and government contracting, it is only in recent years that organizations have formed to focus on issues that go beyond simply increasing opportunities for real estate development within specific jurisdictions. Many of the organizations that do focus on external and/or global issues remain tied to local, state, or other sub-regional geographies.

It is clear that the public and private leadership structures in the Washington area are each still in the process of developing a global orientation. On the positive side, there are many vehicles for regional planning and dialogue in regard to the key investment and development priorities that will shape the region's future. However, the presence of so many local and sub-regional level organizations limits the region's ability to communicate to the world in a single voice.

Trait 2. Legacy of Global Orientation

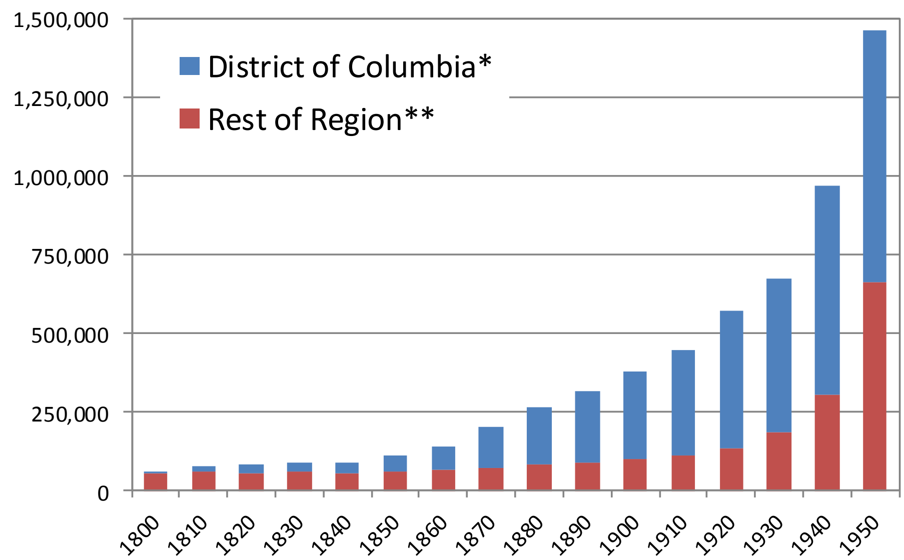
"Due to their location, size, and history, certain cities were naturally oriented toward global interaction at an early stage, giving them a 'first mover' advantage."

Location and Historic Growth of the Washington Metropolitan Area

The history of modern urban settlement in the Washington area dates from the establishment of Alexandria, Virginia in the late 1740s[1], followed by Georgetown, Maryland in 1751.[2] These two settlements were both established as ports serving the tobacco industry of the surrounding regions of Maryland and Virginia. Trade activity in these small ports was significant but never rivaled that of larger ports such as New York, Baltimore, or Charleston.

In 1790, the U.S. Congress passed the Residence Act, which established the District of Columbia, and led to the annexation of a 10 square mile area along the Potomac River, which took land from both Maryland and Virginia, including Georgetown and Alexandria,[3] though the Virginia portion was returned in 1846.[4] Washington became formally established as the national capital in 1800, when Congress and the Supreme Court occupied the Capitol building.[5] From that point forward Washington's role took shape and the city grew along with it.

Figure 1. Population of District of Columbia and Region, 1800-1950



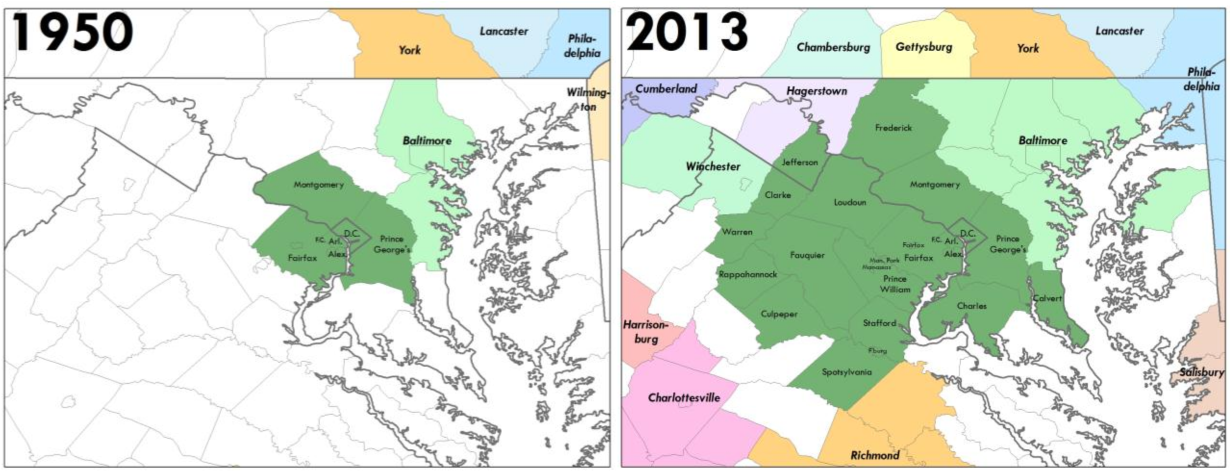
* Using current definition of District of Columbia (former Maryland portion only)
** Includes Arlington, Alexandria, Montgomery, Prince George's, and Fairfax

Source: US Bureau of the Census, Historical Decennial Census Data

[1] http://alexandriava.gov/historic/info/default.aspx?id=28266
[2] http://www.nps.gov/nr/travel/wash/dc15.htm
[3] http://www.loc.gov/rr/program/bib/ourdocs/Residence.html
[4] http://historyengine.richmond.edu/episodes/view/665
[5] http://www.aoc.gov/history-us-capitol-building

In 1800, the former Maryland side of the District of Columbia had a population of about 8,000, with an additional 6,000 on the former Virginia side (which now consists of Arlington County and much of the City of Alexandria). Another 50,000 people lived in the surrounding, but still mostly rural counties of Montgomery and Prince George’s in Maryland and Fairfax in Virginia, bringing the total regional population to 64,000.[1] Between 1800 and 1900, Washington’s population increased from 8,000 to 279,000, but it was still only the 15th largest city in the U.S. by 1900.[2] In 1900 the population of the region was 378,000, with 74 percent of its residents located in the District of Columbia.

Figure 2. Washington Metro Area and Neighboring Metro Areas, 1950 and 2013



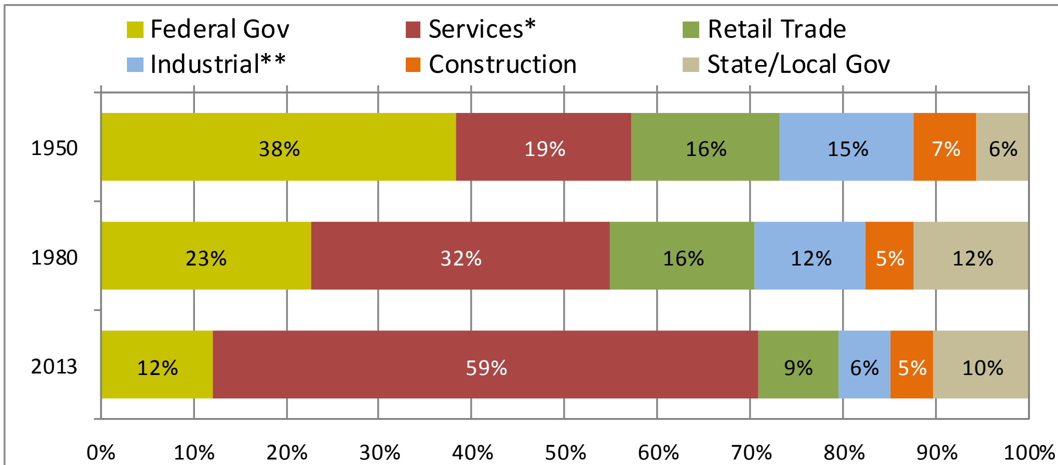
By 1950, the population of Washington, DC had increased to 802,000, making it the nation’s ninth largest city, but the Washington Metropolitan Area (WMA) was only the 11th largest in the country, with a total population of 1.46 million.[3] The region’s suburban expansion was just getting underway—the metropolitan area only included DC and its immediately surrounding jurisdictions, and 55 percent of the region’s population still lived within the District’s boundaries. At that time the Washington region was still largely independent of other metropolitan areas: the only bordering area was Baltimore, and the only overlap was between the rural stretches of Prince George’s and Anne Arundel counties along the Patuxent River.

After 1950 the WMA underwent a dramatic transformation. Between 1950 and 2013 the region’s job base quadrupled and its population tripled. About 60 percent of the population increase was due to net gains within the bounds of the 1950 metro area definition, with nearly all of this growth occurring in Fairfax, Montgomery, and Prince George’s counties. The remaining 40 percent was due to the geographic expansion of the WMA, which now includes 24 jurisdictions. Combined with the expansion of surrounding regions and the emergence of newly defined metro areas, the WMA is now part of a regional megalopolis that stretches from Maine to North Carolina.

[1] http://www.census.gov/population/www/censusdata/pop1790-1990.html
[2] http://www.census.gov/population/www/documentation/twps0027/twps0027.html
[3] The Census Bureau first designated Standard Metropolitan Areas for the 1950 Decennial Census.

The region's economic prospects prior to 1950 were heavily dependent upon its status as the seat of Federal power. In 1950 the region had a base of 592,000 jobs, of which 227,000 (38 percent) were Federal government jobs. Jobs were heavily concentrated in the region's core at that time—84 percent of the region's jobs at the time were located within the District—and 45 percent of those employed in the District were Federal workers.[1] From 1950 onward the region's job base became both far more dispersed and far less dependent on Federal jobs. By 2013, 24 percent of jobs in the WMA were in the District, and just 12 percent of the region's workers were employed by the Federal government.

Figure 3. Employment by Sector Group in Washington Metro Area, 1950, 1980, and 2013



* Includes all Professional, Business, Education, Health, and Other Services industries
** Includes Manufacturing, Transportation and Public Utilities, and Wholesale Trade

Source: Bureau of Labor Statistics, State and Area Employment, Hours, and Earnings (SIC Base 1950 & 1980; NAICS Base 2013)

The number of private-sector jobs in the WMA increased from 332,000 in 1950 to 2.4 million in 2013, a 620 percent growth rate. By comparison, the region only added 146,000 Federal jobs during this period, representing a 64 percent increase. In 1950, the private sector job base was fairly evenly distributed, with Services industries, Retail Trade, and Industrial sectors each accounting for about 15-20 percent of the region's job base. By 2013, the region's employment base had become dominated by jobs in Services industries, which now account for 59 percent of all jobs in the WMA and 69 percent of the private sector jobs. As of 2013, jobs in Industrial sectors represent just 5.6 percent of all jobs in the region, with manufacturing only accounting for 2.0 percent of the region's jobs.

Presence of Foreign-Born Residents

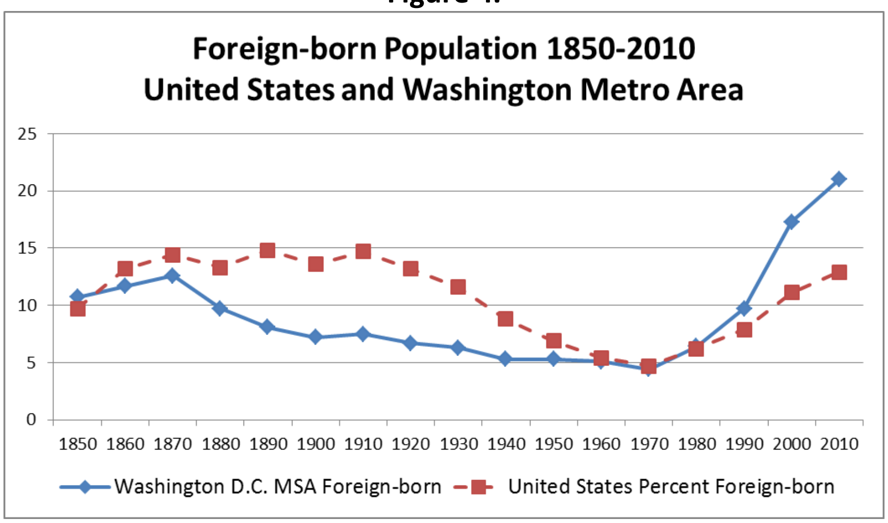
The Washington region's has only recently emerged as a destination for international immigrants. Prior to 1970 the region was essentially biracial, with nearly all of the region's residents being either White or Black/African American, and a very small population of foreign-born residents. The region's economy had much to do with this pattern: there were simply very

[1] Bureau of Labor Statistics, Employment, Hours and Earnings from the Current Employment Statistics survey (discontinued database), http://www.bls.gov/data/archived.htm

few jobs in the region with decent wages that were available to immigrant workers with little education. Unlike other northern cities with large bases of manufacturing jobs, the blue-collar economy in the Washington area mostly consisted of low-paying service jobs. As such, the racial/ethnic profile of Washington was more in line with southern cities like Atlanta or Charlotte than with cities like New York or Chicago that have long served as magnets for immigrants.

From 1860 until 1970 the Washington area consistently had a smaller share of foreign-born residents than the U.S. as a whole. While the industrialization of the country from the late 19th Century through World War sustained the country's foreign-born share at around 15 percent, the foreign-born share in the Washington area declined from its 1870 peak of 13 percent to about six percent by 1920. From 1920 onward, restrictive immigration policies lowered the foreign-born share throughout the U.S. By 1970, just 4.7 percent of the population in both the Washington region and the U.S. was born in another country.

Figure 4.



*1860 DC estimate is imputed as average and 2010 estimates from American Community Survey
Source: http://www.census.gov/population/www/documentation/twps0081/twps0081.pdf

Beginning in the 1970s the U.S. began to undergo a dramatic increase in international in-migration. Spurred by the relaxation of immigration laws of the 1960s and an influx of political and economic refugees from Southeast Asia, Latin America, and Africa, the foreign-born share of the U.S. population began to increase, and reached 12.9 percent in 2010. International in-migration has been very pronounced in the Washington region, where the foreign born share increased to 9.7 percent in 1990 and 21.0 percent by 2010. By 2012 there were 1.34 million foreign-born residents living in the WMA, representing 24.8 percent of the region's total population. This ranks the region seventh in terms of both the number of foreign-born residents and the concentration of these residents.

The largest shares of foreign-born residents in the Washington region were born in Latin America (40 percent) and Asia (36 percent), followed by Africa (14 percent) and Europe (9 percent). Far and away the leading country of origin for the region's foreign-born population is El Salvador; about 178,000 residents of the WMA were born there. India, the second-place country of origin, is 50 percent below El Salvador, with about 89,000 WMA residents having been born there. The top 10 countries of origin are nearly all from Latin America or Asia: the only exception is Ethiopia. Residents born in these countries represent 49 percent of the region's total foreign-born population. In total, the region is home to residents born in 144 other countries.

Among the top 10 countries of origin, the WMA's highest concentrations relative to U.S. averages as measured by location quotient (LQ)[1] are Ethiopia (12.5) and El Salvador (8.1). The share of WMA residents born in each of these countries is more than eight times greater than the national shares. The countries with the highest LQs in the WMA are Bolivia (23.1) and Sierra Leone (21.3). More than one-third of all U.S. residents born in each of these countries lives in the WMA. Mexico has the lowest concentration among the top 10: just 0.9 percent of WMA residents were born in Mexico, compared with 3.7 percent of all U.S. residents.

Table 1. Top Countries of Origin of Foreign-Born WMA Residents, 2012

Country of Origin	Residents of WMA	Share of Foreign-Born Population	Share of Total WMA Pop.	Location Quotient[1]
El Salvador	177,815	13.2%	3.3%	8.1
India	88,720	6.6%	1.6%	2.6
South Korea	63,801	4.7%	1.2%	3.2
Vietnam	51,327	3.8%	0.9%	2.3
Philippines	51,145	3.8%	0.9%	1.5
China	49,469	3.7%	0.9%	1.6
Mexico	47,880	3.6%	0.9%	0.2
Guatemala	46,552	3.5%	0.9%	3.0
Ethiopia	42,908	3.2%	0.8%	12.5
Honduras	41,801	3.1%	0.8%	4.4
Top 10 Total	**661,418**	**49.2%**	**12.2%**	**1.7**
Other Countries	683,395	51.8%	12.6%	1.9
Foreign-Born Total	**1,344,813**	**100.0%**	**24.8%**	**1.8**

*Location quotient is the ratio between the concentration of one group in the WMA with the concentration of that group for the entire U.S. Since people born in El Salvador represent 3.3% of the WMA population but just 0.4% of the total U.S. population, its location quotient is 8.08.

Source: American Community Survey, 1-Year Estimates

The changing economy of the Washington region has been the central driver for its dramatic increase in foreign-born residents. Much of the region's job growth since 1970 has been for high-skilled, high-wage jobs in suburban locations. The region's native workforce was not sufficient to fill these jobs, leading to the region becoming an attractive location for international immigrants with high levels of educational attainment and job skills, particularly

[1] Location quotient is the ratio between the concentration of one group in the WMA with the concentration of that group for the entire U.S. Since people born in El Salvador represent 3.3% of the WMA population but just 0.4% of the total U.S. population, its location quotient is 8.08.

from India, China, and South Korea. The rapid increase of high-wage employment in the suburbs also boosted a supporting service economy that created large numbers of low-skill, low-wage jobs; these jobs attracted immigrants from Central America, East Africa, and Southeast Asia.

History of Global Commerce

Washington's early history was rooted in international trade. The region's two ports, Alexandria and Georgetown, served as transshipment points and inspection stations for the area's agricultural products, primarily tobacco. Soon English and Scottish traders migrated to the region to set up their own merchant shops in close proximity to the inspection stations, laying the foundations for the first commercial interests in the region. New warehouses were set up, merchant stores were established to support the increasing trade, and local residents began to establish taverns and expand the service sector to support the growing commerce.[1] The first newspaper in the region, the Republican Weekly, was established in Georgetown in 1789. It was this initial commercial success of the tobacco ports in the region that influenced George Washington's preference to locate the federal city in its present location.

Following the establishment of the District of Columbia in 1790 the area became a center for early urban expansion with the construction of government buildings, houses, and the infrastructure to support the growing migration into the region. Federal officials anticipated that the region would grow into a commercial as well as a political capital, but this outcome did not occur, and Washington was never able to match the growing industrial power of northern cities like New York, Philadelphia, or even Baltimore. Part of this reason was because the expansion of government in the federal city in the early nineteenth century crowded out most other economic activity in the region. For instance, the Navy Yard, established in 1799, was the main manufacturing hub in the District and most private industries relied on government contracts. Other manufacturers in the region mainly produced goods for local consumption, limiting the potential growth of an export economy.

Through the early 1800s commerce and industry in the Washington area continued to feed local demand, including the growing appetite of the government. The construction of the Chesapeake and Ohio Canals in the 1830s gave the region access to wheat, lumber, limestone, and coal making way for the development of small and concentrated industry for processing the raw materials along the canals in Georgetown. These included lime kilns, lumber mills, and flour mills. Still, the largest share of industrial growth occurred in the printing presses that provided the paper for the growing Federal bureaucracy. With the establishment of the Patent Office, patent attorneys, agents, printers, model makers, and publishers moved into the city.

As the 19th Century progressed, so did the city's dependence on the Federal government. By the end of the Civil War in 1865 the District had become home to many soldiers, newly freed slaves, military officials, and refugees, leading to a wave of construction of new homes and infrastructure projects. These improvements attracted new international immigrants into the

[1] Abell, J. *A Guide to Business History in Washington, D.C.*

District, and the increased intra-city transportation routes enabled a tourism industry to emerge, that remains one of the primary export oriented industries in the Washington region. Still, the city's economic cycles remained tied to Federal spending well into the 20th Century. This pattern was particularly evident during the Great Depression and World War II when the expansion of the government boosted average family income of Washington residents above those of the far larger cities of New York and Los Angeles.[1]

Following World War II, the rapid expansion of the Federal government drove significant economic growth in Washington. Visits from foreign dignitaries and businesspeople expanded the hospitality and tourism sectors in the city. Legal, administrative, and defense operations in the city swelled with supporting staff, research groups, and global communications services. Global and national media services established Washington bureaus, and the news and printing services sector expanded to challenge that of New York. By the 1970s, government workers accounted for nearly 40 percent of all employment in the District, and 50 percent of all wages. Federal employment paid some of the best wages at the time and professionals and highly educated workers migrated to the city to fill the increasing labor demand of the government.[2]

The concentration of capital from federal spending, along with the expansion of the Federal government into new responsibilities led to the proliferation of research facilities, libraries, scientific firms, international think tanks, and research and development groups. Proximity to the federal government increasingly became a significant attraction for large domestic and international businesses to locate in the Washington region. Associations became big business in the Washington area and more than 1,500 trade, professional, and labor unions set up offices in the District between 1960 and 1970.[3]

The city's global emergence spurred further economic growth. Between 1960 and 1970 annual visitation to the Smithsonian Institution's museums, zoos, and historic site doubled to more than 13 million annual visits, making tourism the second largest employment sector in the region behind the Federal government.[4] Increased opportunities for professionals boosted higher education in the region during the 20th Century as well. As of 1900 just 3,000 individuals were enrolled in eight colleges and universities in the region: by 1972 there were 170,000 students enrolled in 33 institutions. By 2012 there more than 338,000 students enrolled in 93 institutions of higher education in the Washington metropolitan area.[5]

Today, the District is home to more than 175 international embassies and related facilities.[6] The service economy has grown to support new global connections through the growing

[1] http://www.city-journal.org/2013/23_1_washington-dc.html
[2] Historical Census of the United States 1970
[3] Allen, R. W., *A Summary of Twentieth Century Economic Development of the District of Columbia and the Washington Metropolitan Area*, pp.532-555
[4] http://newsdesk.si.edu/about/stats
[5] There are actually 93 such institutions in the region, but enrollment data were only available for 78, as documented in http://cra.gmu.edu/pdfs/CRA2014-2_JBiernacka-Lievestro.pdf.pdf
[6] http://washington.org/article/international-embassies-dc

prominence of the hospitality industry and other service industries.[1] Washington has become a global media hub, with many international institutions and about 1,500 foreign correspondents from 113 countries.[2] The 21st Century has also seen the region attract major global businesses seeking proximity to the federal government, particularly information technology (IT) and defense contractors. The continued concentration of these types of firms has helped the region cultivate an emerging identity as the "Silicon Valley of the East".[3] The Washington metro area is increasingly perceived as a leading global city, and is now ranked 10th in ATKearney's Global Cities Index.[4]

Summary: A Strong Global Legacy, but an Uncertain Future

The Washington metro area is, by design, a place of global importance. The status of the U.S. as a major world superpower for the past century had made Washington, as its capital city, a destination for foreign dignitaries and tourists. Companies have located in the region since the capital's earliest days to do business with the Federal government.

By virtue of its concentration of Federal power and strategic location on the border between the distinct cultures of the United States' north and south, the Washington region has maintained a global orientation from its inception. Still, the region's relationship with the world was essentially limited to Federal-level diplomatic and regulatory issues for most of its existence. As recently as 1950 the region remained much as it had always been: a modestly-sized, compact, and relatively isolated place with an economy almost entirely oriented towards the activities of the Federal government. Since that time the Washington area has experienced a dramatic economic expansion, primarily driven by Federal contracting, especially in high-tech industries. This expansion has transformed the region into one of the largest and most prosperous major metropolitan areas in the country.

During this period the Washington area has attracted additional international embassies, global media, national and international institutions, leading to its emergence as a leading global city. While the region's legacy of global connectivity is strong, the future is uncertain. The Federal government's influence on the region continues to diminish, and the boundaries of metro Washington are increasingly indistinguishable from the surrounding Mid-Atlantic region. The future of the region's global orientation will depend heavily on the types of private industry that it is able to grow and attract in the next few years.

[1] Allen, R., op. cit., pp.532-555
[2] http://www.city-journal.org/2013/23_1_washington-dc.html
[3] http://www.forbes.com/sites/joelkotkin/2012/03/19/the-expanding-wealth-of-washington/
[4] http://www.atkearney.com/research-studies/global-cities-index/full-report

Trait 3. Specializations with Global Reach

"Cities often establish their initial global position through a distinct economic specialization, leveraging it as a platform for diversification."

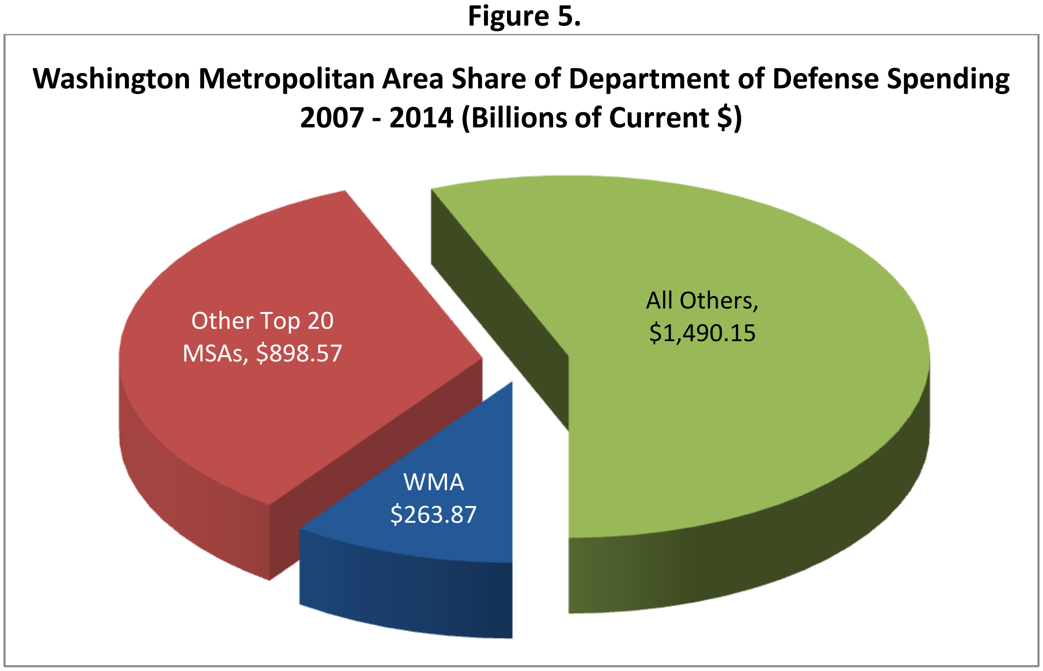
Economic Advantages of the Washington Region

For more than two centuries the Federal government has provided the basis for the distinct economic specialization of the Washington metropolitan area and has served as the primary means by which the region has connected to the global economy. The Federal government has enabled the region's economy to develop as a strong knowledge-based economy; build a thriving high-skilled and wealthy workforce; organize a strong information technology infrastructure; and formulate a healthy entrepreneurial climate. The ongoing presence of the Federal government in Washington has, in turn, provided the basis for several other competitive advantages for the region. These are summarized below.

Advantage 1: Access to Federal Government

It is no coincidence that private contractors that do business with the Federal government find the Washington area attractive. This is particularly true for companies that do business with the Department of Defense (DoD) such as Northrop Grumman, Lockheed Martin, Boeing, General Dynamics, and Raytheon. Between 2007 to mid-year 2014, about 10 percent of all DoD procurement dollars were contracted in the Washington metropolitan area (Figure 5). In comparison, all the other largest MSAs by employment in the country together accounted for about 34 percent of all DoD procurement spending.

Figure 5.



*Data aggregated by the place of performance zip code by MSA.
**2014 Data current to July 2014.
Source: www.usaspending.gov and Center for Regional Analysis

Aside from the defense industry, the presence of the Federal government has also attracted the highest concentration of the lobbying industry and professional/industry associations of any metropolitan area in the nation. According to the Center for Responsive Politics, total lobbying spending increased from $1.57 billion in 2000 to $3.23 billion in 2013, though the number of registered lobbyists declined slightly from 12,536 to 12,341.[1] The lobbying firms draw significant capital into the city, pay high wages to lawyers and researchers, and add to the Federal workforce, as they require regulatory oversight from the government.[2] A.T. Kearney has ranked Washington as the metropolitan area with the greatest political engagement not just in the United States but also globally, even beating out Brussels.[3]

Advantage 2: Knowledge-based Workforce / Highly-skilled Labor Market

The Federal government has always required a very diverse and highly educated workforce. For example, the US Patent Office employs thousands of engineers, patent attorneys, model-makers, and other highly skilled workers. The Federal government's recent trend towards expansion of its information technology, cyber security, and healthcare programs has attracted skilled workers trained in these fields. The Federal government has clearly played a leading role in helping the Washington metro area develop the country's most educated, highly-skilled and well-paid workforce.

As of 2014, the WMA was home to nearly 580,000 workers in high-tech industries, and a net increase of 129,000 high-tech jobs is forecasted for the next decade.[4] The region's workforce also benefits from the counter-cyclical hiring of Federal employment, as it experienced the lowest unemployment rate among the top 20 metro areas in the nation during and after the Great Recession, and it is second (behind only Houston) in the number of net new jobs created since 2000. As of 2013, the WMA ranked first as the metropolitan area with the highest average earnings for all private sector employees in the nation, followed by Seattle, San Francisco, Boston, and New York City.[5]

The WMA had the second highest per-capita income growth rate between 2000 and 2010, boasts the highest median household income of any large metropolitan area in the country, and as of 2014 is even home to six of the top ten highest-income counties in the nation.[6] The WMA also has the highest level of educational attainment among major metropolitan areas, with nearly one-half of its residents having a bachelor's degree or above, and nearly one-quarter of all residents (23 percent) has a graduate degree.[7] The WMA's highly skilled labor force puts it on par with New York and London in terms of the global talent market.[8]

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[1] https://www.opensecrets.org/lobby/
[2] http://www.city-journal.org/2013/23_1_washington-dc.html
[3] http://www.atkearney.com/research-studies/global-cities-index/full-report#sthash.Uz1nKoGZ.dpuf
[4] JobsEQ data as of 2014Q1
[5] Bureau of Labor Statistics Metropolitan and Nonmetropolitan Area Occupational Employment, May 2013
[6] http://www.forbes.com/pictures/eddf45edehm/falls-church-city-va-2/
[7] http://www.nytimes.com/interactive/2012/05/31/us/education-in-metro-areas.html
[8] http://www.city-journal.org/2013/23_1_washington-dc.html

The region's highly skilled workforce is further bolstered by its status as a leading hub for higher education in the nation, with more than 338,000 students enrolled in 93 institutions of higher learning within the metro area, ranking Washington fourth among U.S. metro areas in terms of college enrollment, behind only New York, Los Angeles and Chicago.[1] This population includes about 18,000 international students, with the greatest concentrations of are in Business and Management, Engineering, and Physical and Life Sciences programs.[2]

Advantage 3: Strong Tech Infrastructure and an Entrepreneurial Climate

The Federal government built and subsidized the expansion of the Internet, with a significant share of this activity occurring in the WMA. Tech firms that have located in the WMA have consequently gained substantial advantage from the region's infrastructure and also from Federal contracts. The region has built on these Federal investments and is now home to the second highest number of technology companies than any other region in the U.S. (behind Silicon Valley).[3]

Fueled by Federal contracts, the technology infrastructure in the region developed to be one of the best in the world. As a result, the WMA's technology infrastructure grew because of the concentration of 'pipeline owners' such as Sprint who owned the fiber-optic cables used to transmit signals. These companies in turn would lease their lines to online service companies such as America Online (AOL).[4] Even though information technology advances our capabilities to transmit large amounts of data across huge distances, a concentration of tech companies in the WMA gained from the agglomeration of the industry in the region.

The region's knowledge economy has also been driven by an increasing level of entrepreneurial activity. According to a report by the Kaufman Foundation, the WMA is home to 385 firms of the Inc. 500 fastest growing companies list in the 2000s and has attracted the largest proportion of founders of innovative and high-growth companies in the nation.[5] The region additionally has a high concentration of jobs the Science, Technology, Engineering, and Mathematics (STEM) industries: as of 2013 about a quarter of all jobs in the WMA were STEM jobs, ranking the region first in this category among major metro areas. Praxis Strategy Group and Forbes also ranked the WMA as having the second highest tech sector job growth between 2000 and 2011, trailing only Seattle.[6]

Advantage 4: Global and Cultural Connectivity

As the seat of government for the world's predominant economic and military power Washington D.C. is home to the second largest number of resident embassies, second in the world only to Brussels: there are an estimated 175 resident embassies in the District of

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[1] http://www.citylab.com/design/2012/08/americas-leading-college-towns/3054/
[2] http://cra.gmu.edu/pdfs/CRA_Working_Paper_2013-01.pdf
[3] Ibid.
[4] http://www.forbescustom.com/EconomicDevelopmentPgs/NorthernVirginiaP1.html
[5] http://www.kauffman.org/newsroom/2012/12/highgrowth-firms-flourish-in-unexpected-locations-and-industries-kauffman-studies-show
[6] http://www.forbes.com/pictures/edgl45edji/no-2-washington-arlington-alexandria-dc-va-md-wv/

Columbia.[1] The region is also home to a broad range of NGOs, lobbyists, consultants, think tanks, advocacy groups, and associations with global reach and international connections. The presence of this cosmopolitan population base helped pave the way for the region's thriving arts and music scenes, which bring world-class talent to the Kennedy Center, Wolf Trap, and other venues on a regular basis.

Over the past 40 years the WMA has welcomed a large number of international immigrants (see Trait 2, pp. 11-12), increasing the region's share of foreign-born residents from less than five percent in 1970 to 21 percent by 2010. The WMA now ranks seventh among major metros in terms of the concentration of its foreign-born population. The largest shares of immigrants come from Asia (36 percent) and Latin America (40 percent), followed by Africa (14 percent) and Europe (9 percent).

The region also benefits greatly from its status as a destination for international travel. As of 2013 the WMA ranked eighth among U.S. regions in attracting overseas visitors, with 1.7 million international travelers (excluding Canada and Mexico) visiting the region during the year.[2] The region is even more popular for domestic visitors, as 17.4 million came to the region in 2013. Beyond the economic impacts of tourism—the region's tourism industry supports an estimated 76,000 jobs in the region[3]—Washington's attractiveness as a visitor destination also reinforces its appeal to international audiences.

Economic Disadvantages of the Washington Region

Though the Federal government has always formed the core of Washington's regional economy, recent trends have shown the region's Federal dependence to be somewhat of a liability. The recent trend towards government downsizing has dramatically reduced the amount of Federal economic activity in the region and has done far more damage to Washington than to other major metro areas. The following economic disadvantages are all related to the region's historic and ongoing dependency on the Federal government.

<u>Disadvantage 1: Sensitivity to Federal government reductions</u>

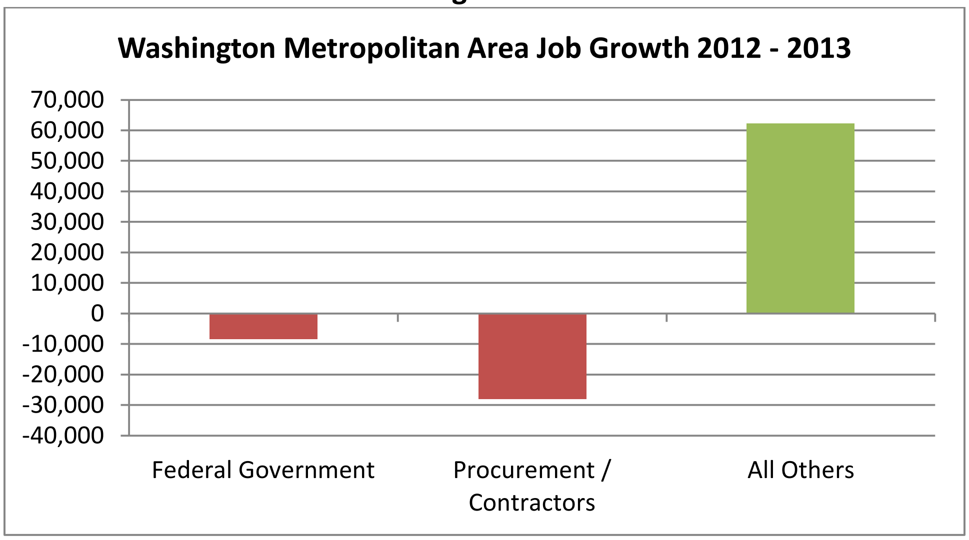
Though the Federal government has always formed the core of Washington's regional economy, recent trends have shown the region's Federal dependence to be somewhat of a liability. Recent catastrophic events such as the fiscal cliff, the sequester, the shutdown, and a general trend towards less government spending have dramatically reduced the amount of Federal economic activity in the region.

Federal cutbacks that came into place in 2013 have had a most direct effect in curtailing employment growth in the region. While the WMA enjoyed job growth through the recession, bolstered by federal hiring especially in the higher-wage paying jobs category[4], during the

[1] http://washington.org/article/international-embassies-dc
[2] "Overseas Visitation Estimates for U.S. States, Cities, and Census Regions: 2013, United States Department of Commerce and International Trade Administration.
[3] http://www.reuters.com/article/2014/05/06/dc-tourism-increase-idUSnPn5Ct6Sx+92+PRN20140506
[4] http://cra.gmu.edu/pdfs/studies_reports_presentations/Lower_Wage_Recovery_103013.pdf

recovery we have seen the federal government shedding as many as 8,400 jobs in the region, and the loss of federal contracts further eliminating some 28,000 jobs from the area just in the first year of the Sequester.[1] The Bureau of Labor Statistics reports a total decline of 14,100 jobs in the WMA's Federal Government sector between June 2012 and June 2014, while the rest of the economy added 67,400 jobs.[2]

Figure 6.



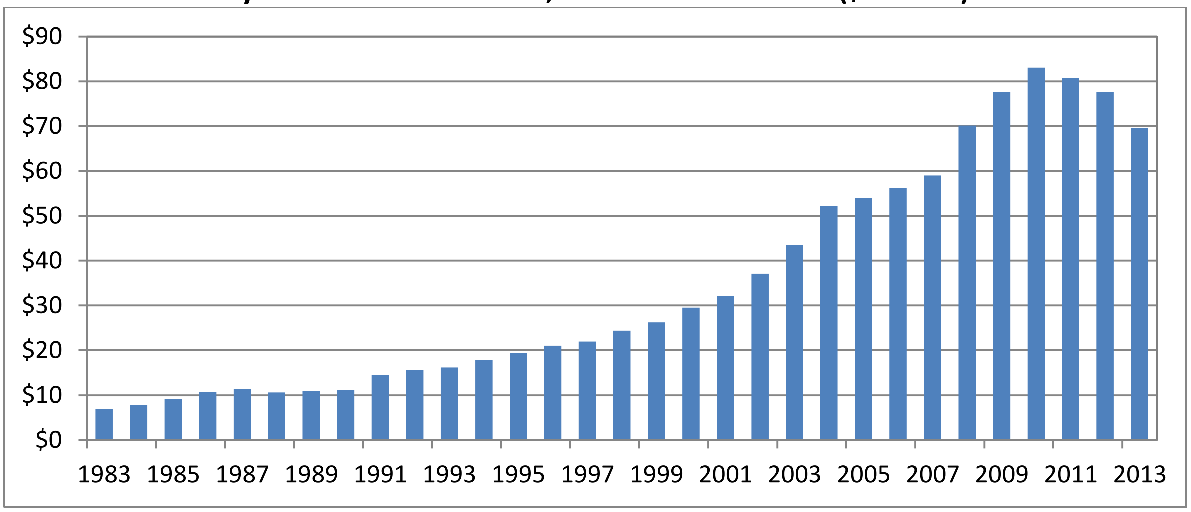
Source: Delta Associates

Cutbacks to Federal contracts have also had a dampening effect on the regional economy. Direct Federal spending currently makes up for about 20 percent of the region's economy, down from more than 25 percent as recently as 2010. After peaking at $83.1 billion in 2011 the total value of Federal contracts awarded to companies in the WMA dipped to $69.6 billion by 2013, its lowest level since 2007. Even so, the 2013 total was still more than double the 2001 figure of $32.2 billion (Figure 7).

[1] http://www.transwestern.net/Market-Research/Documents/Washington,%20DC%20TrendLines%20Presentation.pdf

[2] June 2014 jobs numbers are based on projections made by the Bureau of Labor Statistics.

Figure 7. WMA Federal Procurement Activity, 1983-2013
By Place of Performance, Current Year Dollars ($Billions)



Source: United States Census Consolidated Federal Funds Report; www.usaspending.gov and Center for Regional Analysis

These Federal cutbacks are unquestionably doing harm to the region. The Partnership for Public Service reports that the employment projections for new jobs in the WMA were revised downwards by 10 percent following sequestration, and additional decreases in Federal contracting are expected to have ripple effects in the economy.[1] The region's housing market is also affected: the sales pace of homes and housing prices in the Washington metropolitan area were both below 2013 levels during the first half of 2014.[2]

Disadvantage 2: Weak Base of Export Activity

The WMA's lack of exporting industry represents a significant weakness relative to other global cities. The founders of the Federal city had expected that its location on the tobacco trade route to England and Scotland in the 18th century would help it develop as a commercial center.[3] However, as of 2012, the region was just the 23rd largest export market in the U.S., with a total export volume of $14.6 billion. By comparison, the largest metro export market was Houston: its exports were valued at $110.3 billion in 2012.[4]

As of 2012, the top export sectors for the WMA included transportation equipment, petroleum and coal products ($3.29B); aerospace product and parts manufacturing ($2.64B); fabricated metal product manufacturing ($1.14B); navigational and control instruments manufacturing ($848M); and, semiconductor and electronic component manufacturing ($837M). These figures likely attribute significant production value to the companies headquartered in the region, irrespective of whether or not they actually produce anything locally. This is particularly true for the petroleum and coal category, as ExxonMobil's has had its headquarters location in Northern

[1] http://www.washingtonpost.com/wp-dyn/content/article/2010/12/30/AR2010123003296.html
[2] http://cra.gmu.edu/pdfs/Washington_Metro_Housing_Market_Update.pdf
[3] Abell, J., op. cit.
[4] "29 Metro Areas Among the Top 50 Reported Record-High Exports in 2012" by International Trade Administration

Virginia, but has not ever processed or shipped its products from the region.[1] Much of the region's actual export value stems from its status as a center for information technology related products and service exports: a majority of the business investment in the region is related to IT services, networking and equipment manufacturing, and software development (See Trait 8, pp. 56-58).

The weak export sector in the Washington metropolitan area is a function of the region's limited manufacturing sector, which never developed in the model of Philadelphia, Chicago, New York, or Baltimore. Among the 100 largest metropolitan areas in the United States, the Washington metropolitan area has the smallest share of manufacturing activity.[2]

Disadvantage 3: Legacy of Federal Orientation in Leadership Structure

The Washington metropolitan area has a fragmented leadership structure that is a byproduct of the Federal government's past control over local affairs in the District of Columbia and the historic dominance of the Federal government in the area's economy (see Trait 1, pp. 3-7). The lingering effect of these structures is that the region's public and private sector leadership has not yet been able forge a sustainable system for making critical decisions and/or investments needed to improve the region's economic prospects.

The absence of region-level leadership with the requisite authority to raise funding for major investments has limited the metropolitan's ability to develop as a unified region. For instance, despite an extremely competitive tech sector in Northern Virginia[3], the District of Columbia continues to compete in attracting more technology companies.[4] Due in part to such competitive policies, the region has developed unevenly and most of the economic growth for the first decade of the 21st century was concentrated in the Northern Virginia counties where median family incomes have grown faster than compared to the rest of the metropolitan area.

Key Concentrations: Location Quotient Analysis

Based on current levels of employment, the WMA has its strongest concentrations relative to the national economy in three key sectors: Professional, Scientific, and Technical Services, Public Administration, and Other Services. These sectors have the highest location quotients (LQs) among all major industry groups.[5]

[1] http://www.washingtonpost.com/business/capitalbusiness/exxon-mobil-puts-117-acre-campus-in-fairfax-county-up-for-sale/2013/11/17/f15a7848-4e2e-11e3-9890-a1e0997fb0c0_story.html

[2] http://www.brookings.edu/~/media/research/files/reports/2012/5/09%20locating%20american%20 manufacturing%20wialh/0509_locating_american_manufacturing_report.pdf

[3] http://www.bizjournals.com/washington/blog/techflash/2013/04/among-washingtonians-tech-titans-the.html

[4] http://greatergreaterwashington.org/post/22253/where-is-the-dc-tech-hub-it-keeps-moving/

[5] A location quotient is defined as the ratio between an industry's share of regional employment and the same industry's share of national employment. For example, if a given industry represents 10% of all jobs in the Washington area but only 5% of all U.S. jobs, its location quotient would be 2.00.

Professional, Scientific, and Technical Services

The WMA is essentially a knowledge-based and technology-intensive economy.[1] Although the Federal government provides the foundation for the WMA's economy, it is not the region's largest sector as measured by direct employment. With a current employment base of 673,000 workers and a location quotient of 1.8, the professional, scientific, and technical services sector is both the largest industry sector in the WMA and has the highest LQ of any major NAICS sector. Growth in this sector has been fueled by federal contracting and in the recent years it has emerged to dominate in the region.

More specifically, within the professional, scientific, and technical services sector, it is Computer Systems and Design Related Services (LQ=4.14); Management, Scientific, and Technical Consulting Services (LQ=3.55); and the Scientific Research and Development Services (LQ=3.26) that drive specialization in the region.

Public Administration

Public Administration, including Federal, state, and local governments, is the region's second largest employment sector, with a base of 400,200 workers and an LQ of 2.52. The highest levels of specialization within this sector are in Space Research and Technology (LQ=10.52); National Security and International Affairs (LQ=5.97); Administration of Economic Affairs (LQ=5.77); and, Administration of Housing Programs, Urban Planning, and Community Development (LQ=4.07). All of these sub-sectors are primarily concentrated in the Federal government.

Other Services (except Public Administration)

A third sector with a high employment concentration in the WMA is Other Services, which takes in a wide range of private enterprises. This sector employs 162,700 workers in the WMA and has an LQ of 1.94. This sector includes a broad range of activities, including: equipment and machinery repairing, promoting or administering religious activities, grantmaking, advocacy, and providing dry cleaning and laundry services, personal care services, death care services, pet care services, photofinishing services, temporary parking services, and dating services.[2]

Within this sector group, the most specialized activities in the WMA are in industries related to the Federal government. These include: Business, Professional, Labor, Political, and Similar Organizations (LQ=4.96); Social Advocacy Organizations (LQ=4.85); Grantmaking and Giving Services (LQ=2.83). Additionally, the WMA also has a healthy service sector that supports the many wealthy professionals that live in the area. This is evidenced by the specialization of the Private Households (LQ=2.12) sub-sector, which includes about 18,000 workers in the region, primarily domestic workers such as housecleaners, nannies, and gardeners.[3] Since these figures only include jobs reported on tax returns, the actual number of employees in the Private Households sector is likely considerably higher.

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[1] http://www.citylab.com/work/2013/10/truth-about-dcs-growing-knowledge-based-economy/7317/

[2] http://www.bls.gov/iag/tgs/iag81.htm

[3] http://www.bls.gov/iag/tgs/iag814.htm

Summary: The Region Has Many Assets but Remains Tied to the Federal Government

The Federal government has always existed at the center of the Washington metropolitan area's economy. In addition to growing and sustaining the region's economy, the resources developed by the government have also formed the basis for the region's private sector economy. To this day the region's competitive advantages are all, at least in part, attributable to the Federal government.

The region possesses many assets for improving its position in the global economy: a highly skilled workforce, unparalleled technology infrastructure, an entrepreneurial climate, and connections to all corners of the globe. However, with recent reductions in the Federal workforce and procurement spending, the region's greatest strength has become its greatest weakness. To diversify and strengthen its economy in the future, the region will therefore need to do more to cultivate its native assets.

Trait 4. Adaptability to Global Dynamics

"Cities that sustain their market positions exhibit a critical ability to adjust to each new cycle of global change."

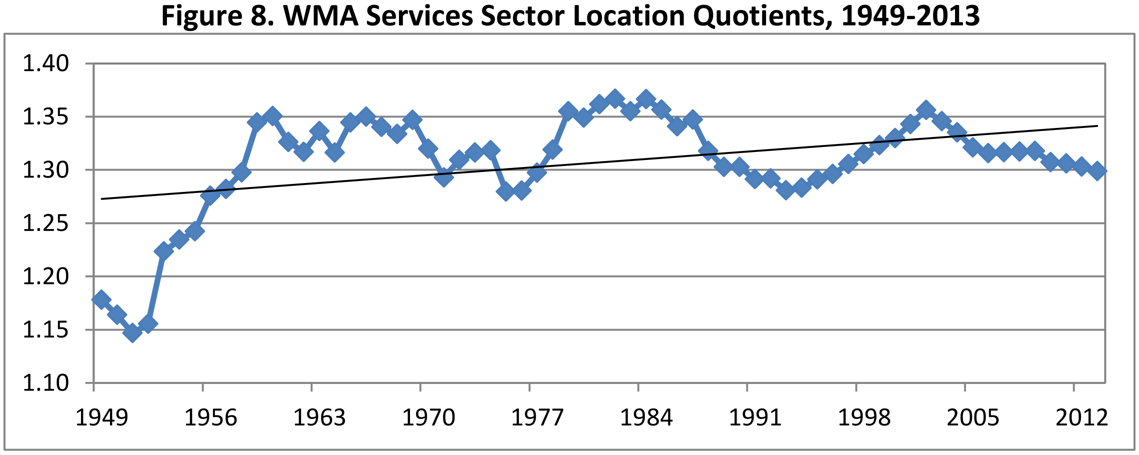
Evolution to Position in Global Markets

The Washington metropolitan area holds a unique regional advantage of adapting to global changes faster and most effectively than most metropolitan areas. As the seat of the world's most influential national government, Washington, DC is directly linked to shifts in global patterns and trends. These shifts may be embodied in events such as the World Wars; the Cold War; the Space Race; the advent of the Information age; the Post-9/11 era of increased security; or, the recent Great Recession.[1]

In an effort to keep pace with the shifting globalized landscape, the Federal government contracts out many activities to businesses for developing essential capabilities and keeping itself and the country competitive. Contractors provide the skills that the federal government cannot recruit, deliver services out of the immediate scope and expertise of the government, and produce machinery and equipment the government lacks the capacity to build. In regard to R&D, Federal contractors can introduce a level of competition that the government cannot achieve within its own departments.[2]

The most evident expression of the region's adaptability is in the emergence of the broad services sector from World War II forward and the emergence of the high-tech knowledge economy in its wake. While the United States as a whole has been transitioning into a service-oriented economy for well over a century, the WMA has outpaced the nation in this structural shift. The relative decline in the region's services sector concentration since 2002 may be explained by the expansion of the federal security apparatus post-9/11, followed by the federal sequester in more recent years.

Figure 8. WMA Services Sector Location Quotients, 1949-2013



Source: Bureau of Labor Statistics State and Area Employment Historical Databases and Center for Regional Analysis

[1] http://www.forbes.com/sites/joelkotkin/2012/03/19/the-expanding-wealth-of-washington/

[2] http://www.washingtonpost.com/wp-dyn/content/article/2006/10/05/AR2006100501782.html

Another way in which the Federal government has helped the WMA's economy evolve is by providing a base, both through direct employment and contracting, of jobs in Science, Technology, Engineering, and Mathematics (STEM) industries. The Washington region ranks first among major metro areas in terms of the share of STEM jobs, and its STEM share of 19.3% is nearly twice that of the national average of 10.5%.[1]

Human innovation is a core component of growth in knowledge-based economies. Countries in the global economy compete with one another to capitalize on the information age and propel themselves into a large integrated knowledge network.[2] Regions that can attract and retain the best human capital are able to develop and sustain competitive advantages that propel them at the forefront of such global change. The WMA, with the Federal government as an engine of growth, has found itself in a unique position that affords it the capability to adapt and respond efficiently and effectively to global dynamics.

Changes to Region's Economic Base

Considering the history of change in the WMA produces a recurring pattern, in which there is tension between direct Federal employment and employment among government contractors in the private Services sectors. This tension has been characterized by periods of Federal expansion followed by reductions in Federal employment that, in turn, have fueled growth in private industries that do business with the government. This pattern has repeated itself three different times over the past Century. Each of these periods is profiled below.

<u>The World Wars and Expansion of the Federal Civilian Government</u>

The Federal workforce in the Washington area has traditionally expanded during wartime. This was especially true during the two World Wars. As identified in Figure 9, between 1916 and 1918, at the advent of the US involvement in the World War I, the Federal workforce including uniformed military personnel inside Washington, D.C., and surrounding areas expanded from 41,804 to 120,835 employees, a near tripling of regional Federal employment. This expansion in the region's population also attracted additional domestic migration into the region to fill in jobs in the services sector that would support the growing number of Federal employees.

During World War II, the Federal workforce in the WMA more than doubled from 139,770 in 1940 to 284,665 employees by 1943, while the number of Federal employees outside of the WMA increased by over 230 percent. World War II also produced an unprecedented expansion of the defense industry, particularly in the manufacture of airplanes, bombers, and munitions.[3] As the WMA lacked any manufacturing capabilities, defense contracts for manufacturing were awarded outside of the WMA. Inside the WMA, employment patterns adapted to support the government's needs during the War and "government girls" joined the workforce to fill the office jobs vacated by men who had joined the War.[4]

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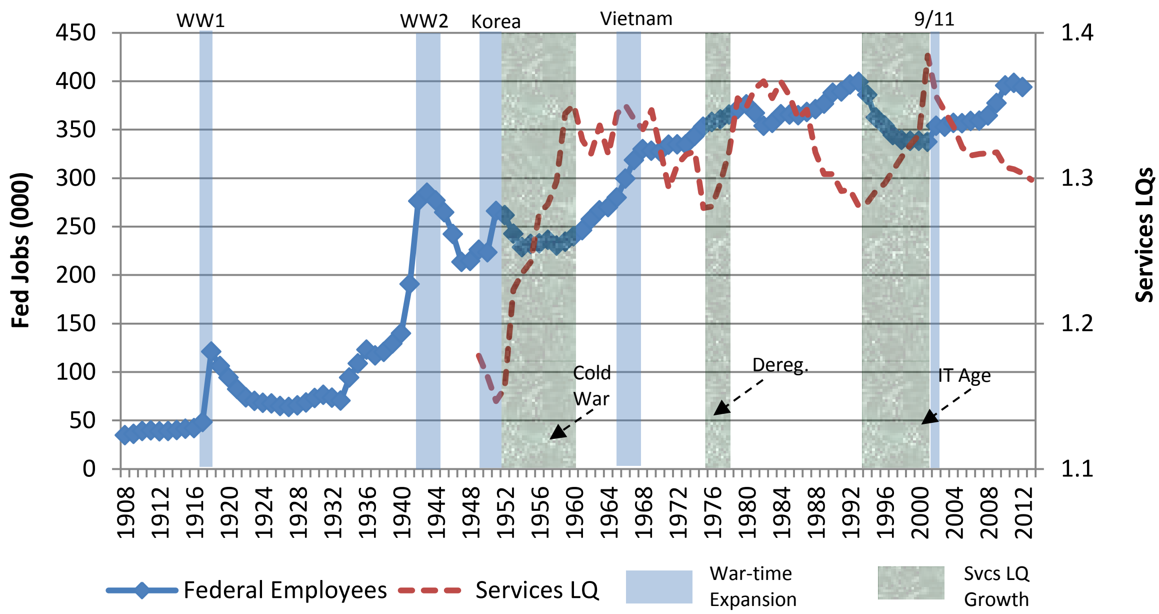
[1] STEM occupations were categorized according to at least 75% of job-holders having a STEM related college degree. Some exceptions were made for occupations that requiring a 2-year technical degree or certificate degree.

[2] http://www.globalinnovationindex.org/content.aspx?page=gii-full-report-2014

[3] http://plainshumanities.unl.edu/homefront/warindustries?section=homefront

[4] http://washington.org/DC-information/washington-dc-history

Figure 9. Federal Civilian Employment and Services Location Quotients Washington Metropolitan Area, 1908-2012



Notes: 1983 onwards data from Bureau of Economic Analysis Regional Economic Accounts
SIC data for Services Sectors only from 1949 to 2000; NAICS Services data from 2001 onwards

Source: Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition

By the end of World War II, Washington DC had been transformed into an international capital that reflected the newfound political and economic hegemony of the United States. With the new responsibilities came new international institutions into the District. The Organization of the American States, the International Monetary Fund, the World Bank, and other international agencies established their headquarters in the District. Diplomatic missions also blossomed in the District leading to the re-purposing of old mansions on Massachusetts Avenue as "Embassy Row". Even the establishment of national federal agencies was on the rise with Department of Defense, USAID, the FBI, CIA, and NASA setting up headquarters in the region and with them, attracting scores of consultants, professionals, and diplomats. This shift in the workforce towards higher-skilled labor demands set the pathway for the region to become increasingly knowledge-oriented and the WMA grew more prosperous with median family incomes exceeding those of Los Angeles and New York City.[1]

During both the World Wars the regional economy of the WMA adapted to global changes by shifting a workforce that responded to the needs of a federal government adopting new responsibilities and world governance functions that positioned it with political power and information advantages.[2]

[1] http://www.city-journal.org/2013/23_1_washington-dc.html
[2] Fuller, S.S. (1989), "The Internationalization of the Washington, D.C., Area Economy"

Rise of the Information Age

It has been estimated that more than one-half of the internet traffic of the United States travels through information conduits located in the Washington metropolitan area.[1] Since the early 1990's the WMA has been touted as a world-class info-tech capital.[2] Most recently, in 2014 Forbes magazine ranked the Washington metropolitan area the second best in the country for technology related jobs, after Seattle in the first place and beating out San Diego, Salt Lake City, Baltimore, and even San Jose.[3] The tech industry has come to become so dominant in the WMA that Dominion Power estimated that 10 percent of all its electricity in Northern Virginia will be used by power-hungry data-centers alone.[4]

The WMA's emergence as a technological metropolis was not the result of a concerted effort by regional leaders wishing to develop a "Silicon Valley of the East," though. Instead the tech sector in the WMA emerged to provide for the information needs of the Federal government. Starting with deregulation of the telecommunications industry in the 1970s and followed by privatization of the industry soon after, business in the information technology sector began to cluster in the WMA to build capabilities that the Federal government needed but could not do so internally.[5]

Additionally, many of the technologies that have defined the information age have been developed under the auspices of federal agencies such as the Department of Defense, specifically DARPA and ARPANet, National Science Foundation, Department of Energy, and NASA right in the WMA. Early mediators of the internet such as the Internet Access Group and the Commercial Internet Exchange were also located in the WMA. In the early years of the internet, three of the largest internet service providers (ISPs) were all located in the region; UUNet, PSINET, and Sprint.[6] These companies built and managed the early fiber-optic infrastructure of the region, before most of the world even had internet access.

Throughout most of the 1990s the Federal Government remained the world's largest consumer of information technology services and with the internet still being relatively new, there remained considerable room for policy to influence the sector. This attracted large innovative technologically advanced companies to locate in the WMA. Information infrastructure in the region was developed by leaders in the industry such as EDS, Comsat, Hughes Network, and GE Information Services.[7] Regional defense contracting in this sector also boomed during these early years and by 1996 the Washington region was dominant force in the realm of digital infrastructure. Four of the nine national internet access providers and a total of 61 regional

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[1] http://www.usnews.com/news/energy/articles/2009/03/24/the-internets-hidden-energy-hogs-data-servers
[2] https://archive.org/stream/08Kahle001355/08Kahle001355_djvu.txt
[3] http://www.forbes.com/sites/joelkotkin/2012/05/17/the-best-cities-for-tech-jobs/
[4] http://www.usnews.com/news/energy/articles/2009/03/24/the-internets-hidden-energy-hogs-data-servers
[5] http://washingtontechnology.com/articles/1994/07/14/defining-the-netplex.aspx
[6] http://washingtontechnology.com/Articles/1994/07/14/Defining-the-Netplex.aspx?Page=5
[7] https://archive.org/stream/08Kahle001355/08Kahle001355_djvu.txt

access providers were located in the WMA[1]. By 2001, though, the tech boom had ebbed, leading to a reduction in employment in private IT businesses.

The Federal government has historically provided the demand for an increasingly complex and cutting-edge information infrastructure to keep ahead of the global information curve. The economy of the WMA has adapted to these needs of the federal government and attracted infrastructure investment and corporate engagement to fulfil this need. In the process the WMA has come to be a global leader in information technology and has developed a workforce to sustain this advantage.

Post-9/11: Homeland Security and Defense Contracting

The terrorist attacks of September 11, 2001, changed the face of global security and forced the United States to re-evaluate its security apparatus. In response, the Federal government consolidated multiple agencies into the umbrella U.S. Department of Homeland Security (DHS) to improve domestic security[2], and also and also redesigned much of its foreign security capabilities by extending the functions of the National Security Agency (NSA) and Department of Defense (DoD), among others. The shifting of functions from the private to public sector—exemplified by the establishment of the Transportation Security Administration (TSA)—boosted Federal employment at the expense of private Services jobs, which reduced the Services LQ after 2001.

At its core, the objective remained not just to expand the security infrastructure but to develop the most sophisticated and technologically advanced intelligence apparatus in the world. The Washington metropolitan area became the epicenter for these activities. Since September 2001, an estimated 33 top-secret building complexes have been built, representing more than 17 million square feet of space; this is equivalent to about 22 U.S. Capitol buildings.[3] The expansion of the U.S. government's intelligence apparatus has mostly come through Federal contracting and most of the new spending from the DoD to contractors has been concentrated in the Washington region.[4]

The expansion of Federal contracting activity in the WMA has had profound effects on the region's workforce. A 2008 report by the Office of the Director of National Intelligence found that 29 percent of the workforce in the intelligence agencies was employed by contractors.[5] In this sense, the expansion of the national intelligence apparatus resulted in increased Federal spending in the WMA and allowed the region to grow, relative to other metropolitan areas, even during the Great Recession. This current era of Federal expansion has likely come to an end, though, due to overall reductions in Federal spending and security concerns about contractors in the wake of the Edward Snowden scandal.

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[1] http://washingtontechnology.com/Articles/1996/02/22/INTERNET-ACCESS-PROVIDERS-IN-THE-NETPLEX.aspx?Page=1

[2] http://www.whitehouse.gov/issues/homeland-security/

[3] http://projects.washingtonpost.com/top-secret-america/articles/a-hidden-world-growing-beyond-control/

[4] http://www.washingtonpost.com/wp-dyn/content/article/2006/10/05/AR2006100501782.html

[5] http://fas.org/sgp/othergov/intel/class.pdf

Summary: The Region is Adaptable, but Not by Design

The presence of the Federal government in the region makes the Washington metropolitan area sensitive to global trends and patterns. Yet, the federal government also yields a significant competitive advantage to the region that allows it to adapt to changes in global trends. Specifically, the Federal government contracts out functions and activities to businesses for developing essential capabilities and to deliver services out of the immediate scope and expertise of the government. In doing so the federal government has attracted a highly-skilled labor force to the WMA and laid out infrastructure that has built regional capabilities that have made the Washington region a global leader in information technology, research and development, and national defense and intelligence.

Although most of the region has historically developed through the direct influence of federal spending, the accumulated based of technological knowledge, regional infrastructure, and the highly-educated workforce that now comprise the WMA are increasingly diversifying the regional economy. With the help of a concerted regional effort formulated under a regional leadership it the WMA economy may be able to diversify beyond the scope and scale of the needs of the federal government and truly become a global marketplace.

Trait 5. Culture of Knowledge and Innovation

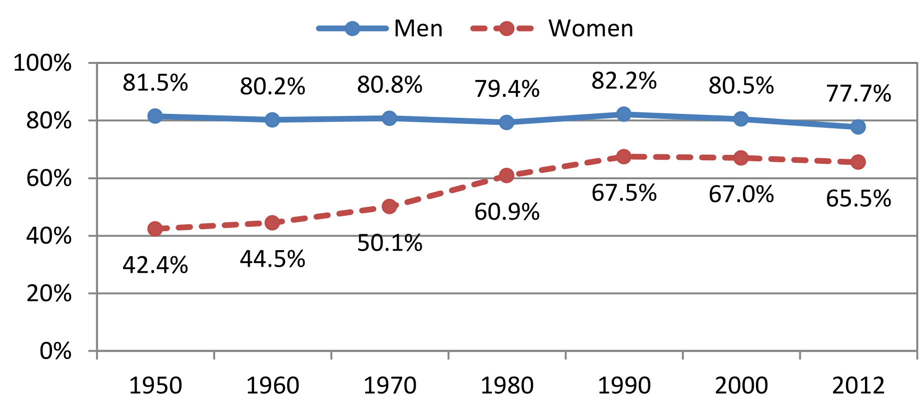
"In an increasingly knowledge-driven world, positive development in the global economy requires high levels of human capital to generate new ideas, methods, products, and technologies."

Characteristics of the Regional Labor Force

The WMA has a highly educated workforce with a high rate of participation, and a low unemployment rate. Both labor force participation and unemployment rates are indicators of how fully human capital is utilized by the regional economy, while educational attainment is an indication of the quality of the human capital in the region.

The WMA has historically had high labor force participation rates, driven in part by high female participation rates. In 1950, 81.5 percent of men and 42.4 percent of women were in the labor force. By comparison, the labor force participation rate in all U.S. urban places was 79.3 percent for men and just 33.2 percent for women. As female labor force participation increased after 1950, the WMA's female participation rates consistently remained 7-10 percentage points above national totals.[1] The region's male labor force participation rate in the WMA has declined slightly over the past 60 years but still remains well above national averages.

Figure 10. Civilian Labor Force Participation Rates, Washington Metropolitan Area, 1950-2012

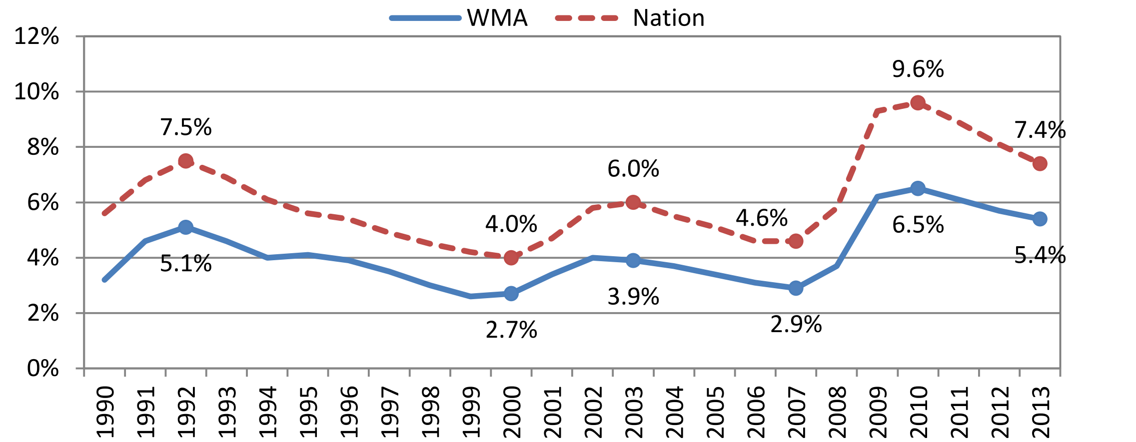


Note: MSA geography definition current as of the year of the data and changes over time.
Source: 1950, 1960, 1970, and 1980 Decennial Censuses, U.S. Bureau of Labor Statistics and GMU Center for Regional Analysis

In addition to high labor force participation, the unemployment rate in the region has been lower than the nation and nearly every other large metro area since 1990. The region's unemployment rate has typically been 1-3 percentage points below the national rate over the past two decades (Figure 11). The region's rate was also lower than nearly all the other employment metros and was either the lowest or the second lowest for 18 of the 24 years between 1990 and 2013.

[1] National rates reflect urban places for 1950-1970, metropolitan areas for 1980 and the nation for 1990-2012.

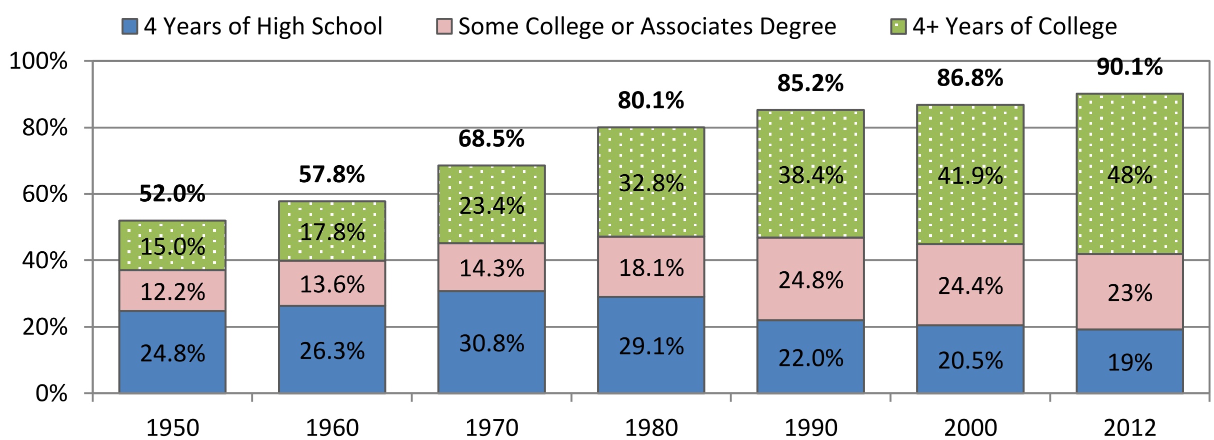
Figure 11. Unemployment Rate, Washington Metropolitan Area and the Nation, 1990-2013



Note: MSA geography as defined in 2003
Source: U.S. Bureau of Labor Statistics and GMU Center for Regional Analysis, Not Seasonally Adjusted Annual Average

Higher educational attainment is typically correlated with higher labor force participation[1] and the WMA is no exception to this rule. In 1950, well over one-half (52.0 percent) of the region's residents had at least a high school degree, with 15.0 percent also having had at least four years of college (Figure 12). By contrast, in the nation's urban places in 1950, 37.8 percent of residents had at least high school degree, and only 7.2 percent had four years of college or more. The share of educated residents in the region has continued to increase since 1950, with the largest gains from residents with college degrees or higher.

Figure 12. Educational Attainment in the Washington Metropolitan Area, 1950-2012

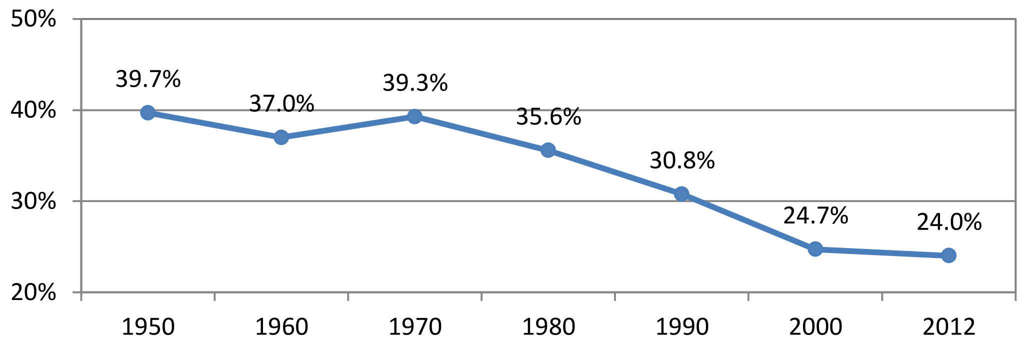


Note: For the population over 25 years old. 1950, 1960
Source: 1950, 1960, 1970, and 1980 Decennial Censuses, 1990 and 2000 Decennial Census, 5 percent microdata, the 2012 1-year American Community Survey and GMU Center for Regional Analysis

[1] Bowen, William G. and T. Aldrich Finegan. 1966. Educational Attainment and Labor Force Participation. The *American Economic Review* 56, no. 2: 567-582.

Washington's highly educated workforce is related to its high concentration of Federal government jobs. Between 1950 and 1970, nearly 40 percent of the region's residents were directly employed by Federal, state or local governments (Figure 13). Most private sector employees have largely been concentrated in occupations associated with office support services or resident-serving services, with 56.3 percent working in retail trade, construction or transportation and utilities in 1950.[1] The share of residents employed by government agencies declined to 24.7 percent by 2000 as the region grew its service sector and has been nearly unchanged since.

Figure 13. Share of Residents Employed by the Federal, State or Local Government, Washington Metropolitan Area, 1950-2012

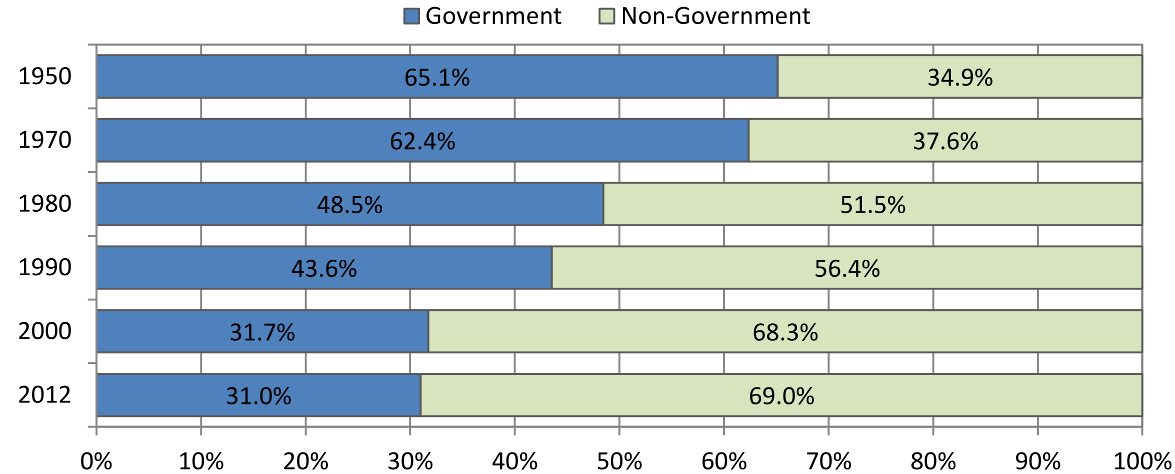


Notes: MSA geography definition current as of the year of the data and changes over time. The 1990, 2000 and 2012 MSA geography is approximate due to public use microdata area limitations.
Source: 1950, 1960, 1970, and 1980 Decennial Censuses, 1990 and 2000 Decennial Census, 5 percent microdata, the 2012 1-year American Community Survey, microdata, and GMU Center for Regional Analysis

Government agencies have historically been more likely to employ the college-educated residents than private sector employers. In 1950, 65.1 percent of working residents with at least a college degree were government employees despite government employees making up only 40 percent of the workforce (Figure 14). Between 1950 and 2012, the share of residents with post-secondary education working for the government steadily declined, but remained proportionally higher than the share of government workers.

[1] 1950 Decennial Census

Figure 14. Share of Residents with a College Degree or Higher Employed by the Government, Washington Metropolitan Area, 1950-2013



Notes: Includes residents in the labor force with 4+ years of college. MSA geography definition current as of the year of the data. The 1990, 2000 and 2012 MSA geography is approximate due to public use microdata use limitations

Source: 1950, 1960, 1970, and 1980 Decennial Censuses, via Integrated Public Use Microdata Series. The 1990 and 2000 Decennial Census, 2012 1-year American Community Survey, and GMU Center for Regional Analysis.

In 2012, 66.5 percent of Federal government workers and 57.1 percent of state and local government workers had a college degree or higher, compared with 43.8 percent of private sector workers (Table 2). Among all workers the WMA has a high concentration of science, technology, mathematics, and engineering (STEM) undergraduate degrees, which are a key component to innovation.[1] The majority of workers with STEM degrees are in the private sector, though many perform work that is Federally-funded.

Table 2: Field of Bachelor's Degree by Employment Type, Washington Metropolitan Area, 2012

	Private Sector	Federal Government	State & Local Government	Self-Employed	Total
Non-social sciences and engineering	318,430	117,180	38,830	39,680	514,120
Arts, humanities, and other	284,540	83,200	53,590	43,310	464,640
Business	208,590	58,720	14,710	22,800	304,820
Social sciences	134,410	66,280	17,690	22,010	240,370
Education	43,250	9,200	49,040	6,780	108,270
Science- and engineering-related fields	13,410	3,500	840	2,600	20,350
Workers with at least a college degree	**1,002,630**	**338,080**	**174,690**	**137,180**	**1,652,580**
% of All Workers	43.8%	66.5%	57.1%	49.1%	48.8%
All Workers	2,291,020	508,530	305,810	279,280	3,384,640

Notes: First field of degree shown for residents in the labor force. MSA geography is approximate due to public use microdata area limitations.

Source: 2012 1-year American Community Survey, microdata, and GMU Center for Regional Analysis

[1] http://www.brookings.edu/~/media/research/files/papers/2011/8/innovation%20greenstone%20looney/08_innovation_greenstone_looney.pdf

Public and Private Research & Development Activities

The WMA has the third highest concentration of research and development jobs[1] among major U.S. metro areas (Table 3), trailing only San Diego and San Francisco. This employment is driven largely by Federal contracting through private companies and nonprofit universities. Industry research and development, as reflected by patenting activity, is less active than in other large employment metros.

Table 3: Location Quotient of Scientific Research and Development Service Employment, Select Metropolitan Areas, 2013

	Total		Physical, engineering & biological		Social science & humanities	
	Location Quotient	Rank	Location Quotient	Rank	Location Quotient	Rank
San Diego-Carlsbad, CA	4.97	1	5.34	1	1.35	5
San Francisco-Oakland-Hayward, CA	3.43	2	3.59	3	1.95	3
Washington-Arlington-Alexandria, DC-VA-MD-WV	**3.34**	**3**	**2.45**	**4**	**11.98**	**1**
Baltimore-Columbia-Towson, MD	2.04	4	2.14	6	1.09	6
Seattle-Tacoma-Bellevue, WA	1.40	5	NA	NA	NA	NA
New York-Newark-Jersey City, NY-NJ-PA	1.18	6	1.06	8	2.37	2
Chicago-Naperville-Elgin, IL-IN-WI	0.91	7	0.86	9	1.48	4
Los Angeles-Long Beach-Anaheim, CA	0.88	8	0.86	9	1.09	6
Minneapolis-St. Paul-Bloomington, MN-WI	0.78	9	0.82	11	0.33	10
Denver-Aurora-Lakewood, CO	0.76	10	0.74	12	0.94	8

Notes: The 10 highest ranking large employment metros. Data unavailable for 4 metros. MSA geography defined in 2013.
Source: US Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 2013 Annual, and GMU Center for Regional Analysis

The public sector makes a larger impact on research and development activities through Federal funding than through direct employment. In 2013, there were 46,850 workers in the research and development industry. Of those, only 9.0 percent (4,200) were Federal workers.

In FY2013 the WMA received $5.9 billion in Federal contracts for research and development (R&D), accounting for 8.5 percent of all Federal contracts in the region. The amount of R&D contracts followed a similar pattern as all contracts, increasing between FY2007 and FY2009, and falling over the next two years. But R&D contracting activity increased again in FY2012, reaching $7.2 billion, before declining in FY2013.

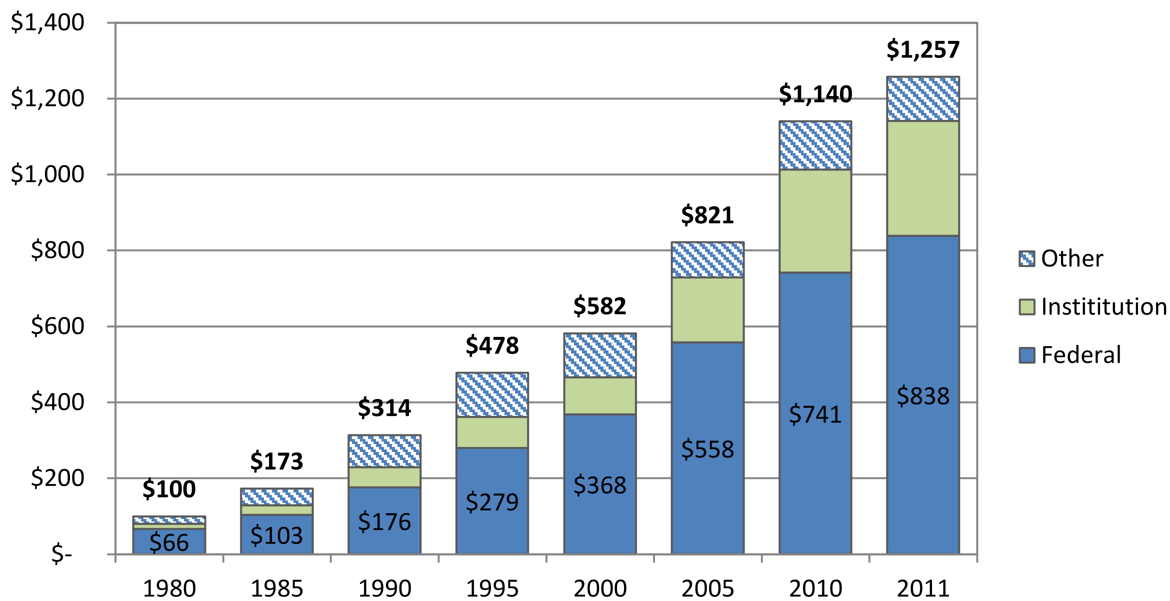
[1] By industry.

Between FY2007 and FY2009, the WMA had the second highest level of Federal research and development contracting, behind only Los Angeles. In FY2010 the WMA surpassed Los Angeles and has maintained the highest level of contracting among major metros. In FY2013, Los Angeles was a distant second and received $4.4 billion in research and development contracts, only 75.9 percent of the amount received in the WMA.

Among the $5.8 billion in Federal contracts for R&D work performed in the WMA in FY2013, $3.1 billion was for defense research. About one-third of defense research (32.5 percent) was for defense systems. No other metro area had more funding for defense research overall and only Dallas and Boston had more funding for defense systems research. In the WMA, the next largest categories were medical research, which accounted for 11.1 percent funding, and space research, which accounted for 5.6 percent.

R&D activity by the region's nonprofit universities increased by more than 1,100 percent between 1980 and 2011. The majority of this increase was from Federal sources, but the institutions themselves have also significantly increased funding of their own research (Figure 15). In 1980, Federal funding accounted for 66.4 percent of all research and development dollars within the universities and the institutions funded only 13.9 percent. In 2011 the share of Federal funding was nearly unchanged, at 66.7 percent, but institutional funding had expanded to 24.1 percent.

Figure 15. Nonprofit University Research and Development by Funding Source, Washington Metropolitan Area, 1980-2011 (Millions of Current $s)



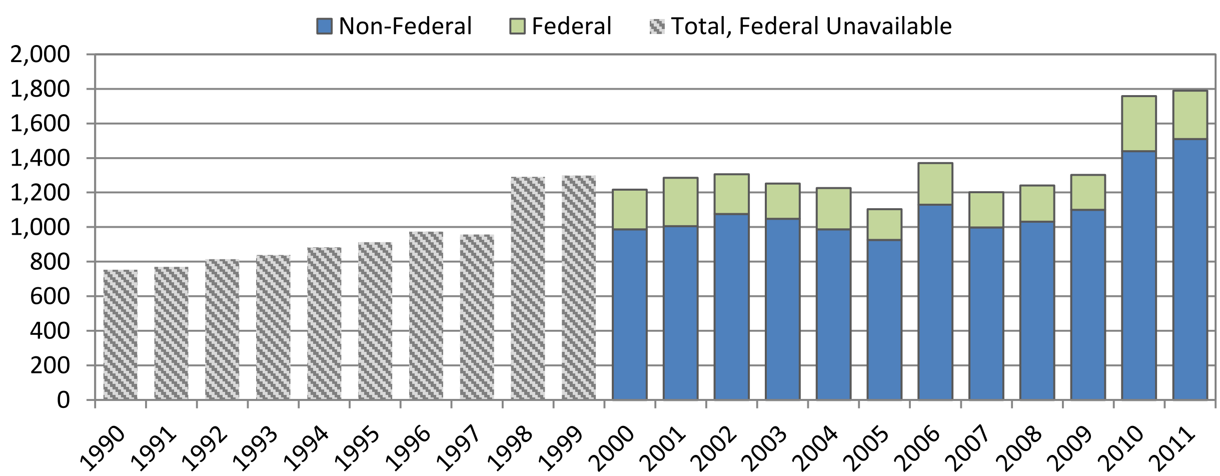
Notes: Data aggregated by the project recipient or performance zip code by MSA and approximate the 2003 MSA definitions. 1985, 1990, and 1995 are survey data. All other years are censuses.
Source: National Science Foundation, Higher Education Research and Development Survey and the Survey of Research and Development Expenditures at Universities and Colleges, microdata, and the GMU Center for Regional Analysis

In 2011, 46 percent of the research conducted by WMA nonprofit universities was in life sciences, including medical sciences (28.8 percent of all research), biological sciences (7.5 percent) and agricultural sciences (3.8 percent). The next largest research fields were social sciences (14.0 percent), physical sciences (11.8 percent) and engineering (11.7 percent).

Even though university research and development in the region has increased significantly over the past three decades, the WMA only ranked 11th among major metro areas in 2011 for total R&D activity. The region ranked lowest in life science research at 13th, but was relatively more competitive in other fields, and particularly for social sciences where it ranked first. Other more highly ranked fields include physical sciences (5th), non-science and engineering fields (6th), computer sciences (7th) and mathematical sciences (7th).

Utility patents, a key measure of R&D success, have also been driven largely by the Federal government. While the number of patents issued in the region for new or improved processes[1] has increased over time, 17.5 percent of patents in the region since 2000 were assigned to Federal agencies.[2] Universities accounted for 2.8 percent of assignees between 2000 and 2011, while the private sector accounts for the remaining 79.6 percent. These companies reflect the area's private sector biotechnology, information technology and defense technology industries.

Figure 16. Utility Patents Issued in Washington Metropolitan Area, 1990-2011



Notes: MSA geography defined in 1999 for 1990-1999 data and 2003 for 2000-2011 data.
Source: U.S Patent and Trademark Office, Electronic Products Division and GMU Center for Regional Analysis

In 2011, the region ranked 12th for the highest number of utility patents among metro areas. Since other metros have very few Federally-held patents, excluding these drops the region to 14th in this category.

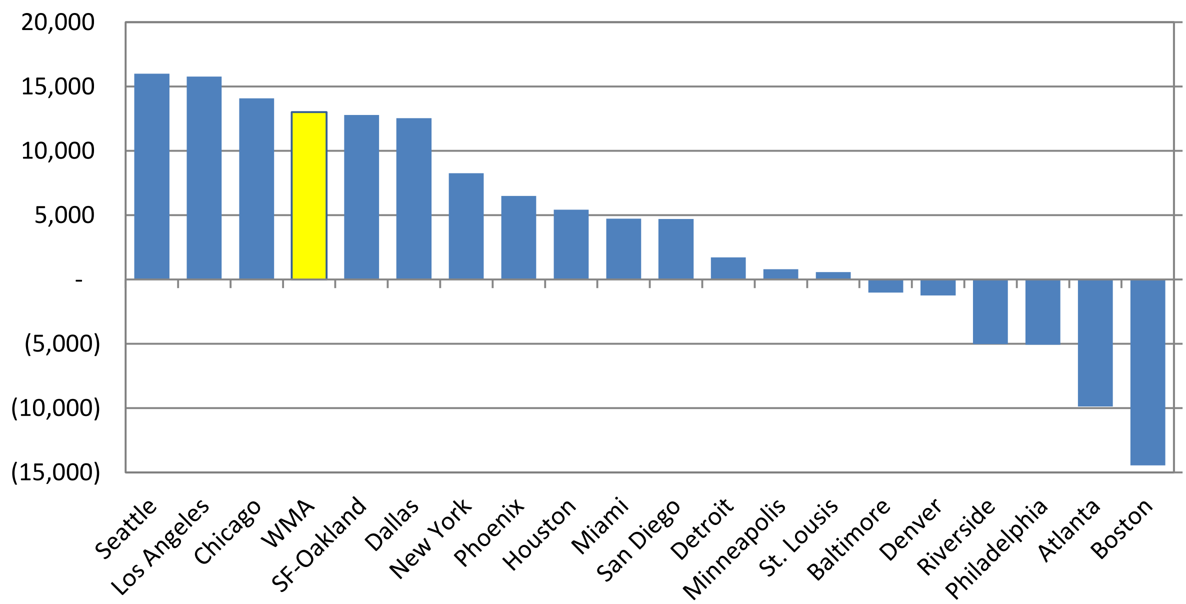
[1] http://www.uspto.gov/web/offices/ac/ido/oeip/taf/patdesc.htm
[2] Excludes assignees with fewer than three patents.

Migration Patterns of College Graduates

The region has been a net importer of domestic residents with a college degree or higher for several decades, with growth between 1985 and 1990, 1995 and 2000, and 2011 to 2012:

- Between 1985 and 1990, the WMA had a net gain of over 70,000 domestic residents with at least a college degree, an average gain of 14,000 per year. During the same time period, the region had a net loss of domestic residents without a college degree, declining by 37,500 residents.
- From 1995 to 2000 the region added 194,300 net new domestic residents, or an annual gain of 38,900. Over two-thirds of the net new residents had at least a college degree, an average gain of 27,300 residents with a college degree per year.
- In 2011 and 2012, the WMA had a net increase of 13,010 domestic residents with a college degree or higher (Figure 17). Only Seattle, Los Angeles and Chicago gained more during this period. In addition to the net increase from domestic residents, 31,240 residents with a college degree or higher moved into the region from outside the country.[1] Of the other large employment metros, only New York had more.

Figure 17. Net Domestic Migration by Residents with a Four-Year College Degree or Higher: Largest Employment Metros, 2011-2012



Notes: MSA geography is approximate due to public use microdata area limitations.
Source: 2012 American Community Survey, 1-Year microdata, and GMU Center for Regional Analysis

In addition to its attraction to educated in-migrants, the region also has a strong university presence. In 2013 the region's 89 degree-granting institutions awarded 99,920 degrees, of which 74,590 were bachelor's degrees or higher. Only 25.3 percent of the degrees awarded were Associates degrees and certificates, which is the smallest share of all major metros except

[1] International out-migration is not available.

Boston.[1] The WMA had the third highest post-secondary awards per capita in 2013, behind only Boston and Minneapolis.

In spite of the region's strong base of higher educational institutions it has not been able to supply enough graduates to fill its open positions. Furthermore, it is not known what share of students educated by the region's higher education institutions remain in the region. These factors necessitate the importing of skilled workers from outside the area. The key measure of worker supply is training concentration, which measures the rate of degrees of any level awarded locally with the national average for that field. Training concentrations above 100 percent indicate that the region awards more degrees in that field than the national average. For occupations in the WMA, only legal occupations and management occupations have training concentrations above 100 percent. Every other occupation has a shortfall of degrees, so workers must be imported from outside the region to fill these jobs.

Table 4. Training Concentration in the Washington Metropolitan Area

Occupations	2014Q2 Employment	Awards (2012)	Training Concentration	Shortfall
Legal	43,576	3,557	120%	-
Management	147,906	18,969	119%	-
Business & Financial Operations	210,940	8,750	99%	105
Computer & Mathematical	165,046	6,522	91%	673
Education, Training, & Library	192,180	17,330	77%	5,300
Life, Physical, & Social Science	47,380	5,012	73%	1,860
Personal Care & Service	14,255	405	73%	150
Arts, Design, Entertainment, Sports, & Media	46,854	4,468	64%	2,500
Community & Social Service	48,427	3,588	62%	2,195
Architecture & Engineering	57,004	2,590	61%	1,626
Healthcare Practitioners & Technical	118,163	4,315	55%	3,558
Protective Service	52,858	1,684	54%	1,452
Sales & Related	71,225	122	49%	126
Healthcare Support	4,153	277	42%	377
Office & Administrative Support	12,305	29	12%	235

Notes: Data as of 2014Q2
Source: JobsEQ and the GMU Center for Regional Analysis

[1] Phoenix is excluded from the ranking because University of Phoenix online campus degrees are all counted as being located in the Phoenix metro area.

Summary: The Regional Knowledge Economy Is Driven by the Federal Sector

The WMA possesses the necessary components to compete globally in the knowledge economy: a highly educated workforce, a sizable research and development sector, and the ability to attract young, educated workers. But these components are largely byproducts of the Federal government. Until the very recent past the Federal government fully utilized these components both directly and indirectly through funding. The Federal government also had a competitive advantage when competing for these resources, so private sector efforts went elsewhere. But as the Federal role has waned, these resources are more available to the private sector.

In response to the shifting Federal role, the private sector has taken advantage of some components, particularly the educated workforce and research and development funding. Still, the private sector remains in competition with the Federal government, which continues to higher share of residents with a college degree or higher than does the private sector.

The Federal government's central role in the region's knowledge economy also restricts the value of the region's assets to its economic development prospects. For example, 12 of the nation's 41 Federally Funded Research and Development Centers[1] and numerous Federal research labs are in the region, but are generally seen as national, not regional, assets. As the Federal government's role in the regional economy wanes, the human capital traditionally attached to it will need to transition to the private sector, which will require structural shifts both in the economy and in the educational systems that train workers for the future economy.

[1] http://www.nsf.gov/statistics/ffrdclist/

Trait 6. Opportunity and Appeal to the World

"Metro areas that are appealing, open, and opportunity-rich serve as magnets for attracting people and firms from around the world."

Federal Policies and Global Appeal of U.S.

The prospect of global fluency for any metropolitan region is at least partially dependent upon the underlying "rules, regulations, parameters, and societal norms[1]" established by the central government of its nation. The role of the Federal government in shaping opinions is magnified for the Washington region as, to the world at large, Washington is inextricably linked with the U.S. government. For example, when international media reports refer to U.S. government actions, it is said that "Washington" has done something.

The Brookings report on global fluency provides the following assessment of the U.S. government's image in the international community as of 2013:

> "The United States, with its powerful domestic market, risk-taking environment, free and capitalist society, and relatively open and transparent government, has historically provided one of the most attractive national platforms in the world. This foundation has allowed each U.S. metro area the opportunity to rise up relatively unimpeded and present its case to global markets."[2]

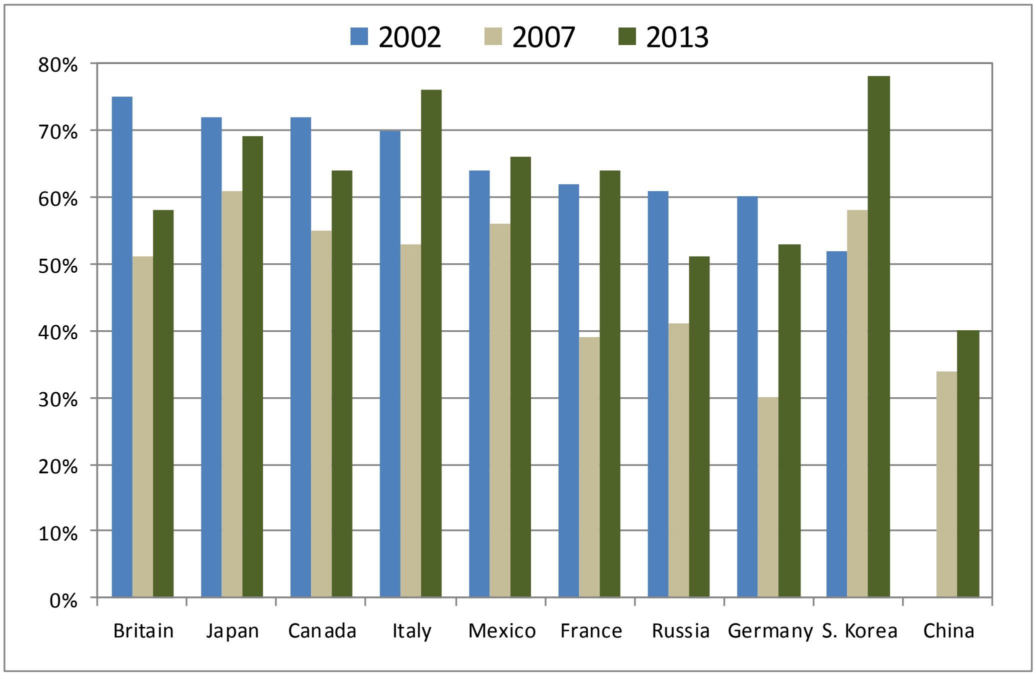
The lofty stature of the U.S. in the world's eyes is by no means secure, though. Brookings goes on to suggest that the advantages that the U.S. has enjoyed for the past century are challenged by "struggles related to immigration, national security, and government debt."[3] The ability of the U.S. government to overcome the current period of uncertainty may determine whether or Washington becomes more like London, which has "been a beacon for those seeking a better or more peaceful life for over 600 years,"[4] or like Cape Town, which was formerly an international trade center but "is just now emerging to pursue its global potential…having been limited for decades by South Africa's apartheid policies."[5]

Research by Pew Research's Global Attitudes Project regarding the United States' standing with residents of other nations underscores the malleability of opinions based on changing realities. In 2002, just after the terrorist attacks of September 11, 2011, the U.S. was viewed favorably by a majority of residents in nine major nations, and by at least 60 percent of residents in eight of the nine countries (South Korea was 52 percent favorable). By 2007, following the U.S.-led invasion of Iraq, U.S. favorability had declined in eight of the nine countries, with only Japan (61 percent) remaining above the 60 percent level. By 2013, opinions of the U.S. had recovered, but still remained well below 2002 levels in many of these counties, including Great Britain, Japan,

[1] McDearman, B., et. al., p. 30.
[2] Ibid., p. 30.
[3] Ibid., p. 30.
[4] Clark, G., and Moonen, T., "The 10 Traits of Globally Fluent Metro Areas, International Edition."
[5] McDearman, B., et. al., op. cit., p. 30.

Canada, Russia, and Germany. Perhaps most troubling is that in China, which was not surveyed in 2002, only 34 percent of its residents viewed the U.S. favorably in 2007 and only 40 percent did so in 2013. As China's global influence continues to grow, the views of its citizens—and its investors—will become increasingly important to the U.S.

Figure 18. Percent of Residents with Favorable View of U.S., 2002-2013



Note: No data were reported for China in 2002.

Source: Pew Research Global Attitudes Project

In spite of these challenges the outlook is positive for the U.S. as a place to do business. According to the Economist Intelligence Unit, the U.S. market maintains clear advantages due to its size and its proven ability to increase productivity through technology. As a result, "foreign companies…increasingly view having operations in the US as a way of gaining access to [American] technology and processes…and subsequently applying them to other global operations."[1]

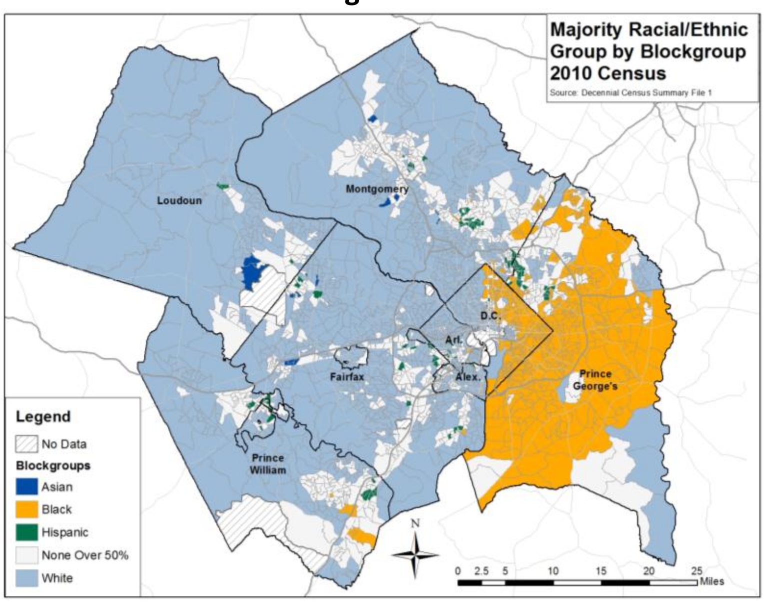
[1] Economist Intelligence Unit, "The US's position in the global economy," June 3, 2014, available at: http://country.eiu.com/article.aspx?articleid=371872821&Country=US&topic=Regulation&subtopic=Global+position#

Ethnic and Cultural Diversity

A critical measure of the appeal of a metropolitan area to the world is how many people have already migrated to the region from other countries. As previously discussed (Trait 2, p. 10-13) the Washington region was essentially biracial until the very recent past, and it is only the wave of international immigration since the 1970s that has brought ethnic and cultural diversity to the region. By 2012 the Washington metropolitan area had become a "majority minority" region, with 52 percent of its population being nonwhite, and 27 percent of the region's population is now Asian, Hispanic, Native American, or multi-racial.[1] More than 75 percent of the region's foreign-born residents emigrated from either Asia or Latin America, with the leading sources of immigrants being El Salvador, India, and South Korea.

Residential settlement patterns in the Washington region have long been segregated along racial and ethnic divisions. Throughout Washington's history its black population has been concentrated in the city's Northeast and Southeast quadrants, particularly east of the Anacostia River. Conversely the western portion of the city, especially west of Rock Creek Park, has always been predominantly white.[2] This divide spread to the region's suburbs as well, as the residents of Prince George's County, Maryland, are predominantly black, while the residents of other inner suburban areas in the region are still mostly white (Figure 19).

Figure 19



Though this overall pattern of segregation persists, the influx of immigrant populations has helped to reduce segregation in some parts of the region. In contrast to northern cities with compact ethnic neighborhoods, the new immigrant/ethnic communities in metro Washington have largely settled in suburban areas. For the most part, the areas where immigrants have settled are melting pots where multiple groups have clustered: aside from a few isolated areas

[1] http://cra.gmu.edu/pdfs/CRA_census_report_series/CRA_Census_Series_DemoSchool2012.pdf

[2] Jaffe and Sherwood, p. 21.

such as Langley Park, Wheaton, and Bailey's Crossroads (Fairfax County), there are few areas in the region where Hispanic or Asian populations form a majority. Instead, in many large swaths of the region's suburbs, there is no racial/ethnic majority.

Another contributor to the region's appeal to the global community is the presence of many leading universities. As of 2010 there were more than 18,000 international students enrolled at the region's institutions of higher education, ranking the region sixth among all U.S. metro areas for the presence of international students. The most attractive institutions to this population were University of Maryland, George Washington University, George Mason University, and Georgetown University, each of which had more than 1,900 international students. The region's two largest community colleges—Montgomery College and Northern Virginia Community College—are among the national leaders in terms of international enrollment, as each has about 1,800 students from other countries.[1]

International Travel Patterns

The Washington metro area received about 1.7 million overseas visitors in 2013, ranking it as the eighth most popular destination for overseas travelers to the U.S. but ranking well behind the leading destinations of New York, Miami, and Los Angeles.[2] The region's overseas visitor volume accounted for 5.3 percent of the total U.S. market, down from 5.9 percent in 2012. This decline made the Washington region one of only two of the top 20 destination cities to lose market share from 2012 to 2013.[3]

Table 5: Overseas Visitors* to Top 10 US Destinations: 2012-2013

Destination	2012 Market Share	2012 Visitation (000)	2013 Market Share	2013 Visitation (000)	Volume Change (%)
New York City	30.6	9,107	29.9	9,579	5%
Miami	11.7	3,482	12.5	4,005	15%
Los Angeles-Long Beach	11.4	3,393	11.8	3,781	11%
Orlando	10.7	3,184	11.6	3,716	17%
San Francisco	9.4	2,798	9.5	3,044	9%
Las Vegas	9.1	2,708	8.9	2,851	5%
Honolulu (Oahu)	7.5	2,232	8.0	2,563	15%
DC Metro Area	**5.9**	**1,756**	**5.3**	**1,698**	**-3%**
Chicago	4.6	1,369	4.3	1,378	1%
Boston	4.2	1,250	4.0	1,282	3%

*Excludes Canada and Mexico

Source: Overseas Visitation To US States, Cities and Census Regions (2013) U.S. Department of Commerce, ITA, NTTO

[1] Hu, X., "International and Foreign Born Students in Higher Education in the Washington, D.C. Metropolitan Area," http://cra.gmu.edu/pdfs/CRA_Working_Paper_2013-01.pdf

[2] Excludes Canada and Mexico, Sourced from US Department of Commerce ITA, National Travel and Tourism Office June 2013 Overseas Visitation to US Stated, Cities and Census Regions

[3] Atlanta saw a decrease of 12 percent market share over the same time according to ITA NTTO

According to the 2013 Industry Sector Profile for Business conducted by the National Travel and Tourism Office the market for international business travel in the U.S. is dominated by five cities which collectively account for 60 percent of all such trips: New York City, Los Angeles, San Francisco, Chicago and Houston.[1] The Washington metro area is not currently a major destination for international business travelers: most international travel to and from the region is either for official business with the US government or the 175 embassies in the area, or by those visiting for leisure or personal reasons.

The main point of entry for international travelers to the region is Washington Dulles International Airport (IAD), which offers non-stop service to 50 international locations as of 2014, 39 of which have daily flights. IAD has been adding additional international flights to keep up with demand and the International Arrivals Building was expanded in 2011 to meet the growing demand; it can now accommodate up to 2,400 passengers per hour.[2] Since 2010 IAD has expanded daily service to and from many cities in Europe and the Middle East, including Abu Dhabi, Doha, Dubai, Dublin, Madrid, Manchester, Doha, and Reykjavik, as well as to several destinations in Central America. Still, the most popular departure points for international flights remain traditional markets: Canada, England, Germany, Mexico, France, and Japan.

Table 6: IAD Weekly International Arrivals

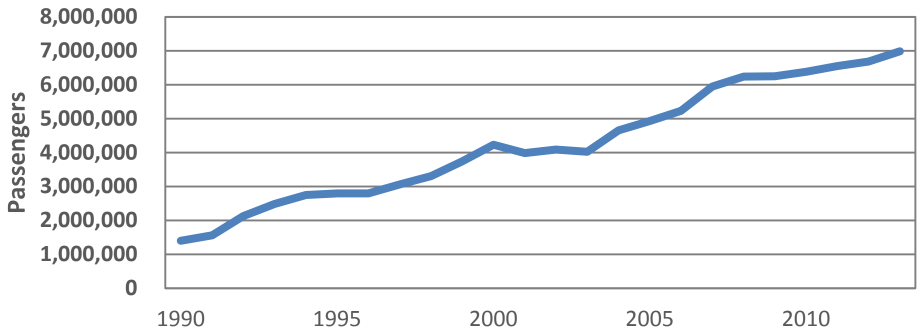
Rank	Country of Origin	Weekly Flights (June 2014)
1	Canada	98
2	England	53
3	Germany	42
4	Mexico	26
5	France	21
6	Japan	21
7	El Salvador	20
8	China	18
9	Netherlands	14
10	UAE	14
11	Switzerland	14
12	Panama	14
13	Belgium	12
14	South Africa	12
15	Qatar	11

Source: Flight Guide June 2014, WMAA

The number of international passengers has maintained an upward trend over the past 20 years. International passenger volume has grown from 1.5 million in 1990 to more than seven million in 2013. IAD also handles the vast majority of international mail and air cargo arriving in the WMA (see Trait 7, pp. 49).

[1] All data presented by NTTO excludes Canada and Mexico in tables. Canada is the number one source of international visitors to the US annually.
[2] Newly Expanded International Arrivals Building Greets Dulles Travelers. Press release (March 28, 2011)

Figure 20: International Passengers at IAD, 1990 - 2013



Source: Financial Strategy and Analysis, Washington Metropolitan Airports Authority

In addition to IAD, some international visitors also travel to the Washington area from the other two airports in the region: Ronald Reagan Washington National Airport (DCA) and Thurgood Marshall Baltimore Washington International Airport (BWI). These two airports together only account for about one million international trips per year, though, and most of their international service is to Canada or the Caribbean.

Train passage is an alternative mode of international entry directly through Canada or indirectly via other markets along the Northeast Corridor route. Most international passengers arrive via air travel with some utilizing the national rail service to proceed to other destinations.[1] From 2000 to 2013 the number of border crossings along the Canadian border increased from 269,500 to almost 280,000 in 2013.[2] This includes all train passengers entering the US to any destination, so the impact of direct international train travelers to the Washington DC area from Canada is small.

Summary: Strong Global Orientation, but Limited Appeal to Business Travelers

The image of the Washington region is intertwined with the global image of the United States, which has been in flux over the past decade. Still, the U.S. largely remains desirable for foreign businesses and investors. The region's growing ethnic and cultural diversity and international access have also helped to enhance the Washington metro area's appeal to the world. International students have also had an impact on the region through its major universities.

The region offers good access, as Washington Dulles International Airport is the eighth most popular U.S. destination for international travelers, but the region lags far behind the nation's top international destinations of New York, Miami, and Los Angeles in this regard. More problematic is the fact that Washington is not a top destination for international business travelers. If Washington is to increase its global appeal attractiveness for visitors, it must come from both tourism and the business sectors.

[1] 2013 Market Profile: Overseas p.3

[2] BorderCrossing/EntryData
http://transborder.bts.gov/programs/international/transborder/TBDR_BC/TBDR_BCTSA.html

Trait 7. International Connectivity

"Global relevance requires global reach that efficiently connects people and goods to international markets through well-designed, modern infrastructure."

History of International Air Service

The three major airports that serve the WMA all carry international passengers, but have shifted their focus over the years. Thurgood Marshall Baltimore Washington International Airport (BWI) was the first to offer many international flights but now is largely domestic. Washington Dulles International Airport (IAD) is the main hub of activity for international passengers flying into the WMA from all over the world, while Ronald Reagan Washington National Airport (DCA) serves as a connecting destination from other regional airports for both international and domestic flights.

DCA is the oldest of the three area airports. In 1938 a decision was made by President Roosevelt that the site for a National Airport would be located on the Gravelly Flats south of Washington DC. The airport officially opened in 1941. The airport quickly reached one million annual passengers in 1946.[1] Flights are generally not allowed to exceed 1,250 statute miles in any direction non-stop, though there are some exceptions. DCA has United States immigration and customs facilities for corporate jet traffic; the only international flights allowed to land at DCA are those from airports with U.S. Customs and Border Protection preclearance facilities.[2] The only direct international flights serving DCA are on Air Canada Express and land at one of three Canadian destinations; Montreal, Ottawa or Toronto.

BWI began its existence as Friendship International Airport, dedicated in 1947. This airport was the site of the record breaking transcontinental flight by the first Boeing 707 Jetliner in 1957. Beginning in the 1980s BWI was able to attract many international carries, with service to destinations in the Americas, Europe, and Asia. Though BWI remains the busiest of the region's three airports, it mostly serves domestic passengers. In fact, 71 percent of all enplanements at BWI were on Southwest Airlines (including AirTran flights), nearly all of which are domestic.[3]

The need for a second airport located close to the nation's capital became apparent as the quick growth of demand for flights into the area was demonstrated by the passenger traffic at DCA. In 1950 Congress passed the second Washington Airport Act to provide for the ability to build a second airport near the District of Columbia.[4] Dulles International Airport (IAD) was dedicated in 1962, but struggled to attract international flights for many years. In the late 1980s the construction of a new terminal and a major marketing push increased international traffic at IAD, and the airport now serves about seven million international passengers per year (see Trait 6, pp. 45-46).

[1] http://www.mwaa.com/reagan/1279.htm
[2] http://en.wikipedia.org/wiki/Ronald_Reagan_Washington_National_Airport
[3] http://www.mwaa.com/file/ATS_April_2014.pdf p.2
[4] http://www.metwashairports.com/dulles/661.htm

Connections between Airports and Business Centers

Effective connections between airports and business centers are critical links for international travelers. Most international visitors to the United States travel between airports and their destinations by taxi or limousine, with automobile rental being the third most popular option[1]. A significant share of international business travelers (22 percent) makes use of public transportation to get around after arriving in the US.[2] Additionally, seven percent of international travelers use intercity railroads to travel within the U.S.[3]

Commuter rail is considered a key connecting service to measure intermodal connections and overall ease of access between airports and business centers.[4] Among the region's three airports only BWI is served directly by commuter or intercity rail, with both Amtrak and MARC service available, as well as express bus service to the Greenbelt Metro station.[5] Travel time between BWI and downtown Washington is about 40 minutes via train; travel by personal vehicle or taxi service takes a minimum of 45 minutes, but often far longer during congested periods. Based on a connectivity score shown in the Benchmarks section (Part III, pp. 76-81) Baltimore-Towson has the greatest connectivity score as it has five different types of connecting service directly offered at BWI Marshall. The Washington-Arlington-Alexandria MSA which houses both IAD and DCA ranks 15th with a score of 1.5.

DCA is conveniently located to downtown Washington and employment centers in Arlington and Alexandria. It has an on-site Metrorail station, and it is about 10-minute ride into downtown Washington via the Yellow Line. Commuter or intercity rail can be accessed via Metro as well, though it is not directly available at the airport. According to a 2011 passenger research report conducted by the Metropolitan Washington Airports Authority (MWAA) 20 percent of passengers arrive at DCA via Metrorail.

At present, IAD is only accessible by road, with express bus service from various points around the region. The Metrorail Silver Line is being extended to IAD and is expected to be completed around 2018. This line will connect the airport with several major employment centers, including Reston, Tysons Corner, Rosslyn-Ballston, and downtown Washington. The airport's location and lack of express service will necessitate about a 50-minute train ride into downtown, though. In the absence of rail service, 81 percent of IAD passengers arrive via personal or corporate automobiles or taxis, and only 19 percent use buses, shuttles, or other shared transportation.[6] While the Dulles Access Road offers easy (and usually traffic-free) vehicular passage between the Beltway and Dulles Airport, traveling beyond Tysons Corner on I-495 or I-66 is often a slow and heavily congested trip.

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[1] 2013 Market Profile: Overseas NTTO June 2013

[2] Private cars are down 3.6 percent and air travel 2.2 percent from 2013 Industry Sector Profile: Business NTOO

[3] 2013 Market Profile: Overseas p.3

[4] Goldberg, B. (2011) Making Connections: Intermodal Links Available at 70 percent of all stations Served by Commuter Rail. Special Report. RITA Bureau of Transportation Statistics.

[5] According to the Bureau of Transportation Statistics intercity rail and commuter rail are classified as the same mode (standard Rail)

[6] 2011 Passenger Research Report, Washington Metropolitan Airports Authority

Cargo and Freight Movement Patterns

Though the Washington region is one of the largest metropolitan areas in the U.S., it is not a major center for the distribution of cargo by air, land, or sea. Washington Dulles International Airport (IAD), the region's primary airport, ranks just 21st among all U.S. airports in terms of cargo weight. The two major cargo airports on the east coast, JFK International Airport in New York and Miami International Airport, each handle more than five times as much cargo as does IAD. Moreover, the prospects for expanding air cargo operations at Dulles are modest, as the rigid structure of the air cargo system makes it very difficult to shift the movement patterns of goods.[1]

The Washington region is also at best a minor player in the international shipping arena. There is no seaport located within the metro area, with the larger region's ports being located in Baltimore and Norfolk. The region is tied to these ports via rail lines, and the Virginia Inland Port—a major primary truck/train intermodal center—is located in Front Royal, on the region's western edge. Still, the Washington region is not considered to be a major cog in the logistics network. A recent industry survey of all of the country's major metro areas found that Washington ranked 63rd in the country in terms of rail infrastructure, 175th in terms of road infrastructure, and 305th in terms of density/congestion.[2]

One positive for the region's outlook as an international cargo hub is that both the Port of Baltimore and the Port of Virginia (Norfolk) are already configured to accommodate "post-Panamax" vessels that will begin to travel through the Panama Canal following the completion of its expansion in 2015. Only two other east coast ports, New York and Miami, will be ready for post-Panamax vessels by that time. Since the canal expansion is expected to shift as much as 25 percent of traffic from west coast ports to east coast ports, both Baltimore and Norfolk should experience strong increases in shipping activity in the next few years.[3]

Summary: Good Outlook for Passenger Travel, Weak for Cargo

The global relevance of the DC Metro Area emanates through the connectivity the region has to the international community. As a major port of entry for international travelers Washington should have equally impressive connectivity through modern and efficient infrastructure. With three major airports located in the area, only one is supportive of large numbers of international travelers, IAD, but it is the least connected to the region's business centers and to available modes of public transportation. BWI Marshall, which is located outside of the DC metro area but serves the DC area as a point of entry is the only airport to offer commuter rail service. The opening of the Silver Line in 2018 will provide metro access to IAD. IAD is also the main point of entry for cargo, freight and mail service but the region as a whole is not a major distribution center for cargo and freight, rankings well below comparable metropolitan

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[1] Versel, D., "An Assessment of Factors Affecting Air Cargo Operations at Washington Dulles International Airport," http://cra.gmu.edu/pdfs/CRA2013-6_DVersel.pdf

[2] King, B. and Keating, M., (2006) "The Top 50 Logistics Cities in the United States," Material Handling & Logistics, October 16, http://mhlnews.com/transportation-amp-distribution/top-50-logistics-cities-united-states-0

[3] Waters, K. "The Potential Impact of the Panama Canal Expansion on the Port of Virginia," http://cra.gmu.edu/pdfs/CRA2014-01_KWaters.pdf

areas in volume. It is anticipated that the Panama Canal expansions project will bring additional traffic through both the ports of Baltimore and Norfolk. International connectivity to the Washington Area is limited by lack of a seaport and available space for infrastructure expansion but once an international traveler reached the downtown area or other business hubs, public transportation via Metrorail and bus service is often easily accessible.

Trait 8. Ability to Secure Investment for Strategic Priorities

"Attracting investment from a wide variety of domestic and international sources is decisive in enabling metro areas to effectively pursue new growth strategies."

Process for Financing Major Investments

The Washington region's transition from a government town to a major metropolitan area took shape between 1950 and 1980. During this era, successive Presidential administrations invested in the development of properties and infrastructure in the region. Beginning with the development of the Pentagon during World War II, the Federal government played a leading role in expanding the region's infrastructure. In fact, the first limited-access highway in the region—the section of Shirley Highway (now I-395) that connected the District with the Pentagon and on to King Street—was entirely funded by the Federal government.[1]

The passage of the Federal Aid Highway Act of 1956 launched the era of massive Federal highway building. The new law committed the Federal government to fund 90 percent of the cost of building a 40,000-mile long nationwide system of limited-access highways. Over the next 35 years the entire system would be built out largely as designed, with the Federal government footing most of the bill.[2] Most of the existing freeways in the Washington area were built under this program, with the last major component being the completion of Interstate 66 in 1982.[3] The region's mass transit system also owes its existence largely to the Federal Government. For the construction of the core of the Metrorail system, which began in 1972 and was completed in 2001, about two-thirds of the capital costs were funded by the Federal government.[4]

Federal involvement also led to the existence of the region's airports: both Ronald Reagan Washington National Airport and Washington Dulles International Airport were planned, financed, and constructed entirely by the Federal government, and each remained under Federal management until 1987, when control was transferred to the Metropolitan Washington Airports Authority (MWAA). The development of Dulles also included the Federally funded construction of the Dulles Airport Access Road, a limited-access freeway connecting the airport with the Capital Beltway and, later, Interstate 66.[5]

Nearly all of these Federal investments in the region's infrastructure were funded prior to 1980. Since the 1980s the Federal government has dramatically reduced its role in the financing of infrastructure investments, changing the processes by which major improvements are realized. The region's one recent major infrastructure project that was built primarily with Federal funds was the reconstruction of the Woodrow Wilson Bridge, and its history illustrates the difficulties now inherent in this sort of project. The need for a new Wilson Bridge was first identified in

[1] http://www.roadstothefuture.com/Shirley_Highway.html
[2] http://www.nationalatlas.gov/articles/transportation/a_highway.html
[3] http://www.roadstothefuture.com/Int66_MetroViennaRte.html
[4] Schrag, Z. (2006), *The Great Society Subway: A History of the Washington* Metro, p. 182
[5] http://www.roadstothefuture.com/Dulles_Trans_Corridor.html

1988, was studied for 10 years, and then took another 10 years to build, requiring special legislation and a lawsuit along the way.[1]

The impact of this paradigm shift on the Washington area has been profound, as most new infrastructure projects built in the past 30 years have required creative approaches to financing and have often only been completed after contentious squabbles. These conflicts are largely rooted in a decision-making structure that requires every potential investment to undergo a highly politicized process in order to secure the local or state funding required for its implementation. State or locally funded projects that do get completed typically get delayed for years if not decades, as was the case with the Fairfax County Parkway in Virginia and the Inter-County Connector in Maryland. Each of these roads was on regional transportation plans as far back as the 1960s, but neither was completed until after 2010.[2]

In response to the reduction in Federal dollars for infrastructure improvements and the difficulties in getting investments approved by state or local governments, innovative approaches have been needed to complete new infrastructure projects in the region. The Dulles Greenway, built in the 1990s, was one of the first modern private toll roads in the United States, and remains privately owned and operated.[3] The high-occupancy toll (HOT) lane projects on both the Capital Beltway (opened in 2012) and Interstate 95 (planned to open in 2015) were privately financed and will be privately operated.[4]

The most notable creative funding arrangement is for the Metrorail Silver Line project, which was first proposed when Dulles Airport was built in the early 1960s, but will not be completed until 2018. In stark contrast to the pre-existing Metrorail system, which was mostly built with Federal dollars, only 16 percent of the Silver Line's construction financing is Federal. About 48 percent of the funds for the rail line's construction are being raised via a toll increase on the Dulles Toll Road, as the Silver Line runs in the road's median for most of its length. The remaining 36 percent of the project—which totals about $2 billion—is being funded with a mix of state and local revenues.[5]

Over the past 30 years the proponents of nearly every major infrastructure project in the Washington metro area have had to undertake heroic efforts in order to realize their visions. These efforts were in response to the collective understanding that the Federal government was no longer going to take the lead in shaping the future of the region's infrastructure, and that local action was necessary. However, in the absence of a regional decision-making authority or a dedicated source of funding for major investments, the process by which each major investment took place was unique and not repeatable. A recent review of the past 50 years of transportation policies in the region concluded that, "one of the key failures regarding

[1] http://www.roadstothefuture.com/Woodrow_Wilson_Bridge.html
[2] McClain, J., op. cit., p. 11.
[3] http://www.fhwa.dot.gov/ipd/project_profiles/va_dulles_greenway.aspx
[4] https://www.495expresslanes.com/project-background
[5] http://www.dullesmetro.com/documents/13OCT_Funding%20Chart.pdf

the region's transportation system has been the lack of dedicated regional funding for regional facilities."[1]

Systems for Attracting Investments in Businesses and Properties

The Washington metro area faces a variety of structural challenges in securing private sector investments. Most of this stems from the legacy of the region's dependence on the Federal government, as the Washington area does not have a robust network of corporations and financial institutions with deep roots in the community. Such networks have played critical roles in stimulating investment in the growth of many other regions.

Those involved in economic development in the Washington region rightly take pride in the region's success at growing its private economy and frequently tout the fact that the metro area is now home to the headquarters of 15 Fortune 500 firms.[2] Where Washington stands apart from other major American cities is that most of its major corporations are either government contractors such as Lockheed Martin, General Dynamics, and Northrup Grumman, or are transplanted companies that "are not focused on the region…just operating in the market for strategic reasons."[3]

A second shortcoming is that there is a very small core of major financial institutions based within the region. Until the 1980s most of the banks in the region were small institutions that mostly did business within the region and were not involved in international finance. In the wake of the savings and loan scandal of the 1980s, most of the historic local banks were either acquired or wiped out, leaving most of the banking activity in the region to national or international banks headquartered elsewhere.[4]

The growth of the region's banks was also limited by laws in the District, Maryland, and Virginia that limited interstate expansion; a 1990 study of this issue reported that, "a bank holding company headquartered in Virginia and engaging in full-service banking in Maryland and the District of Columbia must under current law operate through three separate banking organizations, one for each jurisdiction."[5] It was not until the enactment of the Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 that the Federal government finally removed these state-level restrictions.[6]

The legacy of the historic absence of interstate and international banking in the Washington area is the lack of major banks based within the region. As of 2014, Capital One Bank is the only

[1] McClain, J., op. cit. p. 11.
[2] Clabaugh, J., "Which Washington-area companies make the Fortune 500?"
[3] McDearman, B., et. al., Washington case study, p. 3
[4] Jaffe and Sherwood, p. 306
[5] https://www.richmondfed.org/publications/research/economic_review/1990/pdf/er760601.pdf
[6] https://www.fdic.gov/regulations/laws/rules/6500-3500.html

Top 50 bank (in terms of assets) with its headquarters in the region[1], and Capital One has only been operating as a full-service bank in the area since acquiring Chevy Chase Bank in 2008.[2]

A third challenge is an outgrowth of the first two: the region does not have the depth or breadth of locally-oriented foundations or philanthropic organizations found in most other large metro areas. In other cities a key legacy of homegrown corporations is a strong network of foundations that spend financial and political capital to better the region. Examples of this are Atlanta's Robert W. Woodruff Foundation (Coca-Cola), Minneapolis' McKnight Foundation (3M), Pittsburgh's Richard King Mellon Foundation (Mellon Bank), and Flint's Charles Stewart Mott Foundation (General Motors). Each of these foundations has assets in excess of $2 billion[3] and has a very long history of investing in key strategic initiatives aimed at spurring economic growth in their regions.

According to the Foundation Center, the largest independent foundation that is focused on local philanthropy is the Morris and Gwendolyn Cafritz Foundation, which has assets of $728 million as of 2012. Other prominent local foundations include the J. Willard and Alice S. Marriott Foundation ($514 million) and Eugene and Agnes S. Meyer Foundation ($200 million).[4] While these and other philanthropic organizations have made major investments in the region they simply cannot match the impact of the larger foundations from other cities. A similar issue relates to the Community Foundation for the National Capital Region. This foundation claims assets of $368 million, which does not place it among the top 25 of community foundations in the U.S. By comparison, the regional community foundations in Tulsa, Silicon Valley, New York, Cleveland, Chicago, Kansas City, and Columbus all have assets in excess of $1.5 billion.[5]

In spite of these shortcomings the region has still been able to attract international businesses and investments. The Washington region is home to the U.S. headquarters of several international firms, most notably Volkswagen in Herndon. Fairfax County alone is home to about 400 foreign-owned firms, with at least 20 apiece from the U.K., South Korea, Canada, Germany, France, Israel, and India.[6] The Washington area has ranked for several years as one of the top attractive locations in the U.S. for foreign real estate investors, and foreign capital accounted for more than $1.5 billion in real estate investments in the region in 2013.[7]

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[1] Grocer, S., "Ranking the 50 Biggest Banks From J.P. Morgan to FirstMerit." http://blogs.wsj.com/moneybeat/2014/03/03/ranking-the-50-biggest-banks-from-j-p-morgan-to-firstmerit/

[2] Goldfarb, Z. and Rosenwald, M., "Capital One Awoke to its Dream Deal," December 5, 2008, http://www.washingtonpost.com/wp-dyn/content/article/2008/12/04/AR2008120401068.html?hpid=topnews

[3] http://foundationcenter.org/findfunders/topfunders/top100assets.html

[4] Foundation Center, Foundation Directory Online, http://foundationcenter.org/findfunders/foundfinder/

[5] http://foundationcenter.org/findfunders/topfunders/top25assets.html

[6] http://www.fairfaxcountyeda.org/our-global-presence/foreign-owned-firms

[7] http://www.bizjournals.com/washington/breaking_ground/2014/01/foreign-investment-drove-majority-of.html

Investment Patterns in the Washington Metro Area

There are three predominant types of investment in the Washington metro area: the Federal government, foreign direct investment, and real estate investors. These are each profiled below.

Federal Spending

The WMA was designed and built around the Federal government. Historically, the region's economic cycles have been tied to Federal spending patterns. The most recent example is that, during the national recession from 2008 to 2010, Federal contracting alone accounted for more than one-quarter of the region's GRP. While the Federal influence wanes somewhat during non-recessionary periods the economic influence of regional federal spending wanes the share of Federal contracting in the regional economy has remained above 12 percent of regional GRP each year since 2001 and increased to as much as 19.5 percent in 2010 before declining slightly.

Table 7: Federal Contracting as Share of Regional GRP
All Figures in Current Year Dollars

Year	Federal Contracts (Billions of $s)	Percent of WMA GRP (%)
2001	$32.17	12.2%
2002	$37.07	13.2%
2003	$43.53	14.6%
2004	$52.21	16.1%
2005	$53.98	15.5%
2006	$56.24	15.3%
2007	$59.00	15.3%
2008	$70.16	17.6%
2009	$77.62	19.2%
2010	$83.06	19.5%
2011	$80.72	18.4%
2012	$77.65	17.3%

Notes: CPI-U adjusted with mid-year 2014 as base year.
All procurement contracts aggregated by place of performance.
Source: www.bea.gov; United States Census Consolidated Federal Funds Report www.usaspending.gov; and GMU Center for Regional Analysis

A significant share of federal contracting in the region is related to Department of Defense (DoD) contracts; this share has fluctuated over time. In 2001, 39.6 percent of all Federal contracts in the WMA were issued by DoD. This share increased steadily during the Afghanistan and Iraq campaigns, and peaked at 51.4 percent in 2008. By 2013, the DoD share had come back down to 44.6 percent.

The WMA is, by far, the top metro area in terms of the percent of the DoD contracting budget spent in the region. Since 2001 Washington has maintained a share of about 10 percent of all DoD contracting activity: this share exceeds the cumulative shares of the second- and third-place metro areas (Dallas and Los Angeles). The WMA's highly-skilled labor force also positions the region to receive a large share of the Defense Advanced Research Projects Agency (DARPA) funding in its universities and large research institutions. Although the WMA ranks second, after the Los Angeles metropolitan area in total DARPA contracted dollars; and third after Boston and Baltimore, in per-capita DARPA contracted dollars, the WMA consistently draws in a significantly higher portion of DARPA contracting than the mean across the top 20 MSAs by employment in the country.

Foreign Direct Investment

The WMA has been gaining in investment from foreign-owned companies for more than two decades. In 1991, 3.1 percent of WMA job-holders worked for foreign-owned establishments; this proportion increased to 5.4 percent by 2011. The total number of jobs in foreign-owned establishments in the region increased from 50,720 jobs to 126,210 jobs over this same period, with most of the gains concentrated in the high-skilled Business Support and Professional and Technical Services sectors. As the high-tech sectors in the WMA have seen increased investment, so have the support sectors of Retail, Accommodation and Food services also shown significant increases in investment from foreign-owned companies.[1]

As of 2011 the Global Cities Initiative ranked the WMA ninth in the country for concentration of Foreign Owned Establishments (FOEs), but the region only ranked 34th in terms of the proportion of individuals employed by FOEs in the region. FOEs in the Washington area therefore tend to have fewer employees compared with FOEs in other regions. This is likely due to the fact that there are few FOEs in the region that conduct labor-intensive activities such as manufacturing or wholesaling; most FOEs in the region are office-based.

Real Estate Investment

The WMA has become one of the most attractive locations for real estate investment in the U.S. As of 2014, Washington ranked fourth after New York City, San Francisco, and Houston as of 2014 for domestic investment activity.[2] Internationally, the National Association of Foreign Investors in Real Estate (AFIRE) ranked the WMA third, after London and New York City, in its list of top global cities attracting foreign investment in real estate.[3] However, from 2002 to as recently as 2008, Washington, D.C. held the top position on the AFIRE list for most years and only recently has the region dropped below New York City and London in the rankings.

The recent Federal spending cuts have brought concerns to attracting capital investments in real estate in the region, especially as the General Services Administration (GSA) has continued to reduce its office space in the District, and demand by law firms and contractors has diminished. The year-end sales volume in the District of Columbia decreased from $3.4 billion in 2012 to $2.6 billion in 2013.[4] Still, the region has maintained its position as an attractive target

[1] http://www.brookings.edu/~/media/Research/Files/Reports/2014/06/20%20fdi%20us%20metro%20areas/profiles/WASHINGTON.pdf

[2] http://www.realtor.org/field-guides/field-guide-to-foreign-investment-trends-in-the-us

[3] http://www.city-journal.org/2013/23_1_washington-dc.html

[4] http://www.us.jll.com/united-states/en-us/Research/Washington-DC-Office-Insight-Q2-2014-JLL.pdf?b5fd147c-c2d3-4fb7-a3e1-6fcb82f2d88b

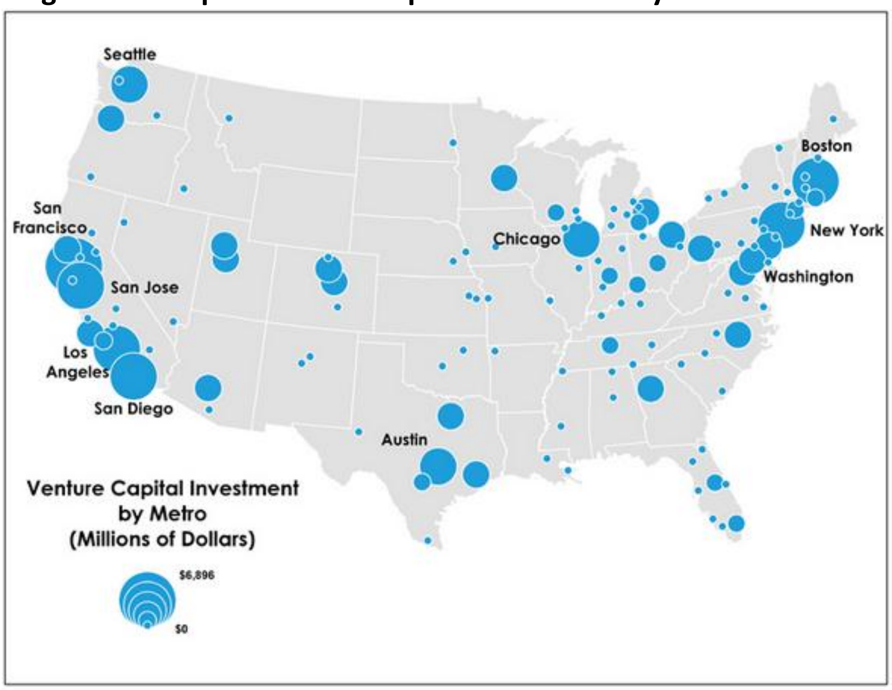
for real estate investment, as investors believe the long-term fundamental of the region's economy to be strong.[1]

Foreign investment in real estate in the WMA is led by investors from Germany, South Korea, Israel, and Kuwait. In 2013, foreign investment accounted for over 58 percent of the $2.6 billion spent in the region's commercial real estate market[2]. According to a report by Jones Lang LaSalle, foreign buyers made up 18.3 percent of total single-asset office building sales in Washington, D.C. during the year[3].

Venture Capital Investment

The Washington metropolitan area's mix of skilled labor, highest median family incomes, the presence of the federal government, and technology infrastructure has made the region attractive for venture capital investment. The Martin Prosperity Institute ranked the WMA 10th among major U.S. metro areas for venture capital investment in 2013.[4] The region has averaged 4.5 percent of total venture capital invested in the nation between 1995 and 2013.[5]

Figure 21: Map of Venture Capital Investment by Metro for 2013



Source: http://www.citylab.com/work/2013/06/americas-top-metros-venture-capital/3284/

Industry-level data regarding venture capital investment are not available at the metropolitan level; they are reported at the state level. A recent report by PricewaterhouseCoopers (PwC)

1 http://www.forbes.com/2009/01/21/investment-obama-realestate-forbeslife-cx_mw_0121realestate.html
2 http://www.bizjournals.com/washington/breaking_ground/2014/01/foreign-investment-drove-majority-of.html
3 http://www.costar.com/News/Article/Foreign-Investors-Account-for-60-of-DC-Office-Building-Sales/156331
4 http://www.citylab.com/work/2013/06/americas-top-metros-venture-capital/3284/
5 PwC/NVCA MoneyTree™ Report, Data: Thomson Reuters

tracked data for the "DC/Metroplex," which was defined to include the District of Columbia, Maryland, Virginia, and West Virginia[1]. This report concluded that 47 percent of the $467.8 million in venture capital investment in the DC/Metroplex between 2000 and June 2014 was directed towards software development activity. Other major categories of venture capital investment included networking and equipment (10.1 percent), IT services (9.1 percent), biotech (8.5 percent), and healthcare (7.7 percent).

Summary: The Region Has Yet to Develop a Post-Federal Financial System

The Federal government has historically done far more for the Washington region than just employing people: it has attracted corporations, funded infrastructure projects, and fueled a strong real estate market. As a consequence, the region never developed the networks of banks, venture capital, and philanthropic foundations that are common in most major cities and metropolitan areas. In this regard, Washington functions like a much younger city than it actually is.

The Federal government's reduced role in the region's financial picture has had two key implications. First, local and state governments have had to take the lead in funding major public investments, but there is no organized system for doing so; as a result, the planning and funding of major projects has proven to be very difficult and time consuming. Second, outside private investment in the region has been driven by the needs of Federal contractors and/or of companies that benefit from Federal investments in R&D. The region's ongoing ability to attract private investment will hinge upon the potential growth and commercial space needs of companies that may not have any connections to the Federal government.

[1] Definition based on PwC/NVCA MoneyTree™ Report, https://www.pwcmoneytree.com/

Trait 9. Government as Global Enabler

"Federal, state, and local governments have unique and complementary roles to play in enabling firms and metro areas to 'go global'."

Role of Federal Government Relative to Global Commerce

The United States government plays a key role in setting the parameters for international trade and governance. The history of trade legislation in the U.S. reflects economic cycles and the political will of the administration in power. The Federal government has enacted trade acts over the last two centuries with various purposes and results which have both constricted international trade and opened new markets.

For the most part, the current regulatory environment in the U.S. surrounding global commerce is a liberal one: most trade policy agenda items reinforce a desire to further international agreements, dismantle trade barriers and move closer to a multilateral agreement envisioned by the World Trade Organization (WTO). Over the past 30 years the U.S. has formed a series of bilateral agreements and small scale multilateral agreements for both key economic and political reasons.[1] This pattern has been echoed around the world, as multilateral agreements have proven elusive, so global commerce is largely governed by bilateral trade agreements. The United States also enters into smaller level investment treaties (referred to as BITs or Bilateral Investment Treaties), Trade and Investment Framework Agreements (TIFA) and Generalized System of Preferences (GSP) to promote economic freedom, investment opportunities and forums for international discussion over international commercial issues.[2]

The Federal government's authority to negotiate and enter trade agreements is split among the executive and legislative branches of government. The president has the authority to enter into international agreements but for reciprocal trade agreements an implementing bill[3] is needed from Congress, so ongoing negotiations for proposed multilateral agreements such as the Trans-Pacific Partnership (TPP) and the Trans-Atlantic Trade and Investment Partnership (TTIP) will need to be approved by Congress before proceeding to ratification. Given the largely negative relationship between Congress and the Obama administration, it is unlikely that any new major trade agreements will be approved before the end of 2016.

The United States Trade Representative (USTR), an Executive Branch official, issues an annual report on the President's Trade Agenda, which lays out the administration's goals for the Federal government's involvement in global commerce.[4] Recent trade policy actions include entering into negotiations for the Trade in Services Agreement (TiSA) which is a multilateral

[1] Bilateral agreements include: Israel, Jordan, Chile, Singapore, Australia, South Korea, Morocco, Bahrain, Oman, Peru, Colombia, Panama; Multilateral agreements include NAFTA(Canada, Mexico, US), DR-CAFTA(Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, US)

[2] To read more about these programs visit http://www.ustr.gov/trade-agreements/wto-multilateral-affairs

[3] Cooper, W. (2013) Trade Promotion Authority and the Role of Congress in Trade Policy. CRS http://fas.org/sgp/crs/misc/RL33743.pdf

[4] For full report see http://www.ustr.gov/about-us/press-office/reports-and-publications/2014-0

agreement (negotiations have included 24 nations) focused entirely on the role of service trade in the global economy. The President also has called for Trade Promotion Authority (TPA) from Congress which will give more power and control to the executive branch over trade negotiations and enactment.

The Federal government also has the ability to investigate trade disputes between privately held companies and foreign nations. So called "trade wars" often erupt due to these investigations where the nation accused of violating international agreements or dumping retaliates by limiting US entry into their markets. Most recently a trade war has slowly been building due to cyber-espionage accusations and could possibly harm the IT industry, one of metro Washington strongest sectors.[1]

Washington, DC is the focal point for trade-related activity in the U.S. and thus comes under scrutiny for economic policy shifts that impact the global economy. Trade investigations by the U.S. government can be publicized globally, which may do harm to Washington's attractiveness as a global commerce hub. Immigration policy is another key aspect of the government's role in global commerce. Attracting and keeping international talent is directly linked to the government's policies on high-skilled labor in fields such as IT, engineering and other key STEM sectors. For this reason, the current deadlock in Congress over immigration policy has been detrimental to Washington's ability to maintain a skilled workforce.

The presence of global governance organizations that directly deal with international commerce issues such as the World Bank, the International Monetary Fund (IMF), and the Inter-American Development Bank (IDB) elevate Washington in its role in global commerce. These multi-national entities, which provide funding for central government investments around the globe, are based in Washington because it is the center of American political power. As they are essentially instruments for the underwriting of public investment projects, though, they are not directly part of the international investment marketplace. The government's role in global commerce is both to increase the competitiveness and openness of markets but to also protect domestic interests. A fine balance must be achieved to do both at the same time.

Business and Capital Attraction: State Level

The Commonwealth of Virginia promotes itself as a "Gateway for Global Enterprise" and is home to more than 700 internationally held companies as of 2014.[2] Virginia was recently ranked in Forbes magazine as the best state for business due to a variety of factors, including labor supply, regulatory environment and quality of life, though it did not rate as highly for business costs (22nd) or growth prospects (17th).[3] Over the past ten years Virginia has attracted 34,000 jobs from international companies, producing $5.6 billion of investment in the state.[4] The largest international investments between 2009 and 2013 came from Germany, France, UK,

[1] Regan, Trish. (2014) The NSA and Dangers of A Trade War with China. USA Today http://www.usatoday.com/story/money/business/2014/06/08/trish-regan-china-trade-war/10072969/

[2] Global Focus http://www.yesvirginia.org/GlobalFocus

[3] For complete list see http://www.forbes.com/best-states-for-business/list/

[4] http://www.yesvirginia.org/GlobalFocus/Gateway

Japan and Canada.[1] The Virginia Economic Development Partnership (VEDP) recently launched "Going Global," a $2 million campaign aimed at helping small- to medium-sized companies located in Virginia gain better access to global markets.

Virginia's trade-related employment grew four times faster than total employment from 2004 to 2011, and foreign-owned companies now employ 140,800 workers directly across a variety of industries.[2] The top employment sector for foreign companies in Virginia is manufacturing, followed by retail trade. The largest foreign-owned company contingent comes from the United Kingdom. Virginia, Maryland and West Virginia all have between 4.0 and 5.2 percent share of private employment in foreign-owned enterprises (FOEs). This is less than other nearby states such as Pennsylvania, Tennessee, Kentucky, North Carolina, Delaware, and New Jersey, where FOEs account for between 5.2 and 8.5 percent of private employment.[3]

Maryland takes a similar marketing approach as Virginia, calling itself the nation's "Global Gateway"[4], and highlighting its east coast location and proximity to Washington DC. About 500 internationally owned companies operate in Maryland and account for 105,500 employees.[5] The Maryland Department of Business and Economic Development (DBED) oversees international marketing for the state and offers programs targeted to such foreign-owned companies. The state has created "MaryLand of Opportunity" as a brand to represent the resources Maryland has to offer. This advertising campaign has focused on prominent Maryland businesses to promote the advantages of doing business in Maryland.[6] The paired website choosemaryland.org provides resources for all types of businesses with a subsection to support international companies, both those looking to relocate in Maryland and local companies looking to export.

In cooperation with the University at Maryland, the state offers an international incubator program that helps internationally based technology companies to enter the American market through Maryland. The International Advisory Council, created in 2009, is comprised of 20 business and public executives from a variety of strategic industries. The goal of this council is to provide the governor of Maryland with advice as to enhance to global profile of the state. Outward investment is also a part of Maryland's international investment strategy. By building a network of relationships in foreign markets, The Office of International Trade and Investment has connections in Asia, Europe, Africa and Middle East that can provide advice to Maryland based companies and further develop international relations between these places and Maryland.

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[1] http://www.yesvirginia.org/GlobalFocus/Gateway
[2] How Virginia's Economy Benefits from International trade and Investment. Business Roundtable.
[3] Saha, D. Fikri, K, and Marchio, N. (June 2014) "FDI in Metro US Areas: The Geography of Jobs in Foreign Owned Establishments," Brookings Institution p. 18
[4] http://business.maryland.gov/move/international-business-in-maryland
[5] http://business.maryland.gov/move/international-business-in-maryland
[6] State to Launch Next Phase of 'Maryland. Land of Opportunity Ad' Campaign, http://mdbiznews.business.maryland.gov/2011/03/31/state-to-launch-next-phase-of-maryland-land-of-opportunity-ad-campaign/

Global marketing initiatives by the District of Columbia are not as prevalent as for Virginia or Maryland. The two main programs offered by the Office of the Deputy Mayor for Planning and Economic Development (DMPED) are the DC China Center and the EB-5 program. The DC China Center is located in Shanghai, China and was established to help local businesses develop a commercial relationship between the District and China, helping DC businesses enter into China and encouraging Chinese FDI in the District. EB-5 is a federal program for immigration, not solely aimed at the District but encourages investment into the US by foreign individuals in return for an expedited immigration status.[1] Outside of these programs there is very little and no direct marketing campaign by the District of Columbia to attract international investors.

Maryland as a whole has attracted less foreign direct investment (FDI) and venture capital than Virginia and about the same as DC in the past 24 months. In 2013 FDI announcements and employment were approximately one-half of what Virginia had acquired in the year. In contrast to Virginia, Maryland is ranked 18th on the Forbes list and fell two spots from the previous year (2012) rankings. The biggest contrast is the ranking for regulatory environment: Virginia is ranked first in this category, but Maryland only ranked 40th.[2] Maryland is also ranked 42nd in the cost of doing business, as its business costs area about 10 percent higher than the national average. The District has recorded 29 separate major foreign investments in the past two years, supporting an estimated 2,142 jobs.[3] Maryland's FDI is centered on Baltimore whereas Virginia has seen a more distributed investment pattern between Richmond and the Northern Virginia area.[4]

Table 8: Foreign Direct Investment and Venture Capital 2013-2014

	Virginia	Maryland	District of Columbia
FDI Announcements	51	30	29
FDI Employment	4,623	2,394	2,142
FDI, in millions	$1,180.70	$712.20	$517.20

Source: fDiMarkets.com

A key reason for the high cost of business in Maryland is that its corporate tax rates are significantly higher Virginia's rates. The top corporate tax rate for Maryland is 8.25 percent across all levels of income while Virginia's corporate tax rate is 6.0 percent, though Virginia has an additional gross receipts tax.[5] The District of Columbia has a maximum corporate tax rate of

[1] http://www.uscis.gov/working-united-states/permanent-workers/employment-based-immigration-fifth-preference-eb-5/eb-5-immigrant-investor
[2] This measures regulatory factors influenced by the government. For a complete listing of methodology see http://www.forbes.com/sites/kurtbadenhausen/2013/09/25/best-states-for-business-2013-behind-the-numbers/
[3] fDimarkets, District of Columbia http://www.fdimarkets.com/explore/?p=country
[4] Virginia destination cities http://www.fdimarkets.com/explore/?p=country
[5] Tax rates for 2014 http://taxfoundation.org/article/state-corporate-income-tax-rates

9.975 percent, higher than either surrounding state.[1] DC also has high income tax rates for high-income households: DC's top tax rate is 8.5 percent for those making over $350,000. By contrast Virginia's personal income tax rate is 5.75 percent for all earnings above $17,000 and Maryland's top tax rate is 5.75 percent for those earning above $300,000.[2]

Business and Capital Attraction: Local Level

The District of Columbia is in a unique position in its relation to the Federal government compared to many other global capitals. While the District's Home Rule charter allows certain powers of government to be overseen by local officials, Congress retains significant control over the District, including the power to overturn any local laws and excises. Having both a local government and the Federal government overseeing operations can open certain areas of commerce through increased opportunities, but can also hamper investment activity by adding an extra layer of regulation and unpredictability.

Within Virginia, Fairfax County is the most active jurisdiction and is a leading hub for international business activity: of the estimated 700 foreign-owned firms in Virginia[3], nearly 400 are located in Fairfax County, and these are owned by firms from 42 different countries.[4] The Fairfax County Economic Development Authority has offices in Bangalore, London, Munich, Seoul and Tel Aviv to further the county's presence and reach in the global marketplace.[5]

Arlington County has a less directed approach to global businesses than Fairfax County but is still a major attractor for many global businesses. Arlington Economic Development's Business Investment Group (BIG) works to attract businesses to the area and support the decision to move to Arlington through a variety of resources. "Think Arlington" is a major initiative by the county to attract new businesses by marketing its human capital as its most valuable resource.[6]

Loudoun County markets itself as a leading destination for data centers and IT companies, and is home to 85 foreign-owned firms. The county's main attractions are Washington Dulles International Airport and its technology infrastructure. After Fairfax County, Loudoun County has the most directed approach to attraction of international companies and creating a global image in Northern Virginia.[7]

Prince William County has identified five target markets of businesses most suited to do business in Prince William. Prince William highlights its location along major transportation

[1] DC has a franchise tax rate is 9.975% of taxable income, a 9.5% base rate plus a 5% surtax on the base rate as well as $250 minimum tax, if DC gross receipts are $1 million or less or $1,000 minimum tax, if DC gross receipts are less than $1 million
[2] http://taxfoundation.org/blog/top-state-income-tax-rates-2014
[3] http://virginiascan.yesvirginia.org/International/IntlOwned/table.aspx
[4] http://www.fairfaxcountyeda.org/sites/default/files/pdf/facts_international.pdf
[5] See more at http://www.fairfaxcountyeda.org/our-global-presence
[6] http://www.arlingtonvirginiausa.com/major-initiatives/think-arlington/
[7] http://www.biz.loudoun.gov

routes, highly educated workforce and standard of living/quality of life as major reasons to relocate are start a business in the area.[1]

The City of Alexandria has no direct marketing campaign to attract global businesses but is focused on the tourism trade and attracting international visitors.[2] The remaining jurisdictions in Northern Virginia have limited capacity for marketing to global audiences.

The major Maryland jurisdictions each have significant efforts aimed at attracting international investment. Prince George's County offers a variety of international services for local companies, and emphasizes relationships with Africa. The county operates an Africa Trade Office to facilitate commerce between the area and business opportunities in Africa. Many of the other services Prince George's county offers are directed at exporting businesses in the county with very little with the direct attention for attracting international investment.[3] The University of Maryland's main campus is located within Prince Georges County and is a main source of innovation and international presence in the county.

Montgomery County claims to be the "economic engine of Maryland" and is an epicenter for biotechnology companies in the Mid-Atlantic region. The county's Department of Economic Development highlights the county's R&D, technology, and educational resources as key components of its appeal.[4] Montgomery County offers targeted assistance to new or relocating businesses. The county offers specific international business relocation services to aid in foreign firms finding a suitable location for their business, but does not actively conduct overseas marketing on the scale of other jurisdictions in the region.[5]

Role of Public Universities

The two predominant public universities in the Washington metro area are the University of Maryland and George Mason University. These universities, which have a combined enrollment of about 70,000 students, contribute to the global attractiveness of the region. These universities are intrinsically tied to government programs and have various outlets that enable global commerce to occur in the region.

The University of Maryland (UMD), located in Prince George's County, has a core mission of being a premier innovation and entrepreneurship institution.[6] UMD is the Maryland's largest public university patent holder and in the top ten of all patent holders in the state.[7] The Office of Technology Commercialization manages the commercialization process and facilitates startups that utilize university resources to then benefit the economy locally and for the State

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[1] Data and IT, Government, BioTech, Headquarters, and High Tech firms are the key markets for PW County. http://www.pwcecondev.org/AboutPWC/TargetMarkets.aspx
[2] For Alexandria's visitor portal see more at http://www.visitalexandriava.com/
[3] Virtual Trade Room, Export Processing Zones, IBSAC are export minded services offered by PG County
[4] http://www.choosemontgomerymd.com/index.php#.U9vRT_ldWmQ
[5] http://www.choosemontgomerymd.com/resources/international-businesses/#.U9vR-vldWmQ
[6] http://www.innovation.umd.edu/
[7] http://www.otc.umd.edu/about/mission

of Maryland.[1] UMD also has global entrepreneurship partnerships with China and Israel and its Dingman Center for Entrepreneurship offers opportunities for global collaboration on innovative product ideas.[2] There is also an international incubator program at UMD in conjunction with the state's Department of Business and Economic Development. This program seeks to encourage joint ventures with technology-based companies interested in the US market. There are 13 companies currently participating in this program.[3]

George Mason University (GMU), Virginia's largest public university, is based in Fairfax County but also has campuses in Arlington and Prince William Counties. GMU contributes to the global economy through its Office of Research and Economic Development, which includes the Mason Enterprise Center, an incubator and training resource for small and/or start-up businesses in Northern Virginia. A variety of programs, such as the International Business Development program, seek to assist small- and medium- sized enterprises in the information technology sector for the international marketplace.[4]

Summary: State and Local Governments Must Leverage Shared Resources

The actions of the Federal government set the tone for international investment in the U.S. Trade disputes can bring negative attention to Washington and damage its global image. Recent multilateral negotiations with Europe and Pacific Rim countries are encouraging for greater access and openness of the global economy, but are unlikely to be realized in the immediate future due to partisan gridlock in the Federal government.

Business and capital attraction activities vary greatly among the many jurisdictions in the Washington metro area. There is presently no mechanism for marketing the entire region to the world; the Greater Washington Initiative (GWI) used to fulfill elements of this role, but there has never been an organization on a par with the regional economic development groups found in Denver, Cincinnati, or Minneapolis.[5] The District of Columbia does little to market itself as a global commerce hub, while Maryland and Virginia often compete with one another for the same potential investments. Individual city- and county-level jurisdictions have uneven levels of marketing programs for international development, with Fairfax County well ahead of any other jurisdiction in both its level of effort and its success rate. While the region's two major public universities do provide support for global development, they do not collaborate for this purpose, and neither institution serves the District of Columbia.

In short, the Washington metro area's sub-areas are engaged in an ongoing turf war over international businesses and investments. Each state and locality offers different incentives, tax structures and technical assistance programs, with little to no coordination amongst them. Stronger regional cooperation would greatly improve the region's ability to compete on the global stage, an outcome that would benefit all state and local jurisdictions.

[1] Mission Statement http://www.otc.umd.edu/about/mission
[2] http://umddingman.wordpress.com/tag/china/
[3] See http://www.mi2.umd.edu/
[4] http://research.gmu.edu/about.html
[5] See Part II of this report for details on these and other regional development initiatives in other US metro areas.

Trait 10. Compelling Global Identity

"Cities must establish an appealing global identity and relevance in international markets not only to sell the city, but also to shape and build the region around a common purpose."

Image and Brand of the Washington Region

The sources of the Washington region's attraction to businesses and investors are clearly understood by the region's public and private sector leadership. The "Economy Forward" report issued by the Metropolitan Washington Council of Governments in 2012 articulates five key components of the region's appeal: educated workforce, entrepreneurial climate, international connections, transit-oriented activity centers, and Federal government access.[1] However, the very same report acknowledged that the region has struggled to communicate these assets to the world and that the region's historical "government town" status persists.[2]

Beyond the strong association with the Federal government, Washington's brand is further challenged by its portrayal in popular culture. The city has long been depicted in movies and television shows as a den of corruption where life centers on nothing but politics. This narrative has been prevalent for decades: "Mr. Smith Goes to Washington," the quintessential Hollywood takedown of cynicism and corruption in the capital city, was released in 1939.[3] The negative image of Washington in mass culture has only expanded over the years. According to movie critic Mike Canning, "Many, perhaps most, Washington-themed movies feature political themes and characters, and the predominant spirit for years has been a depressing sourness about all things political."[4]

Negativity about Washington's political scene—and its confusion with the entire city and region—has permeated popular culture. Most recently Mark Leibovich's bestselling 2013 book, *This Town*, presents a scathing account of the money- and power-hungry players in Washington's political and social arenas. Though Leibovich's portrayal of Washington is very much in line with how the city has been presented to the world for generations, it is a story about an increasingly small portion of the city's culture. As one local journalist observed, *This Town* "is a book about Washington, D.C. [but]…not necessarily about where you and I live."[5]

The identity of the "real Washington" is less clear to those who live in the area, a fact illuminated by a 2010 survey of the region's residents. This survey asked residents to identify "the most unifying factor for the Metropolitan Washington region…that is, the one which most symbolizes or brings together the region as a whole." The two most common responses by a

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[1] "Economy Forward," Metropolitan Washington Council of Governments, September 2012, http://www.mwcog.org/uploads/pub-documents/oV5dXFc20120912132659.pdf

[2] Ibid., p. 19.

[3] http://www.imdb.com/title/tt0031679/

[4] http://www.beliefnet.com/columnists/moviemom/2013/06/interview-mike-canning-of-hollywood-on-the-potomac.html

[5] Tischler, G. (2013), "'This Town' is in Our Town, Just Not Where We Live," *The Georgetowner*, July 22, http://www.georgetowner.com/articles/2013/jul/22/town-our-town-just-not-where-we-live/

wide margin were Metrorail (36 percent) and the Federal Government (32 percent).[1] Residents did not feel that things that often knit other regions together had the same effect in the Washington area: only 13 percent felt that the region's sports teams were the central unifying factor, and just three percent felt that way about the Smithsonian museums. The fact that region is best represented to its residents by its transit system and the national government shows that residents do not generally feel like they are part of a unified regional experience.

A related issue is the lack of a distinct "brand" for the city or the region. Whereas New York is known as "The Big Apple," Los Angeles is "City of Angels" or "Tinseltown," and Chicago is "The Windy City," Washington has historically only been known as "The Nation's Capital," an identity that only serves to reinforce its official orientation, and has little cachet with the region's residents. The closest approximation of a nickname for the region is "The DMV," a recently coined term that refers to the region's three jurisdictions (DC, Maryland, Virginia), that has caught on to some degree within the region, but is hardly known outside of it.[2]

Sub-Regional Identities

The absence of an overarching regional identity is further complicated by the varied—and fluid—images of the region's individual jurisdictions. The City of Washington itself has had many nicknames over the years, which range from sarcastic ("City of Magnificent Intentions") to defiant ("Chocolate City") to outright negative ("Murder Capital").[3] The city's complicated nature is perhaps best illustrated by the slogan on the license plates of its vehicle owners: "Taxation Without Representation," a reference to the fact that District residents do not have a voting representative in Congress.[4] More recently, the District's government has adopted the term "One City" to reflect its commitment to improving all eight wards of the city[5], but this approach explicitly excludes suburban areas.

The region's suburban jurisdictions have cultivated a range of identities as part of their marketing and development activities (see Trait 9, pp. 63-64). These are summarized below.

- Arlington County: "At the intersection of business | technology | culture | diversity"
- City of Alexandria: "Ideal: Assets, Access, Atmosphere"
- Montgomery County: "Locate. Innovate. Accelerate."
- Prince George's County: "Primed for Business"
- Fairfax County: "The Power of Ideas"
- Loudoun County: "Where Tradition Meets Innovation"
- Prince William County: "Where Technologies Converge"

In considering all of these marketing slogans, there are three recurring themes: innovation, lifestyle, and accessibility. With the exception of the generic tagline used by Prince George's

[1] "Results of a Survey of Residents in the Washington Metropolitan Region," Frederick Polls, March 2010.
[2] http://www.washingtonpost.com/wp-dyn/content/article/2010/07/29/AR2010072905868.html
[3] http://en.wikipedia.org/wiki/Nicknames_of_Washington,_D.C.
[4] http://dmv.dc.gov/node/156462
[5] http://ocap.dc.gov/

County, all of the others emphasize some combination of these factors. While each jurisdiction's marketing pitch was produced independently, the cumulative—and presumably unintended—result of all of these image-making efforts is that the region is already communicating a fairly unified and coherent image to the world.

Summary: Collaboration is Needed to Overcome Negative Images

Throughout its history there has been little distinction among either national or global audiences between the "Washington" inhabited by politicians, lobbyists, and diplomats, and the Washington that has become a major metropolitan area with a diverse economy and a range of economic and cultural opportunities. The persistence of Washington's negative image has been consistently reinforced by its portrayal as a city consumed by the power and corruption of the Federal government.

In order for the region's leaders to take steps towards overcoming this lingering image problem, collective action will be needed. The need to develop a "regional brand" was one of the core recommendations of MWCOG's "Economy Forward" report.[1] The creation of a regional brand is a difficult task, though, and one that is fraught with danger. For every branding success story such as "I♥NY" or "What happens in Vegas stays in Vegas," there are dozens of examples of branding campaigns that produced little to no results.

In Washington's case there is reason for optimism. The fact that so many major jurisdictions are already promoting similar assets and competitive advantages reinforces the region's appeal to the global business and investment community. The challenge will be to find a way to encourage the entire region to collaborate for mutual benefit.

[1] "Economy Forward," op. cit., p. 24.

The Washington Metro Area: A Global Fluency Scorecard

The following matrix summarizes the Washington metro area's global fluency relative to the 10 Traits of Globally Fluent Metro Areas. For each trait the matrix displays the region's positives and negatives, a summary statement, and an assessment of whether the region's current status relative to each trait is positive (**+**), negative (**-**), or mixed (**?**). This "scorecard" is meant assess where the region stands relative to the overall global development situation, and not to compare it with other regions.

	Trait	+	-	Summary	Status
1.	Leadership with a Worldview	• Foresighted regional planning organizations • Strong public universities • Federal investment in advanced technologies	• Legacy of weak/corrupt local government • Most authority at local level • Inward focus of business community • No regional public-private development groups	Global orientation of region's leadership is just starting to emerge. Local focus makes regional leadership very difficult.	**-**
2.	Legacy of Global Orientation	• Federal government has always made Washington a global city • Rapid increase in foreign-born residents since 1970 • Museums and cultural attractions are international destination • Federal government has attracted global business base	• History as bi-racial city with few international immigrants • Lack of manufacturing economy limited trade relations with world • Federal government expansions have stunted growth of private economy • Outward expansion has diluted role of Washington DC in larger region	Washington is very well established as a hub of government and tourism, but remains oriented to Federal government. Global orientation will depend on the nature of future business and land development patterns.	**+**
3.	Specializations with Global Reach	• Unparalleled access to the Federal government • Highly skilled labor force, especially in knowledge industries • Strong technology infrastructure and entrepreneurial climate • Excellent global and cultural connections	• Region remains very sensitive to Federal cutbacks • Very weak existing base of export activity • Leadership structure remains mainly oriented towards the Federal government	The region is highly specialized in knowledge and tech-based fields, but is equally specialized in low-wage service occupations. All key competitive advantages remain related to the Federal presence.	**?**
4.	Adaptability to Global Dynamics	• Federal influence has always made the region adaptable • The region has always flourished during periods of crisis • Changes over time have produced a strong base of jobs and human capital in knowledge and tech industries	• Evolutions have been a byproduct of Federal decisions with no local plan. • The post-9/11 period of Federal expansion has drawn to a close.	The region has long been out in front of global change as a result of the strong Federal influence on its economy and workforce. With the Federal government's role decreasing, though, concerted local efforts are needed to maintain this advantage.	**+**

	Trait	+	-	Summary	Status
5.	Culture of Knowledge and Innovation	• Strong labor force participation and education attainment • Very strong concentration of R&D activity • Region attracts well educated in-migrants	• Federal government still attracts best educated workers • R&D and patents are heavily driven by Federal spending • Training shortfall requires importing of skilled workers in most professional fields	The region has a highly skilled labor force and a robust base of R&D activity, but it still revolves around Federal activity. The regional educational system does not meet demand for skilled workers.	?
6.	Opportunity and Appeal to the World	• US image remains strong with global capital markets • Decreasing racial/ethnic segregation within the region • Significant existing base of international students • Good transportation access	• Negative views of US government are on the rise in past decade • Residential segregation persists in parts of the region • Region is not a major destination for international business travelers	The region's image in the world remains mostly positive and Washington is seen as being open to the world, but it is not a major attractor for global business travel.	+
7.	International Connectivity	• IAD is major international airport; Silver Line will be big boost to connectivity to city • Ports of Virginia and Baltimore are poised for strong growth	• Road connections to and from IAD are challenged by traffic congestion • Washington is not a major player in air cargo or global shipping arenas	IAD has growth potential, and Silver Line will greatly improve its appeal. The region is unlikely to grow its shipping or cargo activity in the future.	?
8.	Ability to Secure Investment for Strategic Priorities	• Region has used innovative approaches to fund investments • Localities have leveraged assets to attract corporations and private investments • Good base of foreign investment, particularly in real estate	• Federal government can no longer be counted upon to fund projects • Complicated, politicized processes for funding public investments • Modest base of local financial and philanthropic institutions • Foreign investment has little impact on employment.	The region's financial system remains deeply dependent on the Federal government. New public investments require creative, often heroic efforts. Funding networks lag well behind other major U.S. metros.	-
9.	Government as Global Enabler	• U.S. trade policies are largely positive towards global commerce • Global development banks in Washington provide access to international markets • Region is attracting significant amounts of FDI and international VC funding • Public Universities have a range of global development initiatives	• Gridlock in Federal government harms overall global trade situation • Concerns over Federal espionage and immigration policies hamper high-tech industries • Uneven taxation and regulatory situations among states • Localities compete with one another for international investment, with virtually no regional cooperation	Federal improvements to trade policy are unlikely, so it is up to state and local governments to step up. Leveraging existing resources and collaboration will be essential.	?

	Trait	+	-	Summary	Status
10.	Compelling Global Identity	• The region's appeal to business and investment is clear and already well understood • Local brands reinforce themes of innovation, lifestyle, and accessibility	• Region has failed to combat lingering negative images of Washington internally or externally • Washington lacks a distinct brand apart from "The Nation's Capital" • Jurisdictions have not collaborated to build common identity	The region's global image remains negative and is largely tied to "official Washington." While there is consensus about the region's strengths, collaboration and better communication are necessary.	-

Part II
Best Practices in Global Competitiveness Initiatives

This section profiles initiatives being undertaken by other U.S. metropolitan regions to improve their competitiveness in the global economy. These case studies include a mix of comprehensive regional economic development/marketing efforts and specific development initiatives or projects. Some of the efforts profiled here have been active for decades, while others are in their early stages. The two goals of this section are: 1) to document information about what Washington's competitors are doing; and 2) to determine the characteristics of successful (and unsuccessful) global development initiatives.

The following 12 case studies were profiled:

1. Atlanta Aerotropolis Alliance
2. Charlotte Regional Partnership
3. World Business Chicago
4. Regional Economic Development Initiative (Cincinnati)
5. Fund for Our Economic Future (Cleveland)
6. Metro Denver Economic Development Corporation
7. Minneapolis-St. Paul Regional Economic Development Partnership
8. Applied Sciences NYC (New York)
9. Pittsburgh Regional Alliance
10. Research Triangle Regional Partnership (Raleigh-Durham)
11. Trade Development Alliance of Greater Seattle
12. Joint Venture: Silicon Valley

A summary of findings from the case study review follows. Full case study profiles are contained in Appendix A.

Background and Establishment of Organizations

Each of the 12 profiled organizations can trace its existence to a specific issue in the regional economy. Most of the organizations were formed in response to a period of crisis in the regional economy; this is true of Chicago, Cincinnati, Cleveland, Denver, Minneapolis-St. Paul, Pittsburgh, Raleigh-Durham, Seattle, and Silicon Valley. Charlotte's group was created at the beginning of a growth cycle as a means of harnessing the burgeoning power of the region's financial industry in the early 1990s. The remaining groups were founded to address a specific shortcoming in an otherwise healthy regional economy: the high-tech workforce in New York and the underdeveloped airport area in Atlanta.

One commonality among all 12 organizations is the role of strong and decisive leadership in their establishment, though the nature of the leadership varied greatly among the regions. Most of the groups were formed primarily under the auspices of existence business groups, typically Chambers of Commerce, though individual private sector leadership was key in Charlotte, where the presidents of its two predominant banks were instrumental in forming their group. The groups in Chicago and New York both came about as a direct result of actions taken by their former mayors (Richard M. Daley and Michael Bloomberg), both of whom utilized their substantial political capital to further their efforts. In Cleveland, where there is a very strong core of charitable groups dating from its heyday as a manufacturing center, the leaders of its major philanthropic organizations were the driving force. Atlanta is an interesting case, in that the groundwork for the Aerotropolis Alliance was built by a public sector planning effort, but the impetus for actually launching the organization was the decision by Porsche to invest $100 million to move its North American headquarters to the airport area.

Funding and Governance

All of the profiled initiatives are true public-private partnerships, with both funding and management occurring with participation from local government, business, and institutional entities. All but one of the initiatives is overseen by an independent Board of Directors, and each of these boards includes both public and private representation—the exception is New York, as its initiative is part of the much larger New York City Economic Development Corporation, which has its own Board of Directors. Many of the organizations have large boards that include representation from their entire membership; for these groups the boards only meet a few times each year, with an Executive Committee overseeing day-to-day staff activities.

Though each of the initiatives draws participation and funding from public sources the balance between public and private roles varies. In Chicago and New York, the city government funds and staffs the initiatives, with private sector involvement coming either in an advisory capacity, either formal (Chicago) or informal (New York). In Pittsburgh, where the parent organization dates back to the 1940s, city and county governments play a leading role. Since many of the other organizations were originally part of regional business groups, they maintain largely private funding bases and some, including Cincinnati and Denver, share staff with regional Chambers of Commerce. Atlanta's initiative, which has yet to hire any employees, plans to share staff with two community improvement districts that will be the conduits for making infrastructure investments around the airport.

Most of the initiatives have dedicated staffing, with the majority having between 10 and 20 full-time staff members to carry out their duties. Funding levels vary, but the typical annual budget ranges from $3-5 million. Funding is most often obtained via some sort of membership program, as exemplified by Cincinnati, where members can join at one of six levels ranging from $1,000 to $100,000 in annual support, and benefits vary by funding level; the top funders gain access to trade missions, proprietary data, and other perks. Silicon Valley's initiative is unique in that it does not have a fixed level of support; instead, its annual "ask" depends on the organization's needs for the upcoming year.

Global Development Initiatives

Given the varied nature of the profile organizations and the regions they represent their specific global development activities are quite varied. At one end of the spectrum is Cleveland, where the Fund for Our Economic Future does not directly engage in much global development work, and instead provides information and strategic grant funding to other groups that do operate in that space. Several regions take a far more aggressive role by leading frequent overseas trade missions, dialogues, and collaborative relationships. Some of the more aggressive groups are in Cincinnati, Denver, Raleigh-Durham, and Seattle. Others such as Pittsburgh and Silicon Valley concentrate on building relationships and sharing information among the region's business and civic leaders that allow them to be more competitive in the global marketplace.

Several of the organizations have all been able to leverage their native knowledge bases and personal/business connections for the betterment of the region. Regions with deep cultural ties to other countries have been able to parlay those relationships into investments. Chicago (Greece, Poland, Mexico) and Seattle (Japan and China) have been particularly effectively at this approach. Others have worked to build relationships as a means to generate future economic activity. One example of this is in Denver, where an aggressive effort was made over several years to secure nonstop air service to Tokyo; when this was finally accomplished in 2012, it opened the door for additional trade opportunities in Japan. Another is in Raleigh-Durham where the development group helped start a global "cleantech" organization and has used this as a platform for ongoing activities.

In spite of the broad range of activities and levels of effort, the common thread among these groups is that they do not try to be all things to all people. Most of the groups began their work with strategic plans that recommended focusing on a few key industries in which the region had competitive advantages, and have then built their marketing efforts around those industries. Some, like Cincinnati and Pittsburgh, have decided to de-emphasize outside marketing and instead concentrate on linking existing companies in the region with global markets. The most targeted effort is in Atlanta, where its early work is aimed at improving the physical environment around the airport so that it becomes a more attractive environment for prospective companies and investors.

Outcomes and Lessons

The results of the global competitiveness initiatives undertaken in other U.S. regions are not necessarily easy to measure or explain. Before most of these groups existed, some of their functions were already being carried out by individual jurisdictions and/or by private sector groups. As such, it can be difficult to determine whether or not the economic growth that has occurred in a given region would still have occurred if there had not been a strong, region-wide entity in place. Regardless of their histories or their actual performance, each of these organizations shares a commonality: a long-term commitment by all partners to the betterment of the region.

Perhaps the most useful way to examine how these efforts have succeeded or failed is to consider whether or not they have been able to overcome the historic intra-regional conflicts between the public and private sector and between individual jurisdictions. There are many success stories. Raleigh-Durham has maintained an ethic of what they call "collaboratition" since the 1950s. In Denver, business leaders convinced elected officials in the central city and in suburban areas that they needed each other in order to prosper, and have built a culture of cooperation. In Silicon Valley, the ongoing relationships among business, government, and nonprofit leaders have produced a shared culture that merges all three sectors. Cleveland's leaders were successful in convincing the leaders in Akron, Canton, and Youngstown that the whole larger region needed to come together to combat their shared long-term declines.

On the flip side, even the best efforts of regional-level groups have not always been able to overcome some of the outside issues that challenge metro areas. State-level issues often complicate matters. In Charlotte and Raleigh-Durham, a recent move to create a private, statewide marketing group is challenging the organizations' abilities to carry out their work. In Atlanta, a longstanding mistrust between city and state governments has frustrated regional economic development efforts: the Aerotropolis Alliance represents a small first step in that direction. The structures of these organizations can also be problematic. In Chicago, there have been allegations of private-sector board members using knowledge obtained from participating in the organization for personal gain. In Minneapolis, the regional group has been criticized by some of its local members for taking undeserved credit for economic development victories.

Part III
The Washington Region's Competitive Position

Overview and Purpose

This section presents a series of benchmark indicators that illustrate the Washington region's current and past performance relative to other major U.S. metro areas. These indicators compare and rank Washington with its peer regions. This information is intended to supplement the review of the Washington region's global fluency presented in Part I and to provide a baseline for measuring future progress.

Indicators are presented and analyzed for the 20 largest metro areas in the U.S., in terms of the total number of jobs as of 2013. The Washington metro area currently ranks as the country's fifth largest by this measure, having been surpassed by Dallas-Fort Worth in November 2012 (Table 9).

Table 9. Metropolitan Areas, Ranked by Total Employment
2013 Annual Averages

Rank	Metro Area	Jobs (000)
1	New York-Northern New Jersey-Long Island, NY-NJ-PA	8,692.0
2	Los Angeles-Long Beach-Santa Ana, CA	5,566.8
3	Chicago-Joliet-Naperville, IL-IN-WI	4,439.1
4	Dallas-Fort Worth-Arlington, TX	3,089.8
5	**Washington-Arlington-Alexandria, DC-VA-MD-WV**	**3,079.0**
6	Houston-Sugar Land-Baytown, TX	2,788.4
7	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,748.6
8	Boston-Cambridge-Quincy, MA-NH	2,554.0
9	Atlanta-Sandy Springs-Marietta, GA	2,404.9
10	Miami-Fort Lauderdale-Pompano Beach, FL	2,347.2
11	San Francisco-Oakland-Fremont, CA	2,103.9
12	Detroit-Warren-Livonia, MI	1,864.2
13	Phoenix-Mesa-Glendale, AZ	1,811.4
14	Minneapolis-St. Paul-Bloomington, MN-WI	1,796.4
15	Seattle-Tacoma-Bellevue, WA	1,784.6
16	Baltimore-Towson, MD	1,332.9
17	St. Louis, MO-IL	1,315.2
18	San Diego-Carlsbad-San Marcos, CA	1,312.0
19	Denver-Aurora-Broomfield, CO	1,294.1
20	Riverside-San Bernardino-Ontario, CA	1,226.4

Source: Bureau of Labor Statistics

A summary of benchmark indicators for each of these 20 metro areas is presented on the following pages. A full listing of benchmark indicators is provided as Appendix B.

Benchmarks: Washington vs. Top 20 Metros

No	Indicators	Washington MSA		Top Ranking MSA		Bottom Ranking MSA	
		Value	Rank	MSA Name	Value	MSA Name	Value
1	**Economic Dependency on Government**						
	Private sector jobs as % of regional jobs	77.7%	20	Detroit	89.9%	Washington	77.7%
	Private Sector as % of GRP	78.4%	20	Houston	93.6%	Washington	78.4%
2	**Population growth rates**						
	1950-1980	109.1%	10	Riverside	453.3%	New York	-29.4%
	1980-2010	82.4%	9	Miami	242.3%	Detroit	-1.3%
	2010-2013	6.0%	2	Dallas	6.5%	St. Louis	-1.4%
3	**Center city population as % of region**						
	1950	54.8%	11	Houston	73.9%	Riverside	12.3%
	1980	20.9%	16	New York	77.5%	Riverside	11.0%
	2013	10.9%	17	San Diego	42.2%	Miami	7.2%
4	**Professional & Business Services employment**						
	P&BS Emp. as % of Total	23.0%	1	Washington	23.0%	Riverside	10.8%
	P&BS Growth Rate, 2010-2013	3.9%	20	Houston	18.4%	Washington	3.9%
5	**Foreign-born residents (FBRs)**						
	Total FBRs (>1 Year)	1,289,610	7	New York	5,608,228	St. Louis	123,631
	FBRs as % of total pop. (>1 Year)	22.2%	7	Miami	38.2%	St. Louis	4.4%
	% of FBRs w/Bach. Degree (>25 Years)	40.8%	3	Baltimore	45.8%	Riverside	16.6%
6	**Foreign Owned Establishments (FOEs)**						
	% of Private Employment in FOEs	5.4%	10	Houston	8.0%	Phoenix	3.7%
7	**Exports ($Millions)**						
	Durable Goods	3,358.1	20	Los Angeles	38,247.7	Washington	3,358.1
	Nondurable Goods	2,065.5	16	Houston	38,445.9	Miami	1,458.5
	Energy & Natural Resources	248.2	17	Houston	3,688.7	Baltimore	117.0
	Services	16,117.5	5	New York	55,717.7	Riverside	4,720.7
8	**Educational attainment (Age 25+ only)**						
	% with Bachelor's Degree	25.0%	4	San Francisco	27.3%	Riverside	12.8%
	% with Grad./Prof. Degree	23.2%	1	Washington	23.2%	Riverside	6.8%
	% with Bachelor's or Higher	48.2%	1	Washington	48.2%	Riverside	19.5%
9	**Net in-migration of young adults (18-24, 25-29)**						

No	Indicators	Washington MSA		Top Ranking MSA		Bottom Ranking MSA	
		Value	Rank	MSA Name	Value	MSA Name	Value
	18-24 population, 2012	(27,780)	14	San Diego	5,460	New York	(72,730)
	25-29 population, 2012	6,160	3	San Francisco	7,820	Boston	(31,220)
10	**Segregation indices (100=completely segregated, 0=completely unsegregated)**						
	Black-White Index	62.3	10	Phoenix	43.6	New York	78.0
	Hispanic-White Index	48.3	7	St. Louis	30.7	Los Angeles	62.2
11	**International Travel**						
	Total Overseas Visitors	1,698,000	5	New York	9,579,000	Dallas	449,000
	International business travelers	104,000	11	New York	1,238,000	Seattle	99,000
	Total international boardings	3,525,626	8	New York	19,469,234	St. Louis	19,335
	Connectivity of Int'l Airport	1.5	15	Baltimore	5.0	Denver	1.0
12	**Financial Assets ($Millions)**						
	Regional community foundation assets	$368.4	15	San Francisco	$2,517.0	Washington	$368.4
	Deposits in financial institutions	$188,211	8	New York	$1,256,992	Riverside	$38,097
13	**Violent and property crime data per 100,000 Pop**						
	Violent Crime Rate	332.7	1	Washington	332.7	Baltimore	621.2
	Property Crime Rate	2,282.1	4	New York	1,704.5	Miami	3,929.7
14	**Income and Affordability**						
	Median Household Income, 2012	$88,233	1	Washington	$88,233	Miami	$46,648
	Affordability Index for SF Homes	147.1	11	St. Louis	269.6	San Francisco	72.6
15	**Diversity/acceptance rankings**						
	Diversity Index	80.8	11	San Francisco	85.3	Atlanta	72.9
16	**R&D Expenditures**						
	Fed. R&D Contracts (Place of Performance)	5,792	1	Washington	5,792	Miami	(29)
	Utility Patents (Innovation Patents)	1,790	13	San Francisco	6,468	Riverside	376
	Non-Profit University R&D	1,140	11	New York	3,450	Riverside	172

Data Sources by Item Number

1. Bureau of Labor Statistics and Bureau of Economic Analysis
2. Bureau of the Census
3. Bureau of the Census, Population Counts and Estimates
4. Bureau of Labor Statistics and Bureau of Economic Analysis
5. American Community Survey
6. Brookings Institution
7. Brookings Institution
8. American Community Survey
9. American Community Survey
10. University of Michigan Population Studies Center
11. National Travel and Tourism Office and Bureau of Transportation Statistics
12. Foundation Center and Federal Deposit Insurance Corporation
13. Federal Bureau of Investigation
14. American Community Survey and National Association of Realtors
15. US2010 Project
16. USASpending.gov, U.S. Patent and Trademark Office, and National Science Foundation

Summary of Findings

The unique nature of the Washington metro area is expressed by the extremes of its rankings relative to other U.S. major metro areas. Its highest and lowest rated benchmarks are explained below.

Washington's High Ranking Benchmarks

Among the 20 largest metro areas Washington ranks at the top in several benchmarks related to workforce, quality of life.

Professional and Business Services employment as % of total

The Professional & Business Services (P&BS) sector accounts for 23 percent of all jobs in the Washington area, ranking the region well ahead of its peers. This concentration can be attributed to the high concentration of Federal contractors, most of whom fall under this category, as well as to the region's limited employment base in Manufacturing or other industrial sectors.

Educational Attainment

The Washington region ranks first for the highest percentage of college graduates, as 48.2 percent of its adult population has at least a Bachelor's degree. The region also has the highest share of residents with graduate or professional degrees, at 23.2 percent. This high educational attainment is a function of the region's job base being oriented towards highly-skilled workers, Percent of Foreign-Born Residents with a Bachelor's Degree or Higher

The region's appeal to educated workers extends to the immigrant population as well. With 40.8 percent of the region's foreign-born residents having at least a Bachelor's degree, the Washington area ranks third. This high educational attainment is related to the base of embassies and international organizations, as well as the region's perpetual shortage of qualified workers for high-skill positions, which attracts migrants from around the world.

Net In-Migration of Adults Age 25-29

The Washington region remains a popular destination for young adults seeking career and lifestyle opportunities. While the region actually suffered a net loss of college-age adults (age 18-24) in 2012, it ranked third for attracting adults age 25-29, adding 6,160 in-migrants during that year. This ranks very slightly behind first place San Francisco, which attracted 7,820 in-migrants from this age group.

Crime Rates

The Washington area has the lowest violent crime rate among the top 20 metros, with just 332.7 violent crime incidents per 100,000 residents. This rate is nearly 50 percent below the violent crime rate in the Baltimore region, which has the highest rate. Metro Washington also has the fourth lowest property crime rate among the sample group, ranking 42 percent behind Miami.

Population Growth

From 2010 to 2013 the Washington region's population increased by 6.0 percent, ranking it just behind Dallas (6.5 percent) as the fastest growing major metro area. This increase was most rapid during 2010 and 2011, though, as the region's employment base was growing at a faster rate than it has during the past two years.

Median Household Income

Washington has the highest median household income level among the top 20 metros, with a figure of $88,233 as of 2012, nearly double last-place Miami's level of $46,648. This high level is a reflection of the region's economy, which is more geared towards higher-wage industries than other regions. The high income level is somewhat tempered by the region's higher costs of housing, though. Washington ranks 11th in terms of housing affordability, though, and is far more affordable than other high-cost markets like San Francisco or New York.

Federal R&D Expenditures

Washington ranks as the top metro area for the value of Federal R&D contracts, with $5.8 billion obligated to contractors in the region in 2013. This is not a surprise, given the dominance of the region in other types of Federal contracting. On the flip side, the region only ranks 11th in terms of R&D activity at its universities, and 13th for the number of innovation patents issued in 2011.

Washington's Low Ranking Benchmarks
Washington's weakest performance occurred for benchmarks that are related to private sector economic activity and the region's growth patterns.

Dependency on the Government
As would be expected, the Washington metro area is the most dependent of the top 20 metros on government employment and economic activity. As of 2012, the private sector accounted for 22.3 percent of the region's jobs and 21.6 percent of its total economic output, as measured by Gross Regional Product (GRP). The least government-dependent region is Houston, where private sector activity represents 93.6 percent of the economy as measured by GDP.

Center City as Share of Regional Population
In 1950, 55 percent of the region's population resided in the District of Columbia; by 2013, DC residents were only 10.3 percent of the regional population. This concentration ranks the region 17th, and only slightly ahead of Miami (7.2 percent), and well behind San Diego, where 42 percent of the region's residents live in the City of San Diego itself. It should be noted that the District is limited from expanding its boundaries through annexation, which is part of why San Diego and others have been able to grow at faster rates.

Professional & Business Services (P&BS) Growth Rate
The P&BS sector is the largest and highest-paying employment sector in metro Washington, and a major contributor to the region's high income levels. From 2010 to 2013, though, employment in this sector only increased by 3.9 percent, ranking Washington 20th by this measure. The region has simply not been able to overcome the negative effects of reductions to Federal contracting since 2010 have had on the P&BS sector. By comparison Houston had the strongest growth in P&BS jobs from 2010 to 2013, with an increase of 18.4 percent.

Exports of Goods and Resources
Washington's limited manufacturing economy translates to a weak base of exports. The region ranks last among major metros for durable goods exports, with a total export value of $3.4 billion in 2012; Los Angeles led this category with a figure of $38.2 billion. Washington ranks slightly better for nondurable goods (16th) and energy & natural resources (17th), but falls as far short of the leaders. Though Washington does rank fifth for the export of services at $16.1 billion, New York's service exports are more than three times higher at $55.7 billion.

Assets of Community Foundations
As noted in the 10 Traits section (Trait 8, p. 54), Washington does not compare well to other major metros in terms of the presence of philanthropic foundations. Among 15 metro areas for which information was reported about their core community foundations, the Community Foundation for the National Capital Region ranked last, with just $368.4 million in assets. By comparison, seven metro areas have community foundations with more than $1 billion in assets, and the community foundations serving the San Francisco, New York, and Philadelphia region's all have more than $2 billion in total assets.

Part IV
An Agenda for Global Fluency

The ability of the Washington DC Metropolitan Area to compete in the global marketplace is challenged by a variety of economic, political, and cultural forces. The George Mason University Center for Regional Analysis (CRA) reviewed the region's current position in regard to the "10 Traits of Globally Fluent Metropolitan Areas" as defined by the Brookings Institution, key benchmarks of economic performance, and global development activities in other U.S. metro areas. Through this research CRA has identified six critical issues that must be addressed in order to improve the Washington region's global fluency and, by extension, its competitive position in the global economy.

The following "Agenda for Global Fluency" outlines the core challenges that will confront the Washington metro area's government, business, and institutional leaders in the years to come. Each agenda item shares a common thread: unprecedented levels of effort and collaboration will be needed in order to secure the region's future economic prosperity.

Item #1: Explore Targeted Opportunities for Public-Private Partnerships
The most successful global development initiatives in other U.S. metro areas have all been products of partnerships among local elected officials and each region's business leaders, with most initiated by the private sector. In the Washington area the typical rivalries among local governments are exacerbated by the deep historic and cultural differences among the District, Maryland, and Virginia. As such, any region-wide development effort will most likely need to be spearheaded by the private sector.

Recognizing that the region's political environment is complex and contentious, the emergence of a comprehensive regional development effort in the model of the Metro Denver Economic Development Corporation or the Charlotte Regional Partnership is not likely in the short term. Instead, early efforts at public-private partnerships should focus on specific topics and/or geographic areas. Some models for targeted efforts include Applied Sciences NYC (developing STEM skills in the labor force), Trade Development Alliance of Greater Seattle (international commerce), and Atlanta Aerotropolis Alliance (airport-area development).

Item #2: Improve Connectivity among Business and Financial Communities
The Washington metro area is a globally connected region with a broad base of activity from foreign governments, NGOs, associations, and major international corporations. In spite of these connections companies involved in the region's business or financial spheres are still primarily oriented towards the Federal government rather than to one another. As a result the region's private sector has a largely vertical structure, within which each company is in contact with the Federal agencies with which it does business, but has few horizontal connections with other major businesses or investors.

At present, the future growth prospects of most corporations in the Washington region are tied to factors unrelated to the local economic or political situation: relationships with the Federal government, access to capital from other metro markets, connections with leading national universities to recruit graduates, or cultivating overseas markets. Growing the private sector economy within the Washington metro area will necessitate shifting the attention of the region's business leaders to resources located within the area.

A key challenge is the absence of a true region-wide platform for businesses to interface with one another, as well as with investors, higher education institutions, or local governments. The business groups and networks that do exist within the Washington metro area are limited by topic or geography, and have not succeeded at appealing to broader audiences.

There are many examples from other regions that provide insight into how to build up such networks. In Atlanta, discussions about airport-area development had been in progress for years, but did not take root until Porsche recognized the value of improving its new surroundings. In Cleveland the regional development organization is rooted in funding commitments from leading businesses and philanthropic organizations, and those who have made financial investments are more inclined to actively participate in ongoing initiatives. In Raleigh-Durham, the longstanding culture of "collaboratition" among the three leading universities has translated to the business community.

Item #3: Reinforce the Region's Competitive Advantages

At its very core regional development comes down to Economics 101: maximizing your competitive advantages. This lesson is clearly illustrated by the experiences of other regional groups. In Raleigh-Durham generic marketing approaches were discarded in favor of building around the region's advantages in R&D and technology industries: this has led to a decade of strong job growth in its core sectors. In Cincinnati, research documented that only 23 percent of job growth was from business attraction, so efforts were shifted to retention and expansion. Pittsburgh makes a special effort to identify companies that have already been growing within the region and help them connect with additional growth opportunities around the world.

The Washington region's competitive advantages were concisely documented in MWCOG's "Economy Forward" report, issued in 2012: educated workforce, entrepreneurial climate, international connections, transit-oriented activity centers, and Federal government access. Aside from the Federal government access, which is certain to remain, the other competitive advantages all require tending and each will require cooperation between the public and private sectors in order to be realized. More importantly, none of these advantages can be properly maintained at the local level—cooperation among the region's state and local governments will be essential to future efforts related to labor force, R&D, regulation, and infrastructure.

Item #4: Develop a Sustainable Funding Model for Infrastructure Investments

Perhaps the region's most vexing problem is the difficulty it has faced in securing funding for major investments in infrastructure projects. The region's major transportation systems were all largely built prior to 1980, and the overwhelming majority of the funding for these projects came from the Federal government. Since 1980, nearly all major transportation investments in the region have relied upon a combination of one-off political deals, creative financing approaches, and major compromises.

The Metrorail Silver Line is a perfect illustration of the shortcomings of the current process. It took decades to build, was scaled back to save money, was ultimately funded via a creative—and controversial—scheme, and was nearly scrapped at the last minute due to concerns about local funding. While Phase I of the Silver Line is now open and Phase II is under construction, there is still much more work to be done to improve the region's infrastructure. Future regional investments will cost billions of dollars, and major projects will still need to run the gauntlet of local and state government funding mechanisms in order to be realized.

The 2013 vote by the Virginia legislature to direct funding to the Northern Virginia Transportation Authority is a good step towards establishing a sustainable funding source for transportation. Still, this funding structure will only generate about $2 billion in revenue over a six-year period, and most of the projects it is funding are small and locally oriented. This clearly falls well short of meeting the needs of Northern Virginia, and it does not apply for projects in the District or Maryland. Providing sufficient funding for future investments in transportation and other infrastructure will require a broader vision and consensus that addresses the long-term needs of the entire region. Without this level of collaboration, each future project will prove more difficult to realize.

Item #5: Maximize Impact of Washington Dulles International Airport

A modern international airport with high-quality connections within the region and to the world is an essential ingredient for a globally fluent region. Since Dulles Airport opened in 1962 the region has taken many strides towards getting the most out of its primary airport. Road connections have been improved, airport terminals have been expanded and modernized, support services have been added, and a Metrorail extension to the airport is under construction. Over this period the region's center of gravity has continued to shift westward towards the airport: the corridor from Arlington to Leesburg via Tysons Corner, Reston, Herndon, and Ashburn has been the primary growth engine for the entire region for many years. The completion of the Silver Line should continue this trend well into the future.

Still, Dulles Airport remains a long way from fulfilling its potential. It is performing poorly in the U.S. market, as discount airlines operating from DCA and BWI have captured most of the region's domestic demand. It has far less international service than the country's top airports, which limits the airport's appeal to global business travelers, as well as its ability to attract air cargo. The completion of the Silver Line will not do much to improve the airport's accessibility from Maryland. There is still ample undeveloped land on the airport property for continued air service development, and there is a great deal of opportunity to add higher-value developments in the airport's surrounding area, as warehouses are still the predominant land use.

In spite of these challenges, Dulles remains a net positive for the Washington metro area and it has a critical role to play in shaping the region's path to better global fluency. While the Metropolitan Washington Airports Authority (MWAA) is a truly regional organization with strong participation from the private sector, as a public authority it is limited in its ability to undertake regional development efforts. Harnessing the airport's full potential will require a broader effort than has been previously undertaken, with buy-in from the Washington Airports Task Force, regional Chambers of Commerce, state and local governments, and higher education institutions. As such, developing the Dulles area could represent an excellent opportunity for a public-private partnership (see Item #1).

Item #6: Develop a Regional Messaging and Marketing Approach

As discussed in the "10 Traits" section of this report, the Washington area continues to struggle with its image. Efforts to overcome negative views about the region are further complicated by the presence of multiple state and local level development organizations, each of which has a mandate to attract businesses and investments within its borders. Each organization works towards its mission by promoting the virtues of its specific area, often at the expense of its neighbors.

The experiences of many other regions around the country have demonstrated the value of putting aside parochial differences to promote a stronger regional economy. Regional development groups in Charlotte and Cincinnati have created successful marketing partnerships in multi-state regions. In Denver, the regional development group organization has built a culture of cooperation and individual local governments have bought into the notion that a win for the region is good for them, even if the specific project is built in another city or county.

With regard to the Washington area, the idea of regional cooperation may not be as challenging as it may appear for two key reasons. First, there is a remarkable level of consistency among the marketing messages already being used by state and local economic development agencies in the region. Maryland and Virginia each have the words "global" and "gateway" in their state-level development taglines, and both states highlight their proximity to Washington, DC as core assets. Individual city and county development groups in the region use many of the same buzzwords in their marketing materials, with three recurring themes: innovation, lifestyle, and accessibility.

Second, successful regional partnerships are usually born from times of crisis. A consistent theme among the national case studies is that most groups were formed during difficult economic times in order to address perceived gaps in the region's development capabilities. The Washington area's recent economic struggles in the face of Federal cutbacks have demonstrated that the region needs to build up its private economy in order to thrive in the future. Local elected leaders and economic development officials have understood this message and seem to be more receptive to regional-level solutions than in the past.

The advantages of regional development and marketing approaches are well understood around the world. The region's jurisdictions already have a consensus about what they are selling to the world. The conditions are now favorable for building a regional development and marketing strategy. However, a regional approach will not occur organically—strong leadership will be needed to achieve this outcome.

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