

AUGUST 2019

The logo features a large green 'G' followed by a green circle containing a white outline of Virginia and several green arrows pointing right. Below the circle, the word 'VIRGINIA' is written in blue, and 'REGION 6' is written in a larger blue font below that.

GO
VIRGINIA
REGION 6

GROWTH & DIVERSIFICATION PLAN UPDATE
2019

MARY BALL WASHINGTON REGIONAL COUNCIL
GO VIRGINIA REGION 6



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GO Virginia - Region 6

Mary Ball Washington Regional Council

Growth and Diversification Plan Update 2019

This 2019 update of the Growth and Diversification Plan has been prepared by Neal Barber, President of Community Futures, for the Mary Ball Washington Regional Council, GO Virginia – Region 6.

Table of Contents

Executive Summary _____	1
Regional Economic Analysis _____	6
Stakeholder Engagement _____	6
Regional Economic Trends/Conditions _____	9
Priority High Performance Industry Clusters _____	13
Workforce Gaps Analysis _____	15
Sites, Buildings, Prospect Recommendations and Prospect Visits Analysis _____	19
Entrepreneurial Ecosystem _____	21
Funded Projects _____	23
Investment Strategies and Recommendations _____	27
Desired Outcomes _____	27
Investment Strategies and Recommendations _____	31
Measures of Success _____	49
Budget Considerations/Funding Sources _____	53
Project Pipeline Analysis _____	56
Appendix A. Stakeholder Engagement _____	60
Appendix B. Regional Entrepreneurial Assessment Project Summary _____	75
Ideation _____	75
Commercial Viability _____	76
Market Entry _____	77
Growth & Scalability _____	78
Appendix C. Virginia Initiates Program Alignment _____	82
Virginia Research Investment Committee (VRIC) _____	82
Collaborative Economic Development Act _____	85
State Council of Higher Education (SCHEV) - Credentialing Program _____	86
Appendix D. Non-GO Virginia Programs _____	89
Virginia Business Ready Sites Program _____	89
Commonwealth Cyber Initiative _____	91
Amazon HQ2 Tech Talent Pipeline Initiative _____	93

Virginia Telecommunications Initiative _____	96
Virginia FastForward Initiative _____	97
Opportunity Zones _____	99
Rural Coastal Virginia Community Enhancement Authority _____	100
Appendix E. Sites, Buildings, Prospect Recommendations and Prospect Visits Analysis _	102
Sites _____	102
Buildings _____	104
Prospect Recommendations _____	107
Prospect Visits _____	111
Prospect Activity Related to Product Availability _____	115
Conclusions and Findings on Sites, Buildings, Prospect Recommendations, and Prospect Visits _____	116

Executive Summary

Mary Ball Washington GO Virginia Region 6 is one of nine GO Virginia Regions across Virginia. Region 6 consists of the George Washington Regional Commission (GWRC), Middle Peninsula Planning District Commission (MPPDC), and the Northern Neck Planning District Commission (NNPDC). The purpose of GO Virginia is to create more and higher paying jobs through incentivized collaboration, primarily from out-of-state revenue, which diversifies and strengthens regional economies. In 2017 the Mary Ball Washington Regional Council adopted a *Growth and Diversification Plan* that outlined a series of investment strategies to accelerate the creation of higher paying jobs in priority industry clusters. The Virginia Growth and Opportunity Act requires regional councils to review and amend the growth and diversification plan every two years. The Mary Ball Washington Regional Council has reviewed and updated the *2017 Growth and Diversification Plan* in accordance with the guidelines adopted by the GO Virginia Board.

Economic Trends & Drivers. An empirical assessment of economic and labor market conditions by Mangum Economics yielded these principal findings.

- The private sector accounts for a smaller proportion of total employment than Virginia – 76% in Region 6 vs. 82% in Virginia.
- Unemployment continued to decline to 3 percent in May 2019.
- Employment growth in Region 6 slowed to the statewide trend, and the Fredericksburg area grew at a faster pace than other parts of the region.
- Average weekly wages continue to be below the statewide average – \$806 in Region 6 vs. \$1,113 in Virginia, but wage growth matches the statewide average.
- The Professional, Scientific & Technical Services (↑ 739 jobs); Other Services (↑ 474 jobs); and Health Care and Social Assistance (↑ 438 jobs) sectors lead year-over-year employment growth.
- 60% of the region’s workers commute to employment outside the region.

Priority Industry Clusters. The six Priority Industry Clusters remain as identified in the 2017 Plan with the slight modification of the Aquaculture, Seafood and Commercial Fishing cluster to capture a larger array of marine related businesses/industries.

- Aquaculture/Seafood/Commercial Fishing/Marine Industries
- Forestry/Wood Products and Paper
- Manufacturing
- Distribution/Logistics
- Information/Data Centers
- Professional, Scientific and Technical Services

Workforce Analysis. This analysis compared demand for trained occupational workers in the high-performance industry clusters with the pipeline of graduates coming out of regional training programs identifying potential gaps between the two.

- Many of the identified gaps pertained to occupations that typically require a baccalaureate degree, and this is largely attributable to the fact that there is only one four-year degree granting post-secondary education institution in Region 6 – University of Mary Washington. Graduates from higher education institutions outside of the region would actually fill many of the identified shortfalls.
- The identified gaps, particularly in middle-skill occupations that require a less than a two-year, post-secondary certificate, include:
 - Automotive Service Technicians and Mechanics,
 - Bus and Truck Mechanics and Diesel Engine Specialists,
 - Dental Assistants,
 - Electrical Power-Line Installers and Repairers,
 - Electricians,
 - Heating, Air Conditioning, and Refrigeration Mechanics,
 - Heavy and Tractor-Trailer Truck Drivers,
 - Industry and Machinery Mechanics,
 - Physical Therapist Assistants, and
 - Plumbers, Pipefitters, and Steamfitters.

Approximately 60 percent of Region 6 workers commute out of the region each day for employment. Roughly 56 percent of the workforce in the Fredericksburg region out-commute, mostly to Northern Virginia. The Middle Peninsula has the largest percentage of out-commuting, 74 percent, of any region in the Commonwealth. The Northern Neck is not far behind with 66 percent of its workers out-commuting.

Investment Strategies and Recommendations. There were very minor changes recommended to the 2017 Vision, Goals, and Objectives. Most of the suggested changes relate to the strategies to guide the Mary Ball Washington Regional Council in the pursuit of the revised goals and objectives. These strategies were shaped by new state initiatives, additional empirical analysis, new policies of the GO Virginia Board, experience from funded projects, and progress made over the past two years.

The 24 recommended investment strategies are listed below within 6 category groupings (indicated by roman numerals).

I. Product (Sites and Buildings) Strategies:

- 1) Virginia Business Ready Sites Program – Increase the readiness of available business sites
- 2) Encourage “Data Center Certification” of Additional Sites
- 3) Develop regional business/industrial properties with cost/revenue sharing agreements
- 4) Develop additional speculative office buildings

II. Workforce Development Strategies:

- 5) Realign training and education programs to meet industry requirements
- 6) Expand “work-based learning programs
- 7) Establish formal partnerships between educational institutions and the Commonwealth Cyber Initiative
- 8) Create occupational career paths for priority industry clusters
- 9) Expand regional workforce development and technical education centers

III. Entrepreneurship Strategies:

- 10) Expand youth entrepreneurship programs in K-12 and community colleges
- 11) Expand the University of Mary Washington Small Business Development Center programs
- 12) Expand “Innovation Centers” throughout the region
- 13) Expand the array of financing resources offered by the Rappahannock Economic Development Corporation
- 14) Create “Opportunity Zone Funds”
- 15) Conduct business plan competitions
- 16) Expand “Participating Intermediary Agreements” with research institutions

IV. Business Scale-Up Strategies:

- 17) Expand the utilization of GENEDGE technical assistance
- 18) Increase VEDP Export Assistance
- 19) Develop new product lines in the priority industry clusters

V. Broadband Infrastructure Strategies:

- 20) Implement PamunkeyNet
- 21) Expand broadband services through “public private partnerships”

VI. Water Based Economy Strategies:

- 22) Preserve and develop “working waterfronts”
- 23) Implement the Rural Virginia Coastal Community Enhancement Authority
- 24) Establish a “Center for Resiliency Innovation” Center
- 25) Commercialize resiliency products and services across coastal Virginia.

Project Pipeline Analysis. - Both the state GO Virginia Board and Mary Ball Washington Regional Council recognize the challenges of applying for GO Virginia funding and have made policy changes that will increase the likelihood of more applications coming forward in the future. The state board encourages the regions to become more proactive in marketing the GO Virginia program and assisting applicants in structuring proposals.

The Region 6 Regional Council has recently instituted several policy changes that should increase the pipeline of projects over the next year. In addition to the actions taken by the

Region 6 Council, it is recommended that the Council take the following steps to further accelerate the transition from regional development strategies into funded projects:

- Use the flexibility granted by the state Board to fund a coordination function for entrepreneurship initiatives.
- The Regional Council should adopt an affirmative policy related to the use of the capacity building grants.
- It is recommended that the Regional Council facilitate a forum(s) for local elected officials on the principles of economic development revenue/cost sharing and RIFA structures.
- It is recommended that the Regional Council leverage the financial resources of the Community Foundations within the region.

Regional Economic Analysis

STAKEHOLDER ENGAGEMENT

The process of stakeholder engagement involved a series of stakeholder meetings that were held from May 15th to June 21st, 2019. Meetings were held with the chief administrative officers and Planning District Commission staff of each of the three sub-regions, George Washington Region, Middle Peninsula, and Northern Neck. Meetings were held with the local economic development directors and regional economic development organizations in the Fredericksburg Regional Alliance and Middle Peninsula Alliance regions. Two additional meetings were held related to entrepreneurship and workforce development. The participants in the entrepreneurship and workforce development sessions were a combination of private sector, public sector, non-profit sector and institutions across the region. Over 60 individuals participated in the stakeholder discussion sessions.

A number of common themes emerged from the sessions:

Regional Economy Unchanged - The regional economy has not had much change since the Growth and Diversification Plan was prepared in 2017. The region is growing with the majority of that growth occurring in the northern portion of the region. Growth is also occurring in select areas of the region but not uniformly across the rural areas.

Out-Commuting Challenge - 60 percent of the workforce commutes out of the region daily to work. This situation is by far the largest economic development challenge facing the region. Growing employment within the region or providing ways to allow those commuters to work remotely are strategies to stem out-commuting.

Workforce Scarcity - Employers large and small are having a hard time finding workers to fill positions. Many employers are resorting to non-traditional measures to fill the vacancies.

Priority Sectors OK – The six priority industrial sectors identified in the *2017 Growth and Diversification Plan* were still valid in 2019. There were several comments that the Seafood, Fishing and Aquaculture cluster should be expanded to capture a larger array of marine related businesses/industries. Several stakeholders mentioned that the healthcare and tourism are very important industry clusters to the region but since GO Virginia does not place a priority on those sectors the consensus is to retain the six clusters from the 2017 Plan.

Broadband – The lack of broadband service in the rural areas is still a major impediment to economic development. The current efforts to expand broadband service should continue to be a high priority and supported.

Limited Industrial Sites and Buildings – There is a lack of quality and variety of sites and buildings to support business expansion. The vast majority of the sites that are available in the region are concentrated in the northern portion of the region. Even then there are virtually no business sites that have a VEDP Business Site Readiness rating above a 3 on a five-point scale.

Entrepreneurial Program Expansion – There was broad consensus that entrepreneurial programs, assistance, facilities and capital access need to be expanded throughout the region. Expansion of youth entrepreneurship programs, expanded incubator/accelerator/co-working facilities, expanded SBDC services, additional business plan competitions and additional financial resources were among the many entrepreneurial services recommended for the region. There was agreement that greater regional cooperation is needed to augment the delivery of entrepreneurial programs in the region.

Commercialization of Research - The advancement of commercialization of research at the Dahlgren Naval Surface Warfare Center, Virginia Institute of Marine Sciences (VIMS) and other research facilities in eastern Virginia are important strategies for consideration.

Downtown Revitalization – A number of the downtowns in the region have embarked upon revitalization efforts. These efforts have stimulated not only the renovation of downtown properties but also the stimulation of new business activity in these commercial hubs. Efforts should be made to support these programs and expand them to other communities within the region.

Misalignment of Workforce Preparation – The education and workforce development programs in the region are not producing the quality or the skill sets needed by the employers in the region. The education and training providers need to adjust their program offerings to be more reflective of the occupations needed by regional employers.

Work- Based Learning – There needs to be a stronger linkage between employers and educational institutions in the region with an emphasis on work-based learning experiences. Such programs as apprenticeships, internships, career and technical education programs, etc. should be expanded throughout the region.

Greater Regional Cooperation- The local and regional governments and institutions all need to work more collaboratively to achieve economic progress. Establishing one or more Regional Industrial Facilities Authorities (RIFA) in the region to develop industrial sites and buildings was recommended. The establishment of a coordinating function for entrepreneurship programs and workforce development programs is also recommended.

Industrial Hemp – Industrial hemp offers a potential for a significant new agricultural commodity. The potential types and uses of industrial hemp are not well known or understood by the farmers in the region. There is a need to conduct some research on the types of hemp that could be grown in the region, the various uses and markets for the hemp and how best to expedite the cultivation of the crop by area growers. Industrial hemp is a potential crop not only for Region 6 but most of the rural areas of the state. A joint crop and market research project spanning several GO Virginia regions should be considered.

Opportunity Zones – The recent designation of eight Opportunity Zones in the region offers an opportunity to increase private investment in these areas. The tax advantages afforded to private investors willing to invest in real estate and business in the zones should over time stimulate revitalization. There is the potential to coordinate GO Virginia investment with private Opportunity Zone Fund investments.

REGIONAL ECONOMIC TRENDS/CONDITIONS

This summary provides an overview of the empirical assessment conducted by Mangum Economics of the economic and labor market conditions within GO Virginia Region 6 in June of 2019. The full report is available from the George Washington Regional Commission. The report updates the empirical analysis that was conducted in 2017 as the basis for the Growth and Diversification Plan. The principal findings from that assessment are as follows:

Regional Economy

In recent years, employment and wage growth in GO Virginia Region 6 has been largely consistent with statewide trends. However, there are significant differences in the performance and composition of the economies of the three Planning Districts (PDCs) that comprise Region 6 – George Washington, Middle Peninsula, and Northern Neck. The private sector accounts for a smaller proportion of total employment in Region 6 than is typical for Virginia. In 2018, private sector employment accounted for 76 percent of total employment in Region 6 as a whole, 76 percent in the George Washington PDC, 78 percent in the Middle Peninsula PDC, and 77 percent in the Northern Neck PDC as compared to 82 percent statewide in Virginia.

Region-wide, total private employment growth in Region 6 was identical to that of the state as a whole over the last five years – 7.4 percent in Region 6 as a whole, 8.1 percent in the George Washington PDC, 5.8 percent in the Middle Peninsula PDC, and 3.6 percent in the Northern Neck PDC as compared to 7.4 percent statewide in Virginia.

Region-wide, private sector average weekly wage growth in Region 6 was a little below the statewide average over the last five years – 9.8 percent in Region 6 as a whole, 9.4 percent in the George Washington PDC, 10.4 percent in the Middle Peninsula PDC, and 12.5 percent in the Northern Neck PDC as compared to 10.1 percent statewide in Virginia.

Private sector average weekly wages in Region 6 are below the statewide average. In 2018, private sector average weekly wages were \$806 in Region 6 as a whole, \$840 in the George Washington PDC, \$682 in the Middle Peninsula PDC, and \$713 in the Northern Neck PDC as compared to \$1,113 statewide in Virginia.

Over the one-year period from 2017 to 2018, the three industry sectors in Region 6 with the largest employment growth were: 1) Professional, Scientific, and Technical Services (up 739 jobs), 2) Other Services (up 474 jobs), and 3) Health Care and Social Assistance (up 438 jobs). While the three industry sectors with the largest employment losses were: 1) Manufacturing (down 289 jobs), 2) Wholesale Trade (down 132 jobs), and 3) Construction (down 96 jobs).

Over the five-year period from 2013 to 2018, the three industry sectors in Region 6 with the largest employment growth were: 1) Accommodation and Food Services (up 1,600 jobs), 2) Transportation and Warehousing (up 1,576 jobs), and 3) Other Services (up 1,461 jobs). While the three industry sectors with the largest employment losses were: 1) Wholesale Trade (down 612 jobs), 2) Information (down 407 jobs), and 3) Utilities (down 28 jobs).

Economic Drivers

GO Virginia Region 6 is home to a large and diverse number of high-performing industries. We assessed the relative economic performance of specific industries within Region 6 using a Composite Economic Performance Index that took into account each industry's relative employment footprint, short-term and long-term employment growth, short-term and long-term wage growth, industry wage as a proportion of the average wage for the region, proportion of industry output exported out of Region 6, and employment multiplier.

That analysis identified 82 industries within Region 6 that exhibited a Composite Economic Performance Index that was above the median for the region and 41 industries that performed in the upper quartile.

Since the *2017 Growth and Diversification Plan* was adopted the following are key changes in the regional economy:

- In 2017, Employment growth in Region 6 exceeded the statewide trend. Now, employment growth has fallen to the statewide trend and may be decelerating below it.
- Employment growth in each of the PDC's was accelerating and converging. Now it is decelerating and diverging.
- In 2017, wage growth was exceeding the statewide trend. Now that gap has closed.
- In 2017, Transportation and Warehousing; Administrative Support and Waste Management; and Construction led employment growth then.
- Now, Professional, Scientific, and Technical Services; Other Services; and Health Care and Social Assistance lead employment growth.
- The regional economic driver industries in 2019 are similar to those identified in 2017 and support the clusters identified two years ago.

Workforce Gaps

Our gap analysis of potential shortfalls in the pipeline of completers graduating from regional post-secondary education programs in Region 6 relative to the occupation-driven demand for trained workers from those programs showed that many of the identified gaps pertained to occupations that typically require a baccalaureate degree, and this is largely attributable to the fact that there is only one four-year degree granting post-secondary education institution in Region 6 – the University of Mary Washington.

However, in some instances, particularly in middle-skill occupations that require a less than a two-year, post-secondary certificate, there were identified gaps:

- Automotive Service Technicians and Mechanics,

- Bus and Truck Mechanics and Diesel Engine Specialists,
- Dental Assistants,
- Electrical Power-Line Installers and Repairers,
- Electricians,
- Heating, Air Conditioning, and Refrigeration Mechanics,
- Heavy and Tractor-Trailer Truck Drivers,
- Industry and Machinery Mechanics,
- Physical Therapist Assistants, and
- Plumbers, Pipefitters, and Steamfitters

Forward-Looking Data

The analysis of forward-looking data looked at business start-up and scale-up activity drawn from the heavily from the TEconomy Partners report, *Regional Entrepreneurial Assessment Project* and a separate analysis of VEDP sites and buildings data as compared to VEDP prospect recommendation/visitation data. The full analysis of the business start-up and scale-up activity is contained in the Empirical Assessment report prepared by Mangum Economics. The full analysis of sites/buildings related to prospect activity is contained in Appendix E.

The TEconomy analysis of the entrepreneurial activity showed that:

- The share of the working-age population with at least a bachelor’s degree in Region 6 grew by 17 percent between 2012 and 2017, which was significantly faster than the 10 percent growth rate for the state as a whole or the 12 percent growth rate for the entire United States.
- The rate of new business formation in Region 6 is very close to the state average – 8 percent in 2017 as compared to 9 percent statewide.
- Start-up activity differs across Region 6. The area covered by the George Washington Regional Commission has a high concentration of startup employment in Research and Development, Engineering and Technical Services, and Manufacturing. Both the Middle Peninsula and Northern Neck PDCs have high

concentrations of startup employment in Agriculture, Food Processing, Natural Resources, and Finished Products.

- Most patents issued in Region 6 are to government organizations.

PRIORITY HIGH PERFORMANCE INDUSTRY CLUSTERS

The 2017 Region 6 Growth and Diversification Plan analyzed the industry base within the region using an eight-factor Economic Performance Index. That process identified 16 high-performance industry clusters in the Mary Ball Washington Region:

- Agriculture (including Aquaculture and Forestry)
- Education
- Finance and Insurance
- Information
- Manufacturing of Computer and Electronic Equipment
- Manufacturing of Fabricated Metal and Machinery Products
- Manufacturing of Food and Beverage Products including Seafood
- Manufacturing of Miscellaneous Products
- Manufacturing of Plastics, Rubber, and Nonmetallic Mineral Products
- Manufacturing of Wood Products and Paper
- Mining and Quarrying
- Professional, Scientific, and Technical Services and Management of Companies
- Tourism
- Transportation and Warehousing
- Utilities
- Wholesale Trade

These 16 high performance industry clusters were then consolidated into 6 Priority Industry Clusters:

- Aquaculture/Seafood/Commercial Fishing
- Forestry/Wood Products and Paper
- Manufacturing

- Distribution/Logistics
- Information/Data Centers
- Professional, Scientific and Technical Services

This Plan update again analyzed industrial performance using the eight-factor Economic Performance Index. Table 1 illustrates those industries that are in the 90th percentile using the Index. Industries within the Forestry/Wood Products and Paper, Manufacturing and Distribution/Logistics Priority Industry Clusters comprise half of the 90th percentile industries. Additional analysis of the industry sectors is contained in the Empirical Analysis prepared by Mangum Economics.

Table 1. Industries performing at the 90th percentile and above in Region 6*

Industry	P Index	Percentile
Remediation and Other Waste Management Services	125.5	100
Specialized Freight Trucking	121.7	99
Architectural, Engineering, and Related Services	121.3	99
Sawmills and Wood Preservation	120.7	98
Charter Bus Industry	117.7	98
Oilseed and Grain Farming	112.1	97
Independent Artists, Writers, and Performers	111.7	96
Other Professional, Scientific, and Technical Services	111.7	96
Residential Building Construction	110.8	95
RV (Recreational Vehicle) Parks and Recreational Camps	110.4	95
Support Activities for Road Transportation	109.6	94
Other Financial Investment Activities	109.5	93
Gasoline Stations	107.5	93
Other Heavy and Civil Engineering Construction	107.3	92
Couriers and Express Delivery Services	106.7	91
Lumber and Other Construction Materials Merchant Wholesalers	106.1	91
Management, Scientific, and Technical Consulting Services	105.2	90
Land Subdivision	104.3	90

* Green - Forestry, Wood Products and Paper Industry Cluster

* Orange - Distribution and Logistics Industry Cluster

* Yellow - Professional, Scientific and Technical Services Industry Cluster

Note that the Professional, Scientific and Technical Industry Cluster has rebounded from the federal government sequester that dampened the employment in that cluster in 2017. This sector has shown marked improvement since 2017 particularly in the Fredericksburg area.

The Empirical Assessment conducted by Mangum Economics revealed that the regional economic driver industries in 2019 are similar to those identified in 2017 and support the priority industry clusters identified in the *2017 Growth and Diversification Plan*.

During the stakeholder engagement process there was general agreement that the six Priority High Performance Industry Clusters should remain the same with the addition of marine related industries to the aquaculture/seafood/commercial fishing cluster. Marine related industries use many of the same support services and suppliers and are directly related to the many of the functions of the aquaculture, seafood and commercial fishing businesses. Based upon this feedback the following are recommended as **the Priority Industry Clusters for the 2019 Growth and Diversification Plan Update:**

- **Aquaculture/Seafood/Commercial Fishing/Marine Industries**
- **Forestry/Wood Products and Paper**
- **Manufacturing**
- **Distribution/Logistics**
- **Information/Data Centers**
- **Professional, Scientific and Technical Services**

WORKFORCE GAPS ANALYSIS

The workforce gaps analysis was conducted by Mangum Economics as a component of the Empirical Assessment that is available through the George Washington Regional Commission. The analysis compared the occupation-driven demand for trained workers in GO Virginia Region 6 to the pipeline of completers graduating from regional post-secondary education programs, identifying potential gaps between the two.

The estimate the occupation-driven demand for trained workers in Region 6 was derived from the most recent sub-state occupational employment projections from the Virginia Employment Commission. According to those projections, between 2014 and 2024 Region 6 will experience approximately 5,980 job openings each year.

The 2017-18 completions data from the U.S. Department of Education's IPEDS Data Center was used to estimate the regional supply of completers from education and training programs.

In general, the Mary Ball Washington Region has a sufficient available regional labor pool to support the high-performance industry clusters identified in the cluster analysis. However, potential shortfalls exist in some middle skill occupations.

The analysis of regional occupational employment showed that the available regional labor pool exceeded current employment in each of the identified high-performance industry clusters. However, there were two cases where that margin was noticeably narrower.

In the Professional, Scientific, Technical Services, and Management of Companies cluster, there were limitations in the regional labor pool available to certain industries within the cluster. Specifically, the Custom Computers Programming Services, Computer System Design Services, and Other Computer Related Services industries could experience labor shortages.

In the Transportation and Warehousing industry cluster, there were limitations in the regional labor pool available to certain industries within the cluster particularly in the Truck Transportation industry.

Many of the gaps identified pertain to occupations that typically require a baccalaureate degree. The primary reason for these gaps is there is only one four-year degree granting post-secondary education institution in Region 6 – University of Mary Washington. In all

likelihood, graduates from higher education institutions that are outside of the region would actually fill many of these identified shortfalls.

There are gaps, particularly in “middle-skill” occupations, that require a two-year post-secondary certificate or less. Those occupations are:

- Automotive Service Technicians and Mechanics
- Bus and Truck Mechanics and Diesel Engine Specialists
- Dental Assistants
- Electrical Power-Line Installers and Repairers
- Electricians
- Heating, Air Conditioning, and Refrigeration Mechanics
- Heavy and Tractor-Trailer Truck Drivers
- Industry and Machinery Mechanics
- Physical Therapist Assistants
- Plumbers, Pipefitters, and Steamfitters

The University of Mary Washington (UMW) awards approximately 1,300 graduates each year with 200 being either a Master’s or Advanced Certification. Talent development is facilitated through multiple programs geared toward budding entrepreneurs, those already in the workforce, and those entering the workforce. UMW’s StartUp program provides experiential startup training to high school, community college, and university students. Through Continuing and Professional Studies, the university also offers certifications in cyber security, human resources management, and project management as well as professional development seminars, and customized workforce training to support development across the region. UMW was granted funding from GO Virginia to institute a cyber security certification program – Certified Information Systems Security Professional. UMW’s EagleWorks Incubator and Germanna Community College’s FredCAT provide a mix of office space, prototyping space, and programming for workforce development and startup activity.

Germanna Community College applied for GO Virginia funding to expand an apprenticeship program serving the Region 6 localities within its service area. The Region 6 Council approved the application, but the State GO Virginia Board had questions related to the application and did not take action to approve the application. Germanna Community College should be encouraged to revise the application and resubmit it to GO Virginia.

The stakeholder work group on workforce development issues recommended that there be a stronger emphasis on work-based learning experiences starting with programs in the local school divisions and continuing through the community college and university systems. Programs such as apprenticeships, internships, career and technical education and credentialing are all based on work-based learning experiences. The exposure to in-demand career options should start in middle school and continue with work-based skills development in high school and in higher education institutions.

Because of the very low unemployment rate, employers in the region are having difficulty filling vacant positions. Many employers have resorted to a variety of novel techniques to recruit employees even lowering entrance standards and recruiting non-traditional workers.

If the region is to be able to expand the priority industry clusters, an aggressive effort will need to be made to demonstrate that there is an adequate supply of qualified workers to fill positions within those industries. One of the central questions that employers ask when considering expanding is, “Do you have the workers necessary to support my business?”

Region 6 has a very large proportion of its workers that commute out of the region each day for employment – approximately 60 percent. Roughly 56 percent of the workforce in the Fredericksburg region out-commute, mostly to Northern Virginia. The Middle Peninsula has the largest percentage of out-commuting, 74 percent, of any region in the Commonwealth. The Northern Neck is not far behind with 66 percent of its workers out-commuting.

Table 2. Region 6 Commuting - 2014

Region	Live and Work in Area	Out-Commuters	Total Workers	Percent Out-Commuters
GWRC	62,201	78,012	140,213	55.64%
Middle Peninsula	11,825	33,902	45,727	74.14%
Northern Neck	7,718	14,817	22,535	65.75%

Stemming the flow of out-commuters from the region and encouraging those workers to work close to home is the biggest economic development challenge facing the region. Working remotely, enticing out-commuters to accept local employment and encouraging the out-commuters to establish their own businesses are the three main strategies that will reduce out-commuting.

The George Washington Regional Commission was awarded a capacity building grant from the Regional Council to prepare a regional economic development plan. Part of the grant is an update to a commuter study that was conducted by the University of Mary Washington several years ago. This study will provide greater insights into the characteristics of the out-commuters and lead to more targeted strategies to attract those out-commuters to work within the Region.

SITES, BUILDINGS, PROSPECT RECOMMENDATIONS AND PROSPECT VISITS ANALYSIS

The purpose of this analysis is to study the availability of business real estate, “product”, (sites and buildings) and prospect activity as reported by Virginia Economic Development Partnership (VEDP). The analysis presents data at the GO Virginia regional level, economic development region and locality level. The consultants were able to obtain a database from VEDP that contains the details of prospect recommendations and prospect visits for the years 2014 to 2018. In addition, data related to available sites and buildings was taken from the VEDP VirginiaScan website in May of 2019. The data for some of localities was not available in these databases and is noted in the relevant sections of this analysis.

The following are the primary findings and conclusions from the analysis of VEDP data on available sites and buildings for business expansion/location and VEDP prospect activity, site recommendations and prospect visits.

- Available sites and buildings are concentrated in the Fredericksburg sub-region.
- There are only two certified sites in the region – both data centers certified in Stafford County.
- There are very few publicly owned/controlled sites in the region.
- The Manufacturing and Distribution/Logistics (priority industry clusters) typically require larger sites with utility service (water, sewer and gas) – there is a limited selection of quality business sites meeting these industry standards.
- Almost 91 percent of the available listed office space is located in the Fredericksburg sub-region.
- Professional, Technical and Scientific Services (priority industry cluster) businesses typically require quality office space – there is a limited selection of Class A office space available in the region and those offices are concentrated in just two of localities in the Fredericksburg area.
- Ninety percent of the VEDP site recommendations are in the Fredericksburg sub-region.
- Almost three fourths of all site recommendations had manufacturing as a primary use.
- Fourteen percent of the site recommendations resulted in a decision for a Virginia location. Sixty percent of the site recommendations never materialize because the prospect disengages.
- Prospect visits mirror the trends of site recommendations in geographic distribution and primary use – Fredericksburg sub-region concentration and manufacturing use dominant.
- Once a prospect visits the region, there is a one in three chance that it chooses a Virginia location.
- There is a direct correlation between the availability of quality business sites and prospect activity from VEDP.

- The greater the selection/distribution of prepared larger sites (above 50 acres) the greater the likelihood of prospect activity in the priority industry clusters, manufacturing and distribution/logistics.
- The greater selection/distribution of Class A office space the greater the opportunity for expansion of the professional, technical and scientific services priority industry cluster.

ENTREPRENEURIAL ECOSYSTEM

The Regional Entrepreneurial Assessment Project conducted by TEconomy in 2018 presents an analysis of the entrepreneurial ecosystem within the region and makes some recommendations for activities that support five distinct program areas; 1) develop entrepreneurial pipeline, 2) improve and expand “high-growth” startup programming, 3) improve and expand “local-growth” startup programming, 4) develop continuum of capital, and 5) focus on technology commercialization and industry engagement with regional R&D institutions. A complete summary of the report is contained in Appendix B.

This analysis was supplemented by a stakeholder work session that brought together a range of entrepreneurial support organizations, business capital providers and private businesses to address how to strengthen the entrepreneurial ecosystem. The work session reviewed the Regional Entrepreneurial Assessment Project findings and recommendations along with the entrepreneurial recommendations of the *2017 Growth and Diversification Plan*. A more complete discussion of the work session’s results can be found in Appendix A.

The broad consensus among the work session participants was that entrepreneurial programs, assistance, facilities and access to capital needed to be expanded throughout the region. The entrepreneurial expansion needed to be both programmatically and geographically since there are significant gaps in types of services available and access to those services. Expansion of youth entrepreneurship programs, expanded incubator/accelerator/co-working facilities, expanded SBDC services, additional business plan competitions and additional financial resources were among the many

entrepreneurial services recommended for the region. There was agreement that greater regional cooperation was needed to augment the delivery of entrepreneurial programs in the region.

It is recommended that the region take advantage of the GO Virginia Board’s policy to allow for expenditure of the per capita funds to support the development of a detailed plan for the expansion of entrepreneurial programs/services across the region. The University of Mary Washington Small Business Development Center is likely the best organization to prepare the plan since it provides the broadest array of entrepreneurial services, has the greatest geographic coverage and long-standing relationships with other entrepreneurial service providers.

Table 3 table lists the consolidated strategies/actions recommended by the TEconomy report and *2017 Growth and Diversification Plan*. The TEconomy report lists a larger number of actions but there is considerable overlap between the two documents.

Table 3. Entrepreneurial Strategies

Strategy	Action	TEconomy Report	Growth and Diversification Plan 2017
Entrepreneurial Pipeline			
	1) Expand youth entrepreneurship programs in schools	X	X
	2) Establish student Internships with start-up companies	X	
	3) Entrepreneurship events in schools	X	
"High Growth" Startup Programs			
	4) Identify "high growth" start-up companies	X	
	5) Fill resource gaps	X	X
	6) Expand "incubator/accelerator" facilities		X
	7) Expand mentorship programs	X	
	8) Increase angel investor programs	X	
	9) Expand networking opportunities	X	
"Local Growth" Programs			
	10) Expand peer-to-peer networks	X	X
	11) Host additional networking events	X	
	12) Expand SBDC network of services		X
	13) Aspiring entrepreneurial referral service	X	

	14) Expand GENEDGE and export programs		X
Capital Access			
	15) Link entrepreneurs to micro loan programs	X	
	16) Link successful startups to existing micro loan programs	X	
	17) Feature financial resources at networking events	X	
Technology Commercialization			
	18) Create technology councils	X	
	19) Establish Entrepreneurship programs at research institutions	X	X
	20) Engage entrepreneurial researchers in technology councils	X	
	21) Make technology commercialization a part of "high growth" initiative	X	X

FUNDED PROJECTS

The Mary Ball Washington Regional Council has approved projects that address the investment strategies contained in the *2017 Growth and Diversification Plan* and are aligned with the funding priorities of the GO Virginia Board. The following is a listing of projects that have been recommended/funded in Region 6 and the investment strategy they address.

Broadband Infrastructure – A high priority of the Growth and Diversification Plan is the expansion of high-speed Internet service for business expansion in underserved areas of the region.

- **Pamunkey Net** is a project sponsored by the Middle Peninsula Alliance to develop a business plan for an Internet provider that would be an affiliate organization to the Pamunkey Indian Nation located in King William County. The project has most of the region’s localities as participating partners. The project documents the business case and process for serving the underserved areas of the region. Implementation funding is expected to come from non-GO Virginia sources.

Industrial Sites and Buildings – The Growth and Diversification Plan identified a deficiency in the array of industrial sites and buildings appropriately located and with the prerequisite infrastructure. VEDP is in the process of conducting a statewide assessment of

select industrial sites and rate those sites against their 5 tier Business Ready Sites Program criteria.

- **Northern Neck Site, Building and Infrastructure** – The Northern Neck Planning District Commission was awarded a capacity building grant to conduct assessments of industrial sites based upon the 5 tier VEDP Business Ready Site criteria, review the water and sewer service serving commercial areas and evaluate the potential of a regional industrial/business site.
- **Middle Peninsula Business Site Readiness** – The Middle Peninsula Alliance was awarded a capacity building grant to conduct assessments of industrial sites based upon the 5 tier VEDP Business Ready Site criteria. The site assessments will be in addition to the sites that VEDP is planning to evaluate this fall. An assessment of select waterfront sites potential owned by the Middle Peninsula Public Access Authority was also included in the application.
- **Westmoreland Flex Building** – Westmoreland County was awarded a capacity building grant to investigate the feasibility of developing a publicly-owned flex office building on a parcel in the Town of Montross.

Workforce Development – The Growth and Diversification Plan identified workforce gaps in the delivery of education/training needed to fill projected occupations in the high-performance industry clusters. The institutions of higher education, University of Mary Washington, Germanna Community College and Rappahannock Community College have all been partners to workforce development project proposals to address the identified training needs.

- **Cyber Security Certification Program** – The University of Mary Washington was awarded a grant to implement a training program leading to Certified Information Systems Security Professional (CISSP). The CISSP certification is a high-demand occupational certification in the rapidly expanding cyber security industry.
- **Apprenticeship Network** – Germanna Community College applied to expand their apprenticeship program in the Fredericksburg area. The Regional Council approved the application and forwarded it on to the GO Virginia Board. While the GO Virginia

Board was supportive of expanding apprenticeship programs it had concerns about some of the provisions in the application and has not acted on the application.

- **Welder Training** – Westmoreland County in partnership with Rappahannock Community College (RCC) was awarded a grant to establish a welder training facility and program in a renovated building in Montross. The training program was tailored to provide skilled welders to Carry-On Trailer and other employers in the region. The RCC training has produced welders not only for Carry-On but for several employers in the area and RCC is considering expanding the type of training offered.

Resiliency – The eastern portion of Region 6 is at high risk of sea level rise, increased flooding and damage from extreme weather patterns. Other regions and similar low-lying areas around the world are facing similar threats. The Virginia Institute of Marine Science and numerous institutions in Coastal Virginia are developing innovative solutions to mitigate these conditions. Many of these innovations have the potential to be business led solutions that can be used across the planet.

- **Virginia Sea Grant Resiliency Planning** – The Virginia Sea Grant Program at VIMS was awarded a capacity building grant to consult with researchers, private sector experts and resiliency experts from around the country to determine those resiliency practices that have the greatest potential for commercialization and deployment in rural coastal environments similar to the eastern portion of Region 6.

Regional Economic Development Plan – The George Washington Regional Commission is the only sub-region that does not have an adopted regional economic development plan outlining the strategies for expanding the Fredericksburg area economy. In addition, the region lacks quantitative information on the most significant issue facing the region, workers leaving the region to work in northern Virginia.

- **Good Jobs Here** – The George Washington Regional Commission was awarded a capacity building grant to develop a regional economic development plan in partnership with the Fredericksburg Regional Alliance. As a part of that effort is an out-commuter study is being conducted by the University of Mary Washington to update the commuter study conducted several years ago. This analysis will provide

insights into the characteristics of the commuting population and will help in developing strategies to stem the tide of out-commuting.

Project Pipeline – The Regional Council has only had a few projects request grant funding over the last two years. While there are a number of concepts for project proposals these concepts are not at a stage where they are ready to begin the application process for GO Virginia grant funding. In order to accelerate the process of converting a potential concept into a fundable application the Regional Council solicited proposals from consultants to work on potential project concepts developing them to a stage where “letters-of-intent” are submitted and GO Virginia funding applications filed.

- **Regional Economic Development Organization Grants** – The three regional economic development organizations, Fredericksburg Regional Alliance, Middle Peninsula Alliance and Northern Neck Chesapeake Bay Region Partnership, have each been awarded grants to work with potential applicants to submit at least 4 letters-of-intent and 2 project applications over the next year from each sub-region.

Investment Strategies and Recommendations

DESIRED OUTCOMES

The vision established for the *2017 Growth and Diversification Plan* is a statement that expresses the characteristics of what the region desires to become. The vision statement is aspirational and becomes the basis for establishing goals and objectives for a prosperous future and guides the development of strategies for increasing the rate of growth of higher-paying jobs across the region. **The modifications to the vision are highlighted in blue.**

Vision 2027

The continued growth and expanded employment base in the Mary Ball Washington Region has resulted in the region being designated a Metropolitan Statistical Area by the US Bureau of the Census. The Region has been able to leverage this designation, its unique location (between our nation's Capital, the Virginia State Capital and the Port of Hampton Roads) and the presence of numerous military and security installations to having one of the highest concentrations of professional service firms in the nation. While the region is known for professional service firms supporting defense, security and marine interests it has been able to expand other high-wage sectors such as **data centers and** advanced manufacturing. These businesses pay some of the highest wages in the Commonwealth and have resulted in stemming the out-commuting to neighboring areas. Regional businesses have been able to commercialize cutting-edge technologies and processes developed for military or security use and pioneered by Virginia Institute of Marine Science. The region's educational and workforce development institutions have been able to continually adjust their programs to meet the ever-changing needs for advanced skills-based jobs throughout the region. While most of the growth has occurred in the Fredericksburg area, along the I-95 corridor, the rural areas of the Northern Neck and Middle Peninsula have benefited from the diversification, specialization and modernization of their natural resource-based industries. The deployment of a high-speed broadband network across the region has supported the creation of numerous small technical and professional businesses

throughout the region. The region’s trove of national historical sites and abundant coastal amenities continues to support an ever-expanding tourism industry.

Goals and Objectives

The following set of goals was included in the *2017 Growth and Diversification Plan* to provide direction necessary to achieve the Vision 2027 for the region. These goals are the desired outcomes/results needed to fulfill the vision and establish the direction for the regional economic development efforts well into the future. These goals are the foundation for investment of GO Virginia resources in projects throughout the region. Specific objectives have been established for each goal. These objectives establish measures of achievement in accomplishing the goals. The goals were modified slightly to reflect changes over the last two years. **The modifications are highlighted in blue.**

Goal 1: Accelerate the creation and expansion of businesses in identified high performance industry clusters throughout the region including:

- **Aquaculture/Seafood/Commercial Fishing/Marine Industries,**
- **Forestry/Wood Products and Paper,**
- **Manufacturing,**
- **Distribution/Logistics,**
- **Information/Data Centers and**
- **Professional, Scientific and Technical Service**

Objectives:

- Professional Services Cluster – Add 10 new firms annually – Increase employment 2 percent or 200 jobs annually
- Distribution and Logistics Cluster – Add 2 firms annually – Increase employment by 2 percent or 150 jobs annually
- Information/Data Centers Cluster– Add 1 firm annually – Increase employment by 2 percent or 10 jobs annually
- Manufacturing Cluster – Add 1 firm annually – Increase employment by 50 jobs annually

Goal 2: Steadily increase the average wages of workers to above the State’s average.

Objectives:

- Add 600 new higher-wage workers to the region’s economy annually.
- At least 60 percent of the new employment added to the economy will be “higher” wage jobs.

Goal 3: Expand, diversify and modernize the high-performance natural resource-based industries throughout the region.

Objectives:

- Seafood/Aquaculture/Commercial Fishing/**Marine Industries Cluster** – Increase employment by 5 percent or 40 employees annually – Stimulate new private investment of \$2 million annually
- Forestry, Wood Products and Paper Cluster – Increase employment by 3 percent or 30 employees annually – Stimulate new private investment of \$4 million annually

Goal 4: Provide an adequate supply of appropriately trained and educated workers for the employers in the identified high-performance industry clusters.

Objectives:

- Biannually conduct a five-year projection of the annual anticipated supply gap for occupations in the high-performance industry clusters.
- Develop or modify the training and education programs to meet the occupational gaps.
- Recruit workers in those select occupations where training programs within the region are not able to fill the gaps.
- Continually retrain workers in the priority high performance industry clusters to meet modern day training and education requirements.

Goal 5: Reduce the number and percentage of workers commuting to higher-paying jobs in neighboring metropolitan areas.

Objectives:

- Reduce the approximately 115,000 out-commuters from the region by 10,000 over the next 10 years.
- Reduce the approximately 60 percent of the workers commuting out of the region by 5 percent over the next 10 years.
- Provide telework and shared workspace opportunities at numerous locations throughout the region.

Goal 6: Provide reliable and affordable high-speed broadband services to all areas of the region meeting the needs of modern high-performance industry sector employers.

Objectives:

- Establish a broadband Internet provider that will provide high-speed Internet service to underserved areas of the region.
- Reduce the underserved broadband customer base by 5 percent annually.
- Continually upgrade the existing broadband service to the most modern standards of the target industry clusters.

Goal 7: Increase tourism expenditures and employment above the State average annual increase.

Objectives:

- Increase tourism expenditures by 3 percent annually over the next 5 years.
- Increase tourism employment by 3 percent annually over the next 5 years.
- Create 5 new businesses in tourism or tourism related businesses annually.
- Generate 100 new higher-paying jobs in tourism or tourism related businesses annually.

INVESTMENT STRATEGIES AND RECOMMENDATIONS

The following narrative describes a series of strategies to guide the Mary Ball Washington Regional Council in the pursuit of the slightly revised goals and objectives. These strategies build upon the strategies outlined in the *2017 Growth and Diversification Plan*, new state Initiatives and experience over the past two years. If these strategies are implemented with proper funding, they should achieve the goals and objectives outlined in this Plan and GO Virginia. These strategies/recommendations will serve as guidance to potential project sponsors in the development of proposals for funding. These recommendations will also serve as a guide in the evaluation and review of funding requests to the Mary Ball Washington Regional Council.

The strategy recommendations provided in this section are presented to strengthen each of the following six categories of strategies.

- 1) Product (Sites and Buildings),
- 2) Workforce Development,
- 3) Entrepreneurship,
- 4) Business Scale-Up,
- 5) Broadband Infrastructure, and
- 6) Water-Based Economy.

Product (Sites and Buildings)

Businesses, large or small, require suitable facilities to conduct their business. If a suitable site or building fails to meet the requirements of a priority industry sector business, it will be forced to locate elsewhere or operate in substandard facilities. Each identified priority industry cluster typically has specific requirements related to location; transportation access, available utilities, parcel size, building type/size, etc. As an example, the site requirements for a large manufacturer are much different than the requirements of a small professional services business. It is imperative that a region have an adequate supply of various types, sizes and locations of sites and buildings meeting the location requirements of new and existing businesses in the priority industry clusters. These sites and buildings

must be able to meet minimum quality standards, utilities, location, access, physical characteristics, etc. of the priority industry cluster and should be geographically dispersed throughout the region.

Because of the costs of development of industrial parks and the regional impact of these facilities many regions/localities are joining together to share the costs and benefits of the development of regional industrial parks.

Strategies:

1. **Virginia Business Ready Sites Program – Increase the readiness rating of available business sites** – VEDP is in the process of assessing many of the industrial sites in Region 6 against the 5-tier Business Ready Classification System. The Middle Peninsula Alliance and Northern Neck PDC have been awarded capacity building grants to assess many of the remaining sites in those regions. The Fredericksburg Regional Alliance (FRA) in cooperation with their local economic development offices has conducted site audits on several sites within their region. None of the sites that have been assessed rated above a 3 on the 5-tier scale. It is recommended that the more marketable sites in each sub-region be brought up to “Tier 5 Business Ready” level.
2. **Encourage Data Center Certification by Dominion Energy of additional sites** – There are 2 Dominion certified data center sites located in Stafford County: Data Center Site at Quantico and Quantico Corporate Center at Stafford. It is recommended that Dominion Energy designate additional sites throughout the FRA region as certified data centers.
3. **Encourage the development of regional business/industrial properties with cost/revenue sharing agreements** - The FRA area has identified several industrial sites that have the potential to be regional industrial sites. The Middle Peninsula Alliance and the Northern Neck Chesapeake Bay Region Partnership are now in the process of assessing potential sites within their sub-regions as potential regional industrial sites. Once these assessments have been complete each sub-region should select one or more sites for development by a regional organization such as a Regional Industrial Facilities

Authority (RIFA). The following are recommended steps in the process of establishing regional industrial sites throughout the region.

- a. **Identify regional business/industrial sites** – Current efforts are under way in each of the sub-regions to identify the most appropriate sites for a regional industrial park.
- b. **Regional Industrial Facilities Authority** - Typically, businesses in the Manufacturing, Logistics/Distribution and Information/Data Center clusters require fairly large “shovel ready” sites that allow room for expansion. Most of the developable business/industrial sites in the region are concentrated in the northern portion of the region, FRA. The quality/suitability of these available sites varies from greenfield sites, without water and sewer, to those that have full complement of utilities. GO Virginia has established a priority for funding the development of regional industrial sites. There is only one industrial site in the region that has a regional organization and revenue sharing agreement, West Point Regional Airport. Even this site is limited in size and lacks the necessary infrastructure to support additional development. One of the first steps in the development of a regional industrial site is the creation of a regional entity to develop an industrial site with a revenue sharing agreement such as a Regional Industrial Facilities Authority (RIFA). Each sub-region, Fredericksburg area, Middle Peninsula and Northern Neck, is encouraged to establish a RIFA to assist with the development of one or more large industrial sites within that sub-region.
- c. **Site Acquisition/Control** – There are few “publicly-owned” sites in the region that can support manufacturing, logistics/distribution and data center development. If Region 6 is to be competitive with other regions across the Commonwealth it will have to increase the supply of quality industrial sites that have public site control through local Economic Development Authorities or regional organizations. The current efforts to evaluate the existing inventory of industrial sites based upon the VEDP 5-tier Business Ready Sites Program criteria will identify those sites that have the greatest potential for development and the cost of that development. Each sub-region should proceed with gaining

site control, option to purchase, acquisition, etc., over the most promising of the regional industrial sites.

- d. **Site Development** – Once the sub-regions have gained site control of the most promising regional industrial sites they can then precede with the development of the sites. Initially, a number of engineering, environmental and planning studies would need to determine the specific design and cost factors for each regional industrial site. Once all of the design and cost parameters have been determined the physical development of the sites can move forward.

4. **Speculative Office building - Cooperation agreement exploration - Westmoreland and others** There has been a demonstrated interest from individuals and small firms that wish to start or grow their own professional service business. The success of Eagle Works in Fredericksburg has demonstrated the potential for growing small businesses in the professional services and technology sectors. The experience of these facilities indicates that multi-tenant office space that provides offices as small as 200 sq. ft. with a complement of amenities and services would accelerate the growth of these small businesses. Because of the sensitivity of their work and security issues, offices configured with privacy with doors and special security features are preferred. It is recommended that the inventory of office buildings be developed throughout the region that offers Class “A” and small offices for lease, with a complement of amenities and services for the tenants. These facilities would complement a network of telework centers, incubators or accelerators.

Workforce Development

Sixty percent of the region’s workforce commutes out of the region every day to go to work. A study by the University of Mary Washington indicates that the vast majority of those commuters are employed in occupations directly related to the identified growth sectors in the region. The challenge for the region is to develop strategies that will allow these commuters to work closer to home. The lower wage rates paid in the region are a deterrent to luring these commuters to work in the region illustrating the need for higher wage employment opportunities. Studies indicate that these commuters may be willing to take a

15 percent to 20 percent reduction in pay to have a richer quality of life with less commuting.

Several participants in the stakeholder meetings indicated that there is a mismatch between the skills required by employers and the training and education received by the local institutions. Students also did not have a firm grasp of the world of work and the requirements of the workplace. Employers indicate that the youth coming out of our school systems today had insufficient exposure to the world of work and are unprepared for the demands of the work environment. Greater engagement and exposure of students with businesses during the academic year would assist in orienting students to the expectations of the work environment.

Indications are that most all employers in the region are having difficulty hiring workers. Some of the common reasons given are the inability to pass drug tests, the lack of “soft skills” (work habits, appearance, communication skills, etc.) and the lack of technical skills.

The region has only one four-year institution of higher education, the University of Mary Washington. The University of Mary Washington is a liberal arts university with a limited complement of degrees in scientific and technical occupations. Thus, the demand for many of the higher-level occupations that require a four-year degree must be met through recruitment from outside the region. The two community colleges in the region, Germanna and Rappahannock Community Colleges, provide a range of course offerings that are more aligned to the middle-skill occupations of the identified priority industry clusters. These middle-skill occupations require training that is greater than the high school level, but below the level of a four-year college degree.

The workforce analysis indicates that there may be a need to increase the annual number of completers from several technical certificate programs to meet current and future demand levels. Among those, are programs associated with occupations, Industrial Machine Mechanics, Electricians, Bus and Truck Mechanics, Plumbers, Pipefitters, Steamfitters and others. There was also stakeholder feedback indicating that there are

specific industries that are in need of specialized or tailored training programs to meet specific training requirements. The region should ensure that training programs for these unique needs are being met.

Strategies:

5. **Realign training and education programs to meet industry requirements** – It is a continual challenge to address the ever shifting and increasing skills/occupational needs of employers in the region. The education and training institutions within the region are encouraged to maintain a dialogue with employers in the priority industry clusters to determine their most needed training and educational requirements. As these needs and requirements are identified training/education programs will need to be modified to address them.
6. **Expand Work-Based Learning Programs** – Several of the stakeholder participants indicated that more work-based learning options were needed to address needs of employers and help retain/keep valuable workers in the region. Such programs as internships, apprenticeships, coop programs all provide work-based educational experiences. Exposure to career options in the priority industry clusters should begin in middle school and continue with educational and training opportunities in high school. It is recommended that education institutions expand work-based learning programs and career pathway programs as part of their educational offerings.
7. **Regional Educational Institutions Partner with the Commonwealth Cyber Initiative (CCI)** –CCI offers a great opportunity for local students to be trained in the high paying and rapidly expanding cyber industry. As the initiative is launched the educational institutions in the region are encouraged to establish formal partnerships with the “node” universities serving the region.
8. **Priority Industry Cluster Occupational Career Paths** – The ability of the region to meet the projected need for skilled workers in the priority industry clusters depends upon a system of education and training starting in middle school with exposure to in-demand occupations and progressing into high school and higher education with tailored skills development and training. The initial task will be to identify those high-demand occupations/careers within the priority industry clusters that match the

capacities of the Region’s education/training providers. Once the occupations have been selected, curricula can be developed and educational/training roles among the various educational institutions assigned. It is recommended that Region 6 establish a Workforce Development Workgroup to begin the process of identifying the “in-demand” occupations and career path curricula.

9. **Regional Workforce and Technical Centers Expansion** – The region has several facilities that are devoted to providing specific occupational training: Northern Neck Technical Center, FredCAT, Rappahannock and Germanna Community Colleges Workforce Development Centers, local school division’s career and technical education programs, etc. As the ‘in-demand” occupations and careers are identified there will likely be a need for new or expanded facilities and equipment to support these training programs. The regional welder training facility in Montross is an example of specific industry needs being met by expanded program offerings, new equipment and a new facility to house the training. It is recommended that the Region support the development of needed facilities and equipment as occupational training programs are identified.

Entrepreneurship

Support facilities and services that help businesses grow are critical in accelerating the development of fledgling businesses and helping mature industries modernize, particularly in the priority industry clusters. 88.1 percent of all employers in Region 6 had fewer than 20 employees according to Virginia Employment Commission data for the 4th Quarter of 2018. These statistics illustrate the importance of assisting small businesses growth in Region 6. While most of Region 6’s economy is underpinned by small business development the region lacks a culture of entrepreneurship. Often youth believe that they need to go out of the region to get an education and find a high wage job in a metropolitan area. Efforts are needed to strengthen the entrepreneurial environment to allow companies to emerge, grow and flourish.

Strategies:

10. Expand Youth Entrepreneurship Programs in K-12 and Community Colleges –

Establishing an entrepreneurial culture in the region starts with instilling entrepreneurship principles at an early age. The University of Mary Washington Small Business Development Center has worked with three of the local school divisions on the Northern Neck and Middle Peninsula to establish youth entrepreneurship programs in the high schools that instill these entrepreneurial fundamentals. These efforts should be expanded to include additional school divisions, vocational and technical training facilities and the community colleges.

11. Expand the Mary Washington Small Business Development Center Programs –

Region 6 has several institutions that support entrepreneurship and small business development, among them: the Fredericksburg Regional Alliance, Middle Peninsula Regional Alliance, Northern Neck Chesapeake Bay Region Partnership, Northern Neck Tourism Commission, REDCO, University of Mary Washington Small Business Development Center, University of Mary Washington Office of Economic Development, University of Mary Washington and EagleWorks Business Incubation Center. The University of Mary Washington Small Business Development Center has two offices serving the region, Fredericksburg and Warsaw. Much of the Middle Peninsula is either underserved or not served by the existing small business development center network. The University of Mary Washington, its SBDC and affiliated organizations provide the most comprehensive array of business development services. These services are in high demand and are not evenly available across the region. It is recommended that the University of Mary Washington expand its SBDC services programmatically and geographically to better serve the business community of the region.

12. Expand "Innovation Centers" Throughout the Region – The University of Mary Washington EagleWorks Business Incubation Center provides incubation/acceleration and co-working facilities for start-up and small businesses. This facility is critical in accelerating the growth of small growing companies throughout the region. The success of this facility illustrates the demand for expansion of similar facilities in other areas of the region.

- 13. Expand the Financing Resources Offered by the Rappahannock Economic Development Corporation (REDCO)** – Since 1983, REDCO has been committed to sustaining the growth, development and expansion of small business throughout Virginia. As a non-profit commercial lender, REDCO is a certified Small Business Administration 504 Loan Program lender. REDCO’s program provides commercial real estate and long-term equipment financing to small businesses, offering low down payments and very favorable 20-year fixed rates. REDCO should be encouraged to expand its financial offerings and services to include a suite of capital products and services from micro-loan products to access to equity capital.
- 14. Create "Opportunity Zone Funds"** – The recently designated eight Opportunity Zones in the region have the promise of generating additional private sector investment in these areas. The federal legislation provides for the creation of Opportunity Zone Funds that receive special capital gains tax treatment if the capital from those funds is invested in the Zones for extended time periods. Revitalization of the Opportunity Zones can only occur and tax benefits flow if Opportunity Funds are created and investments from these funds made for projects in the Zones. It is recommended that efforts be made to establish local Opportunity Funds to help finance projects in the eight Opportunity Zones.
- 15. Conduct Business Plan Competitions** – Business plan competitions and “shark tank” type programs have proven highly successful in helping to launch or accelerate businesses that have significant growth potential. While these programs infuse equity into the winner’s pockets, they also identify potential companies that may not be the winner but offer significant growth potential. These competitions force all competitors to generate business plans and refine concepts for new businesses that can be supported by existing forms of business capital thus the competitions result in many new businesses being launched. It is recommended that organizations throughout the region sponsor business plan competitions or similar programs targeted at businesses in the priority growth clusters.
- 16. Expand Participating Intermediary Agreements (PIA)** – The numerous research facilities in the Region 6 and in neighboring areas, Naval Surface Warfare Center, Quantico, FBI Training Facility, VIMS, NASA Langley, all offer opportunities for

commercialization of the research conducted at these facilities. Typically, there are two types of research possibilities, military and non-military. Military research commercialization is often referred to as “Military 2 Market” programs and is facilitated by a partnership with a non-profit or university intermediary. These intermediaries facilitate the transition of military research into commercial applications. These partnerships are designated “Partnership Intermediary Agreements or PIA”. There are private companies located in Northern Virginia that have expertise in the commercialization of federal government research, but those firms have not yet established a foothold in this region. The Fredericksburg Regional Alliance has recently established a PIA with the Naval Surface Warfare Center at Dahlgren. It is recommended that the PIA relationships and efforts that have been established with Dahlgren be expanded. VIMS and NASA Langley also offer non-military research commercialization opportunities. It is recommended that the Middle Peninsula Alliance or similar economic development organization establish a PIA type of agreement with VIMS and NASA Langley to further the commercialization of research from these institutions.

Business Scale-Up

Existing industries in the region have the potential for expansion through process improvements (introduction of automation and technology), market augmentation and increasing exports. These services have been carried out by a variety of state organizations: GENEDGE for industrial process improvements, Virginia Department of Agriculture and Consumer Services for expanded agriculture markets, VEDP’s International Trade Office for export assistance. A number of local and regional economic development programs have also instituted programs that augment these types of assistance programs and expand existing businesses in their region. Additional assistance is needed to encourage existing businesses in the priority industry clusters to “scale-up”.

Strategies:

- 17. GENEDGE Technical Assistance** – The industries in the priority industrial sectors have the ability to develop new product lines, to increase exports, expand markets and

improve their internal processes. GENEDGE was created to assist individual manufactures improve their operations. While primarily serving manufactures, GENEDGE services are available to a broader cross section of existing businesses. It is recommended that GENEDGE businesses services be expanded within the region to “scale up” businesses in the priority industry clusters to serve expanded markets.

18. VEDP Export Assistance – There are numerous businesses within the priority industry clusters that either currently export or have the potential to export products or services to foreign countries. VEDP provides various types of assistance to Virginia businesses to allow them to export their products or services overseas or expand to additional overseas markets. It is recommended that an aggressive effort be made to identify those businesses that have increased export potential and link them to VEDP export representatives.

19. New Product Lines – Industrial hemp has been identified as a product that may have tremendous potential as an alternate crop for farmers in the region. In addition, Industrial hemp potentially could be processed in the region. The harvesting of Phragmites from salt marshes may have the potential as a soil additive. In addition, over the last couple of years several opportunities have emerged in the forestry, wood products and paper industry cluster, the most promising include pellets and other energy products, thermally modified wood products and cross-laminated timbers. Other priority industry clusters have identified similar emerging products or services that have the potential for rapid economic expansion. It is recommended that efforts be made to work with the individual businesses within the priority industry clusters to evaluate expansion potential into these product lines.

Broadband Infrastructure

Stakeholders continue to rank broadband availability as a significant barrier for the expansion of small businesses, particularly professional services and technology businesses. Throughout the region, in the sparsely populated areas, broadband service is insufficient to support a small professional services business. If a business in these sparsely populated areas of the region is able to obtain broadband service, it is usually unaffordable or unreliable.

In the more densely populated areas broadband service is readily available but the existing services may not be able to support the ever-increasing demands of modern technology-based businesses.

The Regional Council approved a capacity building grant to the Middle Peninsula Alliance to develop a business plan for a broadband Internet service as an affiliate organization to be run by the Pamunkey Indian nation called PamunkeyNet. Most of the region’s localities are participating partners to the grant. The grant will evaluate the organizational and financing structures necessary to implement broadband service to the underserved areas of the region building off of the King and Queen County model of a rural Internet provider.

Strategies:

- 20. PamunkeyNet Implementation** – Once the business plan for PamunkeyNet is developed, all efforts should be made to provide the financial and technical support necessary to launch this important venture.
- 21. Broadband Expansion** – In addition to the PamunkeyNet initiative, there continues to be efforts in each of the sub-regions in conjunction with private broadband Internet providers to expand broadband service to the community. It is recommended that these efforts receive additional support as needed.

Water Based Economy

Aquaculture, seafood processing, and commercial fishing are the foundations of the Northern Neck and Middle Peninsula economy. These industries are comprised of small independent watermen as well as the state’s largest fishing operation, Omega Protein. This industry cluster has been traditionally under-represented in state employment statistics. However, the over 9,000 commercial fishing and fish processing licenses issued by the Virginia Marine Resources Commission (VMRC) demonstrate the importance of this cluster to the regional economy. A vast network of marine industries from boat building, boat repair and maintenance to businesses like West Marine support the primary industries. Historically, this industry cluster has suffered from a steady decline in the natural fish and shellfish stock, particularly the oyster population. Other commercial species have been subject to regulatory limits on harvests to protect them from overharvesting. However, the

recent introduction of aquaculture practices and disease resistant strains of oysters have resulted in resurgence in this industry cluster. With these changes in production techniques and an ongoing expansion of both the domestic and international markets for oysters, the industry has the potential for significant growth in the future.

The expansion of oyster aquaculture in the Middle Peninsula and Northern Neck is likely to continue. In addition, there is a possibility for the development of scallop aquaculture in those localities close to the Chesapeake Bay. Also, new techniques of harvesting of “blue catfish” being pioneered by VIMS may open up this fishery for commercial fishermen. New uses of the menhaden products produced by Omega Protein offer “value added” possibilities for this fishery. Finally, there is a possibility that the export of seafood to countries in Central and South America may provide additional new markets for the area’s seafood.

The issues of sea level rise, land subsidence and coastal resiliency require that regional economic development strategies consider a variety of strategies that are broader than the narrow issues just facing the aquaculture/seafood/commercial fishing priority industry cluster. The survival of the aquaculture/seafood/commercial fishing priority industry cluster depends on addressing resiliency issues broadly as well as those issues related directly to the businesses in this cluster. As an example, if a waterman cannot navigate a channel because of increased sedimentation he will not be able to get his catch to market. While channel dredging allows the waterman to access his dock it also provides access for sport fishermen and recreational boaters.

The threats from sea level rise, incompatible land uses and inadequate planning for the continuation of the industry cluster are major obstacles to the expansion of this cluster. These challenges also provide opportunities for business development that can be exported to other coastal areas facing similar issues around the world. There are continuing efforts to address coastal resiliency in all of Eastern Virginia. The City of Norfolk and the Hampton Roads localities have received national demonstration grants to address resiliency issues. While not of the same magnitude, the rural areas in coastal Virginia are

also carrying out efforts to address the unique issues of resiliency facing their communities. The Commonwealth has several initiatives related to resiliency that will impact the region's coastal communities. These initiatives provide opportunities for addressing resiliency issues throughout coastal Virginia and there is the potential for GO Virginia regions 5 and 6 to join forces in a common effort to address resiliency.

Strategies:

- 22. Working Waterfront Development** – Waterfront locations that have housed commercial fishing and marine related activity have diminished in number over the years as a result of the shrinking fishing and seafood industry. Today, the remaining working waterfront locations are under threat from adjacent residential uses, rising seas and increased State and federal regulatory actions. If the aquaculture/seafood/commercial fishing/marine trades industry cluster is to grow, the existing working waterfronts will need to be preserved and developed to accommodate aquaculture and other marine industries. Additional areas along the shoreline should be designated and zoned appropriately for marine related activity.
- 23. Rural Virginia Coastal Community Enhancement Authority** – The General Assembly enacted enabling legislation authorizing the creation of the Rural Virginia Coastal Community Authority (RVCCEA). RVCCEA covers the Middle Peninsula, Northern Neck and Eastern Shore of Virginia. RVCCEA has yet to be established but there are efforts underway to create the Authority in the fall of 2019. This Authority can be instrumental in securing funding for critical rural coastal issues specifically related to the Aquaculture/Seafood/Commercial Fishing/Marine Industries industry cluster. The Regional Council should take efforts to support the creation and functioning of this important regional authority.
- 24. Resiliency Innovation** – The threats from rising seas and extreme weather patterns to our shorelines and coastal areas have and will continue to have a major impact on the region's economy both in the near-term and in the long-term. These threats are not unique to Virginia and are being felt nationally and globally. Both public and private efforts are being marshaled to address these threats and numerous actions will be necessary throughout coastal areas to make them more resilient. Just as we have

learned from the resiliency efforts made in other areas of the country and around the world, the resiliency strategies developed for Region 6 have the potential to be exported to other coastal areas. Resiliency is on track to becoming a multi-billion-dollar industry sector. Innovative business opportunities abound and some of the most promising for Region 6 rural coastal areas include: 1) elevated individual waste treatment systems, 2) shoreline and near shoreline natural resiliency measures, 3) dredging of small navigation channels and 4) unique oyster reef construction techniques. The Virginia Sea Grant Program at VIMS through a GO Virginia grant is developing some specific resiliency approaches for Region 6. The region should actively promote the creation of a resiliency innovation center in conjunction with VIMS that can incubate these promising opportunities into solid business ventures.

25. Resiliency Commercialization – The efforts to address resiliency being pursued in Region 5 (Hampton Roads) have application in the coastal communities of Region 6 and likewise the efforts being pursued in Region 6 have applicability in Hampton Roads. Many of the approaches being pursued have the potential for commercial application not only in Virginia but also in all coastal communities nationwide and globally. Just as the experiences of the Netherlands and other low-lying countries to address the threats water inundation have been imported to this country, the advances being developed now in coastal Virginia can be exported to areas threatened by inundation across the world. To take advantage of these opportunities Region 6 should partner with the resiliency programs and efforts in Hampton Roads to maximize the commercial potential for exporting these advances nationally and globally.

Strategies to Projects

The description of each strategy highlights some activities that have the potential to be developed into potential projects for consideration for funding by the Mary Ball Washington Regional Council and the GO Virginia Board. There are likely other worthwhile project ideas equally as worthy but have yet to emerge. The following is a brief discussion of steps that can be taken related to the six recommendation categories and specific recommendations that will help transition the strategies into fundable GO Virginia projects.

1. Product (Sites and Buildings) – The VEDP project to inventory and classify business sites over 25 acres against Virginia Business Readiness Site Program criteria and the two active capacity building grants; Middle Peninsula Business Site Readiness and Northern Neck Site, Building, and Infrastructure will provide details and cost estimates on how to increase the readiness/competitiveness of the region’s business and industrial properties. These efforts along with the implementation of the recommendation in the Project Pipeline Analysis to conduct an education program for elected officials on Regional Industrial Facilities Authorities and related revenue/cost sharing agreements will lay the ground work for the implementation of three of the recommended strategies; 1) increasing the readiness of available businesses sites, 2) certification of additional data center sites and 3) developing regional business/industrial properties with revenue/cost sharing agreements.

The current active capacity building grant, Westmoreland Flex Building, will determine the feasibility of constructing a speculative multi-tenant office building in the Town of Montross.

2. Workforce Development – The existing regional higher educational institutions are in the process of establishing agreements with the Commonwealth Cyber Initiative “node” institutions. Once these agreements are in place the region will have a better understanding of how to proceed with efforts to increase the “talent pipeline” for the high-demand cyber workforce. These higher education institutions are already planning to leverage GO Virginia resources to advance this initiative.

The remaining strategies related to workforce development will require considerable dialogue among regional education institutions and industry representatives from the priority industry clusters to address; the realignment of education/training programs, establishment of “work-based” learning, creation of occupational career paths and the potential expansion of workforce development centers. These strategies may need capacity building grants or assistance from the regional economic development organizations to help transform these strategies into fundable GO Virginia projects.

3. Entrepreneurship – The Regional Council’s implementation of an entrepreneurial services planning and coordination grant will establish a pathway to: expanding youth entrepreneurship programs, expanding the services of the University of Mary Washington SBDC, establishment of “innovation centers” and expanding the array of business finance offerings.

The efforts of DHCD to educate stakeholders on the opportunities that are available in the recently designated Opportunity Zones (OZ) and the funding of planning grants related to OZ development will pique the interest of investment groups in establishing “Opportunity Zone Funds”. GO Virginia Region 6 staff and the regional economic development organizations may need to assist in recruiting investors for the program.

Some of the communities and chambers of commerce may wish to join together to sponsor business plan competitions targeting business development in the priority industry clusters. Financial support for these efforts could come from DHCD’s Business launch program. The coordination of these efforts could be facilitated by the GO Virginia Region 6 staff and the regional economic development organizations.

GO Virginia financial support may be important to the expansion of FRA’s services to the implementation of the “Participating Intermediary Agreement (PIA)” with the Navy Surface Warfare Center at Dahlgren.

4. Business Scale-Up – The increase in the utilization of GENEDGE services and VEDP Export Assistance Program depends upon increased contact with individual businesses in the priority industry clusters. The regional economic development organizations in collaboration with the local economic development professionals are in a unique position to develop outreach programs to target businesses. GO Virginia financial support will assist in launching such a collaborative effort.

The new products that have been identified in the priority industry clusters offer new market opportunities for businesses in the clusters. Capacity building grants may be

required to determine the market feasibility of introducing those products to the marketplace.

5. Broadband Infrastructure – The current PamunkeyNet capacity building grant will provide a business plan for a new broadband service to the underserved areas of the region. The PamunkeyNet is not likely to request additional GO Virginia funding since the GO Virginia Board policies discourage the use of its resources for broadband deployment.

The Northern Neck Broadband Authority is anticipating a public/private application to the Virginia Telecommunications Initiative for expansion of broadband service in the Northern Neck. Again, GO Virginia funding is not anticipated since the GO Virginia Board policies discourage the use its resources for broadband deployment.

6. Water Based Economy – Significant research has been conducted on the location and viability of working waterfronts in the Middle Peninsula and Northern Neck. Specific development/redevelopment plans have not been prepared for priority locations that support the water-based economy. There is a need for capacity building and planning grants to prepare redevelopment plans and costs estimates for priority working waterfronts. These capacity building and planning efforts are necessary prior to requesting implementation funding from GO Virginia.

The Rural Virginia Coastal Community Enhancement Authority is currently being organized and it is uncertain at this time if there will be any projects that will emanate from the Authority that would be appropriate for GO Virginia financial support.

The current capacity building grant to the Sea Grant Program at VIMS is concluding. The preliminary results of this effort indicate an opportunity for commercialization of several rural resiliency research efforts. It is uncertain if any projects that will emanate from this effort that would be appropriate for GO Virginia financial support. An additional capacity building or planning grant may be required to further delineate the parameters of a GO Virginia eligible project. There is an opportunity to join forces with Region 5 (Hampton Roads) on a joint application to the GO Virginia Board for a

resiliency initiative that spans both regions addressing the commercialization of resiliency products or services.

MEASURES OF SUCCESS

The following are proposed revised performance measures from the *2017 Growth and Diversification Plan*. It is difficult to project the impact of the proposed investment strategies on these performance measures since the levels of investment in the strategies may not be sufficient to improve the performance and macro-economic factors will likely have a much larger impact than any GO Virginia actions. The following are proposed performance measures for the 2019 Growth and Diversification Plan:

- Year-over-year growth in number of enterprises, employment, and wages in the priority industry clusters:
 - Aquaculture, Seafood, Commercial Fishing and Marine Industries,
 - Distribution and Logistics
 - Forestry, Wood Products, and Wood Pulp
 - Information/Data Centers
 - Manufacturing
 - Professional Technical and Scientific Services
- Sub-regional analysis comparison of year-over-year growth in number of enterprises, employment, and wages in the priority industry clusters
- Entrepreneurial Dynamics in Priority Industry Sectors
 - Job distribution by age of firm
 - Job creation by age of firm
 - Business formation rates of start-ups
 - Survival rates of startup companies
 - “Net” employment growth by industry classification
 - High-growth startups compared to all startups
 - Geographic distribution of startups
- Proportion of region’s residents that live and work within the region

- Regional workforce gaps in education and training programs serving middle-skill occupations
- Regional broadband deployment

Table 4 shows the proposed suggested measures for each of the investment strategies for the first 2-year period, the 3 to 5-year time period and the 6 to 10-year time period:

Table 4. Measures of Success for Strategies by Time Period

Strategy	Years 1-2	Years 3-5	Years 6-10
Sites and Buildings			
1. Virginia Business Ready Site Program	2 sites increased at least 1 Tier level	3 sites increased at least 1 Tier level	3 sites reach Tier 5 level
2. Data Center Certification	1 site certified	2 sites certified	1 site certified
3. Regional Business/Industrial Park			
a. Site Identification	1 regional site identified in each sub-region		
b. RIFA	1 RIFA established	1 RIFA established	1 RIFA established
c. Site Acquisition	1 site under option to purchase	2 sites purchased and 1 site under option to purchase	1 site purchased
d. Site Development	PER, environmental and master plan complete, 1 site	PER, environmental and master plan complete - 2 sites, Phase I construction complete - 1 site	PER, environmental and master plan complete - 1 site, Phase I construction complete - 2 sites, Phase II and III construction complete - 1 site
4. Speculative Building	Westmoreland Flex Building application approved	Flex Building construction complete, 2 capacity building feasibility studies complete	2 speculative office buildings complete
Workforce Development			
5. Training Program Realignment	Regional workforce training/education workgroup established; 3-workforce development initiative developed	3 workforce development initiatives implemented; 3 additional workforce initiatives developed	Workforce development initiatives in all K-12 systems and higher education institutions

6. Work-Based Learning	Germanna Community College Apprenticeship Program implemented; Work-based learning programs implemented in 3 high schools	Apprenticeship Program implemented in Rappahannock Community College, Work-based learning programs implemented in 5 high schools and both community colleges	Work-based learning programs implemented/expanded in 5 school divisions
7. CCI Initiative	3 Cooperation agreements signed between the community colleges, University of Mary Washington and the CCI "Node", 3 Pilot programs implemented	CCI programs in all of the local school divisions and higher education institutions	
8. Career Pathways	2 critical occupational career pathways identified, and curriculums developed	2 critical occupational career pathways implemented, 3 critical occupational career pathways identified, and curriculums developed	3 critical occupational career pathways implemented, 4 critical occupational career pathways identified, and curriculums developed
9. Regional Workforce/Technical Centers Expansion	2 capacity building grants awarded to determine feasibility of expanding/renovating workforce training facilities	2 workforce training facilities expansions under construction, Capacity building grant awarded to determine feasibility of expanding/renovating workforce training facility	workforce training facility expansion under construction
Entrepreneurship			
10. Youth Entrepreneurship	3 school divisions implement youth entrepreneurship programs	5 school divisions implement youth entrepreneurship programs, Community colleges implement youth entrepreneurship programs	5 school divisions implement youth entrepreneurship programs, University of Mary Washington implements youth entrepreneurship program

11. SBDC Expansion	Entrepreneurship planning grant awarded to Mary Washington SBDC	SBDC services expanded	
12. Innovation Centers	1 incubator/accelerator/co-working facility constructed; 2 feasibility studies completed	2 incubators/accelerators/co-working facilities constructed; 3 feasibility studies completed	3 incubators/accelerators/co-working facilities constructed/expanded
13. REDCO	Capital access study completed; capital access fund created	2 capital access funds established	2 capital access funds established
14. Opportunity Zone Funds	3 Zone funds established	5 Zone funds established	
15. Business Plan Competition	3 business plan competitions held	5 business plan competitions held	8 business plan competitions held
16. PIA Agreements	PAI agreement implemented with Naval Surface Warfare Center	PAI agreements implemented with VIMS and NASA Langley	
Business Scale-Ups			
17. GENEDGE Assistance	4 businesses enrolled	6 businesses enrolled	8 businesses enrolled
18. Export Assistance	4 businesses enrolled	6 businesses enrolled	8 businesses enrolled
19. New Product Development	2 capacity building grants awarded for product feasibility	2 product prototypes funded; 3 capacity building grants awarded for product feasibility	3 product prototypes funded; 4 capacity building grants awarded for product feasibility
Broadband Deployment			
20. PamunkeyNet Implementation	Corporation established, Phase I implemented	Phase II to IV implemented	All participating localities have broadband service
21. Broadband Expansion	Public Private Partnership (PPP) established and funded	PPP established with 2 additional providers and implemented	PPP established with 3 additional providers
Water-Based Economy			
22. Working Waterfronts	Selection of priority "at-risk" working waterfronts in NN and MP and assessment of improvements needed	2 working waterfront improvement projects funded, Assessment of improvements needed for 4	4 working waterfront projects funded/implemented

		working waterfront projects	
23. Rural Virginia Coastal Community Enhancement Authority (RVCCEA)	RVCCEA created and staffed		
24. Resiliency Innovation Center (RIC)	Feasibility study completed on RIC; 2 feasibility studies completed for resiliency related products	RIC created, 2 product prototypes developed/tested, 2 feasibility studies completed on resiliency products	4 product prototypes developed/tested; 4 feasibility studies completed on resiliency products

BUDGET CONSIDERATIONS/FUNDING SOURCES

GO Virginia requires that most project applications have matching resources that equal the amount of GO Virginia resources allocated to the project. Of this dollar for dollar match, 20 percent or \$50,000, whichever is greater, must come from local governmental resources. Local governmental resources can be local appropriations, in-kind resources, property value or other tangible resources contributed to the project. GO Virginia matching resources cannot be from state appropriated funds based on the philosophy that state dollars should not be used to match state dollars.

The potential array of matching funds typically includes resources from federal government, local government including political subdivisions, foundations, private sector and special funding sources.

An example of a special funding source might be the Opportunity Zone Funds that will be established to support the revitalization of the designated Opportunity Zones in the region.

There are typically four types of foundations that support community efforts: community foundations, hospital foundations, family/personal foundations and corporate foundations. All of these are potential sources for matching funds to GO Virginia resources. One restriction to accessing foundation resources is their requirement that funding go to not-for-profit organizations. Typically, foundations do not fund government sector activities but do fund non-profit groups that serve public purposes. A couple of examples of

community foundations in the region include the Community Foundation of the Rappahannock River Region, The Colonial Beach Foundation, River Counties Community Foundation, Mathews Community Foundation and the Gloucester Community Foundation. Most large corporations have foundations affiliated with their corporate structure. An example of this type of foundation would be the Geico Foundation. Most national or multi-national corporations are willing to invest in communities where they have a major facility.

The various programs of the Federal government provide tremendous opportunity to match GO Virginia funding on a specific project. Some of the more popular Federal resources commonly used in the region include Community Development Block Grants, Rural Development funding from USDA, Economic Development Administration funding from the US Department of Commerce and US Department of Labor programs.

The private sector also offers opportunities for financial support of GO Virginia initiatives. The utilities, Dominion Virginia Energy, Old Dominion Electric Cooperative and its member cooperatives, Mid-Atlantic Broadband, etc., have historically supported economic development programs regionally and statewide. There are a variety of private sector sources of capital that could potentially be tapped as match for GO Virginia resources, but they would be specifically structured since most private sector resources expect a return on their investment.

Last, but not least, are local governmental resources that can be used to match GO Virginia funding. As stated earlier, GO Virginia policies generally require that there be local governmental resources committed to the project from at least two local partners. These local contributions can come from not only the local governments, towns, cities and counties, but can come from political subdivisions, PDC's, EDA's, Housing Authorities, School divisions, etc. and other public entities. The match provided can be contributions of value in addition to cash, including the value of real estate, equipment, services and in-kind contributions.

Specific source(s) of matching funds for potential GO Virginia projects are difficult to identify without knowing what the potential projects might be. If the Regional Council adopts the recommendations in the Pipeline Analysis section of this report, potential projects will be known earlier in the funding process and the potential partner matching resources more easily identified.

Table 5 provides a listing of potential funding sources for projects under each major investment category. The type of project being proposed and the project sponsor will determine the eligibility for funding from each source.

Table 5. Potential Funding Sources for Projects

Projects	Potential Funding Sources
Sites and Buildings Strategies	
1. Virginia Business Ready Site Program 2. Data Center Certification 3. Regional Business/Industrial Park 4. Speculative Building	<ul style="list-style-type: none"> • VEDP – Business Ready Sites Program • DHCD – Industrial Revitalization Fund • USDA – Rural Development • VDOT – Industrial Access Road Program • EDA • Local Government • Private developer
Workforce Development Strategies	
5. Training Program Realignment 6. Work-Based learning 7. CCI Initiative 8. Career Pathways 9. Regional Workforce/Technical Centers Expansion	<ul style="list-style-type: none"> • VEDP – Workforce Services • Virginia Community Colleges • CCI Initiative • Bay Consortium • EDA • Community Foundations • (SCHEV) - Credentialing Program • Fast Forward Initiative • Local Government • Private employers
Entrepreneurship Strategies	
10. Youth Entrepreneurship 11. SBDC Expansion 12. Innovation Centers 13. REDCO 14. Opportunity Zone Funds 15. Business Plan Competition 16. PIA Agreements	<ul style="list-style-type: none"> • VEDP – International Trade • GENEDGE • CIT • SBDC • SBA • DHCD – Community Business Launch, Building Entrepreneurial Communities, CBDG Planning Grants • USDA – Rural Development • Kaufman Foundation • Local Government

	<ul style="list-style-type: none"> • Local School Divisions • Community Foundations
Business Scale-Up Strategies	
17. GENEDGE Assistance 18. Export Assistance 19. New Product Development	<ul style="list-style-type: none"> • VEDP – International Trade • GENEDGE • CIT • SBDC • Local Government • Local Businesses
Broadband Deployment	
20. PamunkeyNet Implementation 21. Broadband Expansion	<ul style="list-style-type: none"> • Federal Tribal Grants • USDA • DHCD – Virginia Telecommunications Initiative • Private Telecommunications Providers • Local Government
Water-Based Economy	
22. Working Waterfronts 23. Rural Virginia Coastal Community Enhancement Authority (RVCCEA) 24. Resiliency Innovation Center (RIC)	<ul style="list-style-type: none"> • Virginia Sea Grant Program • Virginia Coastal Program • Local Government • CIT

PROJECT PIPELINE ANALYSIS

GO Virginia began approximately three years ago with the initial regional Growth and Diversification Plans completed in 2017. Once these plans were adopted by each regional council and approved by the state GO Virginia Board, the regional councils began soliciting applications for funding. It soon became clear that there were few projects that met the GO Virginia guidelines and priorities. Some of the early applications that were submitted exhausted the pipeline of projects that met all the GO Virginia parameters and were mature enough to receive funding.

Both the state GO Virginia Board and the Regional Councils have recognized the challenges in applying for GO Virginia funding and have made policy changes that will increase the likelihood that more applications will come forward in the future. The state Board has allowed a portion of the per capita funding to the regions to be used as capacity building grants. The purpose of these grants is to undertake specific tasks that may be necessary to determine if a project is viable and provide necessary project information. Grants could be

for any variety of tasks from developing a business plan for a regional broadband network to preliminary engineering report on the development of a regional facility. These capacity building grants have had relaxed matching requirements. The state board has encouraged the regions to become more proactive in marketing the GO Virginia program and assisting applicants in structuring proposals. Some regions have instituted procedures that will assist applicants in preparing their application such as asking for a simple letter of intent to begin the discussion of program policies between the applicant and the staff of the regional council. These early discussions can help determine early if the proposed project can realistically be a candidate for funding and what are some of the steps that will be needed to prepare a competitive application.

The Region 6 Regional Council has recently instituted several policy changes that should increase the pipeline of projects over the next year. At the May 2019 meeting of the Council, three pipeline acceleration grants were approved for each of the regional economic development organizations (REDO): Fredericksburg Regional Alliance, the Middle Peninsula Alliance, and the Northern Neck Chesapeake Bay Partnership. These grants are intended to support two deliverables, four letters of intent from each sub-region and two applications within the next year. These organizations have unique organizational relationships that span the private and public sectors. Building upon these relationships it is expected that the partnerships necessary for project implementation can be forged. Each application identified ideas or concepts for several projects that have the potential of becoming project applications. These grants will provide the resources to the REDO staff to shape these project ideas into letter-of-intents from applicants and then hopefully into applications.

Region 6 previously had only part-time staff resources to devote to GO Virginia matters. The Regional Council added resources to this year's budget to add a full-time staff, filled as of June 2019. This additional staff resource will allow the Regional Council to be more proactive in its approach to marketing the GO Virginia program and help shape development strategies into fundable projects.

In addition to the actions taken by the Region 6 Council, it is recommended that the Council take the following steps to further accelerate the transition from regional development strategies into funded projects:

- Use the flexibility granted by the state Board to fund a coordination function for entrepreneurship initiatives. The University of Mary Washington Small Business Development Center (SBDC) is particularly suited and would likely be the most logical organization to undertake this coordination function given their programmatic and geographic coverage over the region. One of the purposes of the grant should be the exploration of expansion of SBDC services and those of EagleWorks both programmatically and geographically. The Rappahannock Economic Development Corporation (REDCO) also is particularly well suited to address the capital needs of businesses in the region.
- The Regional Council should adopt an affirmative policy related to the use of the capacity building grants. An affirmative statement by the Council identifying high priority strategies/concepts contained in this Plan that require further investigation would encourage potential applicants to seek financial and technical assistance from the Region 6 Council and staff. This proposed policy statement is not meant to dissuade any applicant from applying for a capacity building grant but only encourage organizations to pursue the development of promising ideas into projects.
- One of the largest impediments to regional business/industrial site development is a clear understanding of how revenue sharing arrangements operate in the context of a regional economic development organization, Regional Industrial Facilities Authority (RIFA). It is recommended that the Regional Council facilitate a forum(s) for local elected officials on the principles of economic development revenue/cost sharing and RIFA structures. Until the local elected officials can move past the initial reaction of “I’m not giving them our tax dollars,” there is not likely to be any willingness to enter into a formal regional site development arrangement regardless what the benefits may be.

- The biggest hurdle in developing an application for GO Virginia funding is securing commitments for the matching funds from the regional partners. One of the underutilized financial resources is foundation grant support. There are at least five community foundations covering the Region 6 localities, Rappahannock River Region, The Colonial Beach Foundation, River Counties Community Foundation, Mathews Community Foundation and the Gloucester Community Foundation. The resources of these foundations have not been directed towards addressing the Economic Growth and Diversification Plan strategies. There is the potential for matching the goals of the local community foundations with the economic growth strategies contained in this plan. It is recommended that the Regional Council conduct an outreach effort to the Community Foundations to determine how to better link the economic growth strategies to the funding priorities of the community foundations.

Appendices

Appendix A. Stakeholder Engagement

The process of stakeholder engagement involved a series of stakeholder meetings that were held from May 15th to June 21st, 2019. Meetings were held with the chief administrative officers and Planning District Commission staffs of each of the three sub-regions, George Washington Region, Middle Peninsula, and Northern Neck. Meetings were held with the local economic development directors and regional economic development organizations in the Fredericksburg Regional Alliance and Middle Peninsula Alliance regions. Two additional meetings were held related to entrepreneurship and workforce development. The participants in the entrepreneurship and workforce development sessions were a combination of private sector, public sector, non-profit sector, and institutions across the region. Over 60 individuals participated in the stakeholder discussion sessions. Several common themes emerged from the sessions:

- **Regional Economy Unchanged** - The regional economy has not had much change since the Growth and Diversification Plan was prepared in 2017. The region is growing with the majority of the growth occurring in the northern portion of the region. Growth is also occurring in select other areas of the region but not uniformly in the rural areas.
- **Out-Commuting Challenge** - Over half of the workforce commutes out of the region daily to work. This situation is by far the largest economic development challenge facing the region. Growing employment within the region or providing ways to allow those commuters to work remotely are the ways to stem the out-commuting.
- **Workforce Scarcity** - Employers large and small are having a hard time finding workers to fill positions. Many employers are resorting to non-traditional measures to fill the vacancies.
- **Priority Sectors OK** - The six priority industrial sectors identified in the *2017 Growth and Diversification Plan* were still valid in 2019. There were several comments that the Seafood, Fishing and Aquaculture cluster should be expanded to capture a larger array of marine related businesses/industries. Several stakeholders

mentioned that the healthcare and tourism are very important industry clusters to the region but since GO Virginia does not place a priority on those sectors the consensus was to retain the six clusters.

- **Broadband** – The lack of broadband service in the rural areas is still a major impediment to economic development. The current efforts to expand broadband service should continue to be a high priority and supported.
- **Limited Industrial Sites and Buildings** – There is a lack of quality and variety of sites and buildings to support business expansion. The vast majority of the sites that are available in the region are concentrated in the northern portion of the region. Even in then there are virtually no business sites that have a VEDP Business Site Readiness rating above a “3” on a five-point scale.
- **Entrepreneurial Program Expansion** – There was broad consensus that entrepreneurial programs, assistance, facilities and capital access needed to be expanded throughout the region. Expansion of youth entrepreneurship programs, expanded incubator/accelerator/co-working facilities, expanded SBDC services, additional business plan competitions and additional financial resources were among the many entrepreneurial services recommended for the region. There was agreement that greater regional cooperation was needed to augment the delivery of entrepreneurial programs in the region.
- **Commercialization of Research** - The advancement of commercialization of research at the Dahlgren Naval Surface Warfare Center, VIMS and other research facilities in eastern Virginia were important strategies for consideration.
- **Downtown Revitalization** – A number of the downtowns in the region have embarked upon revitalization efforts. These efforts have stimulated not only the renovation of downtown properties but also the stimulation of new business activity in these commercial hubs. Efforts should be made to support these programs and expand them to other communities within the region.
- **Misalignment of Workforce Preparation** – The education and workforce development programs in the region are not producing the quality or the skill sets needed by the employers in the region. The education and training providers need

to adjust their program offerings to be more reflective of the occupations needed by regional employers.

- **Work- Based Learning** – There needs to be a stronger linkage between employers and educational institutions in the region with an emphasis on work-based learning experiences. Such programs as apprenticeships, internships, career and technical education programs, etc. should be expanded throughout the region.
- **Greater Regional Cooperation**- The local and regional governments and institutions all need to work more collaboratively to achieve economic progress. Establishing one or more Regional Industrial Facilities Authorities (RIFA) in the region to develop industrial sites and buildings was recommended. The establishment of a coordination function for entrepreneurship programs and workforce development programs were also recommended.
- **Industrial Hemp** – Industrial hemp offers a potential for a significant new agricultural commodity. The potential types and uses of industrial hemp are not well known or understood by the farmers in the region. There is a need to conduct some research on the types of hemp that could be grown in the region, the various uses and markets for the hemp and how best to expedite the cultivation of the crop by area growers. Industrial hemp is a potential crop not only for Region 6 but most of the rural areas of the state. A joint crop and market research project spanning several GO Virginia regions should be considered.
- **Opportunity Zones** – The present designation of 8 Opportunity Zones in the region offers an opportunity to increase private investment in these areas. The tax advantages afforded to private investors willing to invest in real estate and business in the zones should over time stimulate revitalization. There is the potential to marry GO Virginia investment with private Opportunity Zone Funds.

The following is a summary of each of the stakeholder meetings and the issues and key discussion points.

FRA Pros Meeting – May 15, 2019

Key points from the discussion:

- Confirmed that the 6 target industry clusters are current.
- Workforce issues are the greatest concern of most all employers – not just Tech workers but health care and tradesmen.
- Commuting still the big nut to crack – how do we attract the workers to the region and how can we keep them closer to home.
- The NOVA workforce development initiative funded by GO VA may be a model – Cyber and technology workers, universities, Community Colleges and 3 school divisions.
- Need to look at Southern VA Model workforce initiative.
- Need to dovetail with the Amazon initiatives.
- SCHEV – may have an initiative that we need to pair up with.
- The GO Virginia Cyber initiative needs to be fleshed out.
- Defense IT workforce needs require more attention – continuum K-12 to higher education.
- Telework may offer potential for easing commuting problems – co-working space options have had limited success.
- There is an opportunity for remote work if region could supply Department of Defense (DOD) secure space.
- Need for DOD specialized infrastructure to support satellite defense contractor operations.
- Need more emphasis on entrepreneurship strategies.
- Need to expand “Eagle Works” – more incubator/accelerator type facilities/programs.
- FRA now has a participation agreement with Dahlgren and working through the issues of licensing of patents to businesses – researchers do not wish to operate a business – a broker function is needed.

Meeting with Juanita Cawley and Larkin Garbee – May 23, 2019

This was an entrepreneurship discussion held at the West Point Exchange. Key points from the discussion:

- The West Point area has very few resources that support entrepreneurs.
- Collaboration is needed across the region to increase access to resources.
- West Point Schools has assigned a staff person to further entrepreneurship in their school program. The Meadow Academy of Entrepreneurship may be a model for this.
- A mobile “fab lab” could be established to be used by several school divisions. Tennessee is a model of this.
- The community lacks an entrepreneurial culture.
- There needs to be a technical assistance provider present in the area to support entrepreneurs.
- There needs to be a resource directory/referral for entrepreneurs to be able to access and know who to contact.
- There needs to be a program to fill gaps in resources for entrepreneurs.
- The region should establish an angel investor network like the Bon Secours model in Richmond.
- The region could establish a virtual mentorship program for entrepreneurs.
- Entrepreneurs need incentives for investment – business plan competition, real property improvement matching grants, etc.
- The “pop-up storefront” model could be used to encourage entrepreneurs to get started and test concepts.
- The tribes need to be involved.
- Tourism should be considered as a target industry for entrepreneurial activity.

Middle Peninsula Local Economic Development Officials – May 23, 2019

Eight local economic development officials attended. Key points from the discussion:

- Target Industry Clusters should reflect a broader range of marine and water dependent related businesses.
- Workforce is a major issue for all industries.
- Need to coordinate with VEDP on their “Adventure Manufacturing” Initiative.

- The hospitality industry should have a more prominent position in the GO Virginia program efforts.
- Broadband continues to be a major issue for businesses in the region – If you do not have adequate access, then businesses cannot operate.
- Lack of adequate sites and buildings limits business expansion opportunities.
- Entrepreneurship programs and resources are scarce throughout the region.
- The school systems need to place greater emphasis on entrepreneurship opportunities.
- A workforce training center at Central Garage could serve the upper Middle Peninsula and portions of Hanover County.
- The proposed incubator/co-working space at Shacklefords offers an opportunity to expand entrepreneurship programming region wide.

Entrepreneurship Workgroup – May 23, 2019

Key Points from discussion:

- Entrepreneurship programs need to foster regional cooperation – Win-Win”
- A “RIFA” if established could help facilitate the implementation of entrepreneurship programs/strategies
- Opportunity Zones offer the potential to funneling investment capital into the region
 - Invest US may be a resource
 - Business opportunities in the zone may be an opportunity
 - Businesses n the Zones are unaware of the potential for increased investment
- There need to be an inventory resources available to support entrepreneurial activity
- Most businesses need access to expert technical assistance to access resources
- Potential investor throughout the region need to be identified and engaged
- An organization of investors would help connect potential business opportunities with capital resources
 - Need for wealth management education for high net worth individuals

- Potential for a collaborative effort across the region
- Real estate investment may offer an easy way to attract local investors
- There is a need to expand the incubator/accelerator/co-working facilities/programs of UMW to serve a greater geography, broader range of clients and secure work environment
- The challenges and opportunities of a hug out-commuting workforce – entrepreneurship opportunities may help keep out-commuters in the region
- Greater technical assistance is needed for emerging businesses (star-ups)
- There is the need and potential to expand the facilities and services at Germanna Community College FredCat Center
- Need to transition local businesses into “traded sector” businesses
- A study of DC area businesses to determine how best to encourage remote work environments to reduce commuting and stimulate local business development

Each participant attending the workshop was asked to indicate their priority entrepreneurial strategies from all of the strategies that were outlined in the TEconomy report and contained in Growth and Diversification Plan. Thirteen participants provided their priorities. The following table is a compilation of responses of the priority strategies for entrepreneurial development.

Entrepreneurship Workgroup

Entrepreneurial Strategies		Responses
Entrepreneurial Pipeline		
1) Youth entrepreneurship programs in schools/colleges/CTE programs		7
2) Establish student Internships with start-up companies		4
3) Entrepreneurship events in schools		3
"High Growth" Startup Programs		
4) Identify "high growth" start-up companies		4
5) Fill resource gaps		5

6) Expand "incubator/accelerator" facilities/programs	4
7) Expand mentorship programs	7
8) Increase angel investor programs	5
9) Expand networking opportunities	5
"Local Growth" Programs	
10) Expand peer-to-peer networks	5
11) Host additional networking events	3
12) Expand SBDC network of services	5
13) Aspiring entrepreneurial referral service	3
14) Expand GENEDGE and export programs	2
Capital Access	
15) Link entrepreneurs to micro loan programs	2
16) Link successful startups to existing micro loan programs	2
17) Financial resources at networking events	5
Technology Commercialization	
18) Create technology councils	2
19) Establish Entrepreneurship programs at research institutions	5
20) Engage entrepreneurial researchers in technology councils	4
21) Make technology commercialization a part of "high growth "initiative	6

The following comments were provided in addition to the priority responses above.

Entrepreneurship Workgroup

Additional Strategy Comments	
Entrepreneurial Pipeline	
	Train current workers to take over "Baby Boomers"
	Regional start-up program - Start-up Region 6"
	Network entrepreneurs with programing
	Youth entrepreneurial strategies 2) and 3) are a part of strategy 1)

"High Growth" Startup Programs	
	Expand the UMW incubator/accelerator
"Local Growth" Programs	
	Nurture existing businesses to grow in the area
	Think regionally not "my locality vs. your locality"
	Host "Grant Contests" - business plan competitions
	Expand local businesses into Traded sectors
Capital Access	
	Create a Region 6 investment committee - introduce entrepreneurs to investors
	Create a Regional Capital Fund - 2 responses - micro loan and larger loans - high-risk loan pool
Technology Commercialization	
Other Suggestions	
	Target DC area companies to establish remote offices in the region near workers
	Establish a commuter strategy - convert commuters into entrepreneurs
	Create a RIFA to implement the recommendations
	Increase entrepreneurial research and innovation

Workforce & Education Workgroup - June 4, 2019

Rappahannock Community College, Warsaw

Facilitator: Liz Povar

Session opened by Liz Povar with self-introductions, followed by overview of GO Virginia and Region 6; purpose of stakeholder session; and overview of "rules of participation".

Nine participants representing all three sub-regions were present. A list of participants is attached to this report. Following are the comments from the group, responding to the questions that were presented:

1. Tell us a little about any changes you've seen in the last two years, in your organization, locality or region.
 - a. Economic growth has been positive and has spread into the rural areas of the Northern Neck and the Middle Peninsula.

- b. Residential development is increasing
 - c. There's been some solid new commercial investment in the Warsaw area.
 - d. There seems to be a proactive focus on downtown/small town revitalization efforts – trying to leverage Main Streets to be livable, workable environments.
 - e. State education leaders are now emphasizing tech-based skills development as well as the 5 C's (critical thinking, citizenship, creativity, communication and collaboration).
 - f. The new baseball team and stadium in Fredericksburg!
 - g. There is more discussion about how to apply/use technology for business development purposes, to help gain access to new markets. This is different than just emphasizing deployment of technology/broadband.
 - h. Some of the sub-regions are seeing more emphasis on the actual implementation of regionalism and the creation of team partnerships to move forward with initiatives (example given is the Richmond County K-12 partnership with T-Mobile to provide hot spots for students.
 - i. All agreed that employers have changed/are changing the profile of a job, and that the education/workforce development systems are struggling to adapt to these changes.
2. Talk about opportunities that exist to strengthen economies in the Region. What are some areas that should be focused?
- a. Youth workforce
 - b. Adult Basic Ed is an underutilized resource
 - c. Leveraging the VEDP Rural Information Technology Centers strategy.
 - d. Developing work-based learning experiences for students.
 - e. Creating smart city/smart community initiatives.
 - f. Ag Tech
 - g. Supporting/educating teams to be more productive
 - h. Improving the education and training of the use of technology in applications and implementation (don't just teach how to use devices or technology systems; teach how to apply the use of technology to create/expand businesses.

- i. Employers need to be educated on how to attract young talent into mature businesses. The language being spoken, the management systems that are in place, are not relevant to younger talent.
 - j. Broadening the talent pool by finding ways to engage diversity; engage the incarcerated.
 - k. Find ways to change the image of CTE (Career Technical Education) with parents, so they encourage students to enroll in these classes.
 - l. Find ways to build project teams that include private businesses as well as public organizations.
 - m. Consider ways to bring Spanish language into more mainstream education.
 - n. Consider ways to create a balance of assets and projects in the Region that leverage opportunities and connect, not duplicate.
 - o. Look at the G3 Program that the Governor has launched – it creates certification programs for manufacturing, cyber and other sectors.
 - p. Generally look for ways to leverage state initiatives more effectively in the Region.
3. What are challenges or barriers that exist and could impact these opportunities?
- a. Transportation of students is a challenge
 - b. Broadband connectivity is a challenge
 - c. Independent, isolated, disconnected activities
 - d. Technology illiteracy as it relates to the use of technology in applications in K-12.
 - e. Need to remind employers that they can't do what they've always done, to attract talent today.
 - f. The gap in the perspective of generational leadership in business versus the age of young talent.
 - g. Helping employers understand how to deal with the implications of drug use, particularly marijuana, as it becomes more prevalent.
 - h. How to deal with the misperception of the quality of the students who are the product of the K-12 or VCCS systems.
 - i. How to improve the image of CTE with parents who influence a student's interest in CTE as a career path? Is there a new "brand" needed?

- j. There is misalignment/inadequate workforce preparation for jobs with both existing and new employers (i.e. heavy equipment operators)
 - k. Some K-12 systems have reduced investments in CTE and STEM, due to loss of industry and tax base...it will take a long time to recover
 - l. Across Virginia, it is difficult to be able to see and understand other GO Virginia projects which could be great examples from which to learn
 - m. There's a continuing loss of skilled talent (health care, IT, manufacturing) from rural to urban areas.
 - n. For the Region's workforce training strategy, the "hub" is missing. All the spokes are in place, but the shared vision and connectivity to a "hub" does not exist
4. What are some possible projects that Region 6 can consider?
- a. Heavy Equipment Training programs (see Germanna Community College for examples)
 - b. Site development and creating a RIFA that would be able to provide a funding mechanism to support large-scale development, which could in turn leverage the Collaborative Jobs Act and result in \$\$ for workforce)
 - c. Business-led paid internships
 - d. Small town/Main Street initiatives that can help align the Region more effectively with the VEDP IT in Rural Metros strategy
 - e. Leveraging the G3 program for Region 6, both for projects as well as for system coordination
 - f. Develop a paid apprenticeship program (see the IGNITE program in Southwest Virginia Regions 1 & 2)
5. PARKING LOT ISSUES
- a. K-12 Superintendents in Region meet monthly; how can this be leveraged to think about projects?
 - b. GCC/RCC Presidents meet regularly; how to leverage these discussions strategically?
 - c. There's a need for wrap-around services for parents and guardians who are engaged in training programs
 - d. There's a lack of funding for apprenticeship

Middle Peninsula Local Government Administrators – June 14, 2019

Middle Peninsula PDC Offices

7 in attendance

Key Points of Discussion

- Changes in the economy over the past two years
 - Changes in the real estate market – depressed market in the Bay counties and growth in the West Point area
- Development issues include
 - Suitable/available land in the right places
 - Regulatory environment increases cost in the coastal areas – wetlands, Ches. Bay Act, etc.
 - Water and sewer to serve commercial sites
 - Siltation of creeks limits access to working waterfronts – threat to commercial fishing
- Cooperative dredging project among coastal PDC's offers a GO Virginia grant opportunity
- Seafood integrator a potential for expanding access to out-of-state markets
- The Blue Catfish harvesting and sales offers a potential new fishing market with possible value-added possibilities – fresh fish market to a fillet market
- Resiliency a major issue with ramifications in the regulatory environment – resiliency attenuation in conflict with the environmental regulators – Region 6 could make a policy statement related to the conflicts – Ches. Bay Act restrictions vs. working waterfront improvements an example
- Potential of a research effort to develop a model to estimate costs of regulations on development
- Agreement on revenue sharing principles is a roadblock to cooperative agreements – potential capacity building grant
- King and Queen moving forward with incubator/co-working/space/telework center – market assessment may be needed to further quantify potential users – K&Q open to partners – potential GO Virginia project

- Shortage of IT technical skills in the region
- Nutrient trading/bank concept for the MP could use an analysis of how to access the nutrient credit marketplace
- Phragmites harvesting offers great potential to provide valuable fiber source, control invasive species and improve water front views.
- Industrial hemp offers an opportunity for farmers as an alternative production crop – use, varieties, markets and processes need to be fleshed out – cooperation with regions 1, 2, 3 and 6 possible on a market assessment study

Northern Neck Local Government Administrators – June 21, 2019

Northern Neck PDC Offices

6 attendees

Key Points of Discussion

- The Northern Neck economy has not changed appreciably since 2017
- It appears that federal contracting may be down – existing contracts not being renewed and new contracts slow in being awarded – need for flex space in Montross in question
- Carry-on Trailer continues to expand and they have increased their starting wage rate
- Forest products industry in expansion mode with significant announcement coming soon – need for workers skilled in operating equipment needed
- Transportation access, Rt. 3, an issue
- It was suggested that the seafood, fishing and aquaculture cluster be expanded to include “water-based businesses” – this would correspond with the NN CEDS plan
- Dredging of small creeks needed to keep working waterfronts open – potential business to make a new revolutionary dredge for smaller waterways
- Workforce issues prevail throughout the region – employers are having a hard time finding workers – quality workers even more difficult
 - RCC – needs to improve responsiveness and quality of training – hard to attract quality instructors

- Fiberglass workers may be a specific training need
 - Small contractors scarce and in high demand
 - CDL drivers and training in demand
- The downtown revitalization efforts in several of the towns have resulted in numerous new businesses being established and vacant property being renovated
 - Community Business Launch or other business plan competition program may provide addition acceleration of new business formation
 - Economic Gardening program was tried with limited success
- The “economic bridge” initiative in Lancaster County has yet to take off
- Westmoreland is looking for a partner for the potential development of an industrial site in the Oak Grove section of the County
- VEDP has been much more responsive since Steven Moret has been the President
- Internships, apprenticeships and work-based learning approaches are needed to address workforce gaps

Appendix B. Regional Entrepreneurial Assessment Project Summary

The purpose of the Regional Entrepreneurial Assessment Project prepared by TEconomy Partners was to provide an assessment of entrepreneurial development and identify potential actions in GO Virginia Region 6 – the Mary Ball Washington Region.

TEconomy Partners, LLC was engaged by the GO Virginia Statewide Board to provide each GO Virginia region an assessment of its entrepreneurial development position, facilitate a situational assessment of the region’s entrepreneurial ecosystem, and help identify priority actions to help strengthen the ecosystem.

The report assessed the various stages of business growth, the activity in those stages and the support services available to grow businesses in each stage. Here is a summary of the findings of the analysis for the four stages: Ideation, Commercial Viability, Market Entry, and Growth and Scalability.

IDEATION

Overall Assessment: The overall level of startup activity is like the state average, but uneven across the region. There is a good deal of community interest in entrepreneurship, startup activity, and commercialization. Institutions of higher education are leading the initiatives to develop the entrepreneurial pipeline and provide support to entrepreneurs.

There are many other actors playing formal and informal roles to connect and support founders.

Strengths and Opportunities:

- Growing population and growth in educated workforce. Growth in Region 6’s working-age population (5 percent) over the past five years outpaced that of Virginia (1 percent) and the U.S. (3 percent), driven by in-migration, including foreign migration, bringing new ideas and dynamism to the region. The share of the

working-age population with a bachelor’s degree or higher (24 percent) grew 17 percent over the last 5 years compared to Virginia (10 percent growth) and the U.S. (12 percent).

- Programs to improve entrepreneurial pipeline. UMW’s StartUp program provides experiential startup training to high school, community college, and UMW students.
- Convening spaces. UMW EagleWorks Incubator and Germanna’s FredCAT provide mix of office space, prototyping space, and programming for entrepreneurs and startups.
- Diversity in type of startup activity. Startup activity is occurring across many different industries, e.g., business services, R&D, engineering & technical services, manufacturing, transportation, health care services, natural resources & finished products, etc.

Gaps and Weaknesses:

- Need more attention, assessment, and industry engagement with R&D institutions, e.g., NSWC Dahlgren, VIMS, etc., around commercialization.

COMMERCIAL VIABILITY

Overall Assessment: Local growth and high-growth companies are being launched in sectors aligned to regional industry strengths. However, the 10-year survival rate of trade sector companies (26.5 percent) is lower than the state average (31.4 percent). This survival rate is the share of 2007 new companies still in business in 2017.

Strengths and Opportunities:

- Concentration of employment in startup companies aligns to industry strengths. The GWRC has a high concentration of startup employment in R&D, Engineering, & Technical Services and Manufacturing. The Northern Neck and Middle Peninsula have high concentrations of startup employment in Agriculture & Food Processing and Natural Resources & Finished Products. Health Services and Life Sciences startups also have high employment concentrations in the Middle Peninsula, while the Northern Neck has a high concentration in Manufacturing.

- UMW EagleWorks Incubator and the UMW Center for Economic Development provide a range of mentoring, business services, and programs to support startup companies and their founders. CEW is working with the statewide SBDC-affiliated, GMU Innovation Commercialization Assistance Program to provide lean startup training.
- Looking more narrowly at startups based on technology commercialization, Region 6 has performed well on one measure, SBIR success. On a per capita basis, Region 6 small companies outperform the national average (Region 6 averages \$11 SBIR dollars per person compared to \$8 nationally), but they lag the state average (\$15). There is strong defense contractor representation in Region 6 and Virginia among SBIR awardees.

Gaps and Weaknesses:

- Traded sector 10-year startup survival rate (26.5 percent) lower than the state average (31.4 percent). This survival rate is for the share of 2007 new traded sector companies still in business in 2017.
- Uneven level of economic development and entrepreneurial development across the Region can impact diversity of startup activity and trajectory of startup companies.
- SBIR awards are highly concentrated. Three companies accounted for three-quarters of total SBIR dollars from 2010-2017, and none were startups (less than 10 years old).

MARKET ENTRY

Overall Assessment: Region 6's new business formation rate tracks the state average fairly closely (e.g., both above 9 percent in 2015; 8 percent vs 9 percent state average in 2017), although startup activity is uneven across Region 6.

Strengths and Opportunities:

- Relatively high startup activity. Region 6's new business formation rate tracks the state average fairly closely (e.g., both above 9 percent in 2015; 8 percent vs 9 percent state average in 2017).

- Diversity in type of startup activity. Traded sector startup activity is occurring across many different industries, e.g., business services, R&D, engineering & technical services, manufacturing, transportation, health care services, natural resources & finished products, etc.
- Startup support. Startup support comes from UMW Center for Economic Development programs (including BlueEagle Incubator), main street associations and others.
- Assessment needed. More assessment is needed, but initial interviews with stakeholder and BlueEagle Incubator suggest that startups self-finance the launch of traded sector services companies and build with customer revenue and government contracts. It is unknown how manufacturing, agricultural, and other product companies finance new product launch.
- Capital Access. Continuum of capital exists with new micro loan programs, SBA loans, SBIR funding, some local angel investors, and VC funds in Richmond, Northern Virginia, and Hampton Roads. UMW Center for Economic Development can direct startups to these sources.

Gaps and Weaknesses:

- Network Gaps. Currently, the UMW Center for Economic Development is the most visible and main point of contact for startups seeking mentoring, capital, or other assistance. CED's ability to scale to meet increasing demand is constrained.

GROWTH & SCALABILITY

Overall Assessment: Region 6 has a lower share of traded sector employment in startups 0-5 years (6.6 percent vs 7.1 percent) and a higher share of employment in startups 6-10 years (8.8 percent vs 7.3 percent) compared to the state average. Region 6 had eight Inc 5000 companies that is lower than other mid-sized regions (peers have universities with Colleges of Engineering). There is an opportunity to increase traded sector startup activity and growth with more industry engagement and mentoring around existing startup programs.

Strengths and Opportunities:

- Higher share of traded sector employment in startups 6-10 years compared to state average. In Region 6, 8.8 percent of traded sector employment was in startups, 6-10 years of age, as compared to 7.3 percent at the state level.
- Moderate number of Inc. 5000 companies for a region without a College of Engineering. Compared to other mid-sized regions, such as Dayton, OH; Greenville, SC; and Raleigh, NC, the number of Inc. 5000-ranked companies (high three-year average revenue growth) was lower in Region 6 (8 companies compared to 13 in the benchmark region in 2017). However, Region 6 lacks a university with a College of Engineering.
- High-growth business support. A couple of programs, such as the SBDC-affiliated, GMU Innovation Commercialization Assistance Program and BlueEagle Incubator are focused on supporting high-growth potential companies.

Gaps and Weaknesses:

- Share of traded sector employment in startups 0-5 years of age lower than state average. In Region 6, 6.6 percent of traded sector employment was in startups, 0-5 years of age, compared to 7.1 percent at the state level.
- High-growth companies concentrated in traded industry sectors tied to Federal government contracting. From 2007-17, Business Services (77 high-growth companies) was the most represented, followed by IT Services (26 companies), R&D, Engineering, and Technical Services (23 companies), and Transportation & Logistics (22 companies).
- Reported venture capital activity is minimal. Only 12 deals reported by PitchBook from 2010-2017. Six deals were in one smart grid company. However, venture capital is only one type of capital in the capital continuum.

Based upon the above assessments, the analysis recommends actions in five program areas.

The following is the recommended program areas and actions listed for each area:

- Develop entrepreneurial pipeline.
 - Improve and expand “high-growth” startup programming.

- Improve and expand “local-growth” startup programming.
- Develop a continuum of capital.
- Improve and expand “high-growth” startup programming.
 - Define “high-growth” startup and identify the required resources for this group of companies (which will differ from “local-growth” companies).
 - Build on existing programs by expanding the number of mentors and involving angels.
 - Expand regional, state, and national networks and networking events.
- Improve and expand “local-growth” startup programming.
 - Deepen and expand peer-to-peer networks and programming to build community. Existing examples include Main Street organizations, CEW veteran-owned businesses network, and women-owned businesses network.
 - Host meetups, workshops, and events at different regional venues to highlight resources and cross-fertilize networks.
 - Identify where to send people who have a business concept, do not prioritize a company with initial customers against a high-growth potential company trying to scale.
- Develop a continuum of capital.
 - Leverage organizations working with “local growth” companies to direct good deal flow toward micro loans programs.
 - Use CEOs of successful startups as review committee for micro loans—these reviewers could be future investors in private fund (must mitigate conflict of interest).
 - Engage financial advisors in networking events, host talks by CEOs of high-growth companies and by representatives of angel groups who can speak to lessons learned and impact of starting their funds.
- Focus on technology commercialization and industry engagement with regional R&D institutions.

- Encourage the formation of technology councils through outreach to both companies and research institutions (NSWC Dahlgren, W&M VIMS, Langley, UMW).
- Bring regional startup programming to research institutions and engage entrepreneurial researchers in technology-based startup networking events.
- Make technology commercialization part of the “high-growth” startups strategic initiative.

Appendix C. Virginia Initiates Program Alignment

The following is a description of the following three key state initiatives and a brief discussion of how these initiatives can be leveraged through Region 6 institutions.

- Virginia Research Investment Committee,
- Collaborative Economic Development Act, and
- State Council of Higher Education Credentialing Program.

VIRGINIA RESEARCH INVESTMENT COMMITTEE (VRIC)

The premier initiative of VRIC is the implementation of the Commonwealth Cyber Initiative (CCI). VRIC in partnership with VA Tech and the other three “Node” universities are just in the initial stages of moving forward with a major statewide initiative to position Virginia as a world leader in cyber security. All of the Region 6’s education institutions stand ready to partner with the CCI Node universities to bring cyber security education, training and research to the students throughout the region.

The following description of the CCI program provides a more complete overview of the status of the Initiative.

The CCI is a \$25-million effort funded in the 2018-20 Virginia budget. It calls on higher education institutions and industry to build an ecosystem of cyber-related research, education, and engagement. The goal is to position Virginia as a world leader where cyber security meets data analytics, machine learning, and autonomous systems.

CCI will consist of a hub in Northern Virginia anchored by Virginia Tech and four regional nodes across the Commonwealth; each led by an institution of higher education (Virginia Tech, Virginia Commonwealth University, George Mason University and Old Dominion University). Regional nodes will be vibrant centers of research, learning, and innovation tailored to their local ecosystem. VRIC certified the regional nodes in May.

CCI's network engages 320 faculty members across 39 higher education institutions, as well as 65 private companies, four federal partners, and 45 other regional partners. CCI will provide the connective platform necessary for both programs and people to work together to position Virginia as a leader where cyber security meets data analytics, machine learning, and autonomous systems.

Each node will engage the educational institutions in their region in an education, training and research tailored specifically to that region. The focus areas for each node have yet to be finalized and the institutional arrangements with other educational and institutional partners have yet to be developed.

VRIC contracted with TEconomy to produce an *Assessment of Virginia's Research Assets: Strategic Directions to Advance Innovation-Led Growth and High-Quality Job Creation across the Commonwealth*. This analysis, completed in December of 2018, had numerous recommendations to accelerate the commercialization of research from Virginia's universities, federal laboratories, and private corporations. Most of the recommendations were related to restructuring programs and activities statewide. One of the recommendations, identified as "*Enhanced Action 4: Create a network of Virginia Regional Innovation Partnerships*," is particularly relevant to GO Virginia regions. The following text from the TEconomy report more completely describes the recommended actions to implement *Enhanced Action 4* of the report.

Strategy Four: Shore up Virginia's regionally based innovation capacities to generate more start-ups and advance high-growth companies

Baseline Action for VRIC to Consider - Enhanced Action for the Commonwealth to Consider - Baseline funding resources to address this strategic need separately from support for statewide development.

Enhanced Action 4: Create a network of Virginia Regional Innovation Partnerships - The annual level of activities generated from the

baseline actions informed by best practice examples is expected to be significant, including the following:

- Increased industry-university translational and applied research collaborations in the strategic growth opportunity areas, including as follows:
 - 30 to 45 individual Virginia company applied research projects with one or more universities
 - 15 collaborative translational research projects, each involving one or more universities with multiple companies
 - Facilitation of industry engagement and high-touch customer-oriented services through a network of university site miners to work with companies
- Improved university capacity to commercialize their research discoveries, including as follows:
 - 20 proof-of-concept projects with strong industry mentorship leading to 5 to 6 new start-ups annually
 - Streamlined university technology transfer and commercialization practices that place an emphasis on value creation through new start-ups and licensing to Virginia companies
 - Increased capacity through collaborative efforts across universities to share access to market and technical experts and entrepreneurial training.

Beyond the activities generated from putting VRIF's resources to work, several key outcome-oriented measures are suggested to track the direct contributions of the baseline actions, including the following:

- Industry R&D levels generated
- Licensing of university technologies to Virginia companies
- Milestones reached in licensing of university technologies to Virginia companies
- Number of new start-ups
- Follow-on funding to new start-ups
- Evidence of rising valuations in new start-ups
- New sales growth by existing and start-up companies assisted
- Industry rating on quality of services provided.

The Institute of Marine Science at is well suited to become a regional innovation partner once VRIC implements the recommendations. The Institute is already engaged in research to address the economic conditions in the region. The Fredericksburg Regional Alliance

(FRA) has recently been designated a PIA, Participating Intermediary Agreement, organization with the US Naval Surface Warfare Center at Dahlgren. This designation will allow FRA access patients, researchers and facilitate the licensing of the research to companies wishing to commercialize that research.

COLLABORATIVE ECONOMIC DEVELOPMENT ACT

The Collaborative Economic Development Act was created by Virginia’s General Assembly in 2016 as a part of the GO Virginia legislative package. The Act calls for the creation of the Virginia Collaborative Economic Development Performance Grant Fund (CED Fund) that will provide grants to at least two or more Virginia localities that collaborate in joint economic development initiatives that result in the location or expansion of a certified company within their respective jurisdictions. The GO Virginia State Board, in conjunction with the Virginia Economic Development Partnership and the Department of Housing and Community Development, will administer grants that are awarded from this fund.

The Collaborative Economic Development Grants are unique in that, for the first time in Virginia’s history, participating localities can recover up to 45 percent of the total amount of personal income tax withheld from employees holding new jobs at the certified company for a period of 6 years.

A certified company, as mentioned above, means a Virginia employer that has been certified by the Virginia Economic Development Partnership to have:

1. Created or caused to be created at least 200 net new jobs in the participating localities with average salaries at least equal to the average wage in those localities and
2. Made a Capital Investment of at least \$25 million.

If, however, the Board makes a written finding of significant fiscal distress or extraordinary economic opportunity in the participating localities, the Board may lower the job creation and capital investment requirements to not fewer than 25 net new jobs and not less than \$1 million of capital investment.

Region 6 localities will need to establish regional collaborative agreements for business location throughout the region. The only regional revenue sharing agreement is on property surrounding the West Point Regional Airport. The fiscal and economic conditions in many of the Region 6’s localities should make them eligible for the lower qualification thresholds for business job creation and investment if they could meet the Participating Localities requirement.

STATE COUNCIL OF HIGHER EDUCATION (SCHEV) - CREDENTIALING PROGRAM

During the 2016 session, the General Assembly passed HB 66 that established the New Economy Workforce Grant Program. This grant program, the first of its kind, provides a pay-for-performance model for funding noncredit workforce training that leads to a credential in a high demand field. The program also includes requirements for students to complete the program in order to avoid paying additional costs. Here is a summary of the major key components of the program:

- Funds may be provided to eligible institutions for non-credit training that leads to a workforce credential in a high demand field.
- Eligible institutions include community colleges, higher education centers and Richard Bland College.
- Non-credit training programs should align with the high demand fields set by the Virginia Board for Workforce Development.
- Students are required to pay one-third of the total cost of the program upon enrollment. Students may use third party funds, such as noncredit financial aid, training vouchers or employer payment to cover this cost.
- If the student completes the training, then the state provides one-third of the cost of the program, up to \$1,500 to institution. If the student does not complete the program, then the student is required to pay this portion of the total cost.
- If the student satisfactorily completes the workforce credential after completing the training, then the institution receives the remaining one-third of the cost of the

program up to \$1,500. The combined maximum award to an institution is \$3,000 for completion of training and a credential.

- Institutions must provide student-level data to SCHEV to receive funding.
- SCHEV is responsible for administering the program, conducting periodic assessment of the program, collecting student data, and making final decisions on disputes between eligible institutions and grant recipient.

The following major occupation groups are included in the Demand Occupations List for the 2018- 2019 fiscal year. These are approved high-demand occupations.

- Computer and Mathematical Occupations
- Architecture and Engineering Occupations
- Life, Physical, and Social Science Occupations
- Education, Training, and Library Occupations
- Healthcare Practitioners and Technical Occupations
- Healthcare Support Occupations
- Office and Administrative Support Occupations
- Construction and Extraction Occupations
- Installation, Maintenance, and Repair Occupations
- Production Occupations
- Transportation and Material Moving Occupations

All Community colleges across Virginia and the Southern Virginia Higher Education Center currently offer programs aligned with the high-demand occupations.

Most of the Demand Occupations

- Computer and Mathematical,
- Architecture and Engineering,
- Life, Physical, Social Science,
- Education and Training,
- Office and Administrative Support,

- Installation and Maintenance,
- Production, and
- Transportation and Material Moving Occupations

are all directly related to Region 6's six priority industry sectors:

- Seafood, Fishing and Aquaculture,
- Forestry, Wood Products and Paper,
- Manufacturing,
- Professional, Technical and Scientific Services,
- Distribution and Logistics, and
- Information/Data Centers.

The recently funded Rappahannock Community College welder workforce development and the University of Mary Washington cyber security certification training will be implementing career development in two of these occupations. The New Economy Workforce Credential Grants will be a tremendous financial benefit to those students participating in the training programs of the Germanna and Rappahannock Community Colleges.

Appendix D. Non-GO Virginia Programs

The following description of non-Go Virginia initiatives and programs offer opportunities for collaborations with GO Virginia projects and may be resources to implement the goals and strategies of the regional Growth and Diversification Plans. The following initiatives/programs are described in this section:

- **Virginia Business Ready Sites Program,**
- **Commonwealth Cyber Initiative,**
- **Amazon HQ2 Tech Talent Pipeline Initiative,**
- **Virginia Telecommunications Initiative,**
- **Virginia FastForward Initiative,**
- **Opportunity Zones, and**
- **Rural Coastal Virginia Community Enhancement Authority.**

VIRGINIA BUSINESS READY SITES PROGRAM

Virginia Business Ready Sites Program (VBRSP) is a discretionary program to promote development and characterization of sites to enhance the Commonwealth’s infrastructure and promote the Commonwealth’s competitive business environment. The program’s goal is to identify, assess, and improve the readiness of potential industrial sites.

A team of state, regional, and local stakeholders including Virginia Economic Development Partnership (VEDP), Virginia Department of Environmental Quality (DEQ), railroad representatives, utility representatives, civil engineers, and other government, business, and industry representatives developed VBRSP.

VBRSP has 5 Site Characterization Tier Levels:

- Tier 1: Site under (a) public ownership, (b) public/private ownership, or (c) private ownership with such private owner(s) agreeable to marketing the site for economic development purposes and to allowing access to the property for site assessment and marketing purposes, but at no established sales price. The Comprehensive plan reflects site as appropriate for industrial or commercial development and use, but

site is not zoned as such. Site has minimal or no infrastructure. Minimal or no due diligence has been performed.

- Tier 2: Site under (a) public ownership, (b) public/private ownership, or (c) private ownership with an option agreement or other documentation of a commitment by the private owner(s) to a competitive sales price, to permit access to the site for site assessment, construction, and marketing, and to market the site for industrial or commercial economic development purposes. The Comprehensive Plan reflects site intended for industrial or commercial development and use, but site is not zoned as such and a rezoning hearing needs to be scheduled. Site has minimal or no infrastructure. Minimal or no due diligence has been performed.
- Tier 3: Site is zoned for industrial or commercial development and use. Site has minimal or no infrastructure. Due diligence including, among other things, a wetlands survey with Army Corps of Engineers approval within the last five years, geotechnical borings, boundary and topographical survey, cultural resources review, an Endangered Species review, and a Phase I Environmental Site Assessment, has been completed. Estimated costs of development have been quantified.
- Tier 4: All infrastructures are in place or will be deliverable within 12 months. All permit issues have been identified and quantified.
- Tier 5: All permits are in place and the site is ready for a site disturbance permit from the locality in which the site is located.

VEDP is in the process of assessing the inventory of sites across the Commonwealth according to the VBRSP. VEDP has contracted with four professional engineering firms to conduct this initial assessment. The desk audits will begin the summer of 2019 with a status report available in the fall of 2019.

VEDP provides a limited number of grants annually for sites greater than 100 acres for site characterization. These grants are considered on a competitive basis and made at the discretion of a committee of the VBRSP Working Group members. Site Characterization

Grants are available to reimburse for retaining a Site Development Professional for Site Characterization and receiving a designated Site Characterization Tier Level.

To be eligible for a Site Characterization Grant, an eligible applicant must have had the Site Characterization made no earlier than one year prior to the application for a Site Characterization Grant or have the Site Characterization completed no later than 90 days after a Site Characterization Grant has been awarded.

The maximum Site Characterization Grant awarded to an applicant is 50 percent of the cost of site assessment, up to \$5,000. A local match of at least 100 percent is required. An applicant further is responsible for covering any remaining amount of the cost of Site Characterization.

COMMONWEALTH CYBER INITIATIVE

The Commonwealth Cyber Initiative (CCI) is a \$25-million effort funded in the 2018-20 Virginia budget. It calls on higher education institutions and industry to build an ecosystem of cyber-related research, education, and engagement. The goal is to position Virginia as a world leader where cybersecurity meets data analytics, machine learning, and autonomous systems.

The Commonwealth Cyber is collaboration between the State Council of Higher Education of Virginia (SCHEV) and the Virginia Research Investment Committee. The CCI initiative is established to serve as an engine for research, innovation, and commercialization of cybersecurity technologies, and address the Commonwealth's need for growth of advanced and professional degrees within the cyber workforce.

The initiative calls for a primary hub to be located in Northern Virginia and a network of spoke sites across the commonwealth with collaborating universities in Virginia. Virginia Tech will lead the initiative because of its strengths in science and engineering, existing

expertise in cybersecurity research and education, and its significant research presence in Northern Virginia.

CCI proposes to have four anchor research institutions, Nodes, of higher education across Virginia (VA Tech, VCU, ODU and GMU) to coordinate the cyber research, development and workforce advancement. In collaboration with public institutions in the Commonwealth, Virginia Tech will serve as the anchor institution in Northern Virginia and coordinate the activities of the Hub. The Hub will coordinate a Network of Regional Nodes.

The activities of CCI include:

- **Cyberphysical System Security (CPSS) Research:** CPS and the “Internet of things” promise to enhance the quality of life in many ways but require advances in security and trust to ensure robust, safe, and widespread adoption and impact. This includes world-class research teams at the Hub and across the Network focused on the next-generation communication technologies that will support the Internet of things, as well as machine learning and artificial intelligence for cybersecurity. Through a Network-wide research alliance, the team will partner with and host CCI-aligned researchers from institutions across the Commonwealth, bolstering CCI Network ties and enhancing synergies across the Nodes.
- **Entrepreneurial Ecosystem:** The CCI Network is committed to ensuring that research outcomes make their way to market quickly and effectively. CCI investments will grow and diversify the Virginia cyber economy Commonwealth-wide by promoting the commercialization of CPSS products and launching cyber-focused startups. The CCI Hub will support entrepreneurship across the Network by providing access to venture capital and supporting startups. CCI will support technology de-risking through approaches like proof-of-concept grants. In addition, Nodes will promote CPSS research and entrepreneurship in their regional ecosystems.
- **Co-Op 2.0 Portal:** To ensure that Virginia students are fully prepared to enter the innovation workforce upon graduation, the CCI Network will promote and support

opportunities for long-term and year-round experiential learning in ways that do not prolong student time to-degree. These longer-term relationships increase value for both stakeholder groups. CCI will support the distance learning, flexible educational schedules, and industry partnerships required to establish and scale these experiences across the Commonwealth. CCI funding will be made available for matching industry investment in student stipends.

The 2018-2020 Virginia State Budget invests \$25 million in CCI. This appropriation includes \$10 million to scale the initiative and recruit faculty both the Hub and Node sites. An additional \$10 million is provided to establish the Hub, including research faculty, entrepreneurship programs, and student internships. Finally, \$5 million is available for renovations, space enhancements, and equipment.

CCI's success will be measured by well-defined output indicators. CCI will also produce real outcomes for the Commonwealth, such as student employment in cyber fields in Virginia industry, patent licensing, and venture capital invested in spin-offs.

To achieve these outcomes, CCI recommends an additional \$40 million in funds to further scale the Hub, pilot new programs to scale degree production, and recruit scholars and researchers across the Commonwealth. The CCI Network should be sustained by a \$28 million annual investment in research and educational faculty support, CoOp 2.0 support, and other Network programs. These funds will be leveraged to grow a combination of philanthropy, industry investment, and sponsored research programs totaling over \$20 million for the initial investments and growing to \$35 million annually at steady state.

AMAZON HQ2 TECH TALENT PIPELINE INITIATIVE

The centerpiece of Virginia's proposal for HQ2 was a performance-based, statewide investment in computer science and related programs to more than double Virginia's tech-talent pipeline, which will benefit tech employers across the Commonwealth.

- **Vision** - To strengthen the tech-talent pipeline across Virginia, the Commonwealth will make performance-based investments in public higher education institutions statewide. The effort will produce 25,000 to 35,000 additional degrees in computer science and related fields – roughly split between bachelor’s degrees and master’s degrees – over the next two decades, in excess of current rates. Existing degree production levels will more than double as a result.
- **Program Design** - Subject to performance-based agreements to be negotiated with each public community college, four-year college, and university across Virginia that wish to participate, state funding will be provided to recruit faculty, address capital needs, and provide ongoing enrollment support necessary to more than double existing levels of degree production in computer science and closely related fields.

The overall program includes five components:

- 1) K-12 tech-talent pipeline initiative;
- 2) A Community College program;
- 3) Bachelor’s-level education;
- 4) Master’s-level education; and
- 5) Tech internship program for higher education students.

- 1) Strengthening the **K-12 Tech-Talent Pipeline Statewide** - Building the tech-talent pipeline starts with a public K-12 system that includes an integrated STEM and computer science curriculum at every grade for every student. Virginia led the nation by adopting computer science standards across the K-12 continuum, and the Commonwealth is continuing to equip teachers to implement them effectively. However, in order to meet the growing needs of Amazon and other high-tech employers, additional investments are needed to bring high-quality STEM and computer science teaching and learning to scale. Therefore, over the next 20 years, Virginia will invest \$25 million statewide in new funding in the K-12 STEM and computer science experience for students and teachers. This investment will enable the Commonwealth to provide ongoing professional development to current and future teachers; create, curate, and disseminate high-quality curriculum and resources;

support summer and after-school programming for students; and facilitate meaningful career exposure and work-based learning opportunities in high demand fields.

- 2) Statewide **Community College Tech-Talent Education** - Community colleges across Virginia play an essential role in preparing students for technology jobs, including both degree and certificate programs that lead directly to well-compensated IT positions as well as transfer programs that enable completion of bachelor's degrees in computer science and related fields at a reduced cost compared to attending only a four-year institution. State leaders will collaborate with the Virginia Community College System (VCCS) and community college leaders to craft performance-based community college tech talent programs that will complement the bachelor's and master's level tech-talent education programs described below.
- 3) Statewide **Bachelor's-Level Tech-Talent Education** - With General Assembly approval, the Commonwealth will establish a performance-based tech-talent investment fund through which 7 higher education institutions across Virginia can receive startup funds for faculty recruitment, state capital investment (where required), and enrollment funding necessary to expand the number of bachelor's degrees they confer annually in computer science and closely related fields (e.g., computer engineering). Participating institutions will enter into memorandums of understanding (MOUs) that detail their plans for growth, state funding commitments, annual reporting requirements, and future funding parameters associated with performance. The total new state investment to grow bachelor's-level tech-talent education will be determined in part by how much of the growth in computer science and related fields is associated with an overall increase in college graduates and how much relates to a shift in the degree-field mix that may occur at some institutions. The bachelor's-level tech talent education program will represent the largest state investment of the five components.
- 4) **Master's-Level Tech-Talent Education** in Northern Virginia. The Commonwealth also plans investments of up to \$375 million for academic space and operational support to increase master's degree production in computer science and related fields in Northern Virginia over the next 20 years. These performance-based, master's-degree level investments will be provided on a dollar-for-dollar matching basis for philanthropic funds raised by George Mason University for its Arlington campus and Virginia Tech

University for a new graduate level Innovation Campus expected to be located in Alexandria. Master’s degrees offer advanced, ongoing professional development; dramatically reduce the total cost for additional credentials; can be produced more quickly than bachelor’s degrees; and lend themselves to customization.

- 5) Tech Internship Program for Higher Education Students.** The State Council of Higher Education for Virginia (SCHEV) will develop a higher education program to ensure that all students in baccalaureate programs in computer science and related fields have access to high-quality work-based learning, such as internships, apprenticeships, research experiences, and cooperative education programs. The Commonwealth will invest at least \$25 million in this program over the next 20 years. To ensure efficiency and consistency in meeting the needs of students and businesses, the General Assembly may choose a single entity to oversee the allocation of funds dedicated to the program.

VIRGINIA TELECOMMUNICATIONS INITIATIVE

The Virginia Telecommunication Initiative (VATI) provides grants to extend broadband service to currently underserved areas in the Commonwealth. VATI prepares communities to build, utilize, and capitalize on telecommunications infrastructure with the goal of creating strong, competitive communities. Consistent with the enabling legislation, DHCD was appropriated \$4 million in FY 2019 to be awarded eligible applicants, subsidizing the construction costs and providing last-mile services to these underserved areas of the state. The FY 2020 state appropriation is for \$19 million.

A unit of local government must submit applications with a private-sector provider(s) as a co-applicant. Units of government include towns, cities, counties, economic and industrial development authorities, broadband or wireless authorities, planning district commissions, etc.

The Virginia Department of Housing and Community Development will host two input sessions to discuss the proposed FY2020 Virginia Telecommunication Initiative guidelines and criteria.

VIRGINIA FASTFORWARD INITIATIVE

FastForward is a short-term workforce credential program to train Virginians for top, in-demand jobs through the Virginia Community College system. Most programs take between six and 12 weeks and are built so students can get their education while they work.

FastForward offers credential training programs to prepare Virginians for 40 high-demand careers. The FastForward training programs to date have a completion rate of more than 90 percent. FastForward credentials are offered in the following industry sectors; Logistics and Transportation, Healthcare, Welding and Manufacturing, Skilled Trades, Information Technology, Business and Customer Service, and Education.

The New Economy Workforce Grant Program was implemented as the Virginia FastForward program. During the 2016 session, the General Assembly passed HB 66 which established the New Economy Workforce Grant Program. This grant program, the first of its kind, provides a pay-for-performance model for funding noncredit workforce training that leads to a credential in a high demand field. The program also includes requirements for students to complete the program in order to avoid paying additional costs. A summary of the major key components of the program is included below:

- Funds may be provided to eligible institutions for non-credit training that leads to a workforce credential in a high demand field
- Eligible institutions include community colleges, higher education centers and Richard Bland College
- Non-credit training programs should align with the high demand fields set by the Virginia Board for Workforce Development

- Students are required to pay one-third of the total cost of the program upon enrollment. Students may use third party funds, such as noncredit financial aid, training vouchers or employer payment to cover this cost.
- If the student completes the training, then the state provides one-third of the cost of the program, up to \$1,500 to institution. If the student does not complete the program, then the student is required to pay this portion of the total cost
- If the student satisfactorily completes the workforce credential after completing the training, then the institution receives the remaining one-third of the cost of the program up to \$1,500. The combined maximum award to an institution is \$3,000 for completion of training and a credential
- Institutions must provide student-level data to SCHEV to receive funding
- SCHEV is responsible for administering the program, conducting periodic assessment of the program, collecting student data, and making final decisions on disputes between eligible institutions and grant recipient.

The results of the program by industry are 32 percent of credentials were earned in skilled trades, 24 percent were earned in logistics and transportation, 20 percent in welding and manufacturing, 15 percent in health care, and 9 percent in education, business and information technology. The majority of FastForward graduates experience a 25 percent to 50 percent wage gain after attaining their credential. In addition, 90 percent of Virginians working with FastForward credentials reported having employer-sponsored health care, 75 percent receive paid sick leave, 85 percent get paid vacation time, 88 percent report better work schedules, and 82 percent are working in their preferred field.

FastForward also contributes significantly to Virginia’s overall economy. Based on an analysis of 2,500 available wage records, FastForward graduates earned more than \$81 million dollars last year, a nearly \$15 million increase over their earnings prior to participating in the program. This results in estimated annual income taxes of \$4,004,027 paid by FastForward graduates, according to Virginia Community Colleges.

OPPORTUNITY ZONES

Opportunity Zones are economically distressed communities, designated by states and territories and certified by the U.S. Treasury Department, in which certain investments are eligible for preferential capital gains tax treatment. The tax incentive is designed to spur economic development and job creation in distressed communities by providing these tax benefits to investors. Effective June 14, 2018, Treasury certified Opportunity Zones in all states, territories and the District of Columbia. Opportunity Zone designations will remain in effect until December 31, 2028. Two-hundred and twelve Opportunity Zones have been designated in Virginia.

Investments in Opportunity Zones are made through a qualified Opportunity Fund. A qualified Opportunity Fund is any investment vehicle organized as a corporation or partnership with the specific purpose of investing in Opportunity Zone assets. The fund must hold at least 90 percent of its assets in qualifying Opportunity Zones property. Any taxpaying individual or entity can create an Opportunity Fund, through a self-certification process by submitting a form with the taxpayer's federal income tax return. Opportunity Funds can invest in any qualified Opportunity Zone property, including stocks, partnership interest or business property (so long as property use commences with the fund, or if the fund makes significant improvements to the qualifying property).

There are three primary benefits available to investors that invest into an Opportunity Fund, with increasing benefits the longer the investment is held in the Fund:

- Deferral of capital gains taxes. An investor that re-invests capital gains (within six months or realizing the gains) into an Opportunity Fund can defer paying federal taxes on those realized gains until as late as December 31, 2026.
- Reduction of capital gains taxes. Investors that hold the investment in the Opportunity Fund for at least five years can reduce their tax bill on the deferred capital gains by 10 percent. This reduction increases to 15 percent for investors that hold the investments in the Opportunity Fund for at least seven years.

- Elimination of taxes on future gains. Investors that hold the investment in the Opportunity Fund for at least ten years will not be required to pay federal capital gains taxes on any gains realized from the investment in the Opportunity Fund.

Virginia Community Capital, with leadership from LOCUS Impact Investing and in partnership with the Virginia Department of Housing and Community Development and the Virginia Housing Development Authority, will develop an online marketplace to help educate stakeholders on the program, share project ideas and pipeline, and connect investors to businesses and property in Virginia’s Opportunity Zones. The Virginia Opportunity Zone Marketplace is expected to be launched in the fall of 2019.

There are eight designated Opportunity Zones in the Mary Ball Washington Region in the following localities; Fredericksburg City, Caroline, Spotsylvania, Essex, Gloucester, King and Queen, Lancaster and Richmond Counties.

RURAL COASTAL VIRGINIA COMMUNITY ENHANCEMENT AUTHORITY

The Rural Coastal Virginia Community Enhancement Authority was established in 2017 by acts of the Virginia General Assembly and covers the 12 rural counties of the Northern Neck, Middle Peninsula, and Accomack-Northampton planning districts: Accomack, Essex, Gloucester, King and Queen, King William, Lancaster, Mathews, Middlesex, Northampton, Northumberland, Richmond, and Westmoreland. The Authority is created for the purpose of serving as a regional economic development body. The Board of the Rural Coastal Virginia Community Enhancement Authority consists of up to 15 members as follows: one member of each of the 12 counties' governing bodies, three at-large members appointed by the Governor and the Secretary of Commerce and Trade or his designee. The counties and the planning district commissions that make up the Authority provide staffing and support to the Authority.

The Authority is established to:

- Assist the region in obtaining necessary job training or employment-related education, leadership and civic development, and business development, especially entrepreneurship for the coastal region,
- Fund demonstration projects, and conduct research, evaluations, and assessments of the coastal region's assets and needs, and
- Provide special assistance to distressed and underdeveloped counties within the coastal region.

Agencies of the Commonwealth shall review grant program eligibility requirements, and amend such requirements as appropriate, for purposes of recognizing the unique socioeconomic and demographic challenges faced by rural coastal localities and the inability to qualify for financial assistance.

The Authority may seek and approve loans and solicit donations, grants, and any other funding from the Commonwealth, the federal government, and regional, local government, and private entities to carry out its purposes, powers, and duties. At present the Authority has yet to be organized but efforts are underway to have it organized by the fall of 2019. To date, the Authority has yet to have a funding source to support its functions.

Appendix E. Sites, Buildings, Prospect Recommendations and Prospect Visits Analysis

The purpose of this analysis is to study the availability of business real estate, “product” (meaning sites and buildings) and prospect activity as reported by Virginia Economic Development Partnership (VEDP). The analysis presents data at the GO Virginia regional level, economic development region and locality level. The consultants were able to obtain a database from VEDP that contains the details of prospect recommendations and prospect visits for the years 2014 to 2018. In addition, the data related to available sites and buildings was taken from the VEDP VirginiaScan website in May of 2019. The data for some of localities was not available in these databases and is noted in the relevant sections of this analysis.

SITES

This analysis looked at the total distribution of available business sites across the region and the utility and size characteristics of those sites. There is a total of 149 business sites listed on VEDP VirginiaScan website for the localities in Region 6. There was not any data listed for Northumberland, Mathews, Middlesex or Westmoreland Counties. It is assumed that these localities do not have business sites that meet the VEDP requirements for inclusion in the database. Of the 149 sites 114 (76.5 percent) were in the Fredericksburg sub-region. 33 sites (22.1 percent) were in the Middle Peninsula and 2 sites (1.3 percent) in the Northern Neck. Spotsylvania (38 - 25.5 percent) Stafford (35 - 23.5 percent) and Caroline (21 - 21.5 percent) had the majority, 70.5 percent, of the sites within the region.

The same distribution pattern is present for those sites with utilities (water and sewer) available. Of the 92 sites with water and sewer 84 are in the Fredericksburg sub-region (91.3 percent). Six are in the Middle peninsula and only 2 are in the Northern Neck. 56 sites have natural gas available to the sites and all are in the Fredericksburg sub-region.

Most manufacturing and distribution/logistics businesses require larger sites, typically above 50 acres. Again, almost all the larger sites greater than 50 acres, 56 (93.5 percent),

are located in the Fredericksburg sub-region. There are 2 certified sites for data centers; both are in Stafford County.

Appendix E. Table 1 provides a detailed listing of business sites and their characteristics by individual locality in Region 6.

Appendix E. Table 1. Site Inventory - Mary Ball Washington Region

Locality	Sites Total	Size - Acres with W & S					
		Total	25 ac. +	50 ac. +	100 ac. +	250 ac. +	Gas
Caroline	32	18	10	6	4	3	12
Fredericksburg	6	5	4	3	1	0	3
King George	3	1	1	0	0	0	0
Spotsylvania	38	27	12	7	4	4	21
Stafford	35	33	19	13	7	2	20
Fredericksburg Region	114	84	46	29	16	9	56
Essex	11	1	1	1	0	0	0
Gloucester	15	3	0	0	0	0	0
King and Queen	2	0	0	0	0	0	0
King William	5	2	0	0	0	0	0
Mathews	*	*	*	*	*	*	*
Middlesex	*	*	*	*	*	*	*
Middle Peninsula	33	6	1	1	0	0	0
Lancaster	1	1	1	1	1	0	0
Northumberland	*	*	*	*	*	*	*
Richmond	1	1	1	0	0	0	0
Westmoreland	*	*	*	*	*	*	*
Northern Neck	2	2	2	1	0	0	0
Region 6 Total	149	92	49	31	16	9	56

* No Data Available

BUILDINGS

This analysis looked at the distribution of available industrial, flex and office buildings across the region according to tenancy, size and other characteristics. Industrial and flex buildings were analyzed separately from office buildings. There was not any building data listed for eight localities, King and Queen, King William, Lancaster, Northumberland, Mathews, Middlesex, Richmond or Westmoreland Counties. In addition, Caroline County did not have industrial or flex buildings listed, and King George did not have any office buildings listed. It is assumed that these localities do not have buildings that meet the VEDP requirements for inclusion in the database.

There is a total of 44 industrial and flex buildings listed on VEDP VirginiaScan website for the localities in Region 6. Of the 44 buildings 41 (93.1 percent) were in the Fredericksburg sub-region. The remainder 3 buildings (6.9 percent) were in the Middle Peninsula. Spotsylvania (29 – 65.9 percent) and Stafford (10 – 22.7 percent) had the majority, 86.6 percent, of the industrial and flex buildings within the region.

A vast majority of the Industrial/flex buildings, 41 (93.1 percent), are for lease and 14 are for sale. 14 of the buildings are considered flex buildings and there are not any publicly owned shell buildings in the region. 42 of the industrial/flex buildings are served by natural gas and 27 have ceiling heights over 20 ft. with only 4 buildings with ceiling heights greater than 30 ft.

Most of the industrial/flex buildings are greater than 10,000 sq. ft., 38 (86.3 percent). Only 11 of the buildings are greater than 50,000 sq. ft. with two greater than 100,000 sq. ft.

Appendix E. Table 2 provides a detail on the distribution of industrial/flex buildings throughout the region.

Appendix E. Table 2. GO VA Region 6 Building Inventory, Industrial and Flex Buildings

Locality	Total	For Sale	Lease	Flex	Size - Sq. Ft. with W & S				Gas	Ceiling Height	
					10K +	50K +	100K +	250K +		20 ft. +	30 ft. +
Caroline	0	0	0	0	0	0	0	0	0	0	0
Fredericksburg	1	0	1	0	1	1	0	0	1	1	0
King George	1	0	1	0	1	1	0	0	0	1	0
Spotsylvania	29	8	26	9	22	7	1	0	24	17	3
Stafford	10	4	10	5	6	1	1	1	7	5	1
Fredericksburg Region	41	12	38	14	30	10	2	1	42	27	4
Essex	2	2	2	2	2	0	0	0	0	0	0
Gloucester	1	0	1	1	0	0	0	0	0	0	0
King and Queen	0	0	0	0	0	0	0	0	0	0	0
King William	0	0	0	0	0	0	0	0	0	0	0
Mathews	0	0	0	0	0	0	0	0	0	0	0
Middlesex	0	0	0	0	0	0	0	0	0	0	0
Middle Peninsula	3	2	3	3	2	0	0	0	0	0	0
Lancaster	0	0	0	0	0	0	0	0	0	0	0
Northumberland	0	0	0	0	0	0	0	0	0	0	0
Richmond	0	0	0	0	0	0	0	0	0	0	0
Westmoreland	0	0	0	0	0	0	0	0	0	0	0
Northern Neck	0	0	0	0	0	0	0	0	0	0	0
Region 6 Total	44	14	41	17	32	10	2	1	42	27	4

Appendix E. Table 3 lists an inventory and characteristics of 53 office buildings listed on the VEDP website. All but five of the buildings, 90.6 percent, are located in the Fredericksburg sub-region. The Northern Neck did not have any office buildings listed. Only two localities, Spotsylvania and Stafford Counties, had Class A office buildings available and these 7 represented 13.2 percent of all of the office buildings.

Appendix E. Table 3. Region 6 - Office Building Inventory

Locality	Total	For Sale	Lease	Class A	Size - Sq. Ft.			
					5,000-10,000	10,000-20,000	20,000-50,000	50,000+
Caroline	1	0	1	0	1	0	0	0
Fredericksburg	5	0	5	2	3	2	1	0
King George	0	0	0	0	0	0	0	0
Spotsylvania	22	7	22	2	18	12	3	1
Stafford	20	6	20	3	18	11	5	0
Fredericksburg Region	48	13	48	7	40	24	9	1
Essex	2	2	2	0	2	2	0	0
Gloucester	3	0	3	0	3	1	0	0
King and Queen	0	0	0	0	0	0	0	0
King William	0	0	0	0	0	0	0	0
Mathews	0	0	0	0	0	0	0	0
Middlesex	0	0	0	0	0	0	0	0
Middle Peninsula	5	2	5	0	5	3	0	0
Lancaster	0	0	0	0	0	0	0	0
Northumberland	0	0	0	0	0	0	0	0
Richmond	0	0	0	0	0	0	0	0
Westmoreland	0	0	0	0	0	0	0	0
Northern Neck	0	0	0	0	0	0	0	0
Region 6 Total	53	15	53	7	45	27	9	1

PROSPECT RECOMMENDATIONS

The analysis of the prospect recommendations is centered on the number, the type and the distribution of site recommendations from VEDP project managers over a five-year period from 2014 to 2018. Often the recommendations of VEDP represent the majority of prospect leads that rural localities receive during any calendar year. If a locality has manufacturing as a target industry, VEDP is an essential partner in expanding a locality's or regions manufacturing base. Often site location consultants and major manufactures work through states' economic development organizations. VEDP is the primary marketing and project management organization for out-of-state business locations.

The Mary Ball Washington Region had 243 site recommendations from VEDP for the five-years between 2014 and 2018. Almost 90 percent of the recommendations were for sites in the Fredericksburg region. The remaining 10 percent of the recommendations were split 7.4 percent to the Middle Peninsula and 2.5 percent in the Northern Neck. Sites in Spotsylvania, Caroline and Stafford Counties were recommended at the highest rate over the past five years at 71 (29.1 percent), 49 (20.2 percent) and 44 (18.1 percent) respectively.

Appendix E. Table 4 illustrates the distribution of the VEDP site recommendation in Region 6.

Appendix E. Table 4. Region 6 - VEDP Recommended Locations 2014 -2018

Locality	Recommendations		
	Total	Sub Region	Region 3
Caroline	49	22.5%	20.2%
Fredericksburg	26	11.9%	10.7%
King George	28	12.8%	11.5%
Spotsylvania	71	32.6%	29.2%
Stafford	44	20.2%	18.1%
Fredericksburg Region	218	100.0%	89.7%
Essex	1	5.6%	0.4%
Gloucester	3	16.7%	1.2%
King and Queen	3	16.7%	1.2%
King William	8	44.4%	3.3%
Mathews	1	5.6%	0.4%
Middlesex	2	11.1%	0.8%
Middle Peninsula	18	100.0%	7.4%
Lancaster	1	16.7%	0.4%
Northumberland	*	*	*
Richmond	3	50.0%	1.2%
Westmoreland	2	33.3%	0.8%
Northern Neck	6	100.0%	2.5%
Region 6 Total	243		

* No Data Available for Northumberland County

The vast number of site location recommendations is related to manufacturing use. Often a prospect will have several components/uses of their proposed facility. For example, a manufacturing prospect may have a warehouse/distribution (W&D) use, be the proposed headquarters, have staff offices, and have a research and development (R&D) function. In this case all of these uses would be listed in the VEDP file. One-hundred seventy-nine of 243, or 73.7 percent, of the recommendations were related to a manufacturing use. This understates manufacturing as the major use of the proposed facility since other uses are

often is related to manufacturing. Often the other uses, W&D, office, headquarters and R&D are combined with a primary manufacturing function. Typically, service use is not combined with manufacturing. Service uses only represent 12.3 percent of prospect recommendations.

Appendix E. Table 5. Region 6 – VEDP Recommended Locations 2014 -2018

Locality	Total	Facility Type					
		Mfg.	W&D	Office	Hqtrs.	Service	R&D
Caroline	49	30	15	7	7	5	4
Fredericksburg	26	21	6	3	4	6	1
King George	28	23	13	3	4	4	2
Spotsylvania	71	53	22	14	5	7	2
Stafford	44	30	10	9	3	5	3
Fredericksburg Region	218	157	66	36	23	27	12
Essex	1	1	0	0	0	0	0
Gloucester	3	3	1	1	2	0	0
King and Queen	3	3	1	0	1	2	0
King William	8	8	2	0	2	1	0
Mathews	1	0	1	0	0	0	0
Middlesex	2	2	0	1	0	0	1
Middle Peninsula	18	17	5	2	5	3	1
Lancaster	1	0	0	1	0	0	0
Northumberland	*	*	*	*	*	*	*
Richmond	3	3	1	1	0	0	0
Westmoreland	2	2	1	0	1	0	0
Northern Neck	5	5	1	2	1	0	0
Region 6 Total	243	179	72	40	29	30	13

* No Data Available for Northumberland County

Based on the site recommendations what has been the success of prospects choosing Virginia? Appendix E. Table 6 illustrates the status or prospects over the five years 2014 through 2018. Most prospects disengage with VEDP, 60 percent of the time. This could be for a variety of reasons: they choose not to pursue the project, they choose to expand at an existing facility, or they delay their plans for expansion to an uncertain date, etc. Business

prospects do not always share the reasons for disengagement. Fourteen percent of the site recommendations choose a Virginia site for their expansion. The figures in Appendix E. Table 6 reflect a win/location for Virginia not necessarily a win for the individual locality. From the known data, prospects choose another state 12 percent of the total number of site recommendations. Fourteen percent of the total site recommendations were still active in 2019.

Appendix E. Table 6. Region 6 - VEDP Recommended Locations 2014 -2018

Locality	Total	Stage			
		Won	Lost	Disengaged	Active
Caroline	49	6	8	27	8
Fredericksburg	26	6	3	13	4
King George	28	5	3	15	5
Spotsylvania	71	7	8	47	9
Stafford	44	8	5	27	4
Fredericksburg Region	218	32	27	129	30
Essex	1	0	6	1	0
Gloucester	3	0	0	3	0
King and Queen	3	0	0	3	1
King William	8	0	2	5	1
Mathews	1	1	0	0	0
Middlesex	2	0	0	2	0
Middle Peninsula	18	1	2	13	3
Lancaster	1	0	0	1	0
Northumberland	*	*	*	*	*
Richmond	3	1	1	1	0
Westmoreland	2	0	0	1	1
Northern Neck	5	1	1	3	1
Region 6 Total	243	34	30	145	34

* No Data Available for Northumberland County

The number of site recommendations made over the five years ranged from a high of 76 in 2018 to a low of 29 in 2014. The Fredericksburg sub-region had the largest number of

recommendations each year and the annual distribution of recommendations among the Fredericksburg localities varied considerably across the five years. In the Middle Peninsula, 2018 was a banner year with over half of the recommendations for the 5-year period coming in that year.

Appendix E. Table 7. Region 6 - VEDP Recommended Locations 2014 - 2018

Locality	Total	2014	2015	2016	2017	2018
Caroline	49	4	8	9	8	20
Fredericksburg	26	3	6	4	3	10
King George	28	5	7	4	6	6
Spotsylvania	71	8	18	18	9	18
Stafford	44	8	13	9	5	9
Fredericksburg Region	218	28	53	43	31	64
Essex	1	0	0	0	0	1
Gloucester	3	0	0	1	0	2
King and Queen	3	0	1	1	0	1
King William	8	0	2	0	2	4
Mathews	1	0	0	0	0	1
Middlesex	2	0	1	0	0	1
Middle Peninsula	18	0	4	2	2	10
Lancaster	1	1	0	0	0	0
Northumberland	*	*	*	*	*	*
Richmond	3	0	0	0	2	1
Westmoreland	2	0	0	0	1	1
Northern Neck	5	1	0	0	3	2
Region 6 Total	243	29	57	45	36	76

* No Data Available for Northumberland County

PROSPECT VISITS

The same patterns emerge when reviewing the prospect visits data as was present when analyzing the site recommendation data. Logic indicates the larger number of recommendations a locality receives the greater the likelihood that a locality will receive a prospect visit. The Fredericksburg sub-region received 36 out of 47 (76.6 percent) of the region's prospect visits over the five-year period versus 89.7 percent of the site

recommendations. Caroline, Stafford and Spotsylvania Counties had the largest number of prospect visits at 10, 10 and 7 respectively. The Middle Peninsula received 7 visits (14.9 percent) and the Northern Neck received 4 visits (8.5 percent).

Manufacturing prospects again dominated the prospect visits, 29 out of a total of 47 (61.7 percent). The Fredericksburg region had 19 manufactures visit the region or 52.8 percent of the total. All but one of the prospect visits to the Middle Peninsula and Northern Neck were manufactures.

Appendix E. Table 8. Region 6 - VEDP Prospect Visits 2014 -2018

Locality	PROSPECT VISITS					
	Total	Sub Region	Region 3	Mfg.	Sub Region	Region 3
Caroline	10	27.8%	21.3%	6	31.6%	20.7%
Fredericksburg	5	13.9%	10.6%	1	5.3%	3.4%
King George	4	11.1%	8.5%	2	10.5%	6.9%
Spotsylvania	7	19.4%	14.9%	7	36.8%	24.1%
Stafford	10	27.8%	21.3%	3	15.8%	10.3%
Fredericksburg Region	36	100.0%	76.6%	19	100.0%	65.5%
Essex	0	0.0%	0.0%	0	0.0%	0.0%
Gloucester	4	57.1%	8.5%	4	57.1%	13.8%
King and Queen	1	14.3%	2.1%	1	14.3%	3.4%
King William	1	14.3%	2.1%	1	14.3%	3.4%
Mathews	0	0.0%	0.0%	0	0.0%	0.0%
Middlesex	1	14.3%	2.1%	1	14.3%	3.4%
Middle Peninsula	7	100.0%	14.9%	7	100.0%	24.1%
Lancaster	0	0.0%	0.0%	0	0.0%	0.0%
Northumberland	*	*	*	*	*	*
Richmond	3	75.0%	6.4%	2	66.7%	6.9%
Westmoreland	1	25.0%	2.1%	1	33.3%	3.4%
Northern Neck	4	100.0%	8.5%	3	100.0%	10.3%
Region 6 Total	47			29		

* No Data Available for Northumberland County

Based on prospect visits, how many prospects choose Virginia? Appendix E. Table 9 illustrates the status of prospects over the five years 2014 through 2018. Almost half (49 percent) of prospects disengage with VEDP. This could be for a variety of reasons. For example, they choose not to pursue the project, they choose to expand at an existing facility, or they delay their plans for expansion to an uncertain date. Business prospects do not always share the reasons for disengagement. As illustrated by the data, if a prospect visits a Virginia site there is a one in three chance that they will locate in Virginia. Thirty-six percent of the prospects that visited the region selected a Virginia location for their expansion. Appendix E. Table 9 reflects a win/location for Virginia not necessarily a win for the individual locality. From the known data, 11 percent of the prospects chose another state after making a visit. Four percent of the prospects that made a visit were still active in 2019.

Appendix E. Table 9. Region 6 - VEDP Prospect Visits 2014 -2018

Locality	Stage			
	Won	Lost	Disengaged	Active
Caroline	3	1	5	1
Fredericksburg	1	1	3	0
King George	3	0	1	0
Spotsylvania	2	0	5	0
Stafford	4	2	4	0
Fredericksburg Region	13	4	18	1
Essex	0	0	0	0
Gloucester	1	0	3	0
King and Queen	1	0	0	0
King William	1	0	0	0
Mathews	0	0	0	0
Middlesex	0	0	1	0
Middle Peninsula	3	0	4	0
Lancaster	0	0	0	0
Northumberland	0	0	0	0
Richmond	0	1	1	1
Westmoreland	1	0	0	0
Northern Neck	1	1	1	1

Region 6 Total	17	5	23	2
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The number of prospect visits over the past five years ranged from a high of 16 in 2016 to a low of 5 in 2017. The Fredericksburg sub-region again had the largest number of visits each year and the annual distribution of recommendations among the Fredericksburg sub-region localities varied considerably across the five years except for Stafford that had 2 visits each year. For the Middle Peninsula, 2016 was a banner year, with slightly less than half of the total number of visits in the 5-year period occurring that year. Appendix E. Table 10 lists the number prospect visits by year for each locality in the region.

Appendix E. Table 10. Region 6 - VEDP Prospect Visits 2014 -2018

Locality	Prospect Visit Date				
	2014	2015	2016	2017	2018
Caroline	3	2	4	0	1
Fredericksburg	1	1	2	1	0
King George	1	2	1	0	0
Spotsylvania	1	2	4	0	0
Stafford	2	2	2	2	2
Fredericksburg Region	8	9	13	3	3
Essex	0	0	0	0	0
Gloucester	0	0	3	1	0
King and Queen	0	0	0	0	1
King William	1	0	0	0	0
Mathews	0	0	0	0	0
Middlesex	0	1	0	0	0
Middle Peninsula	1	1	3	1	1
Lancaster	0	0	0	0	0
Northumberland	*	*	*	*	*
Richmond	0	1	0	1	1
Westmoreland	0	0	0	0	1
Northern Neck	0	1	0	1	2
Region 6 Total	9	11	16	5	6

* No Data Available for Northumberland County

PROSPECT ACTIVITY RELATED TO PRODUCT AVAILABILITY

The central question for the Mary Ball Washington Regional Council is the relationship between the availability prepared sites for business expansion/location and actual prospect activity. Appendix E. Table 11 compares the availability of sites throughout the region to site recommendations by VEDP and prospect visits to the locality. The data illustrates a direct correlation between the total number of prepared sites and prospect activity. Those localities that have prepared sites (served by water, sewer and gas) get recommended more frequently and receive the greater number of prospect visits.

Appendix E. Table 11. Region 6 - VEDP Recommended Sites/Prospect Visits 2014 - 2018

Locality	Sites			Recommendations		Prospect Visits	
	Total	W&S	50 Acres + /W&S	Total	Mfg.	Total	Mfg.
Caroline	21.5%	19.6%	19.4%	20.2%	16.8%	21.3%	20.7%
Fredericksburg	4.0%	5.4%	9.7%	10.7%	11.7%	10.6%	3.4%
King George	2.0%	1.1%	0.0%	11.6%	12.8%	8.5%	6.9%
Spotsylvania	25.5%	29.3%	22.6%	29.3%	29.6%	14.9%	24.1%
Stafford	23.5%	35.9%	41.9%	18.2%	16.8%	21.3%	10.3%
Fredericksburg Region	76.5%	91.3%	93.5%	90.0%	87.7%	76.6%	65.5%
Essex	7.4%	1.1%	3.2%	0.4%	0.6%	0.0%	0.0%
Gloucester	10.1%	3.3%	0.0%	1.2%	1.7%	8.5%	13.8%
King and Queen	1.3%	0.0%	0.0%	1.2%	1.7%	2.1%	2.4%
King William	3.4%	2.2%	0.0%	3.3%	4.5%	2.1%	3.4%
Mathews	0.0%	0.0%	0.0%	0.4%	0.0%	0.0%	0.0%
Middlesex	0.0%	0.0%	0.0%	0.8%	1.1%	2.1%	3.4%
Middle Peninsula	22.1%	6.5%	3.2%	7.3%	9.5%	14.9%	24.1%
Lancaster	0.7%	1.1%	3.2%	0.4%	0.0%	0.0%	0.0%
Northumberland	*	*	*	*	*	*	*
Richmond	0.7%	1.1%	0.0%	1.2%	1.7%	6.4%	6.9%
Westmoreland	0.0%	0.0%	0.0%	0.8%	1.1%	2.1%	3.4%

Northern Neck	1.3%	2.2%	3.2%	2.4%	2.8%	8.5%	10.3%
Region 6 Total #	149	92	31	242	179	47	29

* No Data Available for Northumberland County

CONCLUSIONS AND FINDINGS ON SITES, BUILDINGS, PROSPECT RECOMMENDATIONS, AND PROSPECT VISITS

The following are the primary findings and conclusions from an analysis of VEDP data on available sites and buildings for business expansion/location and VEDP prospect activity, site recommendations and prospect visits.

- Available sites and buildings are concentrated in the Fredericksburg sub-region.
- There are only 2 certified sites in the region – both data centers are certified in Stafford County.
- There are very few publicly owned/controlled sites in the region.
- Manufacturing and Distribution/Logistics businesses (priority industry clusters) typically require larger sites with utility service (water, sewer, and gas). There is a limited selection of quality business sites meeting these industry standards.
- About 91 percent of the available listed office space is located in the Fredericksburg sub-region.
- Professional, Technical and Scientific Services businesses (priority industry cluster) typically require quality office space – there is a limited selection of Class A office space available in the region and it is concentrated in just two of localities.
- Ninety percent of the VEDP site recommendations are in the Fredericksburg sub-region.
- Almost three-fourths of all site recommendations had manufacturing as a primary use.
- Fourteen percent of the site recommendations resulted in a decision for a Virginia location. Sixty percent of the site recommendations never materialize because the prospect disengages.

- Prospect visits mirror the trends of site recommendations in geographic distribution and primary use – Fredericksburg sub-region concentration and manufacturing use dominance.
- Once a prospect visits the region, there is a one in three chance that it will choose a Virginia location.
- There is a direct correlation between the availability of quality business sites and prospect activity from VEDP.
- The greater the selection/distribution of prepared larger sites (above 50 acres) the greater the likelihood of prospect activity in the priority industry clusters, manufacturing and distribution/logistics.
- The greater selection/distribution of Class A office space the greater the opportunity for expansion of the professional, technical and scientific services priority industry cluster.