The Action Plan for Future Economic Growth in the Hampton Roads Region

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The Hampton Roads Community Foundation

November 2016

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Executive Summary

The performance of the Hampton Roads regional economy is lagging the Commonwealth of Virginia and national economies as well as the performances of its peer metropolitan areas. This is not a one-time event but reflects a long-term trend dating since 2010. This lagging performance is apparent in both the region's generation of new jobs and the value of these jobs—their contribution to the region's gross regional product. The region's economy still has not replaced all of the private sector jobs that it lost during the Great Recession and the jobs that it has added during the recovery have had a lower average salary than the jobs it lost during the recession resulting in a five-year period (2010-2014) in which annual economy growth has average only 0.3 percent.

The Hampton Roads regional economy has undergone a major structural change since 2010. Cutbacks in federal spending, in payroll but particularly in contracting, have resulted in the region's economy registering little or no growth between 2009 and 2014, and losing more private sector jobs during the recession between 2007 and 2010 than the regional economy has generated during the recovery between 2010 and through April 2016. The Hampton Roads region has had the smallest job growth rate among its 35 peer metropolitan areas over the 2001-2014 period. This pattern of under-performance is projected to continue into the future as long as the region's economy remains overly dependent for its growth on increases in federal spending and fails to shift its growth-generating activities to its competitively positioned, core industrial clusters.

The focus of the Hampton Roads "new" economy must shift to non-federally dependent businesses that serve non-local markets, that are characterized by higher-value added, higher-wage jobs and for which the Hampton Roads region possesses distinct competitive advantages. The longer that the Hampton Roads economic growth lags its peer metropolitan areas and the nation more broadly, the more difficult it will be to successfully pivot the region's economy within the highly competitive non-government markets for its products and services. Economic growth and development are cumulative and Hampton Roads' peer metropolitan areas are gaining traction, adding value and strengthening their competitive positions while the Hampton Roads' economy has struggled to remain positive.

An analysis of the Hampton Roads regional economy identified seven core industrial clusters that have developed over time reflecting the region's competitive assets that provide goods and services to non-local markets, that have growth potential sufficient to compensate of the contraction of the federal market and that can support long-term accelerating growth to the benefit of the Hampton Roads region. These core industrial clusters are established, they are export-based, they have above-average growth potential and most have above-average wage levels that can help grow the region's local-service business base. These industrial clusters include: Port Operations, Logistics and Warehousing; Ship Repair and Ship Building; Tourism and Recreation; Life Sciences; Information Analytics and Security Services; Business Services; and Manufacturing—this cluster consists of two distinct sub-clusters, Advanced Manufacturing and Food and Beverage Manufacturing.

The region's core industrial clusters employed 153,216 workers in 2015, 19.8 percent of the region's total workforce. In combination, these clusters added jobs during the 2007-2015 period (5.7%) while the remainder of the region's employment base declined by 3.7 percent. Forecasts for the 2015-2025 period for the region's core industrial clusters, assuming they achieve their respective growth potentials defined by national projections and their respective historic local performances, confirm their inherent potentials to not only grow but also to carry the Hampton Roads economic recovery into a sustained expansion. With employment projected to grow 22.1 percent in Hampton Roads core industrial clusters over the next ten years, total employment growth across all remaining sectors of the region's economy would increase by 13.2 percent.

The higher average salaries of the jobs in these core industrial clusters (only tourism and recreation have an average below the region's non-cluster jobs; this is due in part to the seasonal and part-time nature of this cluster) magnify the importance of their potential for supporting job growth over the next ten years. In 2015, workers in these core industrial clusters had an average annual salary of $60,524. In comparison, the region's other jobs, constituting 80.2 percent of the total (those in its non-core industrial clusters and in predominantly local-serving businesses) had an average annual salary of $39,542.

The Hampton Roads region's competitive advantages that provide its economy with clearly distinctive assets for attracting, retaining and growing its non-federally dependent, export-based (non-local serving), and higher-value added businesses starts with the port and the infrastructure in place (transportation, workforce, capital investment) that supports the port's operations and connects it to national markets—Hampton Roads is the East Coast Gateway. This connectivity to U.S. economy and global markets offers Hampton Roads its most distinctive asset in comparison to its peer metropolitan area economies.

Other assets that define the region's core industrial clusters and that will shape its economic growth potentials include: its attractive quality-of-life and cost-of-living, its relatively large number and broad mix of institutions of post-secondary and higher education, the region's strategic military location, its skilled workforce including retiring military personnel, and its history and cultural resources. The Hampton Roads region also has shortcomings that have and could continue to weaken its competitive position in regional, national and global markets.

Six broad categories of "requirements for future economic growth" were identified from interviews with key business leaders representative of Hampton Roads core industrial clusters. These can be grouped as follows:

- Workforce development, attraction, and retention
- Transportation
- Quality-of-life and cost-of-living

- Entrepreneurial culture
- Regional cooperation and strategic identity
- Developing new advanced industrial clusters

The Hampton Roads region is not currently positioned to realize the growth potentials inherent in its core industrial clusters. Research has identified the principal “requirements” that will determine the course of the economic growth in the Hampton Roads region, conditions that will shape the structure of an economy that is not as dependent on federal spending for its future growth as it was for its past growth. While these “requirements” can apply to all types and sizes of business they have been identified here as being especially important to the types of businesses comprising the core industrial clusters for which the region already possesses competitive advantages within regional, national and global economies.

These requirements and challenges are not self-correcting. They will require intentional change in the region’s organizational relationships among local governments and businesses across all jurisdictions. To meet these “requirements” and the challenges that constrain the growth of business in the region, it will need to: (1) design and initiate collaborative arrangements among local public and private organizations, (2) build trust among the region’s local jurisdictions and historically competitive organizations, and (3) identify new channels for leadership and action to the benefit of the entire region. The actions outlined in this Action Plan are just the beginning of an on-going process to reshape the region’s economic structure and growth potentials that will enable it to achieve long-term viability in the national and global economies.

The Action Plan for Future Economic Growth in the Hampton Roads Region

Introduction

The Hampton Roads regional economy has undergone a major structural change since 2010 although the foundation for this change has a long history. This structural change reflects both the region's economic foundations that have evolved from its competitive assets within the national and global economies and the dominance of Department of Defense procurement in the local economy. The vulnerabilities of the economy's historic structure to the severe 2008-2009 national recession and the subsequent reductions of federal spending and their impacts on the D0D-related business base of the Hampton Roads region have diminished the region's ability to compete in the emerging national and global economies.

The consequences of these structural changes and their impacts on the Hampton Roads economy are seen in the region's economic performance over the past decade. Job growth, the mix of jobs and their wages and salaries, and economic output have lagged the region's peer metropolitan areas, the Commonwealth of Virginia and the nation. This pattern of underperformance is projected to continue into the future as long as the region's economy remains overly dependent for its growth on increases in federal spending, and more specifically on the procurement outlays by the Navy Department, and as long as its leading sectors are concentrated on lower-value added economic activities.

There is an urgency for repositioning the Hampton Roads region's economy for renewed growth by reducing its historic dependency on growth in federal spending with new growth in non-federally dependent businesses serving non-local markets that are characterized by higher-value added jobs and for which their location in the Hampton Roads region reflects its competitive advantages. Economic growth is cumulative. To maintain a regional economy's relative position, it must grow at the average rate for all peer economies each year; to move to a stronger position, its annual growth rate must exceed the average growth rate of its peers. Business investment is attracted to economies that are successful and have momentum. The longer that the Hampton Roads region's economic growth lags its peer mid-sized metropolitan areas and the nation, the more difficult it will be to successfully reposition its old economy building on its competitive strengths by attracting new business investment and thereby re-establishing the foundation for self-sustaining gains in its businesses and its residents' quality-of-life.

There are several valid approaches to achieving accelerated economic growth in the Hampton Roads region. One of the most common approaches of local government has been attracting existing firms from other jurisdictions that may be seeking to relocate entirely or expand in the Hampton Roads region. Candidates for this strategy are firms seeking incentives from the receiving jurisdiction or firms being attracted, not for the jurisdiction's value-added assets, but rather its cost-reducing business environment—lower wage and operating costs. Another strategy that has gained momentum in recent years is providing support for new startups or expansions of early-stage firms in the region. The establishment of incubator programs or "angel" investment funds have been shown to have beneficial results although achieving large numbers of new jobs and significant regional income growth through this approach is clearly a long-term strategy. A variation of the startup strategy shifts the program's emphasis to small and mid-size existing local firms with the objective of growing these firms faster. These are firms that have already proven their feasibility in the local economy whose growth may be accelerated by access to technical assistance, support in the acquisition of larger facilities in to which to expand, and access to new sources of capital to fund their expansion. All of these strategies can be successful but none alone can achieve the scale of diversification that the Hampton Roads regional economy requires to escape its historical dependency on DoD (federal) spending to support regional economic growth.

While these economic development strategies should be continued, refined and pursued even more aggressively on a region-wide and collaborative basis across the region's constituent jurisdictions, a new approach is required. Growing the Hampton Roads regional economy will require intentional change in the region's organizational relationships among local governments and businesses across all jurisdictions and the identification of well-established, existing industrial clusters that possess unrealized growth potential which can accelerate the region's income and employment growth in the absence of increases in federal spending.

This Action Plan is designed to identify: (1) the Hampton Roads region's competitive advantages within the statewide, national and global economies; (2) the non-federally dependent, export-based (non-local serving), higher-value added, industrial clusters having growth potential consistent with the region's competitive advantages; and (3) public and private sector initiatives that could accelerate the expansion of these industrial clusters for which the Hampton Roads region has a competitive position. This Action Plan identifies an alternative to this current slow-growth pattern.

Hampton Roads Recent Economic Performance: Consequences of Structural Weakness and Federal Dependence

The performance of the Hampton Roads region's economy is lagging the national economy and the performances of its peer metropolitan areas. This is not a one-time event but reflects a trend dating since the current recovery began in mid-2009. This slower economic performance is a result of the economy's over-dependence on federal procurement spending and a private sector that is specialized in slower-growing and lower-value added businesses. These trends and their consequences are presented in Figure 1 and Table 1.

Figure 1

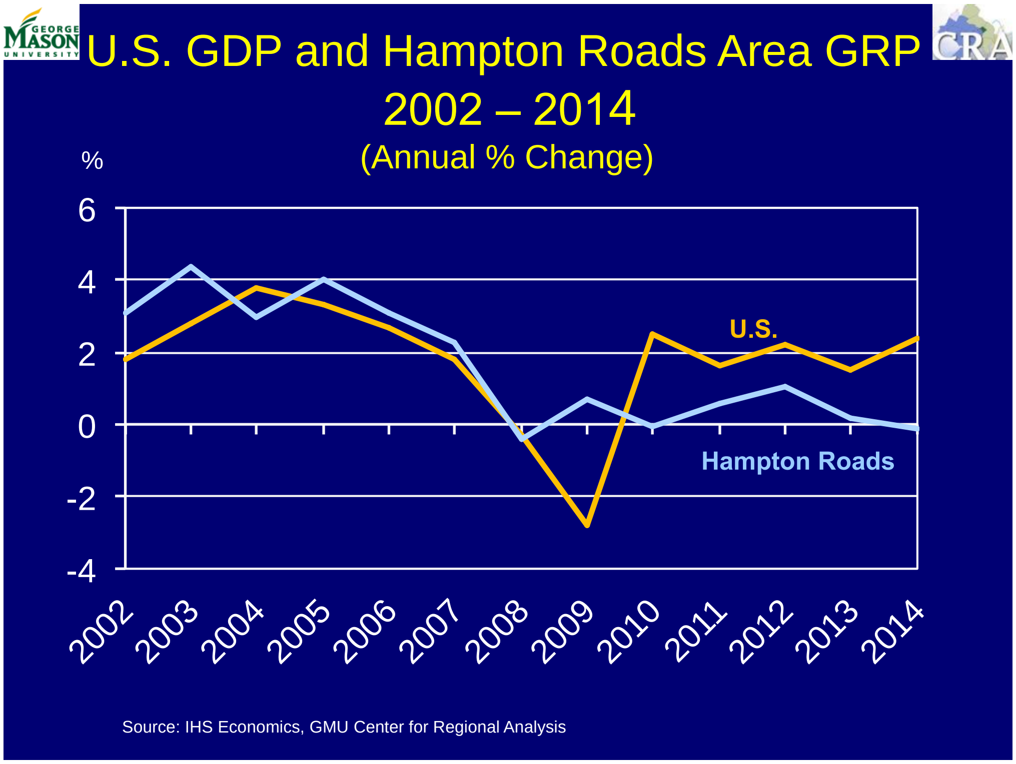


Table 1

The Hampton Roads Economy

(annual real percent change)

		Hampton Roads Region			
Year	U.S.	MSA	Private Sector	Federal Civilian[1]	Federal Military[1]
2007	1.8	2.3	2.9	2.9	0.0
2008	- 0.3	- 0.4	- 0.9	1.2	0.7
2009	- 2.8	0.7	0.6	2.2	1.0
2010	2.5	- 0.1	- 0.1	1.9	- 0.4
2011	1.6	0.6	0.6	3.2	0.0
2012	2.2	1.0	1.9	0.8	- 1.6
2013	1.5	0.2	1.5	- 4.6	- 3.1
2014	2.4	-0.1	0.0	n.a.	n.a.

Source: U.S. Department of Commerce, Bureau of Economic Analysis

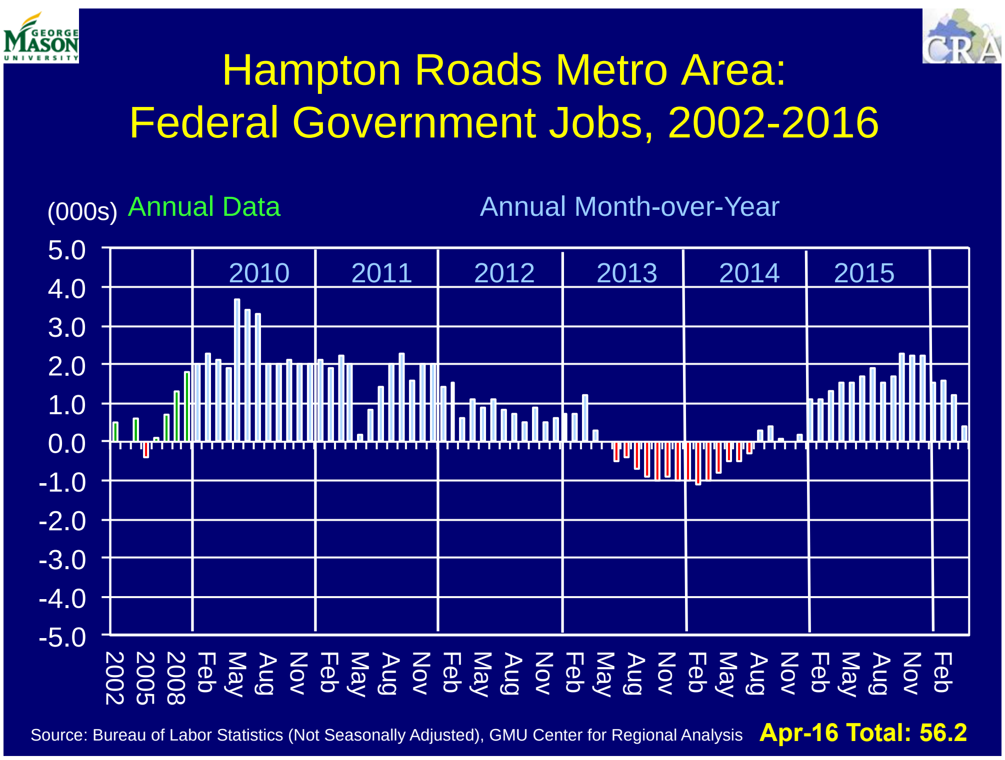
[1]includes payroll, operations and procurement impacts on the regional economy

The Hampton Roads economic structure and federal dependency helped to moderate the downside impacts for the period of the actual recession, 2008-2009. However, during the national economic recovery since 2009, this federally dependent economic structure resulted in almost no growth while the national economy has expanded a total of 12.8% in real dollar value (2nd Q 2009-4th Q 2014). By disaggregating the Hampton Roads economy into its private and federal sectors (see Table 1), the economy's vulnerabilities are easily identified.

Declining Federal Economic Activities in Hampton Roads

The principal cause of the region's economic slump is the decline in economic activities linked directly to the federal military and federal civilian sectors. The decline in federal military spending is long term while the decline in the federal civilian spending was tied to the Sequester in FY 2014 as seen in the pattern of federal job losses in Figure 2.

Figure 2



The contraction of these federal sectors has negatively impacted Hampton Roads private sector, although in 2012 and 2013, the private sector did manage to expand although not as strongly as the private sector was expanding in the national economy.

The contraction of the federal sectors—civilian and defense—constitutes a structural shift in the Hampton Roads economy. Given the Federal budget and deficit projections, Congressional pronouncements, and the requirements of the Budget Control Act of 2011, it is unlikely that these spending trends will be reversed in the short term, or before 2021. The spending reductions associated with the Sequester temporarily reduced federal civilian employment in the region during the period of the Sequester (FY 2014) although these lost jobs have since been replaced. Still, further significant expansion of the federal civilian sector in the Hampton Roads region does not seem likely and therefore should not be counted on to stimulate the regional economy's recovery.

The federal defense sector has experienced a reduction in both personnel and contract spending. Military employment in the Hampton Roads region is down almost 25% or 27,600 jobs from its 2003 peak of 113,400. This loss of military personnel and their spending impacts in the regional economy appears to have slowed in the past two years and may have reached a short-term equilibrium. Still, these personnel reductions could continue with the shifting of military resources out of the Hampton Roads region to other bases in the U.S. or internationally or in response to general military spending reductions.

On the procurement side of the federal sector, procurement trends have declined but no trend is clear. As shown in Figure 3, federal procurement spending peaked in FY 2011 following three strong years; this spending cushioned the impact of the national recession on the Hampton Roads economy. Since 2011 and reflecting the consequences of the Budget Control Act of 2011, which reduced Defense procurement spending before it took effect on domestic procurement spending, contract outlays are down on average 9.8 percent with annual average contracting of $10.25 billion during the four years of the 2008-2011 period compared to $9.25 billion for the four years of the 2012-1015 period.

Figure 3

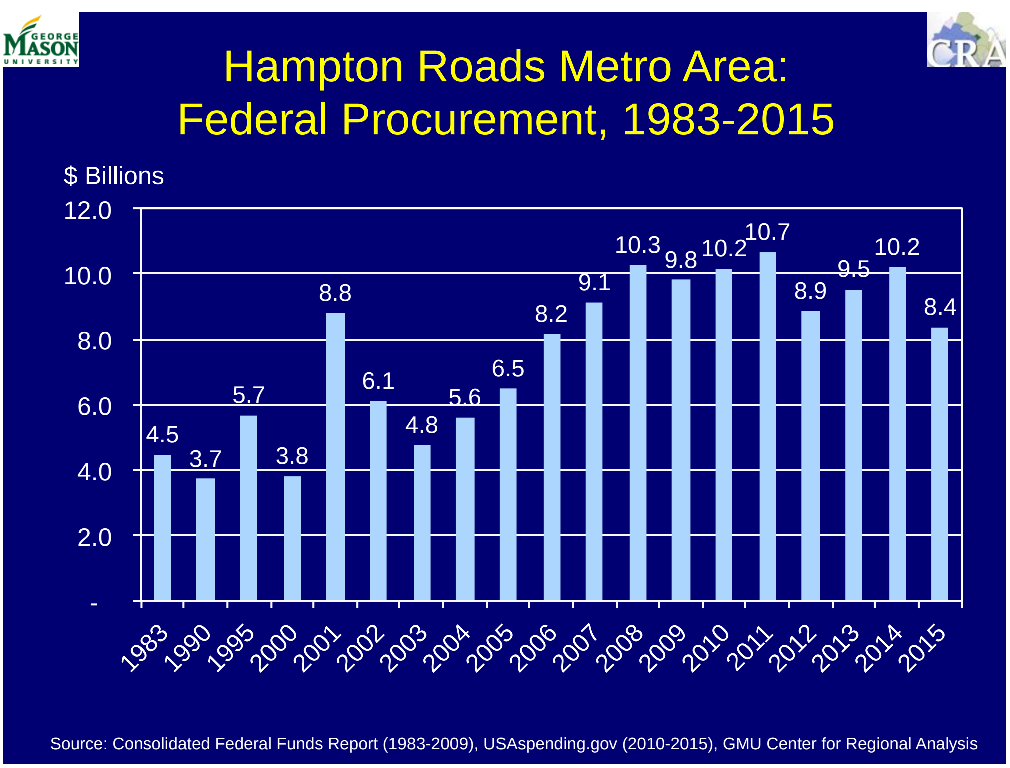


Table 2

Federal Procurement Spending and Economic Growth in the Hampton Roads Region, 2008-2015

Year	Procurement Dollars[1]	Percent Change	Real GRP Growth[2]
2008*	$10.3	13.2	- 0.4
2009	9.8	- 4.8	0.7
2010	10.2	4.1	- 0.1
2011	10.7	4.9	0.6
2012	8.9	- 16.8	1.0
2013	9.5	6.7	0.2
2014	10.2	7.3	- 0.1
2015	8.4	- 17.6	0.9

ODU Forecasting Project; GMU Center for Regional Analysis
[1]in billions of current dollars
[2]annual percent change of real dollar value; 2015 estimated
*negative performance of national recession was moderated by increase in federal procurement spending.

Lagging Private Sector Economic Recovery in Hampton Roads

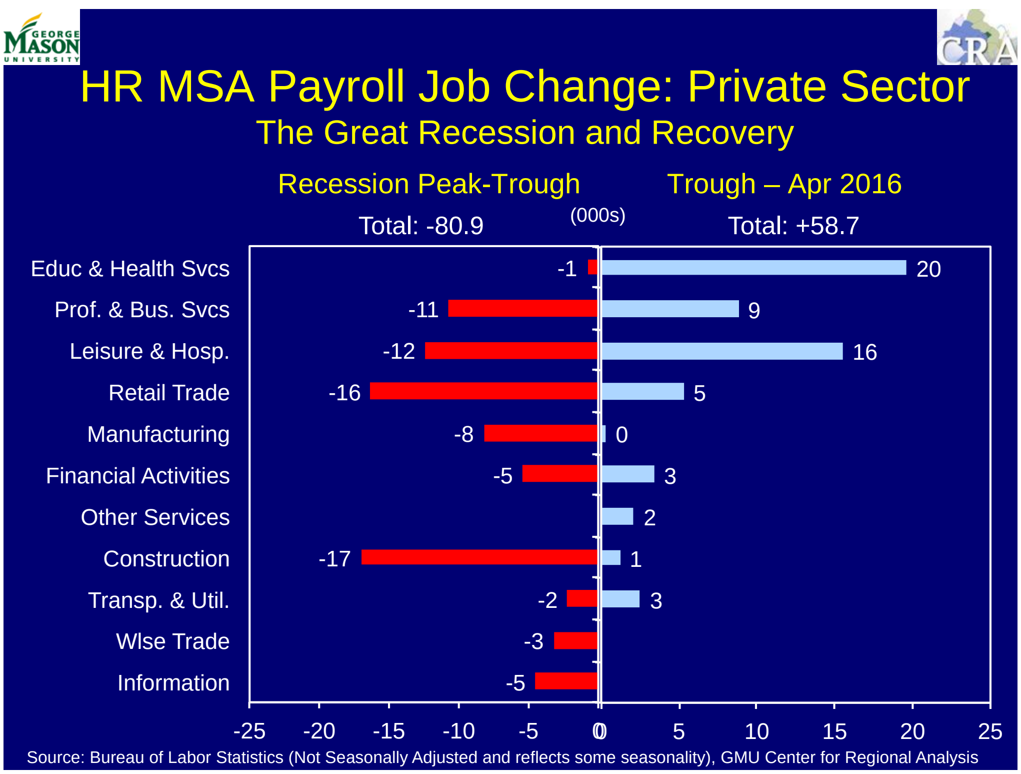
With the federal sectors in decline and negatively impacting the private sector businesses that are dependent on the region's federal client base, it is logical to expect these negative trends to have undermined the recovery of the private sectors in the Hampton Roads region since the 2008-2009 recession. The performance of Hampton Roads non-government sectors during the recession reveals these sectors' vulnerabilities to the recession.

Their performance during the national economic recovery, starting in 2010, provides further insight regarding their ability to compete in the national and global economies in which successful businesses have succeeded in repositioning themselves by adopting new technologies to become more efficient, by shifting human and capital resources to increase productivity and profitability and by changing product and service lines and markets to stay in business. This comparative analysis offers important insights regarding the resiliency of the pre-recession economy in the Hampton Roads region and its ability to innovate and change permitting it to advance faster (or more slowly) than competing economies.

The examination of Figure 4 yields important truths about the Hampton Roads economy. Most revealing is that the Hampton Roads regional economy has not replaced the jobs it lost during the recession. Between 2007 and 2009, the economy lost 80,900 jobs and during the recovery (2010 –April 2016) it has generated 58,700 jobs for a short fall of 22,200. The manufacturing and construction sectors lost the greatest number of jobs and have added few of these jobs back while the professional and business services and leisure and hospitality sectors experienced large job losses but have largely or totally replaced those lost jobs during the recovery. Retail trade employment is still only 32 percent recovered but this may also point to changing consumer behavior (on-line shopping and shifting preferences between Millennials and Baby Boomers) and changing markets. Education and Health Services barely lost any jobs during the recession and have added 19,600 jobs during the recovery accounting for one-third of the region's total job growth. Finally, the region's smaller sectors have not been a source of significant job growth. There is no evidence of any emerging new growth sector in these jobs data.

The largest sectors—Education and Health Services, Professional and Business Services, and Leisure and Hospitality—are continuing to account for the majority (75%) of the region's job growth in the recovery. There is no evidence that diversification within the private sectors of the Hampton Roads economy has occurred in response to either the changing market forces generated by the recession or the sharp spending reductions by the federal government.

Figure 4



The Case for Focusing on Higher-Paying, Export-Based Jobs

Besides not replacing the jobs lost during the recession, the regional economy has experienced a significant shift away from high-value added jobs—jobs with above-average salaries—to lower-value added jobs. The average contribution to Hampton Roads' economy—its gross regional product—of the private sector jobs lost during the recession (see Figure 4) was $135,389.62. The average contribution of the jobs added to the Hampton Roads' economy during the recovery through April 2016 was $97,819.18. The region's new jobs, those added during the recovery, on average are worth 27.7% less to the economy than the jobs the region lost during the recession.

In order to sustain and grow the region's standard of living, it needs to focus on increasing the number of higher-value added jobs in its economy. These higher-value added jobs are generally found in the region's sectors that provide services and products to non-local markets; these are export-based jobs and they will provide the higher levels of disposable income required to support the growth of local serving jobs. The reverse does not work. The growth of local serving jobs, that generally are characterized by lower-value added contributions to the regional economy, do not support the development of higher-value added export based jobs.

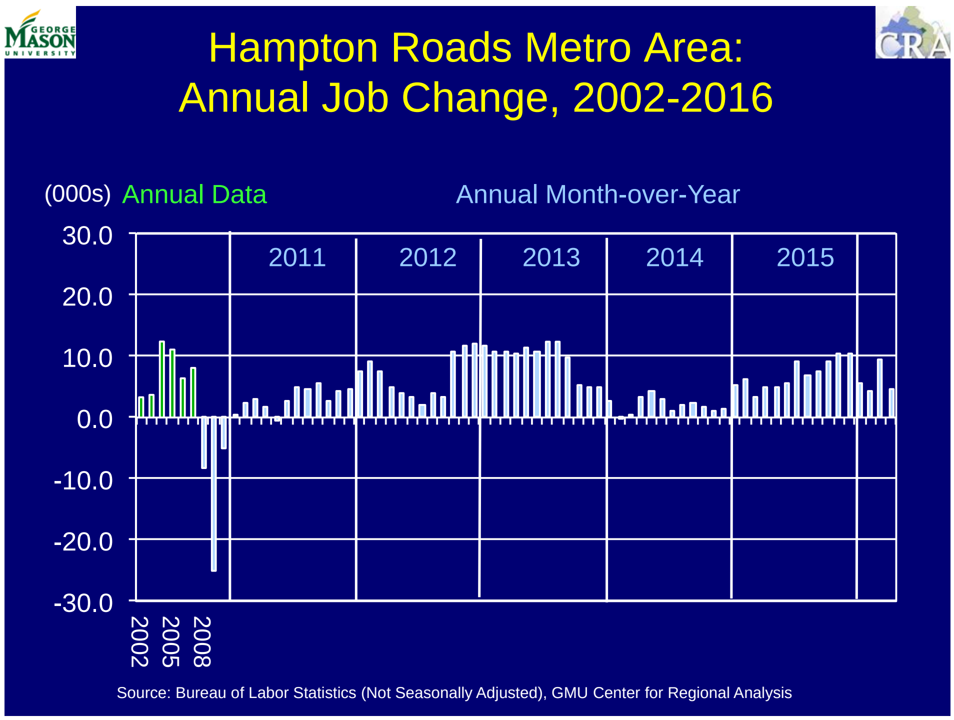
The comparative values of Hampton Roads' export-based and local-serving jobs underscores why successful diversification and development of a strong economy requires the attraction and expansion of high-value added jobs serving non-local markets. During the recession the manufacturing sector lost 8,200 (Figure 4). These jobs, had they not been lost, would have contributed $1.53 billion to the Hampton Roads economy each year. During the recovery, the manufacturing sector has not replaced any of these jobs. Not only are the manufacturing jobs lost, but so is their payroll, fringe benefits, the value of the work that these manufacturing workers would have undertaken, the spending associated with the operations of these factories, the subcontractors—the supply chain effects, and, most important to the health of the local economy, the spending that this lost payroll would have supported for the purchase of goods and services from local merchants. On average, approximately 24% of payroll earnings are spent in the local economy for retail and consumer services, health care, transportation and recreation; this is in addition to what is spent on housing. The loss of these manufacturing jobs has cost the Hampton Roads economy significant numbers of other jobs and their payroll. Altogether, this lost payroll indirectly affects the breadth of the local economy and cumulatively has significant impacts on the local and state tax bases.

The same illustration can be made for construction jobs. The Hampton Roads region lost 17,000 construction jobs. These are considered export-based jobs as they are largely funded by borrowed money supplied by out-of-town banks but spent in the region's economy during the construction process. Only 1,000 of these jobs have been replaced leaving a deficit of 16,000 jobs and representing an annual cost to the Hampton Roads' economy totaling $1.33 billion.

The only major sectors that have added back more jobs during the recovery than they lost during the recession are educational and health services, with a net gain of 19,000 jobs, and leisure and hospitality services, with a net gain of 4,000 jobs. The combined annual value of these jobs, which are largely supported by the spending of residents in the Hampton Roads region, is $1.42 billion. These two sectors have generated a total of 23,000 jobs largely offsetting the job losses in manufacturing and construction in number but only replaced 50% of their lost GSP value. It should be clear that generating high-value added, export-based jobs is critical to building strong local-serving retail and consumer service sectors, and with it, a strong local business base and fiscal foundation to the benefit of local jurisdictions.

Job growth overall in the Hampton Roads region is presented in Figure 5. While the trends appear favorable following the Sequester-induced pull back in 2014, these numbers are misleading. Over the past fifteen years, Hampton Roads ranks last in the rate of annualized job growth in comparison to the region's peer metropolitan areas (those with between 1 and 3 million residents). While this period extends to the recession in 2001, it confirms that the structure of the Hampton Roads economy has not positioned the region for growth over the long run and that is not a recent condition tied to the 2008-2009 recession or to federal spending reductions. Rather, this is a long-standing structural weakness in the Hampton Roads economy.

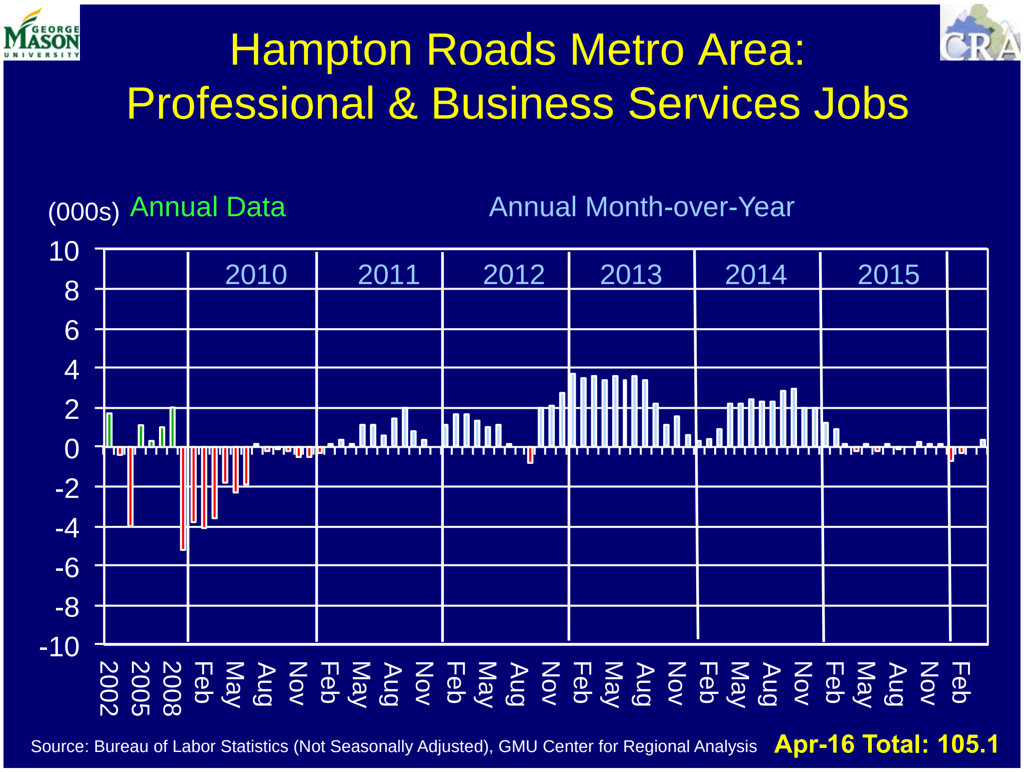
Figure 5



These job growth trends do not disaggregate into their constituent sectors. However, it was shown in Figure 4 that much (60%) of Hampton Roads job growth occurred in the Education and Health Services (this was almost all in the Health Services sub-sector) and in Leisure and Hospitality Services. And, while retail trade has not recovered all of its lost jobs, it has added 5,300 back. These three sectors account for 69 percent of the region's job growth since the recession but these jobs are characterized as local serving (meaning that they are largely supported by local resident spending) and have below-average wage levels. Seasonality and the part-time job profile for these sectors also contribute to lower wages.

Most advancing economies are built around high-value added, export-based businesses. Many of these businesses are classified as Professional and Business Services. This sector tends to be characterized by above-average salaries, jobs requiring a four-year college degree or more, and by export-oriented goods and services. The Professional and Business Services sector is Hampton Roads' second largest non-government sector but it has not yet replaced all of the jobs it lost during the recession and has been largely stagnant during the last year, as seen in Figure 6. And, this trend has continued through the first quarter of 2016.

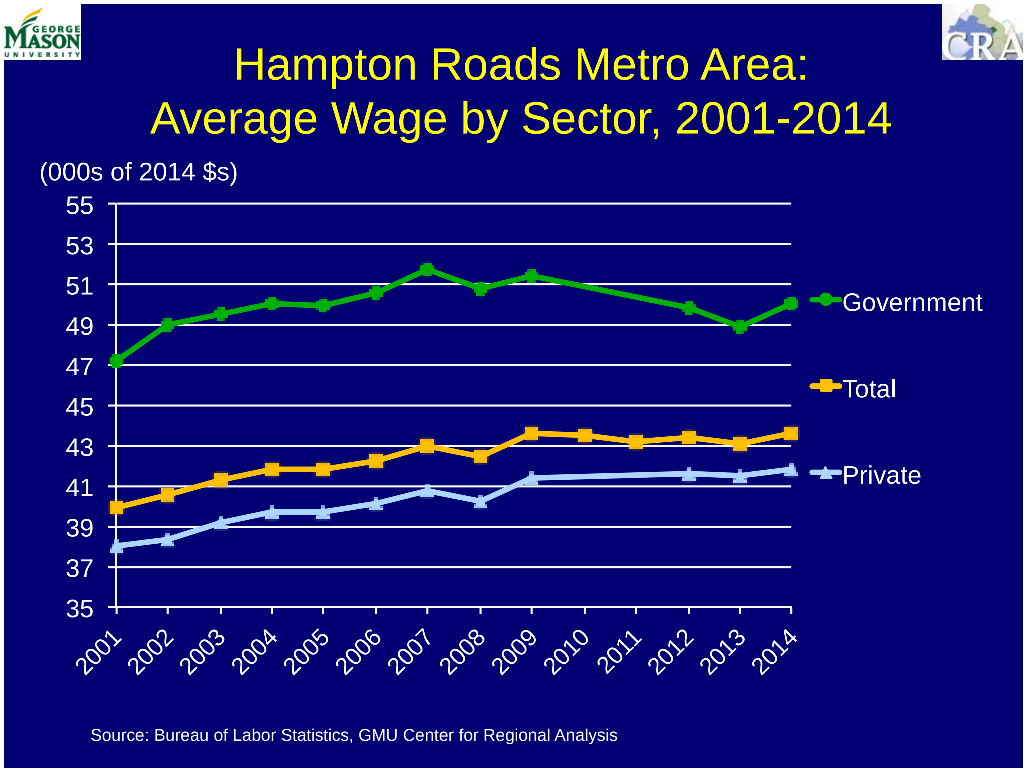
Figure 6



The consequences of these employment trends—overall loss of jobs since 2007, changing job mix that favors below-average wage levels, shifting dominance from export-based to local-serving jobs, and the declining importance of federally supported civilian and military jobs—point to an economy that is becoming weaker rather than stronger seven years into the business cycle. This economic profile is one in which wage growth has flattened and is dampening consumer spending and the very sectors in which the Hampton Roads economy has been experiencing growth. These trends and their impacts constitute a major threat to the vitality of the regional economy and the quality-of-life that it can support going forward.

The average annual wage trends shown in Figure 7 reflect the changing mix and number of jobs that have occurred in the Hampton Roads economy beginning with the recession in 2008 and continuing to the present. These wage rates reflect the full private and public sector profile of the Hampton Roads employment base. The $43,000 average annual wage in 2007, just prior to the recession, has barely changed in seven years increasing to $43,600, in current dollars, in 2014. This represents a real increase of only 1.4% over this seven-year period.

Figure 7



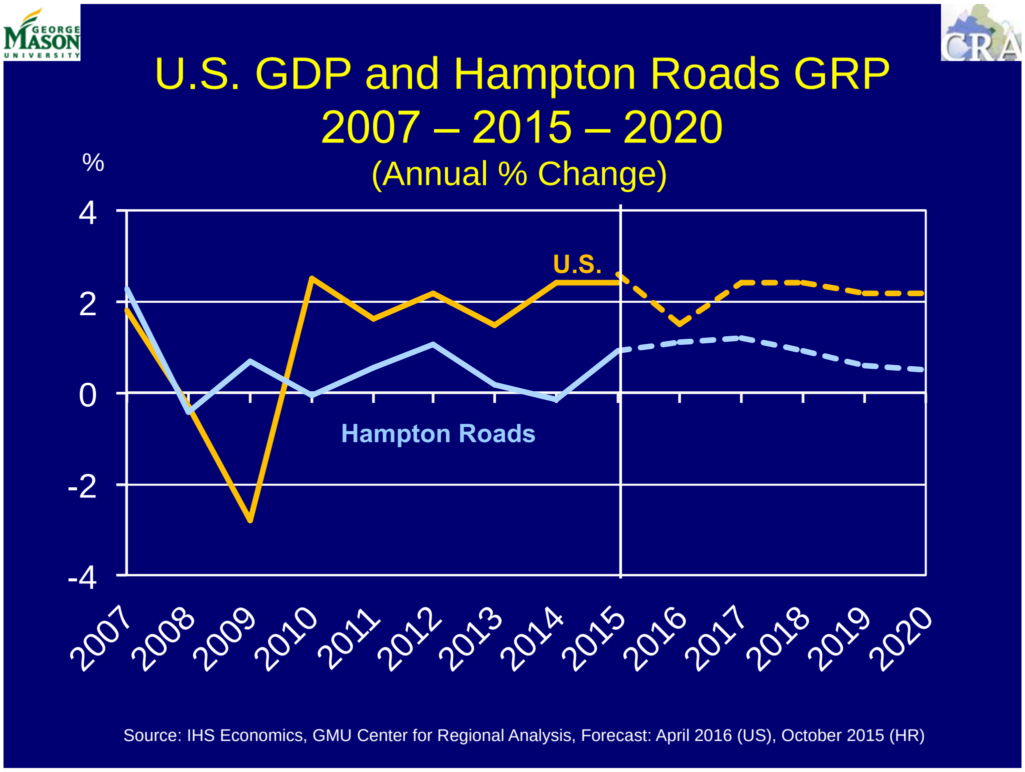
Disaggregating this average wage rate into government and private sectors underscores the continuing weakness in the region's economy and the potential threat of any further spending reductions by the federal government. The average wage for government jobs in 2014 was approximately $50,100 while in the private sector the average wage was approximately $41,900. This $8,200 difference represents a 20 percent differential in purchasing power between a government job and a private sector job. Reductions in federal spending impacted the federal payroll resulting in the average federal wages declining $1,400 between 2009 and 2014 while the private sector's average wage has increased by only $500.00 over this period.

The Way Ahead

The Hampton Roads economy has been impacted by the one-two punch of the Great Recession (2008-2009) and the Sequester (2014). The regional economy's dependency on federal spending and its overly specialized private sector—specialized in low-wage, seasonal, and consumer-based goods and services—has positioned it for slow growth during the current business cycle. However, forecasts show that this economic structure will support more rapid growth in the next five years than in the last five years. This up-tick in the Hampton Roads economy is due primarily to the stabilization of federal spending and the continuing growth of the national economy that will provide growing market opportunities for businesses in Hampton Roads that have a history of competing in the national and global marketplace or have been able to reduce their dependency on their federal clients and have successfully shifted their business lines to the private sector.

Still, the forecast for the Hampton Roads regional economy, as shown in Figure 8, continues to lag the U.S. forecast. While there appears to be the foundation for economic growth in the Hampton Roads economy, it is projected to substantially lag the average growth rate for the national economy over the next five years.

Figure 8



With federal spending no longer growing in the Hampton Roads region, what will drive the region's future economic growth? This is the central question that will be analyzed and addressed in the remainder of this report. The answer to this question will constitute the Action Plan, recommendations that will alter the current economic balance that is not supporting growth; that is, initiatives intended to help position the region's economy to compete with its peers in the national and global economies. This answer must reflect the realities of the Hampton Roads region, build on its assets and competitive advantages, and focus on the private sector's industrial clusters that serve non-local markets—the region's export base—and that are characterized by above-average wages and on local businesses that are not overly dependent on the federal government spending to grow their output and employment base.

This focus on business development that generates export-based job growth is essential to achieving local economic growth. It is the export-based jobs—the production of goods and services that are consumed in national and global markets—that bring new dollars into the Hampton Roads region to be re-spent in support of local retail and consumer services, education and health services and the housing market and grow the local tax base. The greater the value added of these export-based jobs, the greater the positive local economic impact.

Higher-value added jobs will generate more disposable income per job and thereby support more local-serving jobs than export-based jobs that are of lower-value added. The federal spending that had driven economic growth in the past in the region was export-based (it was supported by federal tax dollars) and supported high-value added employment. In order for the Hampton Roads region to regain economic momentum, this lost federal spending must be replaced by new sources of economic growth with similar characteristics; that is, jobs that are export-based and high-value added. The vitality of local-serving businesses depends on the success of the region's ability to expand its high-value added export base. There is no alternative strategy to accomplishing this goal.

The Hampton Roads Regional Competitive Advantages as the Basis for Growing a Business-Driven Economy

The identification and listing of Hampton Roads region's competitive advantages, those that provide its economy with clearly distinctive assets for attracting, retaining and growing its non-federally dependent, export-based (non-local serving), and higher-value added business base, starts with it having a major deep-water, all-season seaport that is easily accessible to the Atlantic Ocean and that has multi-modal access to the major markets in the middle-Atlantic region extending into the Mid-West. The port and its connectivity, including it being home base to the U.S. Navy's largest fleet, endows the Hampton Roads region with a unique ecosystem within which its economy has evolved; the port continues to be one of the region's distinguishing competitive advantages in comparison to its peer metropolitan areas nationwide.

Reinforcing this unique ecosystem composed of ship building and maintenance and repair activities, logistics and warehousing, and a wide range of professional services that support the port and its multifaceted activities is the region's attractive quality-of-life. This includes ocean beaches and a wide range of capital intensive recreational activities that support a strong hospitality services sector, a wide range of cultural and historic resources, a large number of educational resources and institutions, and a skilled and well educated workforce. Additionally, the region is located in a temperate climate and offers a competitive cost-of-living to its residents.

Hampton Roads' inherent assets that combine to define its competitive advantages within the national and global economies are relatively fixed; that is, they cannot be quickly exchanged for alternatives. But, they can be diminished or enhanced by public and private investment, mismanagement or strategic leadership, and by communications and messaging.

A list of assets that constitute the region's competitive strengths and that support its base economy is presented in Table 3. While these can be thought of as stand-alone assets—water (the port and beaches), quality-of-life (living environment, climate, cost-of-living, housing, public facilities and services, safety, cultural and historical resources), human resources (the educational system including higher education facilities, skilled workforce, transitioning veterans), core business base (port, Navy, tourism), and strategic location (position in mid-Atlantic region, deep-water port, rail and highway access, connectivity to U.S. transportation network), they are importantly interrelated and reinforcing. These interdependencies comprise the region's economic strength as well as its weakness.

These assets have shaped the Hampton Roads economy in the past and offer the primary elements on which the region's future economy can be built. Key to maximizing the value of these assets to the advancement of the Hampton Roads economy is to recognize the interdependencies among these assets and the opportunities they represent individually and in combination for leveraging increased business investment in the region to take advantage of this business environment supported by these competitive and complementary market conditions.

These assets have shaped the "industrial clusters" that currently drive the Hampton Roads economy. They explain as well as provide the foundation for the industrial clusters that have historically sustained the region's economy. And, these industrial clusters will be the building blocks for the region's future economy.

Table 3

Hampton Roads Region's Competitive Advantages

- Water
- Relatively affordable cost-of-living
- Multiple institutions of higher education
- Strategic military location
- Skilled workforce
  - veterans add unique source of new workers
- East Coast Gateway for people and products
- American history and cultural resources

Understanding these cause and effect relationships—the region's assets support the industrial clusters' formation and performance—will guide the formulation of the intervention strategies and regional actions needed to accelerate the growth of the businesses that comprise Hampton Roads' economic base and that offer it the strongest potentials for accelerated growth in the near-term future. These actions in support of the region's core economic base—to better utilize it and its reinforcing strengths—will support the growth and evolution of the Hampton Roads regional economy by shaping the composition of its industrial clusters to position them to take advantage of its competitive market position by shifting their market orientation and productive capacities to compete more effectively in the national and global economies.

The Hampton Roads Region's Core Industrial Clusters

The research report entitled "The Hampton Roads Industrial Cluster Mapping Project," prepared by Dr. Larry "Chip" Filer of Old Dominion University, presents the analyses undertaken to identify the non-federally dependent, export-based, higher-value added, core industrial clusters for which the Hampton Roads region offers a competitive location. Seven core industrial "clusters" are identified (manufacturing consists of two distinct sub-clusters). These industrial clusters have been selected because they have a proven track record by their performance in the region's economy and also have the potential to accelerate the region's economic growth over the next decade.

As these core industrial clusters are already established within the region's economy, they can be identified using existing industrial and occupational data. The clusters were identified and defined based on their number of export-based jobs, growth potential, salary levels, and degree of concentration in the Hampton Roads region. With possibly one exception, these industrial clusters are not aspirational but rather have a long history and possess the critical mass of employment and investment that establishes them as foundational within the region's economy. And, not surprisingly, many of the businesses comprising the region's core industrial clusters are in sectors that have previously developed in response to the growth of federal procurement funding in the Hampton Roads region. The near-term challenge will be to employ the region's non-federal assets to facilitate a "pivot" of a talented and experienced work force toward non-federal, national and global markets.

The following core industrial clusters have been identified as incorporating the target businesses (non-federally dependent, export-based, higher-value added) that can accelerate their growth during the next five to ten years and thereby have the potentials for becoming the region's future economic drivers serving the role filled by federal spending prior to 2010. Seven core industrial clusters have been identified based on the following criteria: they encompass the natural advantages present in the Hampton Road's region, they already have a concentration or critical mass of employment, they have above-average wages within the regional economy, they are technology intensive or otherwise advanced within their respective national clusters, and they possess above-average growth potential compared to other local sectors. These industrial clusters include:

1a. Advanced Manufacturing (MAN). Hampton Roads has a long history of manufacturing driven by ship repair and shipbuilding. In spite of the downturn nationally in manufacturing, the data over the last 10 years show several companies in the region have flourished. There are, however, noticeable losses in employment associated with the auto industry over the same time period. Manufacturing in Hampton Roads includes both traditional, labor-intensive manufacturing as well as advanced manufacturing. The latter is particularly important for the region's growth path going forward.

1b. Food and Beverage Manufacturing (BEV). Peanuts, ham and crab are iconic symbols of Virginia. These products also represent important economic activity in the western part of the region and the oceanfront. Recently, this cluster has expanded to include a growing set of new breweries and distilleries to complement the historic composition of this cluster. The food product manufacturing sub-sector is surprisingly small and, as such, may represent an opportunity for growth in this cluster.

2. Ship Repair and Ship Building (SRB). This cluster is consistently the largest employer in the Hampton Roads region. It has long been fueled by the Department of Defense. However, many shipyards began pivoting toward private-sector work within the last five years. Still, military work will always comprise the majority of the revenue stream for these firms. However, the shift toward commercial work will help the cluster survive tighter federal budgets in the future.

3. Port Operations, Logistics and Warehousing (PLW). The harbor and the Port of Virginia provide the single greatest competitive advantage for Hampton Roads. The port supports a number of related industries such as logistics companies, freight forwarders and warehouses. The firms in this cluster represent the "first mile" and "last mile" in the supply chain for a variety of products shipped internationally. However, the port has yet to become the large-scale business attractor that many feel it should. Attracting firms that need the port for distribution is critical. Equally important would be attracting firms that manufacture the next generation of port infrastructure and equipment.

4. Life Sciences (LIF). This cluster is more of an aspirational cluster. While the region has a strong medical services presence (with two large, successful health systems), it significantly lags other regions in healthcare research and development. However, there are several successful, though early-stage, medical device companies operating in the region. The challenge for LIF is to define a path for additional growth in the absence of a major research hospital in the region.

5. Business Services (BUS). BUS is, perhaps, the purest "knowledge based" cluster in the region. A significant amount of the business in the cluster has traditionally been connected to the Department of Defense and this continues to be the trend. However, there are regional insurance, engineering and law firms with maritime practices that operate globally and are not dependent on federal dollars. In addition, accounting and law firms are doing an ever-increasing volume of work outside the region. This cluster is exporting more services today than ever before and has the potential for more rapid growth going forward.

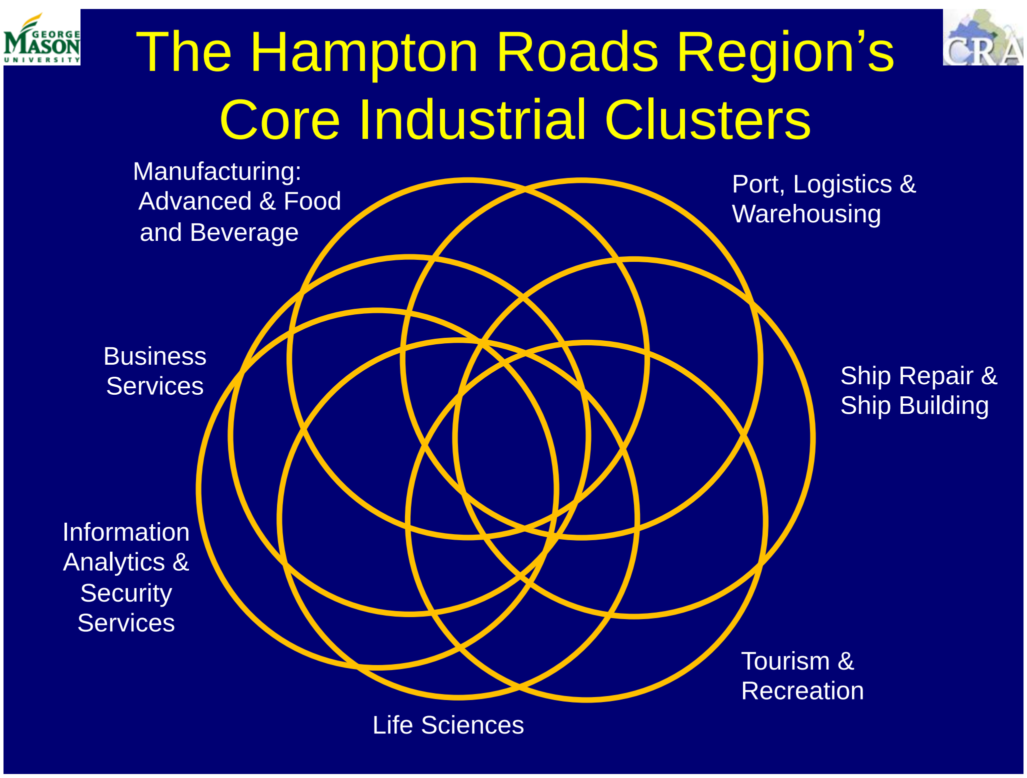
6. Information Analytics and Security (IAS). The region has attracted a critical mass of information technology professionals over the years. Many are former military or government workers with security clearance. As a result, the industry has evolved into one that is heavily dependent on government contracts. Cyber security is emerging as a strong sub-cluster in the area.

7. Tourism and Recreation (REC). This cluster is one of the three, traditional pillars of the Hampton Roads economy. REC remains a vital cluster for the economy. Though the wages in this cluster lag those of the other clusters, the large size of this cluster makes it important to the economy's vitality. The water and historical importance of the region makes future growth in the REC cluster possible. Indeed, those two assets are not going away. However, the region needs to focus its efforts on business and conference travelers in order to reduce the negative impacts of seasonality and lower annual wages. Attracting large conferences to the region would help provide higher average wages for the cluster.

The Interdependency and Horizontal Linkages of the Core Industrial Clusters

While the Hampton Roads economy's core industrial clusters, as defined above, can be labeled, measured, and analyzed as independent groupings of vertically integrated businesses, functioning as primary and supporting (sub-contracting) firms, co-located within the region and sharing similarly operational and functional characteristics, these clusters are also significantly interdependent and horizontally integrated as depicted in Figure 9.

Figure 9



These interdependences are what create agglomeration economies within the Hampton Roads region that constitute an important attraction for non-local business investment. These interdependencies include the obvious: human resources that can migrate between clusters providing a deeper base of skilled and educated employees than could be leveraged by any single cluster on its own; higher-quality and more-broadly based supporting services (e.g., legal, accounting, design, IT) cutting across many or all of the clusters; and more diverse mix of transportation and other infrastructural assets providing higher levels of high-quality services than could be supported by an individual industrial cluster.

These interdependencies also include less obvious agglomeration effects. An important result of these interdependencies is aggregating sufficient scale or critical mass within the economy to support the requirements of its core industries. It is not just having the required mix of skills but rather it is having the workforce supply to support growth and the career-path range and sequence that will be attractive to workers that will bring new labor resources into the region and retain those who might otherwise look outside the region for more-advanced career opportunities over their work life. In addition to having sufficient numbers and diversity of human resources, the region must have sufficient scale to leverage the capital resources required for growth. Larger economies with greater interdependencies will attract capital resources from a wider market base than a smaller, less integrated and less diverse economy.

The Core Industrial Clusters as Foundational for Future Economic Growth

These core industrial clusters define the Hampton Roads economy. That they are highly interdependent with substantial horizontal linkages, across what might at first seem unrelated sectors, is consistent with the region's unique assets. This economic structure did not happen casually or by accident. These established clusters and their interdependencies should not be ignored. While today's industrial clusters were initially shaped in fundamental ways by the federal market they grew up to serve, these clusters now can be thought of as providing the basis for future growth in the absence of growth in federal spending.

In the long run, the Hampton Roads economy will evolve and change and new industrial clusters will likely emerge, ones for which there may already be some early signs of their future potential. But, in the short term, for the Hampton Roads economy to shake off its historic dependency on federal spending as its principal economic driver and to succeed in diversifying away from this federal dependency, the presence, scale and mix of these industrial clusters provide the foundation for the region's near-term economic growth.

These seven clusters were found to employ 153,216 workers within the Hampton Roads region in 2015, accounting for 19.8 percent of the region's total employment base (see Table 4). In aggregate, the workforce of these seven industrial clusters grew 5.7 percent in 2005 and 2015; this compares to a 3.7 percent decline in employment for the remainder of the region's employment base, the employment outside of these seven industrial clusters. The average wages for workers in these seven industrial clusters was $60,524 or 53.1 percent higher than the average wages for the Hampton Roads region's other workers ($39,542), those not in its core industrial clusters.

With several exceptions, these clusters represent employment concentrations within the Hampton Roads economy; that is, they have a higher share of employment in the region's economy than their parent cluster accounts for in the national economy. This high-average concentration is an indication of specialization as measured by a location quotient above 1.0, as shown in Table 4. By these measures, these clusters represent higher-value added and higher-growth potential businesses for which the Hampton Roads region is a competitive location.

Table 4

Hampton Roads Region: Core Industrial Clusters

Cluster	2015 Employment	Change over Last 10 Years	Location Quotient	Average Wage in 2015
Manufacturing				
Advanced	10,632	-174	2.55	$65,632
Food and Beverage	6,056	-688	1.54	$43,538
Port, Log. and Ware.	14,522	-219	1.22	$62,508
Ship Repair and Build.	36,098	5,642	41.29	$69,245
Tour. and Rec.	45,583	-2,162	1.49	$22,296
Life Sciences	1,767	-617	0.33	$62,028
Business Services	16,792	-1,945	0.94	$80,497
Info. Analytics and Sec.	21,766	4,145	1.00	$78,500
Total Cluster Jobs	153,216	8,306		$60,524
All Other Jobs	618,999	-22,867	1.00	$39,542

Source: ODU, Hampton Roads Industrial Cluster Mapping Project

The relatively small number of jobs (19.8%) in the Hampton Roads economy that are employed within its seven major industrial clusters is noteworthy. First, it underscores how small the economy's export base is and, conversely, how dependent and distorted the regional economy has been by its federal markets. It also points out the comparative size of local-serving sectors, such as retail trade and food services (restaurants), which had a combined employment base exceeding the total number of jobs supported by the export-oriented industrial clusters.

However, the jobs in the region's core industrial clusters have almost twice the value (as measured by their contribution to gross regional product—GRP) as the jobs in the local-serving sectors. This helps explain the more than 50 percent salary differentials between the jobs in the core industrial clusters and non-industrial clusters and also the 20 percent average wage disparity between government and private sector jobs within the economy. As a result of the higher GRP and salary values associated with jobs in the region's core industrial clusters, strategies designed to grow these industrial clusters faster will have a higher rate of return, as measured by jobs and income, than efforts to grow other local non-export sectors. Additionally, the growth of local serving businesses and the jobs these firms support is dependent on expanding the region's export base that brings new income into the regional economy; that is, the greater the flow of export-based income into the region, the greater the support there will be for local-serving job growth.

To forecast the future potential of Hampton Roads' industrial clusters in the current economic environment, two ranges were calculated that provide comparative growth boundaries for the next ten years. The underlying assumptions are that each industrial cluster will either: (1) continue to grow at its recent historic rate reflecting the prevailing unfavorable economic conditions that have evolved in the Hampton Roads region or (2) each industrial cluster will grow at a rate reflecting the rate projected nationally for its parent industrial cluster adjusted by or down to reflect its comparative performance historically during previous growth cycles. The results of this analysis are presented in Table 5.

Table 5

Hampton Roads Region
Core Industrial Clusters: Forecast

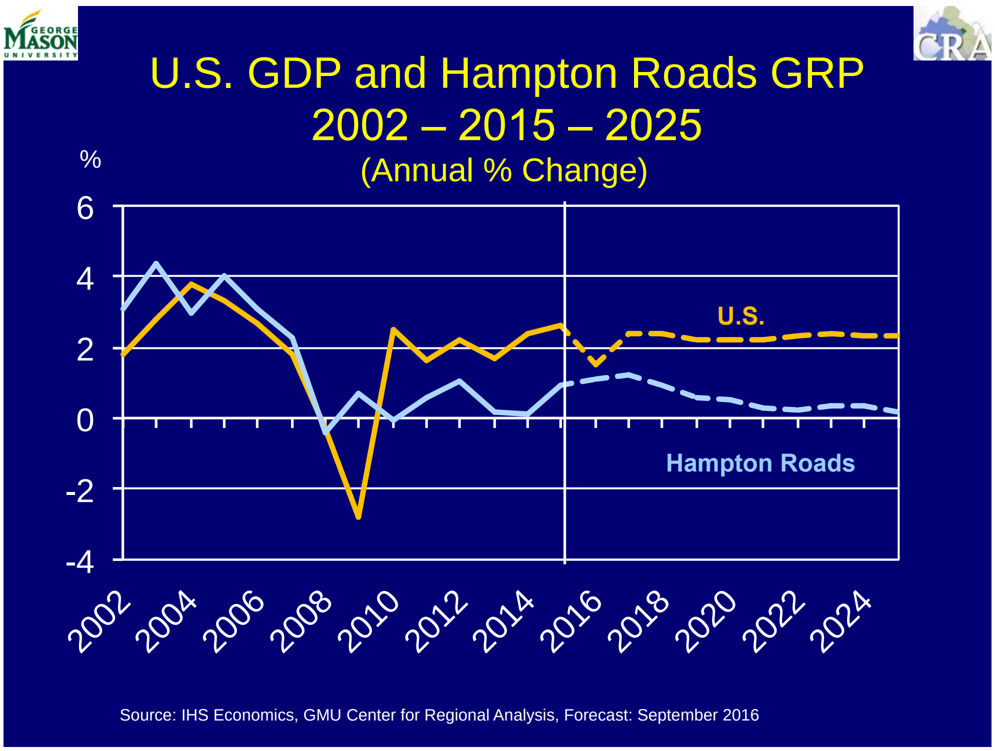
	2015-2025 Forecasted Growth			
Cluster	**Status Quo**	**% Growth**	**High Growth**	**% Change**
Manufacturing				
Advanced	**-1,258**	**-12%**	**1,596**	**15%**
Food and Beverage	**-281**	**-5%**	**1,428**	**24%**
Port, Log. and Ware.	**628**	**4%**	**5,808**	**40%**
Ship Repair and Build.	**-1,854**	**-5%**	**11,414**	**32%**
Tour. and Rec.	**774**	**4%**	**2,735**	**6%**
Life Sciences	**244**	**14%**	**1,008**	**57%**
Business Services	**840**	**5%**	**3,869**	**29%**
Info. Analytics and Sec.	**2,531**	**14%**	**5,040**	**23%**
Total Cluster Jobs	**4,140**	**2.7%**	**33,898**	**22.1%**
All Other Jobs	**19,877**	**3.2%**	**81,934**	**13.2%**

Source: ODU, Hampton Roads Industrial Cluster Mapping Project

The low forecast—that the Hampton Roads' industrial clusters and the remainder of the regional economy will track growth trajectories reflecting recent economic performance in the Hampton Roads region—yields an average growth rate for the combined industrial clusters of 2.7 percent while the regional economy as a whole is projected to grow slightly faster at 3.2 percent. This faster growth of the region's non-exporting sectors is supported by increased consumer spending and growing health care payments both influenced by transfer payments and a national economic performance that remains positive over the forecast period (this assumption may not hold for the full ten-year period).

This scenario demonstrates the dampening effect of the region's federal spending dependency that will linger over the future performance of the Hampton Roads economy in the absence of concerted efforts to disrupt this dependency by diversifying the region's export base and related industrial clusters shifting them away from this dependency—pivoting the dependent clusters' markets to non-federal customers. And, while this forecast is positive, the 10-year growth rate for the Hampton Roads region is only twenty-five percent of the 10-year growth rate projected for the US economy over this same period.

Figure 10



The second scenario is based on forecasts for each of Hampton Roads core industrial clusters that incorporate their respective national growth projections adjusted for its historic (pre-recession) performance; that is, how these clusters' performances compared to their national counterparts during previous business cycles. The results of these growth rate assumptions demonstrate the inherent growth potentials of these industrial clusters as they are currently structured. Additionally, it demonstrates the scale of agglomeration benefits that will accrue to the region's full economy as a result of the stronger performance of these industrial clusters.

This forecast results in the region's total employment base growing by 15.0 percent—the non-cluster employment in the region would grow 13.2 percent and the seven industrial clusters combined would realize a 22.1 percent increase. With this level of job growth in these clusters and the corresponding growth in the remainder of the Hampton Roads' economy, its gross regional product would be expected to accelerate to a level approaching the U.S. economy's long-term trajectory by 2025.

As shown in Table 5 and Figure 10, the "status quo" forecast would result in the Hampton Roads' economy supporting a 3.2% cumulative increase in its employment base between 2015 and 2025 and a 0.16% increase in its gross regional product in 2025. In contrast, the “fast growth” forecast would support a cumulative job growth of 15% over the 2015 to 2025 period and a growth rate approaching 2.3% for the Hampton Roads’ economy in 2025, a rate close to that currently forecast for the U.S. economy for that year.

Clearly, the second scenarios would be preferred to the first, a basically no-growth forecast, but even these projected “high growth” rates for the core industrial clusters will not be sufficient to immediately boost the growth rate in the Hampton Roads region to the U.S. average. That the Hampton Roads economy is projected to underperform the U.S. economy over the coming ten years points to other longstanding structural barriers and competitive disadvantages in the region and its economy that will need to be addressed in the longer term. However, in the short term, substantial economic gains can be realized by focusing on the potentials inherent in the region’s long-established industrial clusters.

The challenge, then, is to address the needs of the region’s core industrial clusters to enable them to accelerate their growth over the next ten years to achieve their inherent potential as measured by their respective industries growth potentials in the national (and global) economy.

Requirements for Economic Growth: Building on the Region’s Core Industrial Clusters

In order to begin to understand the needs for growth and the barriers to growth confronting the region’s core industrial clusters, as a part of this study, forty-five business leaders representing each of the seven clusters were interviewed by a senior research team from Old Dominion University’s Strome College of Business and the ODU Center for Social Research. The results of these interviews are summarized in a report entitled “Growing and Diversifying the Economic Base of Hampton Roads: Identifying Requirements and Restrictions for Growth from Interviews with Corporate Executives.” This section highlights those results.

Focusing on the essential question of how to accelerate the growth of the businesses for which the region already provides an established competitive platform, these interviews identify two categories of concerns—namely, requirements for growth and constraints to growth as follows:

Requirements for Growth	**Constraints to Growth**
• Ability to develop, attract and retain the necessary workforce • Improved transportation infrastructure • Regional identity and strong coordination among localities • Diversified Economy	• Uneven quality-of-life across the region • Unhealthy reliance on federal contracts by private industry • Locality in-fighting • Inadequate current transportation network • Lack of entrepreneurial spirit • Lack of critical mass in certain industries

From these emerged six common themes that cut across all industrial clusters as well as provide insights specific to single clusters reflecting their unique operating requirements.

Theme One: Workforce Development, Attraction and Retention

There is broad-based consensus among business leaders that having a sufficient supply of qualified workers across a wide spectrum of skills levels and educational backgrounds is the most fundamental requirement for the region's economic growth. This requirement has multiple dimensions beyond having a quality public school system that prepares its graduates for a productive work life. These dimensions recognize the multiple stages of workforce development: attraction of new human resources, the continuing development of the existing workforce to maintain its productivity in a changing economy, and the retention of the region's workforce over its life-long career to benefit from its development and to preserve talent in its evolution from entry level to management and ownership.

Five specific dimensions of workforce development, attraction and retention were highlighted by the interviewees: (1) attracting and retaining professional talent, (2) a shortage of skilled trades, (3) preparation of new entrants to the workforce, (4) training and upskilling of older workers, and (5) the relatively small size of the regional workforce leading to the absence of a critical mass in select industries. Within these dimensions, the interviewees emphasized the importance of workers who have the correct mix of skills and the intellectual capacity to grow and learn on the job and to be able to absorb new ideas and develop new capabilities for long, productively rewarding careers that, among other things, respond to an ever-changing "new" economy. They also cited the provision of excellent career pathways available to its resident workforce spanning all levels and stages of employment as critical to talent retention. And several of the region's core industrial clusters highlighted concerns regarding the availability of advanced job skills that may be most effectively developed within local educational institutions as these types of workers tend to be home-grown and are not as mobile (likely to migrate) as professionally trained workers.

Theme Two: Transportation

Transportation is a fundamental building block of a competitive regional economy as it affects the movement of the region's workers to and from their places of work as well as the movement of the region's commerce efficiently within and to and from the region at competitive costs. Business leaders cite transportation as a key "requirement for future economic growth" for its impact on the costs of doing business as well as being important in shaping the region's reputation as a good place in which to live and do business.

The scope of these transport concerns included: port-related congestion involving both highway and rail capacity; the impact of traffic congestion on the movement of people around the region and resulting connectivity problems within the region; limitations of the region's air service and connections to major markets; and the need for expansion of public transportation services within the urban employment centers. In today's and, even more so, tomorrow's economy the speed and cost of connectivity in conducting business and performing work assignments will distinguish the competitiveness of regional economies. Connectivity will be measured increasingly by time distance and less by physical distance with the cost of transport determining operational efficiency and driving business location decisions.

The cost of moving the region's goods and services internally and externally, inclusive of the cost of lost time from congestion delays, is a major determinant of business location and for place-of-residence choices by the region's workforce. These intra-regional transport constraints are magnified by the region's fragmented geography and extensive network of waterways the consequences of which impact the region's ability to attract and retain workers and the ability of local jurisdictions to offer public services at competitive costs. The region's location at the eastern terminus of I-64 and rail lines connecting west to serve the mid-Atlantic region imposes further costs and limitations on regional economic development. Solutions that respond to these requirements are complex, expensive, and require long-term planning, coordination, and financing.

Theme Three: Quality-of-Life and Cost-of-Living

The quality-of-life and cost-of-living of Hampton Roads are seen as both an asset and a liability. In general, the region's quality-of-life and cost-of-living offer advantages to residents and businesses compared to larger metropolitan areas and certainly in comparison to Northern Virginia. However, it is the unevenness of these qualities and costs that were reflected in the concerns raised in interviews with business leaders. This variation was particularly evident among the local public school systems, in crime rates, and the qualities of basic community services and facilities.

While such inequalities exist in most regions, their consequences remain important. They have differentiated the growth performances between local jurisdictions and may be responsible for increased cross-jurisdiction commuting between places-of-work and places-of-residence. And they often reinforce patterns of household-income inequality within the region. These conditions can diminish a region's reputation as a good place in which to live and do business. These differences also reinforce business investment patterns by which the wealthier jurisdictions of the region are more successful in attracting new investment and the jurisdictions in greater need of economic development have more difficulty in attracting the investment needed to close their relative economic performance gap.

Further, talent is attracted and retained by a region's qualities-of-life and the vibrancy of its residential communities. An uncompetitive quality-of-life will cause talent to relocate to what are perceived to be better places to live or may deter these highly mobile workers from moving into the Hampton Roads region even when high-quality employment opportunities are available. The bundle of qualities that establish a place as competitively attractive to well-educated or high-skilled workers include: cost of living—this is principally housing affordability; the quality of locally provided public services—public education and public safety; the availability and quality of multi-modal transportation services and the costs of internal mobility; the visible qualities of residential neighborhoods and public spaces—visual appearance, physical condition, social structure; the region's reputation for diversity of life styles, ethnic mix, equity in the distribution of its qualities-of-life; and attention to poverty conditions.

These issues have taken on a special urban character among today's younger workers—the Millennials—who seek culturally rich, densely settled, urban centers where they can live and work without commuting and where public transportation is available and provides connectivity within their more limited geography of interest. These destination live-work locations are attracting the new college graduates, the technology-intensive workers and start-up and smaller businesses, and are seen as the centers of innovation important to emerging and increasingly advanced economies. Regions not being able to provide these urban environments, combining an affordable rental housing market and flexible and adaptable employment spaces, are less competitive in developing advanced knowledge-based businesses. Business leaders referenced the success of Richmond in attracting this Millennial and creative-class population to illustrate Hampton Roads' weaknesses in competing for this demographic.

Theme Four: Entrepreneurial Culture

Due to the region's historic development, centered on large-scale industry and the military, especially port-related and federal spending dependent businesses, Hampton Roads has not developed a highly entrepreneurial culture and thus has not been as fertile for innovation and business creation as many of its peer metropolitan areas. In fact, business leaders who were interviewed perceive the region's business culture to often be risk adverse, less accommodating, and too bureaucratic—all of which could explain the loss of locally generated businesses and technology-intensive talent to other more entrepreneurially rich regions. The region's disproportionally smaller segment of its economy that is non-federally dependent and non-local serving may also feed a weaker tradition of entrepreneurial succession. And that, in turn may have reduced the region's supply of senior executives and leadership talent who would be available to mentor younger entrepreneurs and reinvest in local start-ups. This weaker entrepreneurial ecosystem is often reinforced as larger, well-established, non-local firms acquire local smaller and successful businesses and shift their management control to other business centers along with their senior managers.

While the reasons behind this smaller and less-accommodative entrepreneurial environment are not totally self-evident, comments by interviewees may offer some insight. These comments include: *"Hampton Roads is really good at government contracting." "We must improve tech transfer from our federal facilities. We commercialize very little from the federal labs located in the region."* These views are reinforced by the absence of notable research and development activities among the region's core industrial clusters. Additionally, Hampton Roads' major businesses are production- and service-oriented rather than innovation and product- and service-development oriented. Lastly, the low level of commercialization of intellectual property flowing from the region's research universities further reinforces the weak foundations of the local entrepreneurial ecosystem.

Theme Five: Strategic Identity and Regional Cooperation

The Hampton Roads region's large physical scale, dispersed urban and rural settlement pattern, fragmented geographic form, and resulting mobility barriers have shaped its economic history, generated inequalities in public services and distribution of wealth, and have contributed to the region’s blurred identity. The region is identified for statistical purposes by the federal government as the Virginia Beach metropolitan area or the Virginia Beach-Norfolk-Newport News metropolitan area. Hampton Roads is a local name replacing past brands such as the Tidewater Region and Mid-Atlantic Gateway.

Brands become the embodiment of the region’s identity creating an image that becomes difficult to alter. And, often this image does not reflect the positive or the possible but rather the dominant place or business of the place. The image of New York City is one borough, Manhattan, but in reality New York City varies considerably across its five boroughs. Hampton Roads’ dominant feature and historic identity revolve around its port and the Navy, but these do not define the regional economy of the future, especially in the face of declining federal spending.

Business leaders who were interviewed think that the region needs a distinct business image; a brand that communicates to the world a more complete depiction of its economy, particularly its private sector-based economy. Until the Hampton Roads region is able to present a more balanced portrait of its interdependent economic ecosystems, its diverse business potentials will be undervalued by business investment professionals and venture capitalists and misunderstood by the talent it will need to attract in order to meet the labor force requirements for its growing economy.

The issue of the region’s indistinctive branding (the name does not connote anything in particular to identify the region with its assets) is exacerbated by the lack of interdependence among the region’s constituent jurisdictions. Economic development activities are competitive; the region is not marketed as a single economy. And while the economy is greater than the sum of its parts, it is not marketed that way and this has generated confusion regarding the region’s identity.

Business leaders who were interviewed recognize this weakness in the region’s capacity to support economic growth. The lack of regional cooperation and collaboration has made it more difficult to achieve consensus and design solutions that will create conditions favorable to re-accelerating the region’s economic growth, support the attraction and expansion of business investment in the region, and promote the region to external markets as one region. As a consequence of the region’s fragmented approaches to economic development and marketing, as well as to public service delivery and financing, its assets are not widely known and fully valued. As a result, Hampton Roads is not well positioned among its peers in the competition for business investment in technology-intensive, higher-value added and high-wage, faster growing businesses. The downside of this weak competitive position is that Hampton Roads has become known as a good place for private non-federally dependent businesses seeking a lower cost operating environment—with lower wages and lower leasing costs—and as a good place for back-office and second-tier businesses.

Theme Six: Developing New and More Advanced Business and Industrial Clusters

Business leaders who were interviewed speculate that the region's existing industrial clusters need to become more advanced within their cluster. They think that the Hampton Roads economy could benefit from new businesses that may evolve from the new technologies emerging in the U.S., such as from the federal research labs located in the region—NASA's Langley Research Center, DOE's Jefferson Lab, and the Navy, and the research capacity of local universities. The Life Sciences cluster, which is identified as an existing industrial cluster in the Hampton Roads economy, is an example of a cluster that today is still in its infancy but appears to have the potential to develop further building on new and emerging businesses, some of which already exist in the region.

Many of the interviewees also perceive the region's economy as burdened by history. They see its traditional business lines and core export-based industries as too closely tied to federal spending without the will or mindset to readily adopt new technologies and evolve competitively through their own research and development to reignite the region's economic advancement all by themselves. The port's shipping activities, they observe, have been dominated by commodities such as coal rather than finished products that are manufactured or assembled in the region or elsewhere in Virginia. The interviewees question whether new business lines and new industrial clusters need to be developed over time to complement the region's historic core industrial clusters.

The development of new and more advanced businesses, either as part of existing industrial clusters or filling out new clusters, is a long-term strategy. Some interviewees suggested that new lines of business consistent with the region's competitive advantages, as evidenced by recent startups or small clusters of businesses and business opportunities that might be linked to federal agencies and labs and university-based research centers in the region (e.g., unmanned vehicles, materials sciences, alternative energy and efficiency), may point to new potentials for developing advanced industrial clusters that could complement the region's existing industrial clusters in building its future economy.

Regardless, be they existing small businesses or relocations of existing businesses, cultivating and supporting new businesses that fulfill the objectives of broadening and diversifying the Hampton Roads economy away from its historical dependencies and that introduce new businesses that are export-based, higher-value added and higher wage, and have high growth potential is fully consistent with strengthening the region's core industrial clusters. So too is shifting to new technologies, changing markets, undertaking research and development for new product and service lines, and supporting the growth of new businesses that will serve non-local markets. All of these should be included in the region's long-term economic development strategies. And while they are beyond the scope of this study that focuses on building on the existing strengths of the region's economy, establishing their foundation for future economic growth should be encouraged as a parallel strategy. Both strategies are needed to advance Hampton Roads' economy towards self-sustaining vitality.

Call-To-Action

The economy of Hampton Roads is struggling to sustain its recovery and to adjust to a long-term reduction in federal spending upon which its historic growth was dependent. The region's goal now should be to shift its economy away from this dependency and to become more diversified by building on its non-federally dependent businesses, especially those that can support higher value-added employment and compete in national and global markets. As suggested by its lagging economic performance over the past five years, Hampton Roads is not currently positioned to realize the full growth potential inherent in its core industrial clusters.

This report has identified the seven most promising existing industrial clusters for the region's economic growth in the short-term. It has also identified the principal "requirements" that will help shape the course of the region's economic growth more broadly. The next steps are up to the region's business, education, and community leaders, organizations and institutions, and elected officials. And the inherent work demands strategic collaboration, with several regional organizations having already begun to engage. Chief among them is the Hampton Roads Community Foundation which commissioned this study as a part of its launch of Reinvent Hampton Roads.

The larger intent is that the region's many partners and players will use the report and its findings to add to and refine their good work in repositioning the Hampton Roads economy for a very different time and place.