

CAPITAL CITY ECONOMIES

LESSONS FOR WASHINGTON'S
ECONOMIC FUTURE



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Executive Summary

Washington, D.C. is one of the most recognized cities in the world as the capital of the United States of America, but it is not like most other political capitals. In most countries, the political capital is also the economic and business capital. In fact, capital cities like Tokyo and London have regional economies that are larger and more economically important than most countries in the world. This paper compares Washington, D.C. to other capital cities' regional economies to identify the key traits and characteristics of different types of political capitals in order to unveil themes as Washington and the broader Capital Region seek to move towards becoming a major economic and business capital.

Washington, D.C. sits at the center of the Capital Region, a super-regional economy stretching from Baltimore to Richmond. With \$697 billion in GDP, the Capital Region is today the third largest regional economy in the United States and the seventh largest in the world. Washington, D.C. represents nearly two-thirds of economic output within the larger Capital Region, or super-region. The super-region's growth over the last several decades has made it one of the larger regional economies, but it is not perceived nor is it yet performing as a business capital of the United States.

Our analysis shows that capital cities generally fall into three categories of interest. The first is the Hegemonic Capital City, the most common occurrence, where the capital is also the most important business city. The second is the Peer Capital City, where the nation has two principal business cities—one of which is the political capital. The third category, Secondary Capital City, includes Washington D.C. In this category, the capital is a second-tier business city compared to the nation's business capital.

The Hegemonic Capital category is by far the largest, with 93 capitals—74 percent of the capitals included in this study. While there are only six Peer City Capitals, some can serve as more fitting examples for the potential Washington, D.C. can achieve. One such model is Delhi, India, which has ascended in recent decades to become a peer to Mumbai in terms of economic impact, generating similar GDP, and attracting the headquarters of large multinational corporations.

Washington, D.C. is one of 15 Secondary Capital Cities, in which the political capital is a second-tier business city within its country (such as Ottawa, Canberra, Brasilia, and Ankara). These cities tend to have smaller populations and lower population densities than their respective country's economic capital; they have lower concentration of business headquarters; and they tend not to be major transportation hubs. Additionally, these capitals have high income levels compared to the national average, highly educated populations, strong university presence, and a strong high-tech presence.

Washington is one of just two Secondary Capital Cities that have made meaningful progress in narrowing the gap with their nations' major business cities, the other being Berlin.

The Capital Region, with Washington as its anchor, has the underlying potential for strengthening its relative global position and becoming a political and economic capital. While there are limited examples in the modern era of political capitals that emerged to also becoming an economic and business capital, this analysis of capital cities demonstrates two different levers that may serve to expand Washington's economic performance and economic prominence, and in turn further close the gap and reach recognized prominence as a political and economic capital. First, several capitals have expanded their *geographic footprint* in different ways, leveraging the related assets and scale of surrounding communities. Second, political capitals tend to have unique strengths linked back to the role of government in the twenty-first century, in particular a *highly educated and technologically savvy population* and workforce that may be a comparative advantage given global economic trends.



Section 1. Washington, D.C. and the Capital Region

With a GDP of \$697 billion¹ and 10.3 million residents², the Capital Region of Baltimore, Washington, and Richmond is the third largest economy in the United States and the seventh largest economy in the world. Representing nearly two-thirds of the region's economic output and 60 percent of the population, Washington, D.C. is at the heart of the super-region.

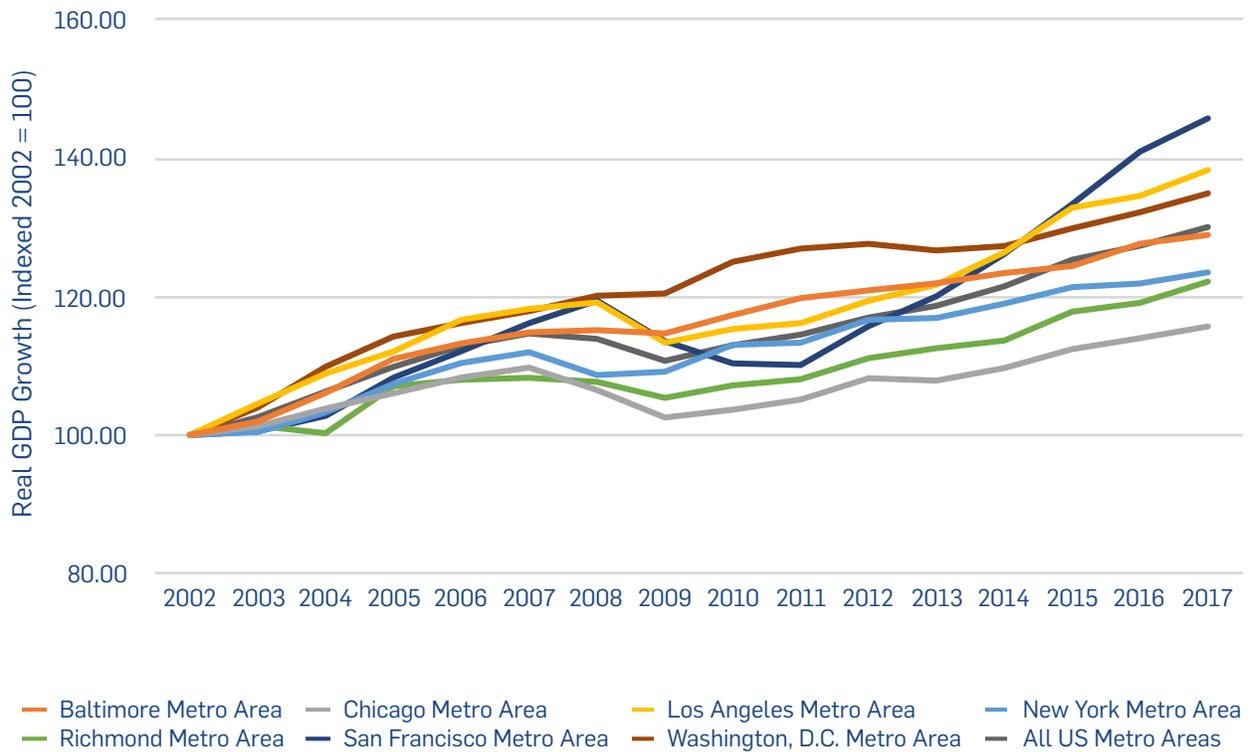
The graph on the next page demonstrates the relative performance of the three metropolitan areas that make up the super-region compared to other major metropolitan areas over a 15-year period. The Washington metro area economy expanded by 35% over that period, although its growth has begun to slow since the start of the economic recovery in 2010 and 2011 compared to the U.S. average and other metropolitan areas.³ Some of this performance can be attributed to a smaller downturn in the Great Recession and some can be attributed to reduced federal spending beginning in 2011.

Map of the Capital Super-Region



Moreover, the relative performance of Washington, Baltimore and Richmond has been converging in recent years. Baltimore and Washington have historically followed similar growth patterns, while Richmond's relationship with Washington has been slightly weaker. This relationship has strengthened in recent years; since 2011, the growth gap between the Washington and Richmond metro areas is half that of the previous decade.

Relative GDP Growth, 2002-2017



The super-region's 3.3 percent unemployment and 70 percent labor force participation rate are indicators of a strong labor market. The super-region outperforms both the national 3.9 percent unemployment and 63 percent labor force participation rate.⁴

The super-region is relatively well connected, with hundreds of thousands of daily commuters moving up and down the corridor and the business ecosystems in key industry verticals developing across jurisdictional and metropolitan area boundaries. The super-region has deep and broad assets, including four international airports and two ports, 53 Fortune 1000 companies⁵, 115 federal labs and federally-funded research and development centers, and a skilled labor force of 5.5 million people.⁶ The Capital Region has become a significant regional economy, but it is not yet the model for a dual political and business capital.

The Super-Region vs. its Sub-Regions⁷

The table below provides a breakdown of the super-region's assets across its three metropolitan areas. As further described in the next section, these assets are similar to those of other capitals in the Secondary Capital Cities category (in which the capital is a second-tier business city), while at the same time, the Capital Region is stronger than its class.

	The Super-Region (as a whole)	Washington Metropolitan Area	Baltimore Metropolitan Area	Richmond Metropolitan Area
Population	10,318,968	6,216,589	2,808,175	1,294,204
Population Density	769 people per square mile	995 people per square mile	1,080 people per square mile	283 people per square mile
Business Headquarters	53 Fortune 1000 business headquarters (DC, MD, VA) 49 Fortune 1000 business headquarters (super-region)	31 Fortune 1000 business headquarters	7 Fortune 1000 business headquarters	11 Fortune 1000 business headquarters
Transportation	4 major airports 2 major ports	2 major airports	1 major airport 1 major port	1 major airport 1 major port
Education	46% of the population holds a bachelor's degree or higher	50% of the population holds a bachelor's degree or higher	40% of the population holds a bachelor's degree or higher	36% of the population holds a bachelor's degree or higher
University Presence	1 top 20 university	0 top 20 universities (on a consistent basis)	1 top 20 university	0 top 20 universities

Section 2. A Comparison of Capital Cities

Capital cities play the central role in a country's political life, housing the national government and serving as the political connection point with other countries. An analysis of the largest 125 countries by population—from China's 1.4 billion to Liberia's 4.3 million—in total representing 98 percent of the world's population—demonstrates that capital cities generally fall into three stylized groups. The complete list of capitals appears in Appendix A.

Categorization of the world's capital cities as the top business city within their countries

		Count	Percent
Group 1	Hegemonic Capital. The Capital is Also the Most Important Business City	93	74%
Group 2	Peer Capital. The Capital is a First-Tier Business City along with another First-Tier Business City	6	5%
Group 3	Secondary Capital City. The Capital is a Second-Tier Business City (This includes Washington D.C.)	15	12%
Other	Special & Exception Cases (see Appendix B)	11	9%



Hegemonic Capital Cities: The Capital is Also the Most Important Business City

For 93 of the world’s largest 125 countries—74 percent—the political capital also serves as the center of the country’s economic and business activity. London is perhaps the foremost example that comes to mind. London dominates British life in business, finance, transportation, the arts, population, and GDP. This pattern repeats for many of the other 93 cities. The capital city in these cases is the *hegemonic* city. Other examples of major capitals include Tokyo, Mexico City, Cairo, Paris, and Moscow. The capital city tends to also be the dominant business city disproportionately in nations of less than 15 million in population (e.g., Managua in Nicaragua or Prague in the Czech Republic), obeying Zipf’s Law.⁸ That is, in smaller countries—those with a population of fewer than 15 million—87 percent have a hegemonic capital of business and politics.

Selected Hegemonic Capital Cities	
Asia	Seoul, Tokyo, Manila, Bangkok, Jakarta, Taipei, Kuala Lumpur
Latin America	Buenos Aires, Bogota, Mexico City, Santiago, Lima
Middle East and Africa	Cairo, Tehran, Algiers, Beirut, Nairobi, Addis Ababa, Accra, Riyadh
Europe	Moscow, Lisbon, Copenhagen, Stockholm, London, Paris, Madrid, Warsaw, Athens, Budapest, Vienna, Brussels

Peer Capital Cities: The Capital City is a Peer, First-Tier Business City

In some nations, the political capital is one of two first-tier business cities, effectively acting as a peer city from an economic standpoint to another dominant business city. There are six nations in which this occurs. Examining these six peer cities offers some insights for Washington D.C. and the super-region. First, there are two cases within this group—**Delhi and La Paz**—where there has been movement in their relative power within the last generation: Delhi moved up and La Paz moved down. If Washington, D.C. were to expand its relative position, the shift would be towards a peer city model with New York City and Los Angeles, rather than towards a single hegemonic political and business capital.

Country	First-tier peer business cities
China	Beijing-Shanghai
India	Delhi-Mumbai
Italy	Rome-Milan
Vietnam	Hanoi-Saigon (HCM City)
Bolivia	La Paz-Santa Cruz
Libya	Tripoli-Benghazi

The first three large nation cases—China, India, and Italy—offer the most relevant lessons to Washington, D.C. and the Capital Region.

First, in all three countries there are expanding geographic governance structures around the peer cities—both the capital and the business city. The three capitals have all expanded geographically.

Rome expanded in 2015 into the Metropolitan City of Rome, which includes over 4 million people. Beijing is continuing its expansion and now planning an expansion into a true *super-city* labeled Jing-Jin-Ji that includes Xiongan New Area. It will be a staggering 212,000 square kilometers (81,854 square miles). Delhi is part of the “National Capital Region,” of 58,000 square kilometers (22,394 square miles), which expands every few years, most recently in 2015 (meanwhile its peer Mumbai cannot expand further into Back Bay and into the Arabian Sea).

The growth via expansion is significant in Rome, Beijing, and Delhi. While governance expansion or annexation—which has been the mechanism these three cities have used—is not a viable strategy for U.S. cities and regions, the **Capital Region can draw lessons from Rome, Beijing, and Delhi by enhancing geographic integration of assets and the economy** (this point is further discussed in Section 4).

Rome, Beijing, and Delhi have all been the capitals of major empires over time, and empires often treated their political capitals as hubs of economic activity, bringing back the bounty of the empire to political rulers. Washington does not share these three capitals’ unique characteristic— and like many of the Secondary Capital Cities, it is a relatively new city.

The stories of these three cities are—inevitably—stories of national rivalry:

China: Shanghai and the Chinese capital of Beijing have a century-old rivalry. Shanghai is more like New York City—acting as the financial center and home to the country’s major

banks. Beijing, on the other hand, is the heart of media and technology, a combination of China's Hollywood and Silicon Valley. Beijing's high-tech concentration is typical of most capital cities, with educated populations and government-funded technology projects. In general, Beijing has grown economically stronger since World War II, largely due to Communist Party-political power. One of the outcomes is that Shanghai's cultural predominance has been eclipsed by Beijing.

India: While Mumbai is typically viewed as India's business city—serving as the center for the country's financial sector, including the stock exchange—Delhi has now risen, in the last 25 years, to be a peer business city. Both cities now generate roughly the same GDP, \$400 billion each. Many of the largest businesses are headquartered in Mumbai, but Delhi has the state-owned enterprises, such as Indian Railways, employing more than one million people. MNCs, such as Google and Samsung, set up headquarters in the capital to be close to the regulators and in proximity to Delhi's strong human capital.

Italy: Rome has a well-known and storied history as one of Europe's largest cities at various points in time over the past 2,500 years. Today, Milan serves as the financial center and Italy's premier business and fashion destination. However, Rome still carries economic heft as a first-tier business city within Italy. It holds the offices of many global corporations operating in Italy, and houses some of the headquarters of Italy's largest companies.

The Peer Capital Cities include three more pairings. Bolivia, although a relatively smaller and poorer nation, has seen an interesting dynamic of its capital city. La Paz, the capital, was Bolivia's dominant business city and then lost its hegemony status about 20 years ago to Santa Cruz⁹ due, in part, to political radicalization that led to business flight. Santa Cruz has been growing faster and is viewed as the more dynamic of the two cities.

The case of Vietnam, came about, at least in part, because its peer cities were separated by war and ideology for three decades. Ho Chi Minh City (Saigon) had been Vietnam's commercial center since the 1800s, but the capital of Hanoi houses the large banks and State-Owned Enterprises. Libya, since 2011 a failed state, does not offer lessons at this point.



Secondary Capital Cities: The City is a Second-Tier Business City

Washington is such a recognizable center of world political power that it is useful to frame where it is economically. That is, it is most similar in its characteristics to 14 capital cities that are not their respective nations' major economic capitals—and not the first-tier business cities within their nations.

Together, these Secondary Capital Cities—and their nations—appear in the following table. These nations are evenly spread across all continents, without any one region being noteworthy in its concentration or absence of such cities. Notably, there are many former British colonies. Four are English-speaking nations (USA, Australia, Brazil, and Canada) that created federated governments and tended to choose political capitals that were not major commercial centers. Additionally, because of this political governance arrangement, many of the capitals, such as Washington, are relatively “new” cities.

Country	Capital	Major Business City
USA	Washington D.C.	New York
Canada	Ottawa	Toronto
Australia	Canberra	Sydney
New Zealand	Wellington	Auckland
Brazil	Brasilia	Sao Paulo
Ecuador	Quito	Guayaquil
Switzerland	Bern	Zurich
Germany	Berlin	Frankfurt/Munich/Hamburg ¹⁰
Turkey	Ankara	Istanbul
Israel	Jerusalem	Tel Aviv
Pakistan	Islamabad	Karachi
Morocco	Rabat	Casablanca
Nigeria	Abuja	Lagos
Cameroon	Yaounde	Douala
Malawi	Lilongwe	Blantyre

Section 3. Washington and Secondary Capital Cities

Analysis of 125 capital cities around the world reveals that fifteen capital cities, including Washington, have similar characteristics as primary political capitals that do not exhibit the traits of the country's leading economic hubs. They are categorized as "Secondary Capital Cities"—a term which emerged recently from scholars at the University of Bern.¹⁰

There are meaningful differences among these capital cities, and they have vastly different cultures and histories, yet they portend potential growth in today's economy due to certain shared strengths. The characteristics these cities generally share are:

1. They are new relative to other national cities.
2. They have lower populations and lower population densities than first-tier business cities.
3. They do not have a high concentration of business headquarters.
4. They are not major transportation hubs.
5. They have a highly educated populations and strong university presence.
6. They have a high-tech presence.

More detail about each characteristic as it relates to these 15 cities is below and in Table A.

Characteristic 1: New Relative to Their Major Business Cities

Secondary Capital Cities are relatively new cities/capitals, meaning the capital was moved or recently founded as a capital city (refer to Table A). Five of these capitals are post-World War II era; nine are post-1900; and all are post-1800.

The first table in Appendix D notes when the city became the capital. In a few cases, the capital was established by the colonial power, such as Rabat in Morocco, but in most cases, the capital was established by the sovereign nation at the point of independence, soon after independence, or well after independence.

Of the cities, most have not moved significantly or have declined in their business status within the last century.¹¹ In other words, the capitals in this group are stuck in their second-tier status.

There are two interesting exceptions. The first is the relative decline of Wellington, New Zealand's capital, which lost much of its business importance in the post-World War II era due to government cutbacks in the 1980s. These cutbacks reduced government employment and drove many businesses to relocate to Auckland.

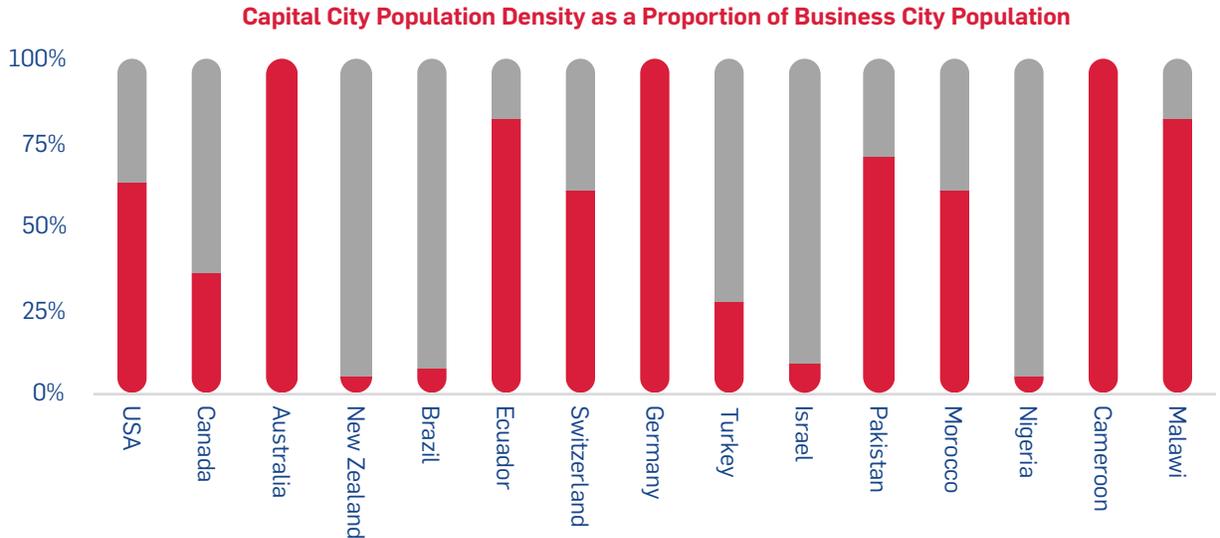
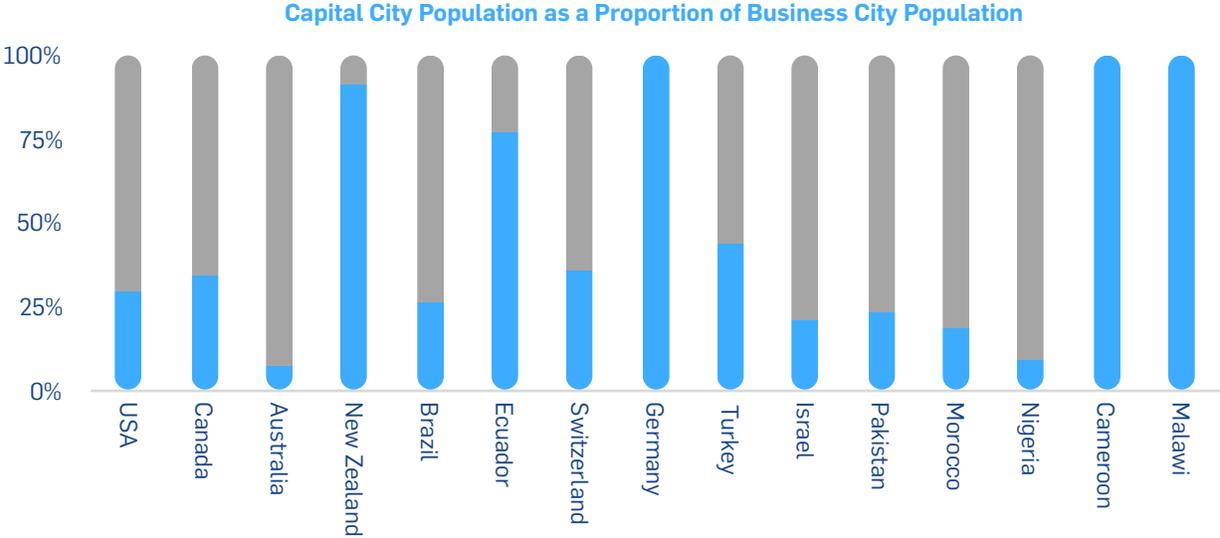
The second case is Berlin, which became the political capital of a unified Germany once again in 1989 after being divided for 41 years. Berlin is a highly particular case. Once it was no longer divided, no longer isolated, and once again the capital, it quickly began to ascend as a business city.

Besides Berlin, none of these capitals are on a trajectory to rise to become a Peer Capital City in the next 10 to 20 years. The other Secondary Capital Cities do not exhibit expected outsized economic performance that would enable them to meaningfully change their relative commercial position. Instead, the Secondary Capital Cities will continue to be what their label describes: secondary.



Characteristic 2: Lower Populations and Population Densities Than First-Tier Business Cities

As illustrated in the bar graphs below, Secondary Capital Cities usually have lower populations and lower population densities in comparison with first-tier business cities (the exceptions evident below are Berlin, Germany; Yaounde, Cameroon; and Lilongwe, Malawi).



The first ratio is of the absolute population in the two metropolitan areas. If the population of the capital city is one million and the business city is three million, then the ratio is 33.3%. The second ratio is of the population density of the two metropolitan areas. Thus, if the population density of the capital city is 1,000 people per km² and the business city is 3,000 per km², then the ratio is 33.3%.

Characteristic 3: Limited Concentration of Business Headquarters

Secondary Capital Cities *do not* have a high concentration of business headquarters (refer to Table A).

This paper examines three categories: (1) whether the capital houses major banks; (2) whether the capital has the largest corporations; and (3) whether the capital has the important foreign multi-national corporations. The three categories tend to be highly correlated.

Secondary Capital Cities also tend to house defense firms (e.g., the USA and Turkey). The larger cities also house State-Owned Enterprises (SoE) also known as Government-Owned Corporations. Since the SoE influence is of importance to the analysis, several examples are noted from both Peer Capital Cities and from Secondary Capital Cities:

- Beijing: Nine of the largest nine Chinese corporations are here—and all are SoE.
- Berlin: Deutsche Bahn, the national rail firm, is here.
- Delhi: Indian Railways, the largest Indian company, is here.
- Ottawa: Two large Crown Corporations are here—Canada Mortgage & Housing; Canada Post
- Rome: Four of 10 largest Italian companies are here; two of them are SoE and other two are former SoE.
- Washington: Financial SoE include Freddie Mac, Fannie Mae, OPIC, Ex-Im Bank; Other SoE include Amtrak, USPS.

Characteristic 4: Not Major Transportation Hubs

Most of Secondary Capital Cities are not major transportation hubs. One exception is Washington, D.C., which has three major airports. Looking past the boundaries of the Washington metropolitan area to the entire super-region, there are a total of four airports and two ports, which are critical assets for trade, tourism, and travel. This characteristic sets Washington apart from the other Secondary Capital Cities.

Characteristic 5: Highly Educated Population and Strong University Presence

Many of the Secondary Capital Cities have highly-educated populations, explained in part by the proximity to government. Ottawa, Wellington, and Washington, D.C. have extremely high education levels. Given the high average education levels in capital cities in general, it is not surprising that these cities tend to also have at least some strength in universities, with some capitals (Quito, Rabat, Ankara, Islamabad, and Berlin) having a leading national position in universities. Washington appears to be somewhat unique. While it has a large university population and many respected universities, it does not house any of the consistently top-ranked American universities and none of its universities are considered world-class in technology and engineering fields.

Characteristic 6: High-Tech Presence

The Secondary Capital Cities possess several characteristics which are conducive to high-tech concentrations: they house educated populations and they are closer to government's largesse focused on innovation activities or IT (see the innovation city rankings in Appendix C). Capital cities housed the legacy telecommunications organizations, which were once regulated monopolies. For example, Washington housed the very first satellite organization (Intelsat, an international consortium, strongly influenced by its key founder, the USA). Larger nations also cluster defense tech and aerospace around the capital as is the case in Ankara and Washington. Berlin's technology sector has developed rather differently: in the recent decade it has emerged as hip European startup hub focused on services and media. Despite the above high-tech strengths, none of these capitals, with the possible exception of Berlin, has sufficient high-tech critical mass to drive the city into peer status with the business capital (see more detail in Appendix D).



Table A: Comparison of Secondary Capital Cities¹²

	Capital	Relatively New?	High concentration of business HQs?	Major transportation hub?	Is the capital population more educated than most national locations?	Has top universities in the nation?	High-tech city/ center of innovation?
USA	Washington D.C.	Y	S	Y	Y	S	Y
Canada	Ottawa	Y			Y	S	Y
Australia	Canberra	Y			Y	S	
New Zealand	Wellington	Y		S	Y	S	S
Brazil	Brasilia	Y					
Ecuador	Quito				Y	Y	
Switzerland	Bern					S	
Germany	Berlin		S	S		Y	Y
Turkey	Ankara	Y	S	Y	Y	Y	S
Israel	Jerusalem					S	S
Pakistan	Islamabad	Y			Y	Y	
Morocco	Rabat			S		Y	
Nigeria	Abuja	Y		S			S
Cameroon	Yaounde		Y	S	Y	S	
Malawi	Lilongwe	Y	Y	S		Y	

Y = Yes

S = Somewhat

Section 4. Lessons for the Capital Super-Region

Breakout Potential for the Super-Region? Washington, D.C., and more broadly the Capital Region, is not currently projected to close the gap between itself and the top U.S. economic regions without a change in trajectory relative to recent economic performance. The super-region's average GDP growth rate over the past 5 years was 1.0%, a slower pace than the 2.1% metropolitan area average.

Historically, there has been relatively limited upward movement in the business dominance of capital cities, due to the “stickiness” of agglomeration forces and the existing ecosystems of cities. That said, this analysis of capital cities shows that it is possible for cities to rise over time. To close the gap, the super-region has lessons to learn from other capitals.

There are two potential levers that this analysis brings to light for the Washington super-region to become a dual political and business capital. The first is expanding the geographic footprint of a region. Three major peer city capitals from Peer Capital Cities—namely, Delhi, Beijing, and Rome—maintain their position, in part, by expanding their geographic governance. In the super-region, this can be accomplished through jurisdictional cooperation and leveraging shared assets across the larger geographic footprint. There is already a level of jurisdictional cooperation, with three major jurisdictions governing aspects of the Washington metropolitan area.

A recent example of regional jurisdictional cooperation is the \$500 million in dedicated annual funding for the Washington Metropolitan Area Transit Authority (WMATA), an achievement that required the governments of Maryland, Virginia, and the District working closely together. This major success benefited both residents and businesses. In Virginia, proximity to Metrorail increases property value by 7 to 9 percent and generates \$3.1 billion annually in property tax revenues.¹³ Businesses flock to transit-adjacent locations—85 percent of the commercial development pipeline is located within one quarter mile of a Metrorail station and 92 percent of commercial leases over 20,000 square feet signed in the last few years were within one-half mile of a Metrorail station.¹⁴ An economic impact study conducted in Virginia shows that the presence of Metrorail and Virginia Railway Express (VRE) results in more than \$600 million in sales and income tax revenue—and that estimate is only for one of the three jurisdictions.¹⁵ Securing dedicated funding for WMATA will have significant economic impact and is a necessary ingredient to enabling the region to become a dual political and business capital. Continuing to leverage shared assets and work cooperatively across jurisdictional lines, both on additional transportation opportunities and other issues, will lead the super-region closer towards achieving breakout trajectory. However, more can be done, including limiting any unnecessary frictions and inconsistencies across the three major jurisdictions going forward.

The second lever is harnessing a highly educated population combined with a strong tech sector. This analysis shows that capitals tend to have more highly educated populations and

stronger tech sectors than in other cities. A notable example of a successful Secondary Capital City is Berlin, which has become, by some rankings, the #1 European technology hub. It is the fastest-growing startup ecosystem in Europe and received the most venture capital investment of any European city in some recent years—more than London or Stockholm. It is drawing companies and talented tech people from all over Europe. The Berlin branding of being low-cost, slightly gritty, artsy, hip, and cultural, have all come together for it in recent years.

Washington and the Capital Region have much to learn from other successful capitals, but it is already making some strides towards improving its economic outcomes. Increasing cooperation while enhancing its geographic connectedness and working towards attracting and retaining a talented workforce that supports a robust tech sector will improve the economy in the super-region. Pulling these two levers—expansion of geographic governance and maintaining an educated population with a strong tech sector—will help the super-region increase its economic performance and move towards achieving breakout trajectory.



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Appendix A: 125 largest nations and their respective political and business capitals

	Country	Pop (M)	Political Capital	Business Capital(s)	Category
1	China	1387.3	Beijing	Beijing - Shanghai	Peer
2	India	1323.3	Delhi	Delhi - Mumbai	Peer
3	USA	326.0	Washington D.C.	New York City	Secondary Capital City
4	Indonesia	261.9	Jakarta	Jakarta	Hegemonic
5	Pakistan	209.4	Islamabad	Karachi	Secondary Capital City
6	Brazil	208.2	Brasilia	Sao Paulo	Secondary Capital City
7	Nigeria	193.5	Abuja	Lagos	Secondary Capital City
8	Bangladesh	163.4	Dhaka	Dhaka	Hegemonic
9	Russia	146.8	Moscow	Moscow	Hegemonic
10	Japan	126.7	Tokyo	Tokyo	Hegemonic
11	Mexico	123.4	Mexico City	Mexico City	Hegemonic
12	Philippines	104.8	Manila	Manila	Hegemonic
13	Egypt	96.0	Cairo	Cairo	Hegemonic
14	Ethiopia	94.4	Addis Ababa	Addis Ababa	Hegemonic
15	Vietnam	93.7	Hanoi	Hanoi-SaigonHCMC	Peer
16	Germany	82.8	Berlin	Fra/ Muc / Ham	Secondary Capital City
17	Congo (DRC)	81.3	Kinshasa	Kinshasa	Hegemonic
18	Iran	80.9	Tehran	Tehran	Hegemonic
19	Turkey	80.7	Ankara	Istanbul	Secondary Capital City
20	Thailand	69.0	Bangkok	Bangkok	Hegemonic
21	France	67.2	Paris	Paris	Hegemonic
22	UK	65.6	London	London	Hegemonic
23	Italy	60.5	Rome	Rome- Milan	Peer
24	Tanzania	57.3	Dodoma	Dar es Salaam	Special case: recency, proxim.
25	South Africa	56.5	Pretoria	Johannesburg	Special case: recency, proxim.
26	Myanmar	53.4	Naypyidaw	Yangon	Special case: recency, proxim.
27	South Korea	51.4	Seoul	Seoul	Hegemonic
28	Kenya	49.7	Nairobi	Nairobi	Hegemonic

	Country	Pop (M)	Political Capital	Business Capital(s)	Category
29	Colombia	49.5	Bogota	Bogota	Hegemonic
30	Spain	46.5	Madrid	Madrid	Hegemonic
31	Argentina	44.0	Buenos Aires	Buenos Aires	Hegemonic
32	Ukraine	42.4	Kiev	Kiev	Hegemonic
33	Algeria	41.7	Algiers	Algiers	Hegemonic
34	Sudan	40.8	Khartoum	Khartoum	Hegemonic
35	Poland	38.4	Warsaw	Warsaw	Hegemonic
36	Iraq	38.3	Baghdad	Baghdad	Hegemonic
37	Uganda	37.7	Kampala	Kampala	Hegemonic
38	Canada	36.7	Ottawa	Toronto	Secondary Capital City
39	Morocco	34.5	Rabat	Casablanca	Secondary Capital City
40	Saudi Arabia	34.1	Riyadh	Riyadh	Hegemonic
41	Uzbekistan	32.3	Tashkent	Tashkent	Hegemonic
42	Malaysia	32.3	Putrajaya	Kuala Lumpur	Special case: recency, proxim.
43	Peru	31.8	Lima	Lima	Hegemonic
44	Venezuela	31.4	Caracas	Caracas	Hegemonic
45	Afghanistan	29.7	Kabul	Kabul	Hegemonic
46	Ghana	29.0	Accra	Accra	Hegemonic
47	Nepal	28.8	Kathmandu	Kathmandu	Hegemonic
48	Angola	28.4	Luanda	Luanda	Hegemonic
49	Yemen	28.3	Sanaa	Sanaa-Aden	Special case: recency, proxim.
50	Mozambique	27.1	Maputu	Maputu	Hegemonic
51	Madagascar	25.6	Antananarivo	Antananarivo	Hegemonic
52	North Korea	25.5	Pyongyang	Pyongyang	Hegemonic
53	Australia	24.7	Canberra	Sydney	Secondary Capital City
54	Côte d'Ivoire	24.7	Yamoussoukro	Abidjan	Special case: recency, proxim.
55	Taiwan	23.6	Taipei	Taipei	Hegemonic
56	Cameroon	23.2	Yaounde	Douala	Secondary Capital City
57	Niger	21.5	Niamey	Niamey	Hegemonic

	Country	Pop (M)	Political Capital	Business Capital(s)	Category
58	Sri Lanka	21.2	Sri-Jayawardenepura	Colombo	Special case: recency, proxim.
59	Romania	19.6	Bucharest	Bucharest	Hegemonic
60	Burkina Faso	19.6	Ouagadougou	Ouagadougou	Hegemonic
61	Malawi	18.6	Lilongue	Biantyre	Secondary Capital City
62	Mali	18.5	Bamako	Bamako	Hegemonic
63	Syria	18.3	Damascus	Damascus	Hegemonic
64	Kazakhstan	18.1	Astana	Almaty	Special case: recency, proxim.
65	Chile	17.4	Santiago	Santiago	Hegemonic
66	Netherlands	17.2	Hague	Rotterdam -Ams'dam	Special case: recency, proxim.
67	Ecuador	16.8	Quito	Guayaquil	Secondary Capital City
68	Zambia	16.4	Lusaka	Lusaka	Hegemonic
69	Guatemala	16.2	Guatemala City	Guatemala City	Hegemonic
70	Cambodia	15.8	Phnom Penh	Phnom Penh	Hegemonic
71	Senegal	15.3	Dakar	Dakar	Hegemonic
72	Chad	14.9	Ndjamena	Ndjamena	Hegemonic
73	Somalia	14.7	Mogadishu	Mogadishu	Hegemonic
74	Zimbabwe	14.5	Harare	Harare	Hegemonic
75	Guinea	12.7	Conakry	Conakry	Hegemonic
76	South Sudan	12.6	Juba	Juba	Hegemonic
77	Rwanda	11.8	Kigali	Kigali	Hegemonic
78	Belgium	11.4	Brussels	Brussels	Hegemonic
79	Tunisia	11.3	Tunis	Tunis	Hegemonic
80	Cuba	11.2	Havana	Havana	Hegemonic
81	Bolivia	11.1	La Paz	Santa Cruz—La Paz	Peer
82	Benin	11.0	Porto Novo	Cotonou	Special case: recency, proxim.
83	Haiti	10.9	Port au Prince	Port au Prince	Hegemonic
84	Greece	10.8	Athens	Athens	Hegemonic
85	Czech Rep.	10.6	Prague	Prague	Hegemonic
86	Burundi	10.4	Bujumbura	Bujumbura	Hegemonic

	Country	Pop (M)	Political Capital	Business Capital(s)	Category
87	Portugal	10.3	Lisbon	Lisbon	Hegemonic
88	Dominican Rep.	10.2	Santa Domingo	Santa Domingo	Hegemonic
89	Sweden	10.1	Stockholm	Stockholm	Hegemonic
90	Jordan	10.0	Amman	Amman	Hegemonic
91	Azerbaijan	9.9	Baku	Baku	Hegemonic
92	Hungary	9.8	Budapest	Budapest	Hegemonic
93	Belarus	9.5	Minsk	Minsk	Hegemonic
94	UAE	9.4	Abu Dhabi	Dubai	Special case: recency, proxim.
95	Honduras	8.9	Tegucigalpa	Tegucigalpa	Hegemonic
96	Tajikistan	8.8	Dushanbe	Dushanbe	Hegemonic
97	Austria	8.8	Vienna	Vienna	Hegemonic
98	Israel	8.8	Jerusalem	Tel Aviv	Secondary Capital City
99	Switzerland	8.4	Bern	Zurich	Secondary Capital City
100	Papua N.G.	8.2	Port Moresby	Port Moresby	Hegemonic
101	Togo	7.2	Lomé	Lomé	Hegemonic
102	Bulgaria	7.1	Sofia	Sofia	Hegemonic
103	Sierra Leone	7.1	Freetown	Freetown	Hegemonic
104	Serbia	7.1	Belgrade	Belgrade	Hegemonic
105	Paraguay	7.0	Asuncion	Asuncion	Hegemonic
106	El Salvador	6.6	San Salvador	San Salvador	Hegemonic
107	Laos	6.5	Vientiane	Vientiane	Hegemonic
108	Libya	6.4	Tripoli	Tripoli- Benghazi	Peer
109	Nicaragua	6.3	Managua	Managua	Hegemonic
110	Kyrgyzstan	6.1	Bishkek	Bishkek	Hegemonic
111	Lebanon	6.1	Beirut	Beirut	Hegemonic
112	Denmark	5.8	Copenhagen	Copenhagen	Hegemonic
113	Turkmenistan	5.8	Ashgabat	Ashgabat	Hegemonic
114	Singapore	5.6	Singapore	Singapore	Hegemonic
115	Finland	5.5	Helsinki	Helsinki	Hegemonic
116	Slovakia	5.4	Bratislava	Bratislava	Hegemonic

	Country	Pop (M)	Political Capital	Business Capital(s)	Category
117	Norway	5.3	Oslo	Oslo	Hegemonic
118	Congo (ROC)	5.3	Brazzaville	Brazzaville	Hegemonic
119	CAR	4.7	Bangui	Bangui	Hegemonic
120	Eritrea	5.1	Asmara	Asmara	Hegemonic
121	Costa Rica	4.9	San Jose	San Jose	Hegemonic
122	New Zealand	4.8	Wellington	Auckland	Secondary Capital City
123	Ireland	4.8	Dublin	Dublin	Hegemonic
124	Oman	4.6	Muscat	Muscat	Hegemonic
125	Liberia	4.3	Monrovia	Monrovia	Hegemonic

Appendix B: Special Cases of Capital Cities

Eleven capital cities are special cases that do not fit into the three aforementioned categories.

These are cases that fall into one of these two reasons:

Proximity. These are capitals that are part of another major metropolitan area.

Relocation. That is, there was a recent capital relocation, or attempted capital relocation.

A few of the special cases are noted here (the complete list is in Appendix A).

Proximity

- *South Africa* has the city pair of Pretoria (capital) and Johannesburg (the major business city) that are proximate (50 kilometers).
- *Netherlands'* capital of The Hague is much smaller than Amsterdam, but The Hague is essentially one big metropolitan area together with Rotterdam (a major global port) and Delft (a university and tourist town). Thus, it also has some attributes of the Peer Capitals group.

Recency

- *Côte d'Ivoire* has not been successful in moving its capital to a "new" capital of Yamoussoukro from its major city of Accra.
- *Kazakhstan's* capital has been Astana, a new capital, since the late 1990s, after moving the capital from Almaty.

Both Proximity and Recency

- *Malaysia* began moving some of its government functions to a new city on the fringes of the Kuala Lumpur capital.

Appendix C: Secondary Cities as Innovation Cities

Are Secondary Capital Cities more innovative than their respective major business cities? To answer that question, we examined the Innovation Cities ranking of 500 cities.¹⁶ The answer is mostly “No.”

In the table below the business city is ranked significantly above the political capital in innovation. For example, New York City is ranked 2nd, while Washington is only ranked 27th. There are two important exceptions: In Germany and New Zealand, the capital is ranked relatively close to the major business city.

Country	Capital	Ranking in Innovation Cities 2016 (lower is better)	Major business city	Ranking in Innovation Cities 2016 (lower is better)
USA	Washington D.C.	27	New York	2
Canada	Ottawa	131	Toronto	8
Australia	Canberra	169	Sydney	14
New Zealand	Wellington	108	Auckland	89
Brazil	Brasilia	365	Sao Paulo	76
Ecuador	Quito	424	Guayaquil	471
Switzerland	Bern	225	Zurich	52
Germany	Berlin	17	Fra/Muc/Ham	41/15/40
Israel	Jerusalem	268	Tel Aviv	37
Pakistan	Islamabad	NC	Karachi	386
Turkey	Ankara	330	Istanbul	81
Morocco	Rabat	NC	Casablanca	382
Nigeria	Abuja	NC	Lagos	479
Cameroon	Yaounde		Douala	
Malawi	Lilongwe		Blantyre	

Appendix D: Detailed Tables about Secondary Capital Cities

When the Cities Became Capital Cities

	Capital	When it became a Capital City
USA	Washington D.C.	1800, soon after national independence
Canada	Ottawa	1857, before the nation's full independence
Australia	Canberra	1927, soon after national independence
New Zealand	Wellington	1865, well before the nation's full independence
Brazil	Brasilia	1960, well after national independence
Ecuador	Quito	Well before national independence
Switzerland	Bern	1848, well after national independence
Germany	Berlin	1871, at unification
Turkey	Ankara	1923, soon after national independence
Israel	Jerusalem	1948, at national independence
Pakistan	Islamabad	1960s, more than a decade after independence
Morocco	Rabat	1912, well before nation's full independence
Nigeria	Abuja	1991, well after national independence
Cameroon	Yaounde	1922, before the nation's full independence
Malawi	Lilongwe	1975, more than a decade after independence

Business HQs in the Secondary Capital Cities

	Capital	Does the capital have a high concentration of business headquarters?
USA	Washington D.C.	Limited. 15 of Fortune 500 have HQ here, with several in defense
Canada	Ottawa	No. None of the Top 20 firms are HQ here.
Australia	Canberra	No
New Zealand	Wellington	No
Brazil	Brasilia	No
Ecuador	Quito	No
Switzerland	Bern	No
Germany	Berlin	Limited. National rail + one of Siemens HQ
Turkey	Ankara	Limited. Defense firms, and 1 of 3 big telcomms companies.
Israel	Jerusalem	No
Pakistan	Islamabad	No. Although some state-owned enterprises have HQ here.
Morocco	Rabat	No
Nigeria	Abuja	No
Cameroon	Yaounde	Yes. 5 of the 15 notable firms are HQ here.
Malawi	Lilongwe	Yes. 4 of the 16 notable firms are HQ here.

Education Levels in Secondary Capital Cities

	Capital	Is the capital population more educated than most national locations?
USA	Washington D.C.	Yes. Highest ratio of post-grad workers in USA.
Canada	Ottawa	Yes. Ottawa has the highest per capita concentration of engineers, scientists, and residents with PhDs in Canada.
Australia	Canberra	Yes
New Zealand	Wellington	Yes. Highest proportion of people with university degrees, 28% have a university degree or equivalent.
Brazil	Brasilia	No
Ecuador	Quito	Yes
Switzerland	Bern	No
Germany	Berlin	No. At 24.3%, Berlin is lower than 27.2% in Frankfurt and 29.9% in Munich.
Turkey	Ankara	Yes
Israel	Jerusalem	No
Pakistan	Islamabad	Yes. Highest literacy in country. 10% have a university degree.
Morocco	Rabat	N/A
Nigeria	Abuja	No. Literacy rate is almost 30% lower than in Lagos.
Cameroon	Yaounde	Yes. High literacy rates compared with the rest of the nation.
Malawi	Lilongwe	N/A

University Presence in Secondary Capital Cities

	Capital	Does the Capital have the top universities in the nation?
USA	Washington D.C.	No. None of the Top 20 are here (consistently).
Canada	Ottawa	Limited. One of the Top 15 (U15) is here.
Australia	Canberra	Limited. One of the Top 10 is here.
New Zealand	Wellington	Limited. One of the Top 5 is here.
Brazil	Brasilia	No
Ecuador	Quito	Yes
Switzerland	Bern	Limited. One of the Top 10 is here.
Germany	Berlin	Yes, 2 of the Top 10 are here.
Turkey	Ankara	Yes. 2 of the nation's best are here.
Israel	Jerusalem	Limited. One of the top 7 universities is here.
Pakistan	Islamabad	Yes. Some of the Top 5 are here.
Morocco	Rabat	Yes
Nigeria	Abuja	No
Cameroon	Yaounde	Limited
Malawi	Lilongwe	Yes.

High-Tech and Innovation Presence in Secondary Capital Cities

	Capital	Is the capital a high-tech city? A center of innovation?
USA	Washington D.C.	Yes. A competitor alongside other U.S. tech cities with Silicon Valley. Strengths in telecommunications, satellites, cybersecurity, life sciences; defense tech.
Canada	Ottawa	Yes, especially around the year 2000 when a number of firms became dominant, albeit briefly. At the time the city was labeled "Silicon Valley of the North".
Australia	Canberra	No
New Zealand	Wellington	Somewhat. Houses legacy telecommunications firms; has vibrant startup community and media-tech.
Brazil	Brasilia	No
Ecuador	Quito	No
Switzerland	Bern	No
Germany	Berlin	Yes, 15% of nation's startups are here. Startup culture.
Turkey	Ankara	Somewhat. Big tech park; telecommunications firms.
Israel	Jerusalem	Somewhat. Recent success in vehicle-AI.
Pakistan	Islamabad	No
Morocco	Rabat	No
Nigeria	Abuja	Somewhat
Cameroon	Yaounde	No
Malawi	Lilongwe	No

Endnotes

¹ Bureau of Economic Analysis.

² Chmura Economics & Analytics.

³ Bureau of Economic Analysis.

⁴ Chmura Economics & Analytics.

⁵ As of 2018. Fortune 1000 companies in DC, MD, and VA are included.

⁶ Chmura Economics & Analytics.

⁷ Chmura Economics & Analytics, Fortune, U.S. News.

⁸ [Zipf's Law](#) is a peculiarity in mathematics that applies beautifully to cities. The number one ranked size is twice as large as the second size, which in turn is twice as large as the third size, etc. The rank vs. frequency rule applies nicely to the sizes of cities in a country. The city with the largest population in any country is generally twice as large as the next-biggest, and so on.

⁹ [EconomiaBolivia.net](#).

¹⁰ The Bern scholars' work led to a book on that topic by David Kaufmann. Kaufmann, David (2018). *Varieties of Capital Cities: the competitiveness challenge for secondary capitals*. Cheltenham, UK: Edward Elgar Publishing.

¹¹ These cases are complex and do not smoothly fall into some categories. For example, Jerusalem, capital of Israel, was not a formidable business center under the Ottoman empire that crumbled in 1917. In parallel, Tel Aviv was born in 1909 and rapidly became the hegemonic business city of Israel.

¹² The details of each column appear in the detailed tables in Appendix D

¹³ Goldfarb, Dan and Andrew D'huyvetter and Nobuhiko Daito. *The Value of Metrorail and Virginia Railway Express to the Commonwealth of Virginia*. Arlington: Northern Virginia Transportation Commission, 2017. Accessed May 14, 2018. <http://www.novatransit.org/uploads/studiesarchive/2017%20Economic%20Value%20of%20Transit.pdf>.

¹⁴ *Connect Greater Washington*. Washington, D.C.: WMATA, 2016. Accessed May 14, 2018. <https://planitmetro.com/wp-content/uploads/2016/07/ConnectGreaterWashington-ExSum-Land-Use-As-Transport-Strategy-2016-02-29-Final-for-Posting.pdf>.

¹⁵ Goldfarb, Dan et. al, *ibid*.

¹⁶ Innovation Cities Index compiled by Australia-based 2thinknow <http://www.innovation-cities.com/innovation-cities-index-2016-2017-global/9774>



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