

Executive Summary

The I-64 Innovation Corridor Opportunity Study



Presented by

RVA757
connects

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The logo for the I-64 Innovation Corridor is located in the bottom right corner. It features the text "I-64 INNOVATION CORRIDOR" in a bold, sans-serif font. The "I-64" is in dark blue, "INNOVATION" is in a lighter blue, and "CORRIDOR" is in dark blue. A thick orange arc curves around the text from the bottom left to the top right. The background of the logo area is white, which is part of a larger white circular shape on a dark blue background.

**I-64
INNOVATION
CORRIDOR**

Introduction



Cities around the world have learned that intentional collaboration, not competition, with other metro areas drives the scale and economic success for both localities. In Virginia, RVA757 Connects has been advancing this model for Richmond (RVA) and Hampton Roads (757). The result has put the I-64 Innovation Corridor, an 8,000-square-mile contiguous region, on the map of America’s megaregions.

RVA757 Connects, a 501(c)(3) organization, is an inclusive, mutually supportive network of leaders representing community, business, and higher education. The organization identifies, supports, and advances major opportunities, initiatives, and projects that meaningfully benefit both the Richmond and Hampton Roads regions.

In 2021, RVA757 Connects teamed up with GO Virginia Region 4 (Richmond) and Region 5 (Hampton Roads) to conduct the I-64 Innovation Corridor Opportunity Study, a research initiative to better understand the full potential of this collaborative work. This document is the executive summary of this study: goals, approach, major findings, and implications for the I-64 Innovation Corridor.

This study was guided by a Research Council that was set up to design and shepherd this investigation. Members include business leaders, economists, economic development officials, workforce industry professionals, and representatives of institutions of higher education.

Through the I-64 Innovation Corridor Opportunity Study, the Research Council identified 25 major trends shaping the future of the Corridor. These trends include the future of talent, industries, occupations, technology, work locations, and work arrangements. It’s interesting to note that some of the trends have been accelerated by COVID. Details on all of the trends are included in the [full report](#) on RVA757 Connects’ website.



VIRGINIA INITIATIVE FOR
**GROWTH &
OPPORTUNITY**
IN EACH REGION

This project was funded in part by GO Virginia, a state-funded initiative administered by the Virginia Department of Housing and Community Development (DHCD) that strengthens and diversifies Virginia’s economy and fosters the creation of higher wage jobs in strategic industries.

Study Goals, Approach, and Resources



The primary goals of the I-64 Innovation Corridor Opportunity Study include:

1. Profile the defining characteristics of the I-64 Innovation Corridor today. This includes population, employment, industry composition, and gross domestic product.
2. Identify opportunities for the I-64 Innovation Corridor to realize its full potential tomorrow. This includes specific recommendations on how to support the economic growth and quality of life of both the Richmond and Hampton Roads regions.
3. Understand how interregional collaboration is being deployed in other parts of the country as an economic development strategy.

The Southeastern Institute of Research (SIR) facilitated and supported the work of the Research Council. The primary data resources mined for this study were JobsEQ and trends research from SIR's Institute for Tomorrow. JobsEQ, created by Richmond-based Chmura Economics & Analytics, is a comprehensive industry, occupation, and employment database used by cities, counties, and states to profile and compare relative economic performance. The Institute for Tomorrow (IFT), a division of SIR, is a research-based think tank that identifies trends shaping the future of business and economic development.

I-64 Innovation Opportunity Study Research Council

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While this all-volunteer group provided considerable input and guidance, their participation in this study does not reflect a formal review or endorsement of this body of work by their respective organizations.

Over the course of nine months, the Research Council reviewed data on these topic areas and discussed and debated their meanings, key findings, and related implications. The I-64 Innovation Corridor Opportunity Study's complete findings, a robust PowerPoint report, as well as summary presentation reports for Region 4 and Region 5 are available at RVA757Connects.com/innovation.

This body of work is now helping business, economic development, education, workforce development and training, and government leaders gain a more nuanced understanding of the growth of megaregions and innovation corridors, benefits of interregional cooperation, and the current and potential future state of the I-64 Innovation Corridor.

The Research Council organized this study around a series of iterative questions related to megaregions and the current and future state of the I-64 Innovation Corridor.

This includes:

1. Is interregional collaboration across America really happening?
2. What is the I-64 Innovation Corridor today?
3. What is the current and projected future state of the I-64 Innovation Corridor – population, employment, gross domestic product?
4. What will it take to realize the I-64 Innovation Corridor's full potential?
5. How can RVA757 Connects help advance the I-64 Innovation Corridor?



This study is now directing RVA757 Connects' future agenda, including ways to work with GO Virginia's Regions 4 and 5 to drive the economic success of the Richmond and Hampton Roads regions.



Thomas R. Frantz

Co-Chair, RVA757 Connects

Key Findings

This executive summary is organized around the five questions related to megaregions and the current and future state of the I-64 Innovation Corridor.



1 Is interregional collaboration across America really happening?

The answer is a resounding yes.

Close collaboration has always been a key factor in advancing economic development.

Fifty years ago, Silicon Valley, Research Triangle, and Boston Route 128 introduced a new concept in economic development – interregional collaboration. Their early success spawned a new way of connecting and packaging jurisdictions.

Since then, large-scale economic regions, known as megaregions, have emerged as the U.S. population growth has clustered around large geographic areas. Today, there are 12 of these regions. Seventy percent of the U.S. population, jobs, and gross domestic product (GDP) are concentrated in these urban clusters. A growing number of these regions are now becoming more intentional in how they operate.

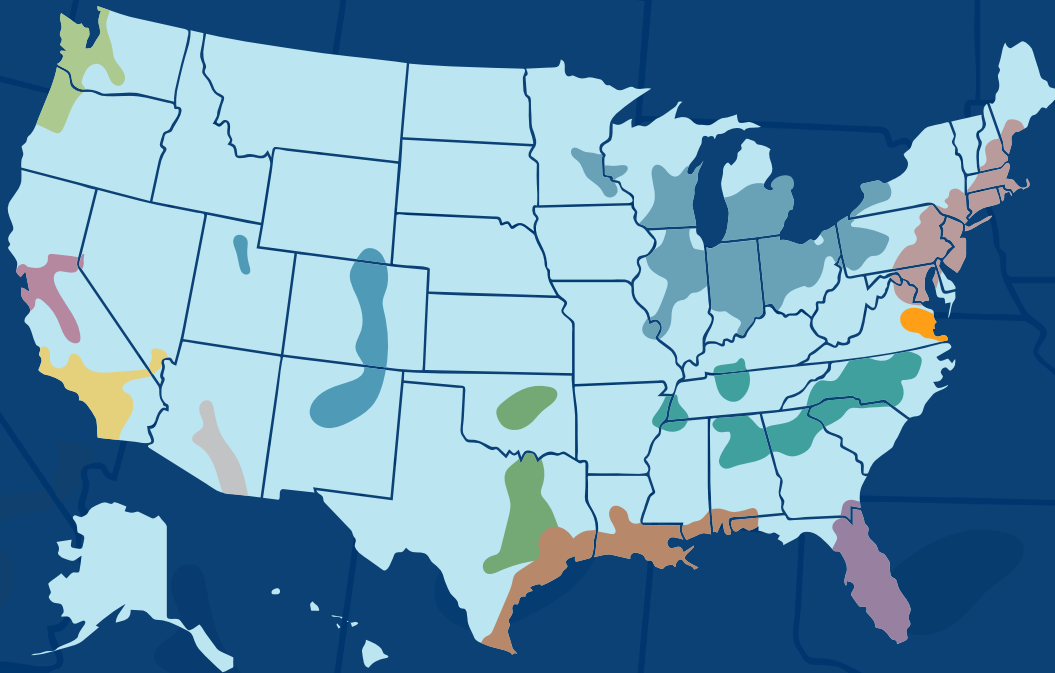
Cascadia is perhaps one of the best examples of active planning and collaboration on a megaregion scale. Leaders in Vancouver, B.C., Seattle, and Portland asked the Washington State Department of Transportation to identify how the governments of British Columbia, Washington, and Oregon can build an ultra-high-speed rail linking Vancouver, Seattle, and Portland. The \$900,000 report was funded equally between all three jurisdictions and Microsoft.

In the report's preamble, Washington State Governor Jay Inslee sums up the vision for the project and the Cascadia megaregion:

“My vision for the megaregion – stretching from Washington, north to British Columbia, and south to Oregon – includes a transportation system that is fast, frequent, reliable, and environmentally responsible. Such a system would unite us in our common goals related to economic development, shared resources, affordable housing, new jobs, tourism, multimodal connections, and increased collaboration.”

Governor Jay Inslee
Washington State

THE 12 MEGAREGIONS OF THE U.S.



- Cascadia
- Northern California
- Southern California
- Front Range
- Arizona Sun Corridor
- Texas Triangle
- Gulf Coast
- Florida
- Piedmont Atlantic
- Great Lakes
- Northeast
- I-64 Innovation Corridor



There are two primary forces fueling the growing momentum of megaregions and innovation corridors. The first one is the growing realization that intentional collaboration across borders creates a positive, catalytic economic impact on the combined region's footprint.

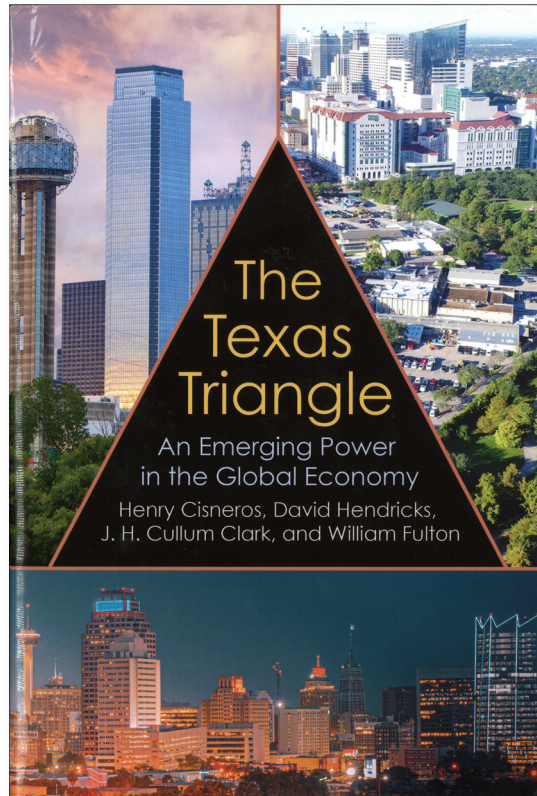
The second momentum-building force is the growing realization that we are facing new threats and challenges on a megaregional scale.

John W. Martin
President & CEO, RVA757 Connects



Atlanta and Charlotte are in conversations related to a similar high-speed rail connector, making these two fast-growing regions the twin cities of what is known as the Piedmont Atlantic megaregion. As part of the Atlanta to Charlotte Passenger Rail Corridor Investment Plan (PRCIP), in July 2021, the Georgia Department of Transportation (GDOT) and the Federal Railroad Administration (FRA) released the Tier 1 Environmental Impact Statement (EIS) and Record of Decision (ROD). The preferred route for this connector includes the Charlotte and Atlanta airports, two of the busiest U.S. airport hubs.

The sleeping giant of megaregions is the Texas Triangle, which is comprised of three metropolitan complexes: Dallas-Fort Worth at the northern tip, Houston-Galveston at the southeastern point, and Austin-San Antonio at the southwestern edge. This 35-county megaregion is the same geographical size as the state of Georgia.



In a 2021 book entitled *The Texas Triangle: An Emerging Power in the Global Economy*, the case is made that the Texas Triangle will soon include four of the 10 most populous cities in the United States. Together, these Texas metro areas represent the 15th largest economy in the world. The study details the trajectories of the four metro areas and integrates them into a larger force organized around effective collaboration.

Mirroring the interregional collaboration within megaregions, a growing number of adjacent cities are now working together to increase the movement of goods, people, capital, and ideas between their regions. Most often, this collaboration takes the form of innovation corridors.

Seven examples of innovation corridors.

FLORIDA HIGH-TECH CORRIDOR floridahightech.com

Three state universities are facilitating collaborations between partners in academia, industry, and economic development to create communities with unlimited potential across a 23-county region spanning the state.

I-69 INNOVATION CORRIDOR usi.edu/outreach/i-69-innovation-corridor

The I-69 Innovation Corridor spans the southwestern Indiana and northwestern Kentucky regions. This is a regional initiative focused on driving transformational change by creating a culture and environment supportive of innovative capacity.

CASCADIA INNOVATION CORRIDOR connectcascadia.com

The Cascadia Innovation Corridor includes Vancouver, B.C., Seattle, and Portland. By linking these cities, the Cascadia Innovation Corridor's mission is to create opportunity and prosperity beyond what they and their surrounding regions could achieve independently. Together, they are building the next global innovation ecosystem and planning a high-speed rail connecting these three cities.

DELAWARE VALLEY INNOVATION CORRIDOR pasbdc.org/technology/delaware-valley-innovation-corridor

The Delaware Small Business Development Center (SBDC) and Pennsylvania SBDC are working together to repurpose and grow the technology talent available in the region. These two SBDCs are leveraging unique, complementing services and expertise to spur the growth of new and established small firms, based primarily on leveraging technology development and innovation. The goal is to create a model of a long-term, sustainable innovation ecosystem for technology businesses in the Delaware Valley.

I-99 CORRIDOR cbicc.org/regional-partners

The I-99 Innovation Corridor joins the Altoona and University Park campuses of Pennsylvania State University along with the economic development organizations in Blair, Bedford, and Centre counties. The region is home to numerous precision manufacturers, life science firms, technology-based companies, and materials-related industries. Linking the cross-state corridors of I-80 and I-76, the I-99 Innovation Corridor is a university research center supporting corporate America's essential needs: products, processes, and people.

GREATER WASHINGTON PARTNERSHIP greaterwashingtonpartnership.com

Greater Washington Partnership (GWP) includes metro areas from Baltimore to Richmond. The Partnership's mission is advancing inclusive growth across the region. To this end, the Partnership announced the formation of CoLAB, an action-oriented coalition of employers and academic institutions to attract and grow tech talent.

RESEARCH TRIANGLE rtp.org

Research Triangle Park (RTP) is composed of Raleigh, Durham, and Chapel Hill. Founded in 1959 and located at the center of three Tier-1 research universities, RTP is the largest research park in the United States and a premier global innovation center. Its 7,000 acres house hundreds of companies, including science and technology firms, government agencies, academic institutions, startups, and nonprofits. In April 2020, RTP unveiled an ambitious plan, A Blueprint for Building an Innovation Corridor, to expand its innovation footprint across central North Carolina.

Thought leaders call for more collaborative planning on a megaregion scale.

Planning to date has been the domain of cities and counties. Planning systems and relationships are not in place to address larger-scale issues that cross borders. The Brookings Institute, one of the most respected thought leaders in economic development and city-building, points to the COVID pandemic as a case in point.

According to Brookings, COVID exposed cracks in our ability to plan and respond, and the consequences have been profound. Failure to coordinate governance across local and state lines cost lives, untold economic damage, and disproportionate harm to marginalized individuals, households, and communities. Brookings' white paper on this topic makes the case for more collaborative planning on a megaregional scale:

[brookings.edu/research/in-the-age-of-american-megaregions-we-must-rethink-governance-across-jurisdictions](https://www.brookings.edu/research/in-the-age-of-american-megaregions-we-must-rethink-governance-across-jurisdictions)

DESIGNING THE MEGAREGION

Meeting Urban Challenges at a New Scale

JONATHAN BARNETT



Brookings' case builds on the work of urban design expert Jonathan Barnett. When Barnett, author of *Designing the Megaregion*, first learned about the I-64 Innovation Corridor, he summed it up:

“RVA757 Connects is creating a new model in intentional megaregion design.”

In his book, Barnett describes the benefits of collaboration on a megaregional scale. He makes the case for managing growth using mostly private investment, without having to wait for massive government funding or new governmental structures.

Barnett lays out practical ways of rethinking and acting to meet urban challenges at a new scale. This includes helping new development fit into its environmental setting, inspiring local transportation systems to plan together on a larger, interconnected scale, and redirecting economic forces to make megaregions equitable places.

Just as megaregions and innovation corridors exist in all shapes and sizes, so too does the degree of organizational intentionality in driving them. In some cases, like the Cascadia Innovation Corridor and the Greater Washington Partnership, the supporting organizations have resources, including staff, board, funding, and programming. In other regions like the Texas Triangle, formal collaboration supported by a standing organization is being discussed.

In most cases where there is formal structure and resources, interregional megaregion planning efforts are hyper-focused on a main topic, most often a large-scale transportation initiative. For innovation corridors, the most common focus area is research and development collaboration.



STRATEGIC CONSIDERATIONS

Today, megaregions and innovation corridors are part of the economic development industry. Given demographic forces, urban challenges, and economic opportunities, these organizing units are most likely to increase in importance and impact.

RVA757 Connects should continue to build on this national trend of interregional collaboration and do so by creating a new model that best serves the Richmond and Hampton Roads regions.

2 What is the I-64 Innovation Corridor today?

Simply put, it is an interconnected economy the size of the 19th largest MSA (3 million-plus people) in the U.S. It is the home of 1.5 million talented workers who are advancing innovations across every sector, including the creation of a new model in interregional collaboration.



One can view the Richmond–Hampton Roads relationship from several perspectives:

Regional Collaborators

Two neighboring regions that are collaborating to help each other thrive and grow in a global economy.

The 12th Megaregion

While relatively smaller than most megaregions, this area meets the common criteria for being a megaregion: a contiguous area with more than one major city center; a large, combined population; and significant output measured by GDP.

An Innovation Corridor

The I-64 Innovation Corridor that runs from Richmond to Hampton Roads along I-64.

Given the rise of innovation corridors in the markets surrounding Richmond and Hampton Roads, RVA757 Connects is most often using the I-64 Innovation Corridor designation.

TOP 20 U.S. METROPOLITAN STATISTICAL AREAS (MSA)

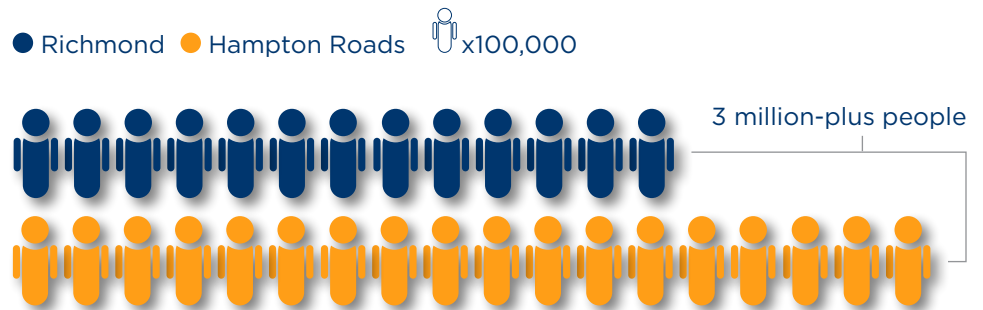
1. New York-Northern N.J.: 19,752,408
2. Los Angeles-Long Beach-Santa Ana: 14,100,584
3. Chicago: 10,340,685
4. Dallas-Ft. Worth-Arlington: 7,775,098
5. Houston-Sugar Land-Baytown: 7,380,824
6. Atlanta-Sandy Springs-Marietta: 7,077,814
7. Miami-Ft. Lauderdale-Miami Beach: 6,459,442
8. Washington, D.C.-Arlington-Alexandria: 6,319,959
9. Philadelphia-Wilmington: 6,149,832
10. Riverside-San Bernardino-Ontario: 5,839,053
11. Phoenix-Mesa-Scottsdale: 5,836,205
12. Boston-Cambridge-Quincy: 4,493,489
13. Detroit-Warren-Livonia: 4,467,449
14. San Francisco-Oakland-Fremont: 4,156,137
15. Seattle-Tacoma-Everett: 3,708,247
16. Minneapolis-St. Paul-Bloomington: 3,592,940
17. Tampa-St. Petersburg-Clearwater: 3,408,555
18. San Diego-Carlsbad-San Marcos: 3,167,189
19. St. Louis: 3,009,016
20. Baltimore-Towson: 2,888,579

Whatever classification, perspective, or name is used, the facts remain the same. Together, the Richmond and Hampton Roads regions make a compelling story.

SIZABLE POPULATION

In 2020, the Richmond and Hampton Roads Metropolitan Statistical Area (MSA) populations were 1.3 million and 1.8 million, respectively. Combined, Richmond and Hampton Roads have **3 million-plus people**.

In terms of relative population size, the Richmond and Hampton Roads regions are the 44th and 37th largest MSAs in the country. **Combined, both regions make the top 20 list in terms of the largest MSAs in America.**



LARGE TALENT POOL

The Richmond MSA employment level of 656,014 workers, when combined with Hampton Roads' MSA employment level of 778,697, creates a sizable workforce - **1.4 million-plus workers**. Adding Charlottesville and the Virginia Eastern Shore increases the talent pool by 131,000, taking the total number of workers in the larger region to over 1.5 million.

- Richmond ● Hampton Roads
- Charlottesville & VA Eastern Shore

HOME OF INNOVATION

The Richmond and Hampton Roads regions have been the home of American innovation for over 400 years.

Today, the I-64 Innovation Corridor is ground zero for innovative business practices, scientific breakthroughs, world-class healthcare, military advancements, artistic endeavors, and equitable social and economic practices. Examples include:

ADVANCED PHARMACEUTICAL MANUFACTURING

Phlow, located in **Petersburg**, was conceived out of research by VCU Engineering's Medicines for All Institute (M4ALL). This trailblazing, public-benefit corporation was awarded an \$800 million-plus contract in May 2020 by the U.S. government to repatriate the manufacturing supply chain of essential medicines.

Phlow is a member of the Advanced Pharmaceutical Manufacturing and R&D Cluster Accelerator, an industry association focused on manufacturing critically important medicines within the United States. The Accelerator was selected in December 2021 as one of 60 finalists in Phase 1 of EDA's \$1 billion Build Back Better Regional Challenge, receiving \$500,000 to further develop its Phase 2 application. The EDA will ultimately award 20-30 grants between \$25 million and \$100 million. RVA757 Connects provided a letter of support for the Phase 2 application.

ENERGY INNOVATION

In **Hampton Roads**, Dominion Energy is building the first offshore wind farm to be installed in federal waters, propelling Virginia to national leadership in America's transition to clean energy. Hampton Roads is on a trajectory to become a supply chain hub for wind power generation and lead offshore wind development for the entire Mid-Atlantic.

NATIONAL SECURITY INNOVATION

U.S. military research investments from Richmond to Hampton Roads are advancing the latest aircraft design concepts, missile technology, ship designs, logistics science, and treatments for post-traumatic stress disorder.



WHAT IS THE I-64 INNOVATION CORRIDOR TODAY?

SCIENTIFIC INNOVATION

Jefferson Lab, in **Newport News**, is advancing the I-64 Innovation Corridor into the forefront of supercomputing capabilities and is a front-runner in the federal government's plans to build a High Performance Data Facility (HPDF), the first purpose-built supercomputing facility for data science and real-time applications. The HPDF will support the explosion of scientific data across the Department of Energy's research facilities.

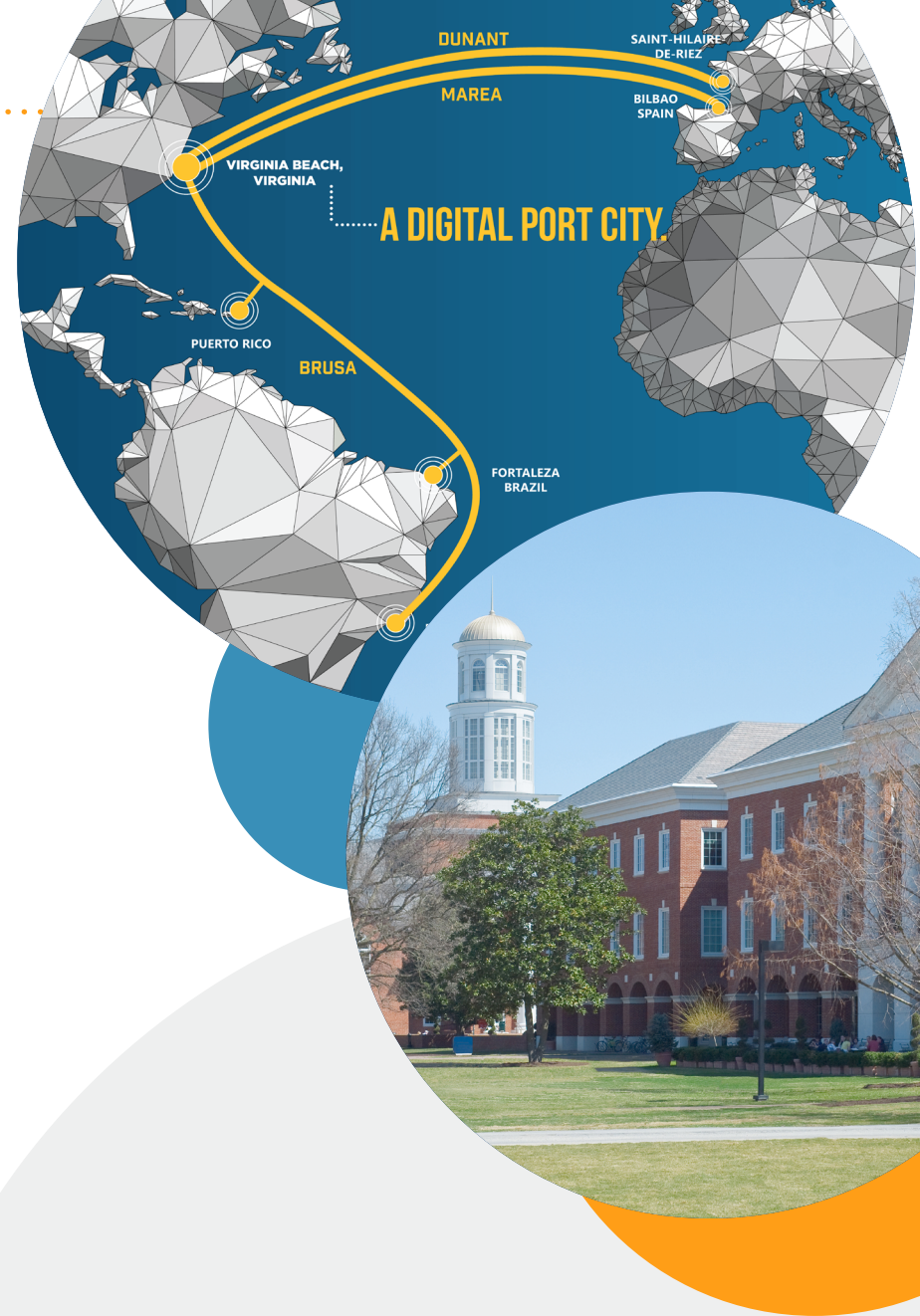
With state-of-the-art computing, data management, artificial intelligence, and machine learning tools, the HPDF will open tremendous opportunities within the I-64 Innovation Corridor, particularly for those companies that rely on the most cutting-edge data analytics technologies and capabilities.

DIGITAL DATA INNOVATION

Microsoft, Facebook, Google, and others are investing in the newest and fastest transatlantic fiber optic cables in the world, connecting the I-64 Innovation Corridor to Brazil, Spain, France, and South Africa. This lightspeed access is igniting the growth of data centers, making the I-64 Innovation Corridor a vital part of the world's digital network.

NEXT GENERATION OF INNOVATORS

The colleges and universities along the corridor are hard at work inspiring and supporting the next generation of innovators. Four examples include the da Vinci Center for Innovation at Virginia Commonwealth University, the Alan B. Miller Entrepreneurship Center at William & Mary, the Old Dominion University Institute for Innovation & Entrepreneurship (IIE), and the Norfolk State University Innovation Center (NSUIC).



MODEL OF COLLABORATION

Richmond and Hampton Roads are now becoming a model of interregional collaboration. RVA757 Connects' early collaboration inspired the Virginia Port Authority to take over operation of the Port of Richmond.

The result has been transformative.

Today, the Richmond Marine Terminal is part of the Virginia Port Authority's system, supporting the flow of cargo on the I-64 corridor.

The latest economic impact the Virginia Port Authority's system was responsible for generating includes:

436,667

part-time and full-time jobs

\$100.1 BILLION

in spending

\$47.4 BILLION

in Virginia's gross state product

\$27.2 BILLION

in labor income

\$2.7 BILLION

in state and local taxes and fees



What is particularly unique about Richmond's and Hampton Roads' interregional collaboration is its formal structure and scope of effort. Through RVA757 Connects, leaders from both markets are working together on many fronts to advance closer connections. This includes expanded highway, trail, rail, port, and digital connections.

Theodore L. Chandler, Jr.
Co-Chair, RVA757 Connects



STRATEGIC CONSIDERATIONS

The I-64 Innovation Corridor can be advanced under many labels. To help people understand its promise, encourage everyone to call this megaregion the I-64 Innovation Corridor.

3 What is the current and projected future state of the I-64 Innovation Corridor – population, employment, and gross domestic product?

A growing number of stories of innovations coming out of the Richmond and Hampton Roads regions underscore the potential of the overall megaregion.

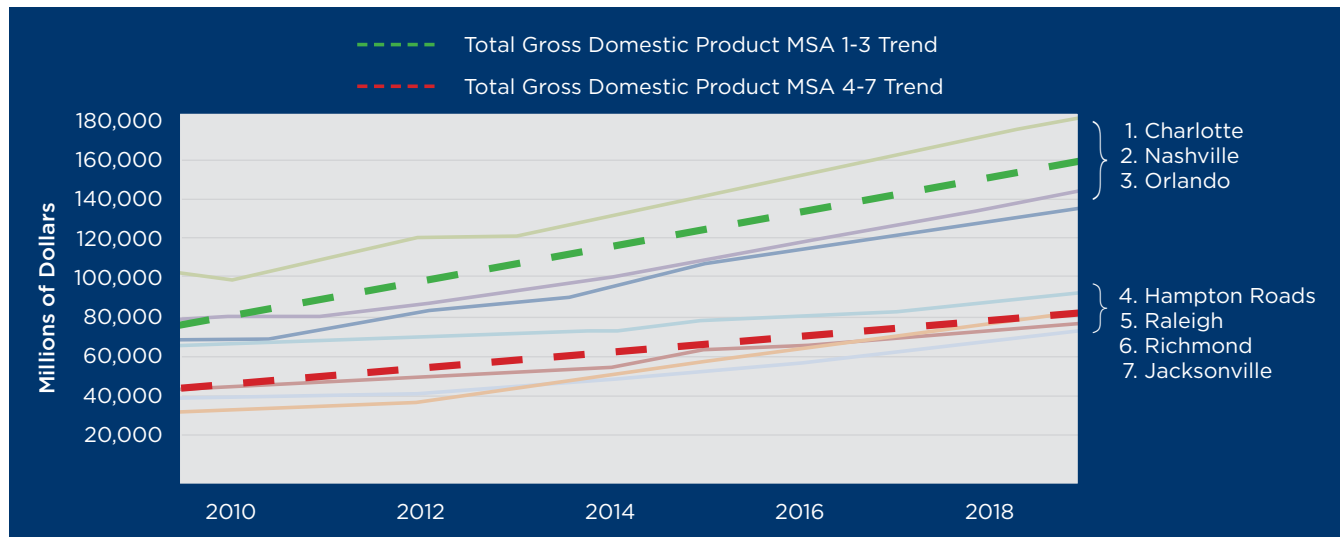
A macro assessment of the I-64 Innovation Corridor’s current state and projected future state provides a glimpse into what’s possible and how much room there is to grow.



GDP GROWTH

Data from the U.S. Bureau of Economic Analysis indicates that the Richmond and Hampton Roads regions’ GDP growth has lagged, placing both regions in the lower peer set.

While the GDP historic trend lines are positive, suggesting continued growth, Richmond’s and Hampton Roads’ current trajectories lag behind the leading peer regions in the Southeast.



Source: U.S. Bureau of Economic Analysis

FUTURE EMPLOYMENT GROWTH

The projected employment growth for both the Richmond and Hampton Roads regions mirrors the modest GDP growth projections.

POPULATION GROWTH

Over the past decade, both the Richmond and Hampton Roads regions' populations have not grown as fast as other Southeastern regions in the 1 million to 3 million population category.

REGION	POPULATION (2019)	POPULATION ANNUAL AVERAGE GROWTH (2009-2019)	EMPLOYMENT (2020Q3)	FORECAST EMPLOYMENT GROWTH (AVG. ANNU. RATE 2020Q3-2030Q3)
Raleigh-Cary, NC MSA	1,390,785	2.3%	662,325	1.6%
Nashville-Davidson-Murfreesboro-Franklin, TN MSA	1,934,317	1.7%	1,034,884	1.5%
Charlotte-Concord-Gastonia, NC-SC MSA	2,636,883	1.7%	1,276,784	1.4%
Denver-Aurora-Lakewood, CO MSA	2,967,239	1.7%	1,572,471	1.4%
Orlando-Tampa, FL Megaregion	5,802,978	1.8%	2,689,782	1.3%
Jacksonville, FL MSA	1,559,514	1.6%	721,122	1.2%
Atlanta-Sandy Springs-Alpharetta, GA MSA	6,020,364	1.4%	2,834,590	1.1%
Columbus, OH MSA	2,122,271	1.2%	1,076,754	0.7%
Charlottesville, VA MSA	218,615	0.9%	113,625	0.5%
Richmond, VA MSA	1,291,900	0.9%	656,014	0.5%
Washington-Arlington-Alexandria, DC-VA-MD-WV MSA	6,280,487	1.2%	3,267,882	0.4%
I-64 Innovation Corridor (without Eastern Shore)	3,067,223	0.6%	1,437,029	0.2%
I-64 Innovation Corridor (including Eastern Shore)	3,111,249	0.6%	1,455,055	0.2%
Virginia Beach-Norfolk-Newport News, VA-NC MSA	1,768,901	0.4%	778,697	-0.1%

Source: JobsEQ* by Chmura

The challenge is industry composition, or rather, the lack of unique, high-growth, job-generating industries or industry clusters.

The most common way to understand industry composition is through the lens of industry clusters, sectors that include interconnected businesses and related suppliers, and location quotients (LQ). LQs are ratios that can easily compare an area's distribution of employment by industry to other regions. An LQ greater than 1 indicates an industry with a greater share of the local area employment over the comparison areas.

Growing companies seeking to invest in regions for either expansion or relocation decisions look for LQs of 1.5 or greater, indicating the presence of a supportive labor pool for that industry cluster.

While both Richmond's and Hampton Roads' industry clusters are diverse, most of the leading job clusters today are similarly found in other urban areas, including financial, consumer, health, and transportation.

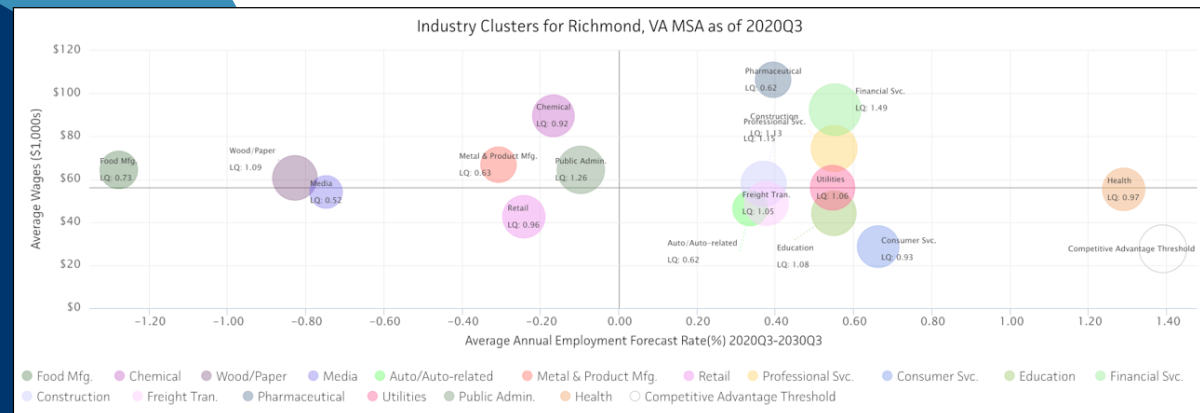
While this diversity provides some protection in recessionary times and offers a range of occupations with relatively high wages, these categories are not unique investment magnets. They do not differentiate Richmond and Hampton Roads from other regions.

Projecting industry composition for both Richmond and Hampton Roads in 2030 shows our shared challenge. The two graphs below reveal projected industry cluster growth over the next 10 years.

Average wages are shown on the vertical axis, forecasted employment growth rate over a 10-year period on the horizontal axis, and the cluster and its location quotient (LQ) as circles: the larger the circle, the higher the LQ.

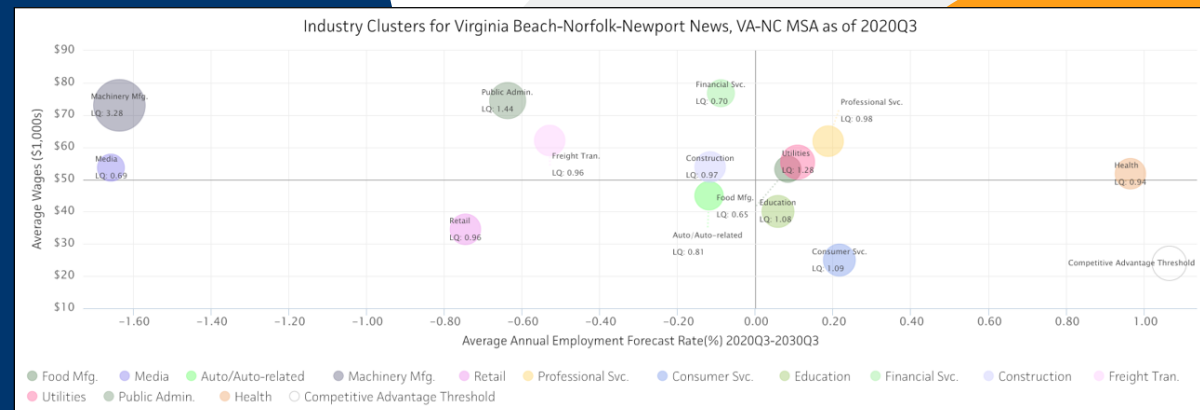
When projecting robust future GDP growth, the healthiest regions possess the largest LQs in the upper right quadrant, representing growing clusters that pay well and are expected to increase employment at the fastest pace over the next 10 years.

Richmond Region Cluster Growth 2020 to 2030



Source: JobsEQ®, Data as of 2020Q3

Hampton Roads Region Cluster Growth 2020 to 2030



Source: JobsEQ®, Data as of 2020Q3

(reference graphs on pg 17)

The challenge for the future is ...

... that the Richmond region is not projected to have major industries of size with an LQ greater than 1.49 (financial). Hampton Roads' sizable machinery manufacturing cluster, which contains shipbuilding, is projected to offer an LQ of 3.28. However, while this cluster has one of the highest wages, its forecasted employment is expected to decrease faster than any other cluster as shown in its placement at the far left-hand side of the graph.

What is the current and projected state of the I-64 Innovation Corridor? From the glass is half full perspective, the I-64 Innovation Corridor is full of opportunity! From a glass is half empty perspective, we have significant work to do to improve the vitality of our economy.



STRATEGIC CONSIDERATIONS

Recognize the challenges facing both regions separately and combined. Acknowledge that current industries are not unique to this region and are not growing dramatically.

4 What will it take to realize the I-64 Innovation Corridor's full potential?

The Research Council identified four imperatives that will help the I-64 Innovation Corridor reach its full potential: advance target industries, build digital infrastructure, retain talent, and build a great place. **All four of these strategies center on creating and filling jobs.**



1. ADVANCE TARGET INDUSTRIES

Decades ago, the economic development industry realized that significant new job growth comes from growing key industry clusters that are unique to a market. To this end, both the Hampton Roads Alliance and Greater Richmond Partnership are hyper-focusing their business recruitment and expansion efforts on a set of key clusters, many that overlap.

The Research Council's work identified the four industry growth clusters that could offer a competitive advantage, creating good jobs and giving us an advantage over peer regions. For full charts showing regional comparisons, [click here](#).

PHARMACEUTICAL MANUFACTURING & LIFE SCIENCES

Based on the projected 2030 LQ score, Pharmaceutical Manufacturing & Life Sciences is slated to grow on its own without intervention. The LQ is projected to increase, yet the Corridor will trail high-growth cities in this cluster like Raleigh, Philadelphia, and Pittsburgh.

To reach an LQ of 1.00, **we need to retain the existing jobs and help existing and new businesses add 2,800 new workers to support their growing operations.** As the numbers are small, this seems very doable.

What's even more exciting is to realize that no one comparative region has a major advantage in terms of an exceptionally high LQ. Significantly growing this cluster category could create a major differentiator and jobs engine for the I-64 Innovation Corridor.

	I-64 INNOVATION CORRIDOR	RICHMOND	HAMPTON ROADS
Current Cluster Employees	16,485	7,626	8,833
Current LQ	0.79	0.81	0.79
LQ 2030	0.87	0.94	0.82

Source: JobsEQ® by Chmura

WHAT WILL IT TAKE TO REALIZE THE FULL POTENTIAL?

IT / DATA CENTERS / DIGITAL NETWORK

With a location quotient below 1, the IT/Data Centers/Digital Network cluster contains a lower share of employment in the Corridor compared to the national mix. However, jobs in the cluster are high paying. Over the next 10 years, employment is projected to decline in the cluster, driven primarily

	I-64 INNOVATION CORRIDOR	RICHMOND	HAMPTON ROADS
Current Cluster Employees	6,817	3,419	3,336
Current LQ	0.72	0.80	0.66
LQ 2030	0.76	0.84	0.71

Source: JobsEQ® by Chmura

by expected declines in wired and wireless telecommunication carriers. With a declining growth rate, the Corridor trails expected growth rates in this cluster in peer regions such as Nashville, Raleigh, and Denver.

To reach an LQ of 1.00, matching the national share

of employment in this industry, **we need to focus on retaining our talent and/or attracting businesses to the megaregion that can help add 2,090 new workers.**

As the IT/Data Centers/Digital Network cluster represents industries of the future, it is important that the I-64 Innovation Corridor focus on attracting these businesses.

	I-64 INNOVATION CORRIDOR	RICHMOND	HAMPTON ROADS
Current Cluster Employees	37,895	9,516	28,202
Current LQ	3.63	2.02	5.04
LQ 2030	3.43	2.02	4.73

Source: JobsEQ® by Chmura

TRANSPORTATION / LOGISTICS / SUPPLY CHAIN

With an LQ above 1, the I-64 Innovation Corridor has a greater concentration of employment in the Transportation/Logistics/Supply Chain cluster compared to the nation. Over the next 10 years, employment in this cluster is expected to grow, particularly in the Richmond MSA, where the cluster’s location quotient is expected to reach 1.25, typically considered a competitive advantage for a region. In 2030, the LQ in the Corridor is expected to reach 1.10 in the baseline forecast.

	I-64 INNOVATION CORRIDOR	RICHMOND	HAMPTON ROADS
Current Cluster Employees	52,804	26,799	25,722
Current LQ	1.05	1.18	0.96
LQ 2030	1.10	1.25	0.98

Source: JobsEQ® by Chmura

To reach a competitive advantage LQ of 1.25, **we need to focus on retaining our talent and retaining or attracting businesses to the megaregion that need 6,250 new workers to support their operations.**

NATIONAL SECURITY / CYBERSECURITY

The combined National Security/Cybersecurity cluster has an LQ of 3.63 in the Corridor, reflecting high concentrations in both the Hampton Roads MSA (5.04) and Richmond MSA (2.02), giving us a major competitive advantage today and into the future.

While the projected LQ in 2030 will fall slightly, the megaregion will still remain extremely competitive. This is a major opportunity for the I-64 Innovation Corridor as the demand for cybersecurity is projected to grow exponentially.

2. BUILD DIGITAL INFRASTRUCTURE

One of the common denominators of all four cluster opportunities is data and digital technology. Our megaregion has most, if not all, of the criteria to become a world-class center of digital technology, a Global Internet Hub. The subsea fiber optic cables in Virginia Beach, the Network Access Point (NAP) in Henrico County, and the growing number of data centers in between are the most visible signs of this potential.

Reaching this designation over time is more than just a milestone. There are significant tangible community and business benefits.

These include faster, more reliable internet, improved STEM education, attracting a growing tech talent pool, and serving the underserved.

Most importantly, being a Global Internet Hub will attract a growing number of industries, not just tech companies, creating a future pipeline of new job creation.

3. RETAIN TALENT

The educational organizations across the I-64 Innovation Corridor are doing their part, creating a qualified talent pool by graduating thousands of students every year to support and grow our industries of today and for tomorrow.

The challenge is the “brain drain,” as only 50% of the newly minted graduates from colleges and universities in the I-64 Innovation Corridor remain here after graduation.

Half leave the Corridor for jobs in the Metro Washington area and beyond. Graduates with a bachelor’s degree or higher are the most mobile. By comparison, Philadelphia (39%) and Charlotte (40%) have a much lower “brain drain” challenge.

The I-64 Innovation Corridor’s educational institutions award many degrees on an annual basis in these four specific target industry clusters.

The degree awards are impressive:

We are educating the people who could support our four promising growth categories. However, we need to do a better job matching new graduates with available or open positions. Companies in both regions report that they can’t fill all existing openings.

TRANSPORTATION, DISTRIBUTION, AND LOGISTICS-RELATED PROGRAMS

800 degrees awarded in 2019 | 80% left the region

IT-RELATED PROGRAMS

3,200 degrees awarded in 2019 | 43% left the region

NATIONAL SECURITY / CYBERSECURITY

1,600 degrees awarded in 2019 | 40% left the region

More than half of exiting military stay in Hampton Roads

LIFE SCIENCES-RELATED PROGRAMS

9,700 degrees awarded in 2019 | 39% left the region

The bottom line – we are generating the talent; we just need to generate more jobs to employ them here.

4. BUILD A GREAT PLACE

The U.S. is seeing an increase in people who moved out of state – 4.3 million people in 2019-2020. The I-64 Innovation Corridor may be one of the beneficiaries as net migration is increasing. To remain attractive, we must continue to invest in placemaking. This includes improvements in roads, passenger rail, and biking and walking trails.

But placemaking is about more than bricks and mortar. Placemaking is also about culture, especially the culture for younger generations. As the minority will become the majority by 2045, America will continue to shift toward a multicultural society. The winning locations will be “Big Tents” where everyone is welcome and feels they belong. We must advance diversity, equity, and inclusion as part of the culture of the I-64 Innovation Corridor.

STRATEGIC CONSIDERATIONS

Create new jobs by concentrating on target industry growth. Support business growth through enhanced digital infrastructure development.

Realize that we are already educating the talent needed for these new industries. Retain and grow talent through intentional partnerships and placemaking.

It will take all these strategies to create and retain jobs that will grow the economies of both regions.



5 How can RVA757 Connects help advance the I-64 Innovation Corridor?

RVA757 Connects can help the I-64 Innovation Corridor reach its full potential by advancing even greater collaboration and connections. As an inclusive, mutually supportive network of leaders representing both regions, it is in the optimal position to do so.



Specific actions include:

SUPPORT THE GROWTH OF FOUR KEY CLUSTERS

Advancing the four high-growth clusters is the pathway to new jobs. The Research Council encourages RVA757 Connects to work with the Hampton Roads Alliance and the Greater Richmond Partnership to promote and advance Life Sciences/Pharmaceutical Manufacturing; IT/Data Centers/Digital Network; Transportation/Logistics/Supply Chain; and National Security/Cybersecurity.

This includes exploring a future GO Virginia planning grant to create megaregion-wide target industry cluster plans for each of these opportunity clusters.

ADVANCE GLOBAL DIGITAL CONNECTIONS

RVA757 Connects should continue to advance the I-64 Innovation Corridor megaregion as a Global Internet Hub. The Research Council encourages RVA757 Connects to work with the economic development industry in exploring future planning grants to support this work, creating a strategic plan on how the I-64 Innovation Corridor can become the next Global Internet Hub.

HELP RETAIN TALENT

The work of [Campus 757](#) and [RVA NOW](#) can have a profound impact on the I-64 Innovation Corridor. These two new organizations follow a highly successful Philadelphia-based model. They are designed to help retain recent graduates and attract young talent to fill highly skilled jobs. Both organizations need greater awareness, connections, and financial support. The Research Council encourages RVA757 Connects to support the growth and development of Campus 757 and RVA NOW.

The Research Council encourages RVA757 Connects to support the growing number of innovative apprenticeships, helping higher education and businesses across the I-64 Innovation Corridor connect. This may be another area where RVA757 Connects can help parties apply for GO Virginia grants.

RVA757 Connects' work in supporting Campus 757 and RVA NOW and the development of apprenticeships should accelerate collaboration and partnerships with the megaregion's historically Black colleges and universities (HBCUs).

SUPPORT THE CREATION OF GREATER PHYSICAL CONNECTIONS

RVA757 Connects should continue to advance the stronger physical connections between the regions to support businesses and residents' mobility and supply chain accessibility. This includes advancing the widening of I-64 from Williamsburg to Richmond (the I-64 Gap Project), removing barriers to increase passenger rail and James River barge service, and completing the Virginia Capital Trail from Williamsburg to Virginia Beach.

The Research Council encourages RVA757 Connects to continue its work, involving the regional planning experts in each area. Where appropriate, RVA757 Connects should help make an even stronger case on how these physical infrastructure improvements deliver not only enhanced mobility benefits, but also significant economic development benefits for both regions.

DRIVE AND SHOWCASE GREATER COLLABORATION AND INNOVATION

An essential ingredient for exceptional economic performance, especially in times of unprecedented change, is innovation. Innovation comes from greater, more intentional collaboration. RVA757 Connects should continue to convene audiences in key opportunity areas, ignite collaboration, and showcase innovation originating from the I-64 Innovation Corridor.

SUPPORT ECONOMIC DEVELOPMENT PARTNERS

The Richmond and Hampton Roads regions are served by a well-coordinated economic development ecosystem that includes the Virginia Department of Economic Development, the Hampton Roads Alliance, Greater Richmond Partnership, and dozens of local city and county economic development agencies. RVA757 Connects must continue working closely with these partners to advance the I-64 Innovation Corridor. This includes providing the economic development organizations with compelling marketing information they can use.

KEEP ALL STAKEHOLDERS INFORMED

As its name implies, RVA757 Connects is an organization that connects people and organizations in the I-64 Innovation Corridor. Making connections requires communication. The Research Council encourages RVA757 Connects' stakeholders to ramp up all forms of communication to keep our megaregion's stakeholders informed of and engaged in the success of the I-64 Innovation Corridor.

STRATEGIC CONSIDERATIONS

The I-64 Innovation Opportunity Study findings and insights point to a clear set of imperatives from industry cluster development to digital infrastructure connections to help drive job growth and economic prosperity for both regions. RVA757 Connects is uniquely positioned to help by bringing the power of convening, connecting, and collaborating at a megaregion scale.

DISADVANTAGES

The Richmond and Hampton Roads regions are behind other peer regions in the Southeast in terms of growth in population, workforce, and gross domestic product (GDP).

With the exception of shipbuilding, the I-64 Innovation Corridor industry and occupational makeup today are not unique to other areas of the country. We are not a destination for talent or growth through net migration.

Many of today's graduates leave the area, with most heading to Northern Virginia.

ADVANTAGES

The four emerging and most promising industry clusters that offer opportunities to truly differentiate this region and grow 21st century jobs are:

- **Life Sciences/Pharmaceutical Manufacturing**
- **IT/Data Centers/Digital Network**
- **Transportation/Logistics/Supply Chain**
- **National Security/Cybersecurity**

The Hampton Roads Alliance and Greater Richmond Partnership are both targeting these industry clusters.

The institutions of higher education in the I-64 Innovation Corridor are educating and training students for these four industry clusters.

The Hampton Roads Workforce Council and ChamberRVA are educating college students in each region on job opportunities in these areas and other opportunities.

Helping the I-64 Innovation Corridor become a Global Internet Hub will serve to connect these fast-growing industries.

In Conclusion

Thank you GO Virginia Regions 4 and 5 for supporting the I-64 Innovation Corridor Opportunity Study. This study has confirmed that collaboration rather than competition between cities is a new paradigm in economic development.

Embracing this model is timely as both the Richmond and Hampton Roads regions need to grow more jobs and retain more home-grown talent. This study reaffirmed the clear set of strategic imperatives to make this happen. This includes supporting key industry clusters, pushing for digital infrastructure growth, focusing on talent retention, improving transportation infrastructure, and heightening communication to inform and connect everyone in the process.

Economic development is a team sport. As a megaregion, Richmond and Hampton Roads have a dynamic economic development ecosystem that includes the Virginia Economic Development Partnership, Greater Richmond Partnership, the Hampton Roads Alliance, and local economic development agencies. RVA757 Connects is here to support the ecosystem in any way it can.

As an inclusive, mutually supportive network of Richmond and Hampton Roads leaders representing community, business, and higher education, RVA757 Connects is a resource that is bringing the power of convening, connecting, and collaborating at a megaregional scale to ensure future economic growth and prosperity for everyone in the I-64 Innovation Corridor.



RVA757Connects.com/innovation