I-64 Innovation Corridor Global Internet Hub Growth Plan Initiative

RVA757 Connects' strategic plan to make the I-64 Innovation Corridor the next Global Internet Hub

Executive Summary

Global Internet Hubs attract a growing level of business interest and investment.

These hot spots attract companies that want to locate near the fastest and most reliable internet service. This, in turn, attracts tech talent. The success cycle feeds on continuous growth.

Regions that understand this economic development model do everything possible to accelerate the growth of their digital infrastructure, to enable it to grow faster through hyper-collaboration and intentional support.

International experts point to many of the digital infrastructure assets that the I-64 Innovation Corridor already has in place to become the next Global Internet Hub, including the fastest deep-sea cables coming ashore in Virginia Beach and the fourth largest internet data integration facility in the world located in Henrico County.

Becoming a Global Internet Hub doesn't happen by accident. At last fall's Convergence 2021, the annual event hosted by ChamberRVA and the Hampton Roads Chamber, two experts from Marseilles, France, shared their insights on how Marseilles became a Global Internet Hub by creating and following an intentional game plan.

This is precisely what RVA-757 Connects wants to deliver – create a strategic plan that will make the I-64 Innovation Corridor the next Global Internet Hub. Our extensive groundwork in 2021 has brought us to this moment.

In early 2021, RVA757 Connects identified the opportunity for the entire I-64 Innovation Corridor to become the next Global Internet Hub. We created a comprehensive white paper and held a number of events on this topic, advancing awareness and understanding on what a Global Internet Hub is, why we want to become one – the community, business, and economic development benefits a hub delivers for a region – and what it will take to become one. (Highlights of this information are in the Appendix of this document.)

In December 2021, the RVA757 Connects' Board/MIC approved helping the I-64 Innovation Corridor become a Global Internet Hub as one of RVA757 Connects' top priorities. In addition, both GO Virginia Region 4 (Richmond) and Region 5 (Hampton Roads) included in their 2021 Growth and Diversification Plans the need to examine the potential of a Global Internet Hub strategy as a way to attract job-creating tech companies.

IGNITING
THE I-64
INNOVATION
CORRIDOR

In early 2022, a small Work Group was convened by RVA757 Connects to create a strategic planning approach on how we could accelerate our megaregion's ascendency in becoming a Global Internet Hub. Work group participants included:

- City of Virginia Beach
- Henrico County
- Dominion Energy
- RVA757 Connects
- Dragonfli
- DecideSmart

The Work Group developed the following strategic planning pathway:

1. **Establish a Steering Committee.** (See box to the right that list potential members – who we plan to invite.) The key to our planning pathway's success is this Steering Committee. Collaboration will drive their work and become the galvanizing force that builds a dynamic digital infrastructure community, one focused on a shared vision – become a Global Internet Hub.

Steering Committee Invitations

GIH Work Group
- Dominion Energy: $10,000
- City of Virginia Beach: $10,000
- Henrico County: $10,000
- Hampton Roads Alliance: $10,000
- Old Dominion University: $10,000
- Dragonfli (Williamsburg): $10,000

- Educational institutions, including the major universities and colleges in the I-64 Innovation Corridor.
- Leading Chambers:
  - ChamberRVA
  - Hampton Roads Chamber
- Companies representing multiple digital infrastructure users
  - Data
  - Defense
  - Telecom
  - Energy / Utilities
  - Technology
  - Finance
  - Health
  - Transportation / Supply Chain
  - Higher Education
  - Agriculture
- Military representatives
- Workforce development organizations

Digital Infrastructure Users

Enterprise Data Centers

2. **Raise funding for this initiative from the Steering Committee members and other stakeholders.** $120,000 in resources has been raised already from Work Group members and a few others like Old Dominion University, ChamberRVA and the Hampton Roads Chamber.

3. **Conduct a comprehensive review of the situation.** This landscape audit will culminate in a SWOT (strengths, weaknesses, opportunities and threats) analysis for the I-64 Innovation Corridor as a Global Internet Hub.

4. **Prepare action plans.** Based on the SWOT analysis, the Steering Committee will identify key areas where specific action plans are needed. The Steering Committee will hire the top international experts and consulting firms to prepare as many of the action plans that can be funded with available resources. For example, this could include:

   o **International rankings action plan:** Create an action plan to understand the precise ratings of Global Internet Hubs. Hire TeleGeography, an international research company that rates and ranks Global Internet Hubs, for its assessment and best performance suggestions to move up in their rankings.

- **Tax incentives action plan:** Create an action plan and rationale that can be provided to the General Assembly and all jurisdictions in the I-64 Innovation Corridor. This includes coordination with Joint Legislative Audit and Review Commission, or JLARC, to get assessments and insights on this topic.

- **Cable landings action plan:** Another insight from Marseilles, France, on how it became a Global Internet Hub centered on deep-sea cable landing sites. Specifically, they recommended not having multiple cables coming ashore at the same place. The Strategic Plan may include hiring a lead consultant in this area, such as ASN, SubCom, or Xtera, to analyze and assess landing sites.

- **Energy and water resources:** Create an action plan that is a feasibility study of potential data center sites in the I-64 Innovation Corridor based on existing or easily extended energy and water resources.

5. **Create the final strategic plan:** Bring all Action Plans together into a comprehensive Strategic Implementation Plan. Share the plan with all stakeholders. This includes supporting our regions' economic development organizations (Alliance and GRP) in how they use this work in their efforts.

Through every step of this process, the Work Group recommends building awareness and increasing engagement of what will be an expanding group of RVA and 757 Global Internet Hub stakeholders and supporters.

Time is of the essence to capitalize on our opportunity. Jurisdictions all over the world are already at work planning the future of their region's digital infrastructure.

For the March 29 Board/MIC meeting breakout session #1 (20 minutes), we seek input on these three related questions:

1) How can we improve our strategic planning pathway?

2) Who should we include on the Steering Committee?

3) How can RVA757 Connects' Board directors and MIC members help the most?

The next 13 pages, the Appendix, are **not** required reading for the March 29 Board/MIC meeting and breakout session on this topic. This information is provided for those who want to learn more about Global Internet Hubs – what they are, what they deliver, where the I-64 Innovation Corridor is in the process of becoming one, what it will take to make it happen, and what it will mean for the economic success of both regions.

APPENDIX
DETAILS ON THE GLOBAL INTERNET HUB STRATEGIC PLANNING INITIATIVE

The goal of the strategic plan is to make the I-64 Innovation Corridor an internationally recognized Global Internet Hub.

Dr. Barbara Boyan, dean of the VCU School of Engineering, summed up the importance of what's at the heart of our planning effort – *our collective future* – when she said:
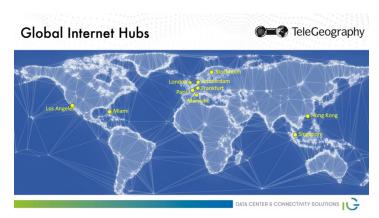
> *"We have embarked on a journey that will define our society. We are in the early stages of a new era where digital technologies are much more than enabling tools — they are now key drivers of business strategy, impacting innovation, social empowerment, life experiences, and will soon redefine everything from healthcare to global currencies. The communities with the digital infrastructure and connections in place will be the clear winners in this new era."*

Through this planning initiative, the Richmond and Hampton Roads regions can become one of these winning places. The people closest to this planning effort feel this plan will create the opportunity to transform the Richmond and Hampton Roads regions in the 21st century more than the construction of I-64 and I-95 did in the 20th century.

Becoming a Global Internet Hub is within our reach if you understand hubs and what they deliver, where we are in the process of becoming one, what it will take to make it happen, and what it will mean for the economic success of both regions.

Global Internet Hubs: What They Are and What They Deliver

The best way to understand Global Internet Hubs is to see them as the concentrated hot spots, or nodes, on a world map of the internet. The internet itself is a network of networks that are interconnected together and "talking" to one another, constantly exchanging information or traffic. The ecosystem of the internet is a collaborative "business model," a hyper-competitive set of interlocking partnerships that create and support a global network. These partnerships operate on local, country, and international levels. Continual rapid innovation, security, trust, and the ability to scale are essential competencies to successfully operate in this system.

Global Internet Hubs — TeleGeography

The Status of I-64 Innovation Corridor In Becoming a Global Internet Hub:

Global international experts say the I-64 Innovation Corridor, the megaregion that includes the Richmond area and Hampton Roads, is uniquely positioned to become one of the world's leading digital ecosystems – a Global Internet Hub. Experts point to all the ingredients we already have to become the next one, including:

- Deep-sea cables: On the eastern edge of the I-64 Innovation Corridor, the city of Virginia Beach is home to the newest and fastest subsea fiber optic cables on the East Coast, connecting the Corridor to Europe, the Caribbean, and South America. A new cable has been recently announced that will connect Virginia Beach to the rest of the U.S. East Coast (New York to Miami).

- Network Access Point: On the western edge of the I-64 Innovation Corridor, Henrico County is home to a new Network Access Point, the fourth largest data integration center in the world.

- Internet exchange platforms: DE-CIX Internet Exchange is deployed in the Richmond region across three data centers (QTS NAP, EdgeConneX, and Pixel Factory Data Center). This global Internet Exchange platform gives our megaregion access to 2,500-plus networks globally across 500-plus data centers in 14 countries around the world. The megaregion is part of the largest interconnected digital ecosystem in North America, one that includes New York, Chicago, Dallas, and Phoenix. In two milliseconds, data can reach from our megaregion to 80% of the U.S. population.

- Data centers: A growing investment in being made to create in data centers and fiber-optic networks between Virginia Beach and Henrico.

- Strong public-private partnerships: The public-private partnerships are emerging. A fiber optic network ring has just been funded in Hampton Roads, initially connecting cities and institutions on the Southside.

- Universities: Institutions of higher education are an essential part of the digital ecosystem, too, and have a stake in its growth. Two examples are Old Dominion University and Virginia Commonwealth University:

  o Old Dominion University (ODU) is working with Virginia Beach to locate a data science/cyber innovation hub in Town Center. The focus of this facility will be for ODU faculty to provide collaboration and technical assistance to data-related startups and small- and medium-sized businesses. ODU also sees an opportunity to bridge the possibilities of the cable landing stations in Virginia Beach with the opportunity of a supercomputing facility at Jefferson Lab. ODU will be on the Steering Committee.

     o   Virginia Commonwealth University is advancing the Commonwealth Center for Cloud Computing (C4), a partnership among universities, industry, and government. Industry experts will provide insight into networks, data centers, and computing systems as the dialogue continues around the latest technologies and applications associated with highly advanced, multi-tenant hybrid cloud systems. VCU is expected to be on the Steering Committee.

So, what are we missing? At last fall's Convergence 2021, the annual event hosted by ChamberRVA and the Hampton Roads Chamber, two experts from Marseilles, France, shared their insights on how Marseilles became a Global Internet Hub. The big insight for us: becoming a Global Internet Hub doesn't happen by accident. It requires an intentional game plan. This is precisely what RVA757 Connects wants to deliver.

> *"When it comes to Global Internet Hubs, collaboration is the key to success. What's needed is the connective tissue that accelerates and leverages our collaboration. This is exactly what the I-64 Innovation Corridor Global Internet Hub Strategic Plan is all about and why ODU is excited to support this initiative."*

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Morris W. Foster, vice president of research, Old Dominion University

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Our Plan to Become a Global Internet Hub:

A Strategic Plan initiative will galvanize and direct the I-64 Innovation Corridor's digital infrastructure community, stakeholders, and supporters in making the corridor a Global Internet Hub.

In early 2022, a small Work Group was convened by RVA757 Connects to create a strategic planning approach on how we could accelerate our megaregion's ascendency in becoming a Global Internet Hub. Work group participants included:

     o   Two regions:
- Hampton Roads and Richmond through RVA757 Connects

     o   Lead jurisdictions:
- City of Virginia Beach (Hampton Roads region)
- Henrico County (Richmond region)

     o   Energy:
- Dominion Energy

     o   Economic development:
- Greater Richmond Partnership (GRP)
- Hampton Roads Alliance (The Alliance)

     o   Private sector:
- DragonFli, cyber-security firm
- DecideSmart, policy consultancy
- InterGlobix LLC, internet consultancy

The Work Group developed the following strategic planning pathway, an iterative, **multi-step process** in formulating our Strategic Plan:

Step 1: Recruit a Global Internet Hub Growth Plan Steering Committee

Goal:

- Recruit the I-64 Innovation Corridor Global Internet Hub Growth Plan Steering Committee.

Approach:

- The first step in preparing the strategic growth plan is to recruit the Steering Committee.
- The Work Group will expand into a larger project Steering Committee, including representatives from all stakeholder groups:

  - Economic development organizations:
    - Henrico County
    - City of Virginia Beach
    - Greater Richmond Partnership
    - Hampton Roads Alliance
  - Workforce development organizations
  - Educational institutions, including the major universities and colleges in the I-64 Innovation Corridor.
  - Leading chambers:
    - ChamberRVA
    - Hampton Roads Chamber
  - Companies representing multiple digital infrastructure users:
    - Data
    - Defense
    - Telecom
    - Energy / utilities
    - Technology
    - Finance
    - Health
    - Transportation / supply chain
    - Higher education
    - Agriculture
  - Military representatives

Ideally, the Steering Committee will include representatives from municipalities, institutions of higher education, workforce ecosystem partners, energy suppliers, and economic development organizations.

We hope that some of the I-64 Innovation Corridor's current digital infrastructure owners of the offshore cables and data integration centers will be part of the Steering Committee.

Through this planning effort, the Steering Committee will help the I-64 Innovation Corridor's digital infrastructure stakeholders coalesce into an industry with a shared vision – become a Global Internet Hub.

Deliverable:

- The deliverable is the fully functioning Steering Committee, reflecting the diversity of the megaregion's digital infrastructure organizations, data-user community, and key implementation stakeholders.

  The Steering Committee will meet monthly, reviewing key aspects of the business plan as it is being crafted. A detailed schedule and meeting content calendar will be shared at the first meeting.

- A shared drive will be set up to inventory all related work products.

Step 2: Raise Funding

Goal:

- Raise $500,000 in funding for this initiative. $120,000 in resources (cash and in-kind) have been raised already from Work Group members and a few others like RVA757 Connects, Old Dominion University, ChamberRVA, and the Hampton Roads Chamber.

Approach:

- Apply for GO Virginia grants. One request is underway ($100,000)
- Make requests of Steering Committee members and other stakeholders.

Deliverable:

- $500,000 in funding.

Step 3: Conduct A Situation Review and SWOT

Goal:
- Understand where the I-64 Innovation Corridor is today in becoming a Global Internet Hub.

Approach:

- Gather available pre-existing reports and studies on Global Internet Hubs. It is envisioned that the Steering Committee will help pinpoint additional studies and resources we can mine.
- Inventory current assets across Virginia and within the I-64 Innovation Corridor.
- Inventory existing and potential Global Internet Hub-related educational initiatives and support services across Virginia.
- Profile Virginia to help develop our understanding of how this impacts our story and future planning.
- Interview Global Internet Hub leaders to identify the best practices and lessons learned that led to their success.
- Interview key stakeholders representing:
  - Current players in the digital infrastructure category;
  - Higher education leaders;
  - Local and regional business leaders;
  - Key leaders of business clusters that will grow with greater digital infrastructure;
  - Economic development leaders; and
  - Elected officials.
- Based on the above, conduct a SWOT analysis – strengths, weaknesses, opportunities, and threats.

Deliverable:

- Summary of findings and insights with SWOT recap.

Step 4: Prepare Action Plans

Goal:

- Identify and create action plans around key drivers that will help the I-64 Innovation Corridor become a Global Internet Hub.

Approach:

- Based on the SWOT, the Steering Committee will identify key areas where specific action plans are needed for the Strategic Plan.

- The Steering Committee will hire the top international experts and consulting firms to prepare as many of the action plans that can be funded with available resources. We believe the use of international consultants and rating services will connect this Strategic Plan and the I-64 Innovation Corridor to the world's digital infrastructure.

- For example, action plans could include:

  o **International rankings action plan:** Create an action plan to understand the precise ratings of Global Internet Hubs. Hire TeleGeography, an international research company that rates and ranks Global Internet Hubs, for its assessment and best performance suggestions to move up in their rankings.

  o **Tax incentives action plan:** Create an action plan and rationale that can be provided to the General Assembly and all jurisdictions in the I-64 Innovation Corridor. This includes coordination with Joint Legislative Audit and Review Commission, or JLARC, to get assessments and insights on this topic.

  o **Cable landings action plan:** Another insight from Marseilles, France, on how it became a Global Internet Hub centered on deep-sea cable landing sites. Specifically, they recommended not having multiple cables coming ashore at the same place. The Strategic Plan may include hiring a lead consultant in this area, such as ASN, SubCom, or Xtera, to analyze and assess landing sites.

  o **Energy and water resources:** Create an action plan that is a feasibility study of potential data center sites in the I-64 Innovation Corridor based on existing or easily extended energy and water resources.

- The bulk of planning resources will fund the most important action plans as identified by the Steering Committee. It is anticipated that the Steering Committee will identify more action plans than can be funded with initial start-up funding. All additional funding raised in Step 2 will go towards funding the most important chapters in the overall strategic plan.

Deliverables:

- Specific action plans in key areas that will inform and be part of the final overall strategic plan – Step 5. These stand-alone reports we will be provided to the economic development organizations to use how they see fit.

Step 5: Create the Final Strategic Plan

Goal:
- Final strategic plan document

Approach:

- Once all the action plans are finalized, the Steering Committee will formulate a series of strategic recommendations. This part of the plan will describe in detail what it will take to become a Global Internet Hub and the return on investment we expect to realize – a return on investment model – from the impact on job creation and investment.
- Create high-impact presentation resources – PowerPoint, video, and other materials.
- Make presentations to leaders in economic development, digital infrastructure industries, the business community, General Assembly, local governments, and other stakeholders.
- Give the economic development industry tools to advance the I-64 Innovation Corridor's ascendency to Global Internet Hub status.
- Provide copies of the final report to roughly 5,000 key stakeholders.
- Create the online information repository or resource center to inventory the documents and inputs uncovered and created for this initiative. This resource center will help other regions across Virginia.
- Most importantly, work with the Steering Committee – now a highly functioning industry group – to advance the plan's recommendations.

Deliverables:

- Comprehensive plan delivered as a PowerPoint document with an executive summary Word document highlights report.
- Presentations to key stakeholders.
- Online information repository.
- Highly functioning industry council.

Across All Steps 1-4: Build Momentum for the Cause and the Growth Plan

Goal:
- Unify the digital infrastructure community and stakeholders around the cause and the Strategic Plan planning process.
- Cultivate widespread awareness and ownership of the final Growth Plan.
- Build widespread support for the Growth Plan recommendations and related action plans.

Approach:
- Across all the steps, the project team and Steering Committee will use the Strategic Plan planning process as the dynamic first phase of anticipated plan implementation – "building the plane while we're flying it" approach.
- This work will target interested third parties and stakeholders, showcasing the industry's pro-active stance in creating the Strategic Plan.
- Through a number of communication materials and media reports, share assets and actions already underway and coming next, building up to the final release of the Strategic Plan.

- Showcase specific examples of collaboration and coordination that are going on to unite the digital Infrastructure community.

Deliverable:

- Multiple communication materials and stories on the process, who's involved, why, and where we are headed.

Budget and Funding:

Uses of Funds:

The Work Group has estimated the total cost of the formulating the strategic plan will be $500,000 in cash and in-kind contributions. The majority of the budget (90%) will be used to fund the international consultants and firms that will help create the key Action Plan.

The total $500,000 budget will be allocated across the following project tasks:

Description of Work	Budget

Action Plans Created by International Digital Infrastructure Consultants:
The bulk of funding will be used to support the Action Plan consultants identified by the Steering Committee: Four promising examples include:
    o Rankings Action Plan: Hire TeleGeography, the international research company that rates and ranks Global Internet Hubs, for its assessment and best performance suggestions to help the I-64 Innovation Corridor move up in its international rankings.
    o Tax Incentives Action Plan: Create a detailed plan and rationale on the impact of tax incentives that will be provided to the General Assembly and all jurisdictions along the I-64 Innovation Corridor. Coordinate with JLARC's work in this area.
    o Cable Landings Action Plan: Hire ASN, SubCom, or Xtera to analyze and assess the optimal future cable landing sites. Their work in the development of this Growth Plan will introduce and connect the I-64 Innovation Corridor to the world.
    o Energy and Water Resources: Conduct a feasibility study of potential data center sites in the I-64 Innovation Corridor based on existing or easily extended energy and water resources.
 	
We envision 6 to 8 Action Plans will be created.
	$450,000

Communications and digital GIH Information Resource Center: Consulting budget and online repository of relevant digital infrastructure studies, reports, and information identified as part of this initiative on the I-64 Corridor and other regions across Virginia. This resource center will be a legacy deliverable as part of the GO Virginia grant (see below).	$35,000
Out-of-pocket expenses: Printing, mailing reports to stakeholders, travel, meeting expenses, etc.	$15,000
Total	**$500,000**

Sources of Funds:

Strategic planning takes an investment in time and money to hire key contractors. Here's how we will provide both.

1. **GO Virginia Grant:** A $100,000 grant application is being submitted to GO Virginia. This request requires a $50,000 match for a total $150,000 in initial planning funds. We have already exceeded the match, raising $60,000 in cash. When combined with in-kind contribution of $60,000 in professional time, we have $120,000 in cash and in-kind support, more than the GO Virginia funding that's being requested.

    The following organizations have pledged to provide cash:
    *   City of Virginia Beach: $10,000.
    *   Henrico County: $10,000.
    *   Dominion Energy: $10,000.
    *   Hampton Roads Alliance: $10,000
    *   Old Dominion University: $10,000
    *   Dragonfli: $10,000

    Virginia Beach is serving as the point for the GO Virginia grant application through Taylor Adams, deputy city manager and director of Economic Development, and Raymond White, business development coordinator of the Virginia Beach Economic Development Authority.

    RVA757 Connects cannot serve as the point entity because GO Virginia does not allow a planning grant to follow a planning grant. RVA757 Connects' I-64 Innovation Corridor Opportunity Study was funded by GO Virginia. That study helped point us towards a Global Internet Hub topic.

    The bottom line: We are just getting organized and can see our way to $200,000-plus in funding toward the overall $500,000 budget for this initiative.

2. **Steering Committee Members:** The majority of the initial work group members have put in cash toward funding the early work of creating a strategic plan. Once we create the larger Steering Committee, we fully expect many Steering Committee Members will provide additional financial and in-kind support.

3. **Third parties:** RVA757 Connects' Development Committee plans to focus on raising funds to help support this planning effort.

What Global Internet Hub Status Will Mean for Both Regions

Becoming a Global Internet Hub is about more than earning a ranking or label. It's about the level of hyper-interconnectivity that a region has achieved. It is about operating on a global stage, bringing enormous attention, benefits, and advantages to a region's businesses, community, and economic development efforts.

Here's a quick overview of some of these advantages:

Business advantages:

- **Provides faster service:** In the age of cloud computing and storage, being located in a hub provides a real-time business advantage, enabling organizations to conduct business at the speed of light. This offers a competitive advantage in many industries.

- **Lowers internet costs:** Internet hubs ensure that local internet traffic passes through cheap, local connections rather than more expensive, international links.

- **Enhances communication ability:** Efficient interconnection points with network operators connecting in the same location strengthens infrastructure, which decreases bandwidth requirements, increases internet speeds, and provides broader access to more reliable Internet service.

- **Provides edge computing support:** Edge computing is the latest way data services are being deployed at the edge of networks to process and store data faster, allowing for more efficient applications for retailers, businesses, manufacturers, and others.

- **Builds a larger tech talent pool:** Internet hubs create a local environment that attracts Internet service providers and the required support services as well as companies that require highly skilled, tech-savvy employees.

- **Provides greater access to super-computing:** Super-computing is a reality. Jefferson Lab may have it one day, connecting I-64 Innovation Corridor businesses to super-computing capabilities (machine learning and artificial intelligence) through an enhanced digital infrastructure.

What is supercomputing technology?

https://www.ibm.com/topics/supercomputing

Supercomputing technology comprises supercomputers, the fastest computers in the world. Supercomputers are made up of interconnects, I/O systems, memory, and processor cores.

Unlike traditional computers, supercomputers use more than one central processing unit (CPU). These CPUs are grouped into compute nodes, comprising a processor or a group of processors—symmetric multiprocessing (SMP)—and a memory block. At scale, a supercomputer can contain tens of thousands of nodes. With interconnect communication capabilities, these nodes can collaborate on solving a specific problem. Nodes also use interconnects to communicate with I/O systems, like data storage and networking.

Community advantages:

- **Enhances municipal/county budget funding:** Increased taxes on Internet infrastructure contribute to communities.

- **Supports equity:** The entire community will have faster, more reliable Internet, providing access to high-speed connections for everyone.

- **Improves public safety and transportation infrastructure**: More robust Internet enables data sharing between all 911 departments and improves regional natural disaster recovery.

- **Enhances educational opportunities:** Regional connectivity facilitates the integration of higher education for collaborative research, provides the bandwidth necessary for growing educational needs, and increases enrollment, retention, and graduation rates.

- **Improves healthcare:** A larger local network enables greater remote access to doctors and specialists and enables healthcare providers to extend their range of service. About 17% of all healthcare appointments are now delivered through telemedicine.

- **Increases work-from-home advantages and opportunities:** Access to reliable, high-speed Internet makes locations even more attractive for both companies and workers embracing a work-from-home model. Up to 50% of all jobs will be remote by 2025.

Economic development advantages:

- **Invests in our future:** Both the Richmond area and Hampton Roads are behind leading peer regions by most economic measures, including growth in population, talent (worker), and gross domestic product. A primary challenge has been confirmed in study after study. Those regions must make strategic investments that will make us more competitive in the future.

- **Supports legacy businesses:** All businesses run on data. The projected growth of data is exponential. Expanding the digital infrastructure helps all businesses.

- **Supports new high-growth job-generating industry clusters:** Our legacy industries are not unique enough to be major talent attracters. Fortunately, through the hard work of leaders in both regions, we have identified and are now nurturing a set of emerging industry clusters that will be our new job generators, industries where we can have a national advantage. This includes transportation and logistics, national and cyber security, advanced manufacturing (including pharmaceutical manufacturing) and life sciences, information technologies and data systems, autonomous and unmanned systems, maritime innovations, and a few others. Hampton Roads and Richmond regions share many of these opportunities.

Innovation is the common denominator underlying these key growth clusters. Today, innovation is supported and facilitated by digital connects. The Global Internet Hub Strategic Plan will accelerate digital connections.

- **Accelerates momentum in workforce development and talent attraction/retention:** Global Internet Hubs attract and retain a growing number of tech and tech-adjacent workers. These growing hubs also generate new jobs, affording re/up-skilling opportunities for residents, including jobs and related training that will support upward mobility.

- **Supports closing skills, credentialling, and degree gaps in priority clusters:** The Global Internet Hub Strategic Plan initiative will provide the employment ecosystem with a more robust digital infrastructure to support job training and development in what will become an increasing remote workforce for many of these clusters.

- **Supports upgrading business-ready sites:** Access to digital infrastructure is on the criteria list for a business-ready site. The Global Internet Hub Strategic Growth Plan will make an inventory and map the current digital infrastructure assets and improvements slated for the future. This mapping can include alignment to the priority business-ready sites.

- **Supports GO Virginia's planning:** This initiative is part of Richmond's and Hampton Roads' economic development strategies. Both GO Virginia Region 4's and Region 5's Growth and Diversification Plans specifically mention addressing the opportunity of becoming a Global Internet Hub. Below are the related references:

  - Region 4: The Region 4 2021 Growth and Diversification Plan, submitted to DHCD on Dec. 31, 2021, states on page 42, "Examine the potential of RVA-757 creating a Global Internet Hub that can attract job-creating tech companies to the region."
  - Region 5: The Region 5 2021 Growth and Diversification Plan also includes a reference on page 131 that speaks directly to advancing the Global Internet Hub strategy.

- **Enhances the appeal of both regions and, collectively, the megaregion:** Being a recognized Global Internet Hub will enhance the appeal of our location for future business investment.

- **Fuels greater collaboration:** Builds linkages that have developed or are emerging across regions to address priority issues of mutual interest. As GO Virginia's Region 4 plan states, "…the ongoing business-to-business collaboration between Richmond and Hampton Roads focused on economic development should be an important foundation for GO Virginia competitive proposals."