The Hampton Roads Economy
- Analysis and Strategies -

Part 6: Conclusions and Recommendations

October 2005

HAMPTON ROADS
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INTRODUCTION

The Hampton Roads economy has expanded significantly over the past several decades. Unfortunately, the region's economic progress has not been uniform but instead has been punctuated by intervals during which economic growth has lagged the U.S., Virginia, and competitor MSAs. One such period was during the decade of the 1990s when the majority of the region's reference MSAs were able to outperform Hampton Roads in important measures such as job and income growth.

In an effort to identify ways to strengthen the region's economy, an investigative effort was begun in late 2003 with the aid of funding from the DoD's Office of Economic Adjustment (OEA). This work was subdivided into various components and each was documented in a series of reports designed to summarize the work completed. The series was titled *The Hampton Roads Economy: Analysis and Strategies* with each report in the series given a separate subtitle. Reports in the series are listed as follows: Part 1: The Role of the Military; Part 2: Hampton Roads Cluster Study; Part 3: The Modeling, Simulation, &Visualization Cluster; Part 4: Entrepreneurship in Hampton Roads; and Part 5: Benchmarking the Economy.

The current document is the final report in this series. It is designed to summarize and then extend several facets of the earlier analytical work and to suggest strategies for regional action. The report begins with a discussion of selected principles of regional economic planning and then concludes with a recommended list of strategies that can be used to improve the Hampton Roads economy.

SELECTED REGIONAL ECONOMIC DEVELOPMENT PRINCIPLES

In an effort to better inform the development of recommendations for strengthening the regional economy, selected principles as to how regional economies function were first identified. During this process, special attention was given to the Hampton Roads experience. The first section of the report outlines some of those principles. In addition, interviews with regional leaders were also conducted to solicit their views on the area's economy and its problems and prospects. The report's economic principles along with the results from the regional interviews were combined to develop the regional economic recommendations listed in the second half of this report.

PRODUCTIVITY

Principle 1: Increasing Regional Productivity is a Critical Component in any Economic Development Program

Economic growth is important to all regions since a growing economy is in a better position to meet community needs and to resolve socioeconomic problems than one that is not.[1]

There are two ways by which a region can expand its economy. The first is to increase the quantity of inputs used by the economy. This can include adding workers, increasing the number of hours worked, or adding new capital equipment. Each of these actions represents an increase in the inputs going into the economy. The second is to increase the productivity of inputs so that each unit of input generates greater output. Increasing productivity is of special importance since it provides an opportunity for employers to pay higher wages.

The level of a region's productivity is determined by a variety of factors including agglomeration economies, transportation efficiencies, technology, the quantity of capital goods with which workers are equipped, the quality of labor, and the efficiency with which inputs are combined and managed. Even city size has been found to influence the level and growth of productivity since productivity is generally higher in larger MSAs (Beeson 1992).[2] Of these factors, advances in technology are the most important. Economists have estimated that improvements in science and technology account for approximately half of the gains in U.S. productivity over the decade of the 1990s (Bok 1996). Given the uncertainties of creating growth by increasing the quantity of inputs going into the economy, many communities have begun to stress efforts to make existing inputs more productive.[3]

The importance of improving productivity has been highlighted in the work done by Edward Denison of the Brookings Institute who has studied the growth process in the U.S. According to Denison, fifty-three percent of the growth in the nation's economy over the period from 1929 to 1982 came from an increase in inputs while forty-seven percent came from an increase in productivity. He attributed increases in productivity to improvements in human knowledge, increasing economies of scale (resulting from a growing economy), and improvements to worker safety and health (Case 2005). In further research, Power summarized statistical analyses done at the Brookings Institute over the past 50 years. He concluded that only 10 percent of the increase in output during the last century occurred because of increases in capital per worker. By

[1] It is especially important for communities that are experiencing an increase in population to grow their economies so as to prevent the unemployment rate from rising.
[2] The higher wages paid in large cities is made possible by their higher levels of productivity.
[3] At the national level, growing productivity is the only sure way to increase per capita income in the long run (Bok 1996).

contrast, 50 percent of the growth was associated with advances in knowledge. Another 25 percent was attributable to increases in the general level of education.

In order to assess the impact that an increase in productivity might have on Hampton Roads, the Commission's REMI model was used to create a scenario describing future growth with enhanced productivity. This scenario assumed that area productivity (across all factors of production) would increase by just one-tenth of one percent in 2006, 2010, 2015, 2020, and 2025 for a total increase of one half of one percent by 2025.[4] As expected, the increase in productivity generated an expansion in the region's economy. For example, by 2030, the region's gross regional product (GRP) increased to $118.93 billion in 2005 dollars as compared to expanding to $118.35 billion without the increase in productivity. This represented a $586 million increase in the size of the regional economy by 2030 generated entirely by small increases in productivity. Cumulatively, the sum of all the annual increases in GRP from 2006 to 2030 was over $6.8 billion. In other words, the region would experience $6.8 billion of additional growth over and above what would occur without the projected increase in productivity. A comparison of growth expected for the region versus the growth resulting from increasing regional productivity is shown in Figure 1. The incremental increase in GRP caused by an increase in productivity (the difference between the two GRP lines in Figure 1) is shown in Figure 2. Finally, the percentage increase in regional growth resulting from greater productivity is shown in Figure 3.

PUBLIC INVESTMENT

Principle 1: Enhancing a Region's Public Infrastructure Increases the Productivity of Its Private Sector Assets and Leads to Greater Regional Economic Growth

One method for increasing regional productivity is to invest in public infrastructure. These investments might include such things as building roads, expanding water and sewer services, and investing in airports. Private sector infrastructure needed by a regional economy are electric power plants, telecommunication facilities, and railroads. Each of these components of a community's infrastructure can be thought of as providing a service that makes the other inputs more productive which ultimately leads to regional growth.

[4] These increases were cumulative. For example, the increase in productivity that occurred in 2006 over 2005 was assumed to continue for each year into the future out to 2030. In 2010 another increase of one-tenth of one percent was added to the first increase so that the total increase in productivity in 2010 was the increase in 2006 plus the increase in 2010 for a combined increase of two-tenths of one percent. This process was continued until 2025 when the total increase in productivity was five-tenths or one half of one percent over the level of productivity in 2005.

Figure 1: Hampton Roads Gross Regional Product with and without an Increase in Regional Factor Productivity

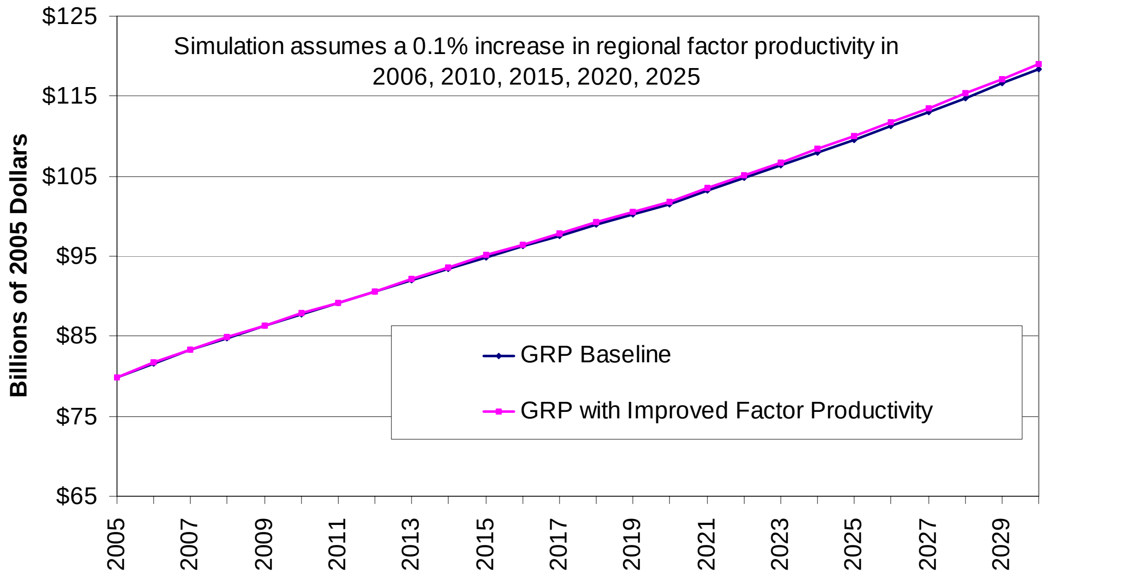
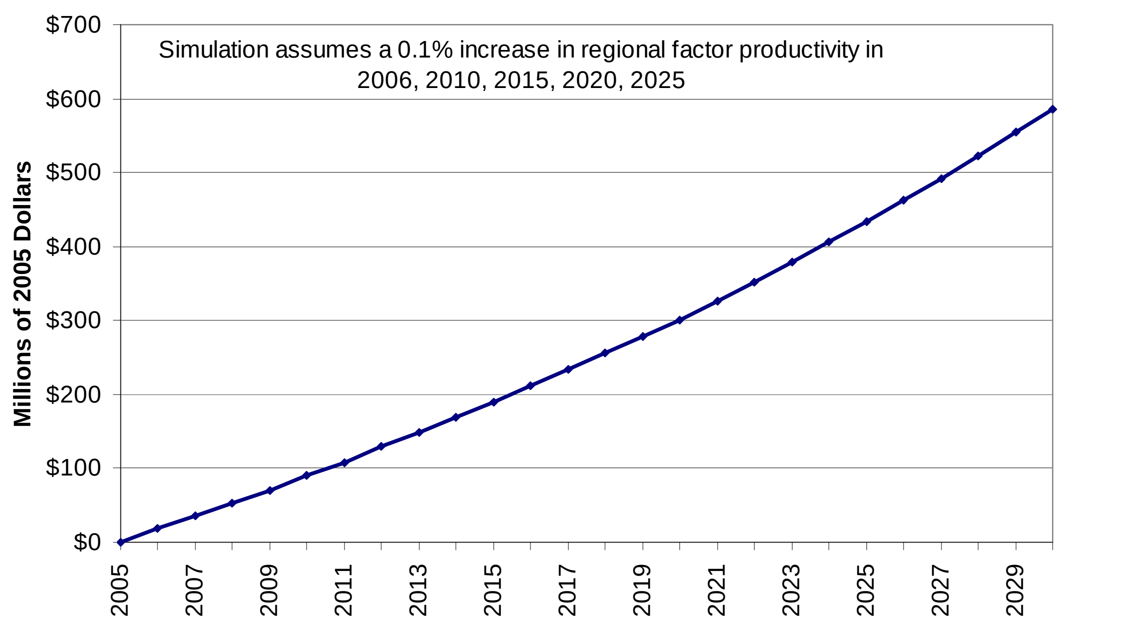
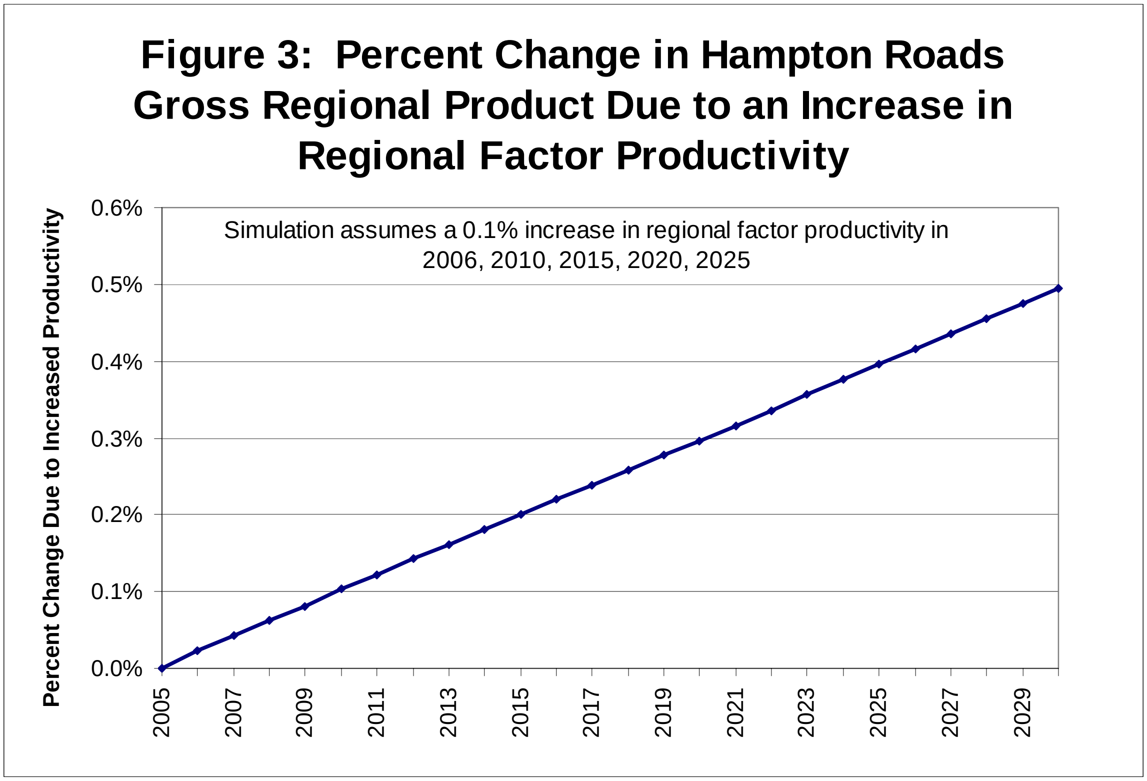


Figure 2: Growth Created by an Improvement in the Hampton Roads Factor Productivity





The link between public services and regional growth has been studied extensively over the years. Bartik, for example, in a survey of 30 studies done since 1979 found that 60 percent concluded that providing state and local public services enhanced local economic growth. Later, Fisher reported on 27 studies which found that public spending on infrastructure accelerated economic growth. Spending on transportation was found to have the strongest impact on growth (Lynch). Finally, a study by Aschauer concluded that differences in the rate of productivity growth across the G-7 nations were partly explained by differences in spending on public infrastructure (Lansing).[5]

The already strong link between the amount of public sector infrastructure investment and regional economic performance appears to be growing since American businesses are becoming increasingly "footloose" and have the option of setting up operations in an ever larger number of locations. Communities which are making infrastructure investments today will likely have an advantage in competing for branch plants and company relocations in the future.

Principle 2: Congestion Hampers the Growth of Economies

[5] While public spending on infrastructure has been found to enhance area economies in many locations, infrastructure spending in lagging areas has seldom provided a catalyst for greater regional economic growth.

Scholars and others have investigated the link between the construction of highways and changes in local and regional economies. Those analytical efforts have most frequently found that improving the transportation system produces benefits to the economy – especially in urban areas like Hampton Roads where the other ingredients required for growth are already in place.

Like most of the nation's urban centers, Hampton Roads suffers from highway congestion. This congestion has resulted from the fact that the region's vehicle miles traveled (an expression of demand) has grown faster than the growth in highway capacity. In fact, over the period from 1993 to 2002, travel in Hampton Roads increased nearly three times faster than the growth in highway lane mileage. Failing to keep up with the growth in travel demand has increased the time spent in traffic during the "rush hour" from 18 hours annually for each traveler in 1993 to 28 hours in 2002. The value of the time lost by area motorists was estimated by the Texas Transportation Institute to be $501 per traveler in 2002 or $412 million for the region overall (HRPDC 2004).

One solution to the problem of congestion is to add to the region's total lane mileage. In fact, if new highways could be built faster than the growth in travel, congestion would decline. However, given the current state of funding for new transportation projects, it is unlikely that highways can be built fast enough to keep up with the growth in travel so that the best that can be hoped for is, not to reduce congestion, but to slow its growth.

The unfavorable trends in transportation funding suggest that the region will not have the ability to construct new highways fast enough to eliminate congestion from the streets and highways of Hampton Roads. Unfortunately, failing to add to the region's highway capacity has the potential to produce long-term comparative economic stagnation, slower growth in incomes and a diminished quality of life for the average resident of Hampton Roads (ODU 2000).

Principle 3: Most Regional Industries in Hampton Roads Suffer from Congestion

If Hampton Roads does not add capacity to its highway system, most industries in the region will suffer. Two industries of special note are the port and tourism. Both of these industries are vital to the Hampton Roads economy since both require an efficient transportation network to maintain their competitive advantage.

The tourist industry as been a critical component in the regional economy for many years. For example, in 1998 the industry accounted for over five percent of the area's gross regional product. Furthermore, in 2000 the industry paid $700 million in wages to the 42 thousand workers employed in the industry. Not only has the industry become quite large, but the region has been very competitive in recent years since, during the 1990s, growth in local tourism expenditures surpassed both the state and national rates. A continuation of this growth appears likely since travel expenditures are projected to rise over the next several decades as the baby boomers retire and increase their expenditures on travel and other leisure-time activities. Additional growth in the region's cruise and convention businesses can also be expected (ODU 2000).

Key to the industry's continued success is the ability of visitors to access the region's travel destinations. Unfortunately, several "choke" points currently make it difficult for travelers to reach area attractions. Principal among these are the Hampton Roads Bridge Tunnel, the I-64/Mercury Boulevard interchange, and the stretch of I-64 between Newport News and Richmond. The construction of a "Third Crossing" along with improvements to route 460 and I-64 are critical if the health of this industry is to be preserved.

Some notion of the threat to the industry that growing congestion along I-64 represents is a recently concluded study done by the American Highway Users Alliance, AAA, and TRIP, a national transportation research group. Their report, which received national attention, listed the 25 most congested travel destinations in the nation. The study ranked Hampton Roads as the country's second most congested tourist destination because of the difficulty of using I-64 to enter and leave the region. The publicity that the area received for its highway congestion has harmed the region's image as a travel destination as well as a place from which to conduct business. The region must deal with access to the area's tourist attractions before congestion chokes off additional growth in the travel industry.

A second industry highly dependent upon the region's transportation system is the maritime industry which has been a mainstay of the area's economy for several centuries. The area's status as an intermodal center emanates from the fact that it has a deep, ice-free harbor that is centrally located along the eastern seaboard. Because of its natural assets, the port has become one of the nation's most important.

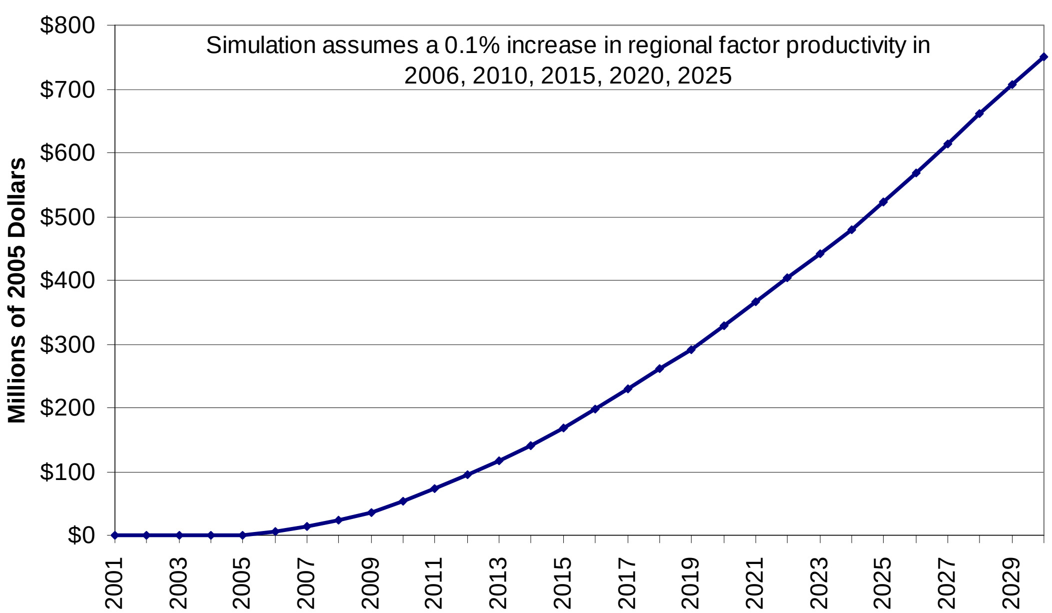
The flow of commerce through the harbor has produced a significant benefit to the Hampton Roads economy. In fact, according to a study conducted by Martin Associates, the Port of Virginia, most of which is located in Hampton Roads, generated nearly 165 thousand jobs in the Commonwealth and $584 million in wages. In Hampton Roads, the port generated 8,525 direct jobs excluding the additional indirect jobs created through the multiplier effect. Projections of future port traffic suggest that a continuation of the port's rapid growth is likely. However, these projections may be in jeopardy since they are based upon the optimistic assumption that trucks will be able to continue to move their cargo into and out of the area's port facilities (HRPDC 2004).

Principle 4: Transportation Systems and Regional Productivity are Linked in Hampton Roads

What may not be appreciated by many is that the impact of the area's transportation system does not end with its port and tourist industries. In fact, there are many other channels by which the area's transportation facilities benefit the regional economy. Perhaps the most important of these is the impact that transportation facilities have upon regional productivity. Productivity, as suggested above, is one of the primary long-term drivers of any economy. Improving a community's transportation system so that people and goods can move more freely lowers the cost of production and increases productivity. Both, in turn, make the region more competitive.

In order to demonstrate the power that improving the area's transportation system might have on Hampton Roads, a simulation of the region's economy was conducted which assumed that average transportation cost would decline by 0.1 percent in the years 2006, 2010, 2015, 2020, and 2025 as a result of transportation improvements with a cumulative total decline of 0.5 percent.[6] The results are shown in Figures 4 and 5.

Figure 4: Growth Created by an Improvement to the Hampton Roads Transportation System

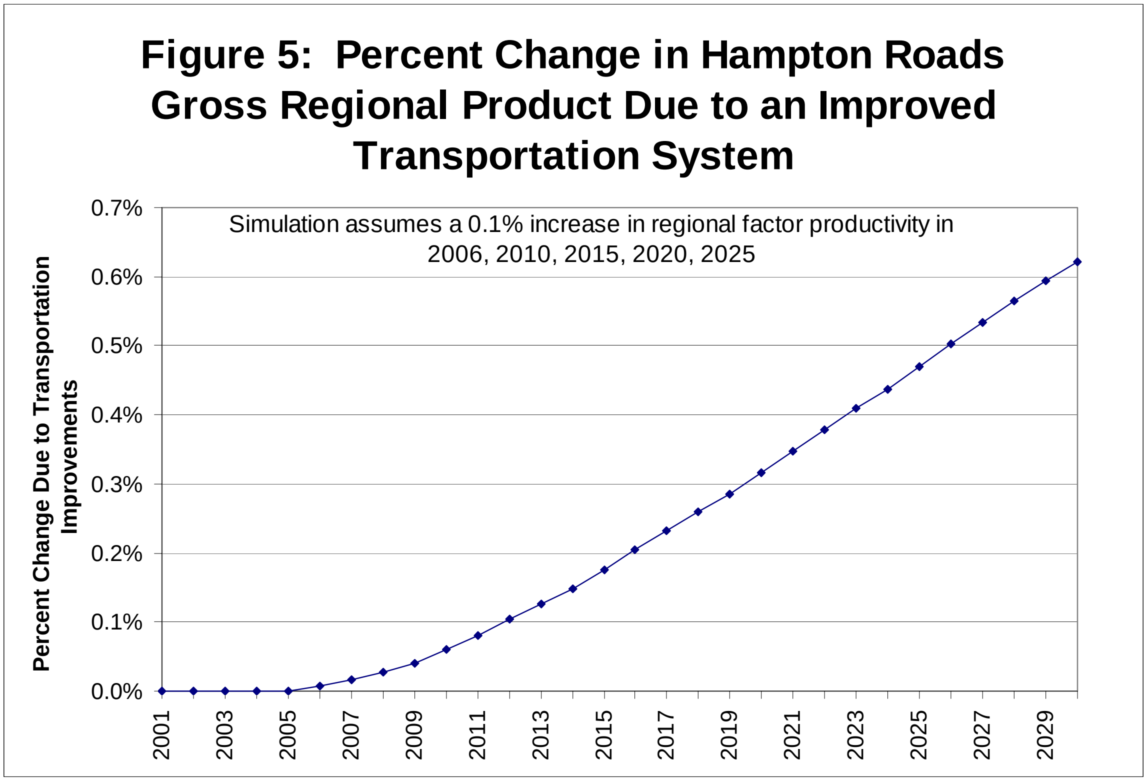


As can be seen in the figures, the regional economy would expand somewhat faster between 2005 and 2030 given the assumed decline in the area's transportation costs. The difference between the two scenarios, one representing the most likely path of growth without major highway improvements

[6] The impact of a reduction in travel costs on the port and tourist industries were ignored in order to illustrate the impact of transportation improvements on productivity alone.

and no change in transportation costs and the other with important improvements and a decline in transportation costs, are shown in Figure 4.

The difference by 2030 in gross regional product between the two scenarios is $600 million in 2005 dollars while the cumulative increase in gross product is over $6 billion for all of the years from 2006 to 2030. The increase in gross regional product in 2030 represents a percentage increase of over 0.6 percent when compared to currently expected growth. The percent increase in gross product is shown in Figure 5.



Principle 5: The Quality of Transportation Systems Influences Regional Competitiveness

The increase in productivity resulting from an improvement in the efficiency of a region's transportation system plays a critical role in shaping its competitiveness. This important contribution made by transportation arises out of the fact that, regions must, in the long run, compete with each other largely on the basis of production costs.[7] Those regions that can produce goods and provide services at lower cost will ultimately be more competitive and grow faster than communities whose costs are higher.[8] Failing to improve the Hampton

[7] Other regional attributes which are also important in shaping competitiveness are climate, recreational opportunities, the cost of living, and educational opportunities.
[8] While improvements in a transportation system generally lead to higher rates of economic growth, smaller regions frequently fail to experience the same effect. In essence, small regional

Roads transportation system will have the effect of reducing the region's overall competitiveness – especially if other regions are able to improve their transportation systems at the same time and, as a result, lower their production costs faster than Hampton Roads. Competitiveness is not the only factor shaping the relative rates of regional growth, but it is one of the most important.[9]

TAXES

Principle 1: Cutting Taxes May Not Generate State and Regional Growth

Tax cuts are sometimes used to promote state and local economic growth. In fact, in the seven years from 1995 to 2001, state governments cut taxes which reduced their revenues by $35 billion (Lynch 2004). Many of these tax cuts were made in the name of economic growth. The unfortunate result was that, in many cases, states gave up tax revenues which forced them to cut pubic services without reaping a windfall of new jobs and economic growth.[10] In essence, growth failed to materialize because the public services which were reduced or eliminated because of the tax cut led to an increase in private sector production costs since businesses were forced to provide for themselves such things as education, training, health services, and security. The danger is that states or regions choosing to follow a low tax policy may find that firms, unable to provide privately for what formerly were public services, will leave for locations with higher taxes and a better mix of public services.[11,12]

Principle 2: Some Arguments for Cutting Taxes are Flawed

Many arguments have been made over the years as to how cutting taxes can accelerate regional economic growth. Unfortunately, some of these arguments are flawed.

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economies lack many of the ingredients for growth so that improvements in transportation produce only limited economic impacts (Weisbrod 2001).

[9] A region's industry mix also plays an important role in shaping its rate and type of economic growth.

[10] At the federal level, cutting taxes can lead to greater economic growth since cuts in public services may be unnecessary because the federal government can issue debt. Unlike the federal government, state and local governments can not finance tax cuts with greater borrowing because many are constitutionally required to balance their budgets.

[11] Different types of public spending impact on regional economies differently. For example, one investigator found that raising taxes to finance transfer payments retarded state growth while using taxes to fund education and other infrastructure fostered state growth (Helms 1985).

[12] While many studies find only limited correlations between state taxes and economic growth, studies of local taxes frequently find a much stronger correlation between local taxes and local growth. It seems that after firms make decisions on a metro area, they then decide on a location within that area. At that point, the decision between communities may rely heavily on differences in tax rates (Power 1996).

One claim sometimes made for cutting taxes is that state and local taxes are a burden on area firms and that this inhibits regional economic growth.[13] Central to this argument is that taxes reduce business revenue (because of the price elasticity of demand) or increase the cost of doing business. In either event, taxes have the effect of lowering profits leaving firms with less money with which to invest and hire workers (Lynch 2004).

This tax burden argument fails for a variety of reasons. First, and perhaps most important, is that state and local taxes are a relatively small share of local profits. In fact, state and local taxes accounted for just 1.2 percent of profits in 2000. Furthermore, state and local taxes play an even smaller role in business profits because of their federal tax deductibility. Finally, even the taxes that are levied on business are frequently shifted to consumers in the form of higher prices or to workers in the form of lower wages leaving the businesses with only a small share of the total tax burden (Lynch 2004).

A further argument for cutting taxes centers on reducing the income tax. The premise of this argument is that reducing the income tax for individuals may provide an incentive for people to work longer and harder because they can keep more of what they earn. This argument is troubled by the fact that, in some cases, tax cuts may actually provide some in the workforce with a disincentive to work since they will have higher after-tax income following the tax cut. With higher after-tax income, they can afford to purchase more than before the tax cut and so they may decide that they can afford to work less. In effect, tax cuts may encourage some to work more since they can keep more while others may be encouraged to work less (Lynch 2004).

An illustration of the failure of a low-tax policy at the state level can be seen in comparisons between Minnesota and South Dakota. Historically, Minnesota has pursued a policy of higher than average taxes with above average public services while South Dakota has pursued a low tax policy with limited public services. The result has been that these two neighboring states, with similar geographies and resources, have had dramatically different economic outcomes. Minnesota, for example, has enjoyed higher per capita income, faster growth in wages, faster employment growth, better roads and bridges, less income disparity, lower business failure rates, more high tech firms, and higher high school and college graduation rates per capita than has South Dakota. In addition, Minnesota is commonly regarded as having a better business environment than South Dakota even though its tax rates are higher (Lynch 2004).

[13] Even where higher taxes have been found to negatively impact on growth, the impact has generally been found to be small. This is somewhat surprising given the conviction held by some that lowering taxes will have a powerful effect locally. This conviction may stem from the success which cutting federal taxes has had on the national economy. However, the parallels between the national and local response to a tax cuts are relatively few. (Power 1996).

Principle 3: Raising Taxes to Provide Public Services and Infrastructure May Lead to a Stronger Regional Economy

In contrast to pursuing a policy of low taxes, empirical research frequently finds that taxing to provide better public services can be a policy with considerable merit. Moomaw and Williams (1991) have argued that the most important determinants of the growth in productivity are investments in transportation and education. They further contend that increasing taxes to make productivity-enhancing public investments does not discourage growth in manufacturing. Taylor (1992) also argues for public investment by concluding that local taxes have limited explanatory power when attempting to predict regional growth. He also found that the impact of transportation on employment growth is large and statistically significant. Finally, O'hUallachain and Satterthwaite (1992) found that infrastructure improvements designed for particular industries have a positive effect on economic growth.

Principle 4: Economic Growth is Not Guaranteed to Reduce the Local Tax Burden

Regional economic development efforts typically increase the number of commercial and industrial properties in an area which leads to higher property tax revenues with little corresponding increases in public services. By contrast, growth also increases a region's population which will eventually lead to an increase in the demand for public services. The hope of local governments is that there will be a less than proportionate increase in government spending as the economy grows (Power 1996).

Unfortunately, there is some evidence that as local and regional economies grow, the demand for public spending may rise rapidly and public spending per capita may increase. For example, in the case of a number of western states, employment grew at several times the national rate and yet taxes, as a percent of total personal income, increased faster than the national average. Similarly, in Maryland, the most rapidly growing counties were found to experience a much faster rate of increase in local property taxes than did the state's slower growing counties (Power 1996).

There are several mechanisms that can cause economic growth to generate higher tax rates. Perhaps most important is that larger communities generally require a broader range of services than do smaller ones. As a result, as a community grows, it does not just scale up the services it used to provide when it was smaller but may instead both scale up existing services and then add new services which formerly were not provided. A further difficulty is that scaling up is not an option in the case of some services since greater size may require an increase that is more than proportional to the growth experienced since the severity of urban problems tends to increase as communities grow. Examples of problems for which spending can not just be proportionately scaled up are crime, welfare, poverty, pollution, and traffic congestion. Power illustrated this point by reporting that the number of square feet of roadway required per person is twelve times larger for a city of one million as compared to a city of ten thousand. Finally, as communities grow, they must add to their infrastructure. Unfortunately, extending and repairing infrastructure to accommodate growth is frequently more expensive on a unit basis than simply building the original infrastructure (Power 1996).

ECONOMIC DEVELOPMENT

Principle 1: Regions Should Emphasize "Can't-Lose" Strategies When Pursuing Economic Development

Over the years, communities have adopted a variety of economic development strategies. These strategies have varied in terms of both their effectiveness and cost. In selecting a set of strategies for improving their economy, communities should rely on methods that (1) offer a high probability of success, (2) are cost-effective in the sense that they produce significant results per dollar of expenditures, and (3) benefit the local community even if the strategy should fail to produce direct and measurable economic benefits. This last criterion has been referred to as a "can't-lose" strategy (Power 1996).

"Can't lose" economic development strategies are especially desirable since, no matter what their outcome, the community will still be better off after implementation than before. One such strategy is investing in education. Increasing the general educational level of a community by improving the local school system can help to attract new firms and produce additional economic growth. However, even if the improvement to the school system and the resulting impact that that would have on the labor force does not attract new businesses, facilitate the birth of new firms, or cause the expansion of existing firms, the improvement will still enhance the academic skills of the people who were educated. Implementing a strategy which enhances the general level of educational attainment should be regarded as a can't lose strategy since, even without an economic development benefit, the graduates of the local school system will still enjoy the benefit of having better access to jobs. They will also have the option of furthering their education – an option that might not otherwise have been available to them. Therefore, spending on education should be viewed as a relative safe long-term strategy for a community since good things can be expected to occur irrespective of their economic development outcome.

Transportation investments also fall into the can't lose category since they benefit the community no matter what the resulting outcome in terms of local economic growth. History has shown that areas which let their highway system deteriorate face rising business costs and a decline in their quality of life. By contrast, regions which improve their highway systems avoid these bad outcomes since even if improving an area's highway system does not draw in new firms, local residents and businesses will still enjoy the benefits that good roads provide. Like education, investing in highways should be regarded as a can't lose economic development strategy.

There are many other can't-lose strategies available to a community. They include such things as improving the natural environment, reducing pollution, improving the man-made environment, and adding cultural and recreational amenities including professional sports. Each will tend to make a region more attractive to both people and businesses and lead to an increase in the level of local business activity. However, current residents will still benefit from these improvements even if the economic development consequences of those strategies are modest or do not materialize at all. Given the uncertainties associated with economic development initiatives, regions and communities would be well advised to give special attention to can't lose strategies when attempting to develop their economies.

Principle 2: Promoting the Success of Existing Businesses Must Be a Central Component of a Region's Economic Development Efforts.

While much attention has been given over the years to the importance of the small business sector and the creation of new businesses by entrepreneurs, the fact remains that the majority of new jobs are generated by the expansion of existing firms. In fact, the expansion of existing firms added nearly 303 thousand jobs from 2000 to 2001 in Hampton Roads while the birth of new firms led to the creation of only 179 thousand jobs. Furthermore, at the sector level, jobs created through business expansions exceeded the number of jobs created through the formation of new firms in fourteen of the fifteen major sectors. These figures confirm the suspicions of many economic development professionals that existing businesses account for over 80 percent of a community's new jobs. By failing to recognize the important role played by existing businesses in generating regional growth, localities tend to under emphasize efforts to retain and promote existing businesses. Efforts need to be made at both the regional and local levels to ensure that they promote existing business.

In contrast to the growth generated from the expansion of existing businesses is the lack of job growth created through the relocation of firms. In fact, the relocation of firms rarely happens. Because of the cost of uprooting a company from its historical home and running the risk of losing both its workforce and its customers, firms rarely make long-distance relocations. The employment shifts which occur from one metro area or section of the country to another are typically the result of regional differences in the rate of the expansion of existing firms and the creation of new companies - not relocations. Much more commonly, firms desiring to operate in a new location will establish a branch operation at the new location rather than relocating their headquarters and abandoning existing production facilities (Duffy 1994).

LABOR MARKETS

Principle 1: Creating Jobs Benefits the Economy

Efforts to strengthen the local economy take many forms. Some communities stress employing the unemployed. Others place the greatest emphasis on generating additional tax revenue. But by far the number one goal of the majority of communities is creating jobs. This emphasis on job creation is not misplaced given the many benefits that can accrue when a community when adds new jobs.

Perhaps the greatest benefit from adding jobs comes from the impact on the earnings of local workers that growth creates. Empirical evidence suggests that a ten percent increase in metropolitan employment will increase average real earnings per worker by about four percent. Half of this increase occurs because local residents who would otherwise be out of the labor force find work. The other half occurs because the creation of additional jobs allows individuals to be promoted to better paying positions. Of special importance is that these wage benefits are typically greater for persons in lower paying jobs, less educated persons, and minorities. As a result, faster employment growth typically leads to important reductions in local poverty (Bartik 1995).[14]

Increasing the number of jobs in a metropolitan area can be achieved by either (1) increasing the number or sales of firms that sell to businesses or residents outside of the local market (exporting), or (2) inducing local businesses or residents to substitute the purchases of local goods or services for goods or services purchased outside the regional economy (import substitution). Other jobs created in companies that do not produce for export or substitute local production for imports will lead to a corresponding loss of employment in competitor firms since no growth in the local market has occurred. In essence, if a new business opens that will supply the same goods or services already being provided to the local market by an existing business, then economic growth has not occurred. Regional activity has simply moved from one location or firm to another (Bartik 1995).[15]

[14] It is not universally accepted that increasing the rate of regional growth will increase area wages and incomes. Power offers evidence that state and urban areas that increased their employment base rapidly did not see significant increases in family income. His work suggests that there is a positive correlation between employment growth and the increase in family income but that the correlation is weak (Power 1996).

[15] A simple example might be the opening of a new restaurant. When a new restaurant opens and hires local labor, that increase in employment can be expected to cause another restaurant to reduce its employment by the number of jobs created by the new restaurant since the purchasing power of the marketplace has not changed because of the new restaurant. If the new restaurant opens because of an increase in the size of the market, then other restaurants need not lose employment.

It should be noted that growth does not stop with the creation of new jobs through the economic development process. Adding jobs to a region's economy will lead to the creation of other jobs because of the "multiplier effect." The size of the local multiplier depends upon such things as: (1) the size of the local economy, (2) the level of wages paid to a firm's new workers, and (3) the extensiveness of a firm's ties to the area's economy.

Principle 3: Creating Jobs May Not Reduce the Unemployment Rate

Getting the unemployed into jobs or back to work following a loss of employment has never been easy. One strategy utilized to reduce the ranks of the unemployed is to create jobs. However, because of the "openness" of regional economies, this strategy does not always work. For example, Power found from 1987 to 1993 that in those states which created jobs 50 percent faster than the national average, over half had unemployment rates above the national average in 1993 and half saw their unemployment rates decline less than the fall in the national unemployment rate that occurred over the study period. Job growth did not assure lower unemployment rates. He also found cases where low and falling unemployment rates occurred without rapid job growth. This occurred in South Dakota which had an unemployment rate in 1993 that was half the national average while its job growth lagged the national average by 87 percent from 1987 to 1993. In Oklahoma, employment actually declined during a period of national employment growth and yet the state had a significantly lower unemployment rate than did the U.S. New Orleans also saw its unemployment rate fall over the 1987 to 1993 period at a time when its rate of job creation was 75 slower than the national average. Power concluded that there was no correlation between growth in employment and both the unemployment rate and the change in that rate in states and large urban centers. The lack of a relationship between growth and the unemployment rate is largely explained by population migration (Power 1996).

The lesson for community leaders is that when working to generate new jobs, a community needs to pay particular attention to whether the jobs are going to existing residents or in-migrants. Typically, residents are unaware of the large proportion of new jobs which go to persons living outside of their area. Empirical research suggests that in the short run (less than five years), 30-50 percent of new jobs go to in-migrants. However, it is important to realize that filling new jobs by employing local labor is likely to pay important dividends since they require less in the way of new infrastructure and have a greater commitment to the local area. Furthermore, from the standpoint of equity, because local residents have paid much of the cost of local economic development programs, they deserve to receive the greatest share of the jobs created.

In order to reduce the rate of unemployment for existing residents, the creation of new jobs must include an effort to ensure that new positions go to existing residents who are unemployed rather than to current residents who are already employed or to in-migrants. This is not easy since those currently unemployed may have limited job skills, poor education, limited knowledge of job opportunities, poor job-seeking skills, and limited and inappropriate work histories. By contrast, migrants typically have good job seeking skills (the effort of moving suggests an eagerness and a high energy level that can be brought to the task of finding employment), and are younger and better educated. Research on the creation of new industrial jobs shows that positions are usually filled by migrants and new entrants to the labor force as opposed to those currently unemployed. Power suggests that a community must create 17 new jobs for each existing unemployed person that is put to work (Power 1996).[16]

The way to lower the unemployment rate of current residents is to target them with programs that focus on their particular problem(s) in finding employment. These programs can include such things as providing relevant skills training, teaching job finding and job keeping skills, and tackling the shortcomings of each unemployed person.

BRAIN DRAIN

Principle 1: Regions Must Attract and Retain Their Young Adults

Young adults are critically important to a regional economy since they form the backbone of an area's future workforce and produce a disproportionately large number of its new business startups. Within this age cohort, it is those persons with technical training who potentially have the greatest value to a community since they are the ones who frequently start new businesses in emerging industries that can lift a region to higher levels of prosperity and economic activity. This age group will shortly become even more important since older workers (members of the baby boom generation) will soon retire in large numbers leaving a "vacuum" which will need to be filled if the economy is to grow.

Unfortunately, young workers are more inclined to migrate than are older workers. Historically, these workers have moved to locations where they can experience the highest long-term real return for their labor. Additionally, they have migrated to locations where amenities are perceived to be good. This includes locations with a good climate, opportunities for urban and outdoor recreation, large and prestigious universities, and a rich cultural environment.

Unfortunately for Hampton Roads, an abundance of anecdotal evidence suggests that the region suffers from a "brain drain" or the loss of young, well-educated persons to other, competitor metropolitan regions. For example, a study done by Paul Gottlieb at the Brookings Institute confirms this out-migration of the region's young adults since its net migration index is –8.3% indicating that more persons aged 25-34 move out of the region than move in. In fact, the

[16] Bartik (1991) suggests that only 6 of 100 new jobs go to existing residents.

region ranked 85th among the 100 largest metropolitan areas in the nation in 2000 indicating that the vast majority of large urban centers were more successful in retaining young workers than Hampton Roads. Older workers were also migrating out of the region on a net basis but the net migration index was less negative for that cohort (persons 35-64 years of age).

Explanations for the exodus of talented young persons from Hampton Roads are several. Some leave for higher wages elsewhere. Others (especially newly graduated MBAs) migrate because of the lack of managerial positions in the local economy.[17] Still others leave for the perceived excitement found in other locations, especially larger cities. Stemming this drain of regional talent depends on creating suitable jobs and career ladders for the area's young adults as well as developing a set of amenities tailored to meet their special needs and interests. Also, since it is true that "the more you graduate, the more you keep," the region needs to increase the number of science, technology, and business graduates from its colleges and universities.

Principle 2: Creating Jobs Does Not Always Prevent Young Adults from Migrating

One powerful argument for creating jobs is to enable young adults to find jobs locally so that they do not feel the need to move elsewhere for career opportunities. Enabling families to stay together has always been one of the many rationales given for engaging in local economic development (Power 1996).

However, creating jobs may not achieve this objective. Young people do not always migrate because they are dissatisfied with existing jobs or wages. Instead, many migrate because they are curious about the larger world and are seeking adventure. In addition, young people from families that have a history of migrating tend to have a higher propensity to migrate no matter what business conditions are locally. Finally, those just finishing their education and who are unmarried have the highest rate of out-migration of all and move for an assortment of reasons – only some of which are related to the nature of the local community and its economy. Fortunately, as area young people leave the community, young people from other locations in-migrate to fill the void. Research into the causes of out-migration have been somewhat unsuccessful at explaining migration leaving regional economists and others with the conclusion that an area's economic characteristics have only a modest impact on the rate at which people leave (Power 1996).

Given the proclivity of the young to migrate, programs of job creation designed to retain young adults may not provide jobs for area young people but for young persons from families located elsewhere (Power 1996).

[17] Work done for Part 4 in this series found that the region is underrepresented in 14 of 16 managerial occupation categories tracked by the Bureau of Labor Statistics.

WAGES

Principle 1: A Region can Increase Its Wages by Changing Its Sector Mix or by Increasing Its Productivity

There are fundamentally two ways by which a region can increase its wages. The first is to rotate its sector mix in the direction of a blend of industries that pay higher wages. This rotation can be accomplished by recruiting firms in higher paying industries or by "growing" those industries internally through entrepreneurial activity and company expansions.

A second way to raise wages is to increase regional productivity through various forms of public and private sector investments. Historically, there has been a close relationship between the growth in national productivity and the increase in American wages. For example, from 1959 to 1973, labor productivity in the U.S. grew at an average annual rate of 2.8 percent. This led to an increase in real hourly compensation of 2.9 percent, or nearly the same as the increase in productivity. By contrast, from 1973 to 1990, the growth in labor productivity slowed to 0.9 percent per year while real hourly compensation grew by only 0.7 percent or at nearly the same rate as the increase in productivity. As these figures demonstrate, in the long term, the growth in productivity will produce a comparable increase in wages (Peterson 1992).

A somewhat hidden benefit to be derived from improving area wages, aside from the increase in worker purchasing power, comes from the increase in the labor force participation rate that normally accompanies an increase in wages. As a result, a region's total earnings paid increases not just from the increase in wages but also from an increase in the proportion of the population which chooses to work. These two factors acting together can have a powerful impact on regional incomes.

Principle 2: Attracting Firms Paying Above Average Wages Does Not Always Increase Per Capita Income

Many communities with below average incomes have attempted to raise their incomes by getting more high-wage companies to locate in their area. This strategy may or may not work depending upon the operation of two important mechanisms. The first has to do with migration. Frequently, the attraction of new firms can lead to the in-migration of non-residents both to fill the new jobs being created and to enjoy the benefits of above average wages. This will increase the size of the area's population. Since population is in the denominator of the per capita calculation (per capita income = total personal income/population), population growth may have the effect of offsetting the increase in the total income derived from higher wages.[18]

A second complication arises out of the action of the multiplier. When a newly recruited firm arrives in a region, it pays wages to its workers and spends locally to purchase inputs. These expenditures in turn set off other “rounds” of spending. Unfortunately, this circulation of money creates indirect or secondary jobs which frequently pay low to moderate wages since the secondary jobs are predominantly in retail trade, restaurants, entertainment facilities, and in personal services, all of which pay wages at or, in many cases, well below a community’s average wage. As a result, attracting high wage paying jobs may have only a muted impact on the average wage and per capita income – because of the lower quality of spin-off or indirect jobs and the increase in population.

EDUCATION AND TRAINING

Principle 1: Education is Vital to the Continued Health of a Regional Economy

A region’s labor force can be thought of as having two primary characteristics – quantity and quality. The quantity of its labor supply is largely determined by the size of its population. By contrast, the quality of its labor force is harder to determine and is shaped by a myriad of factors.

The quality of a region’s human capital (expressed by such indicators as education, training, and health) is important because it accounts for a significant share of its ability to produce and consume. One way to view the importance of the quality of a community’s workforce is to compare the nations of the world on various measures of their standard of living. When these comparisons are made, Japan invariably ranks at or near the top of the list having a very high standard of living (as evidenced by such things as its low rates of infant mortality, high levels of consumption, and low unemployment). Japan’s unusually high ranking is quite surprising in light of the fact that it has few natural resources and little land for its people. Instead, Japan competes globally by having a well-educated and highly trained workforce accompanied by a well-developed physical infrastructure. In essence, Japan has been able to offset its disadvantage in natural resources by investing in the productivity of its population.

Central to developing a quality workforce are efforts to provide a region’s children with a good basic education (frequently thought to include such diverse skills as reading, writing, speaking, mathematics, and problems solving). While not all children coming through an area’s public school system will remain to enter the workforce after graduation, enough will stay so that creating an effective school system has the ability to shape the future quality of its workforce.

[18] Fortunately for Hampton Roads, in recent years the region’s population response to an increase in employment has not been large so that the addition of new, high-paying jobs has, in fact, produced increases in both the average wage and per capita income.

A further benefit to be gained from creating good schools is that quality firms paying above average wages are drawn to locations where they can access a plentiful supply of educated and trained workers and where they can enroll their children in schools which will prepare them for later life.

The importance of good schools to the economy is largely derived from the fact that education facilitates the later acquisition of job skills. A well-educated workforce is able to learn new skills and do new tasks more readily. In addition, a well-educated workforce has a greater ability to adjust to changing economic conditions as old industries go into decline and new ones emerge. Finally, the interaction of educated workers can multiply the benefits of education several times over when well-educated and highly-trained workers interact since they can create more economic value working together than working alone. In general, investments in education, especially in large urban centers, can be expected to produce above average rates of economic growth and rising wages.

Research over the years has found that education correlates with productivity at the regional level. More specifically, productivity and the growth in productivity has been found to be higher in better-educated communities. As a result, per capita income is higher and grows faster in those communities where educational levels are above average.[19]

The relationship between the level of educational attainment and the level of per capita income is shown in Figure 6. As can be seen, the higher an MSA's level of educational attainment, in this case, the percent of the adult population holding a bachelor's degree, the higher its per capita income. The change in MSA educational levels and the change in per capita income are shown in Figure 7. As can be seen in the figure, the greater the increase in educational attainment, in this case, the change in the percent of adults with a bachelor's degree, the greater the percent change in per capita income.

Finally, work done at the Center for Regional Economic Issues at Case Western Reserve University documented the linkage between education and productivity/incomes. In a study using Census data on the nation's 75 largest metropolitan areas, regions were sorted into categories depending upon the proportion of their adults holding a bachelor's degree or higher. The educational range within these communities was large with the most-educated urban area having twice as many college degrees as the least-educated communities. It was further determined that the ten communities with the highest proportion of college graduates in 1980 increased their per capita income at 1.8 percent per year as compared to an increase of 0.8 percent for the ten communities with the

[19] According to students of the link between education and income, each additional year of schooling brings with it a 5-10 percent increase in earnings (Bok 1996).

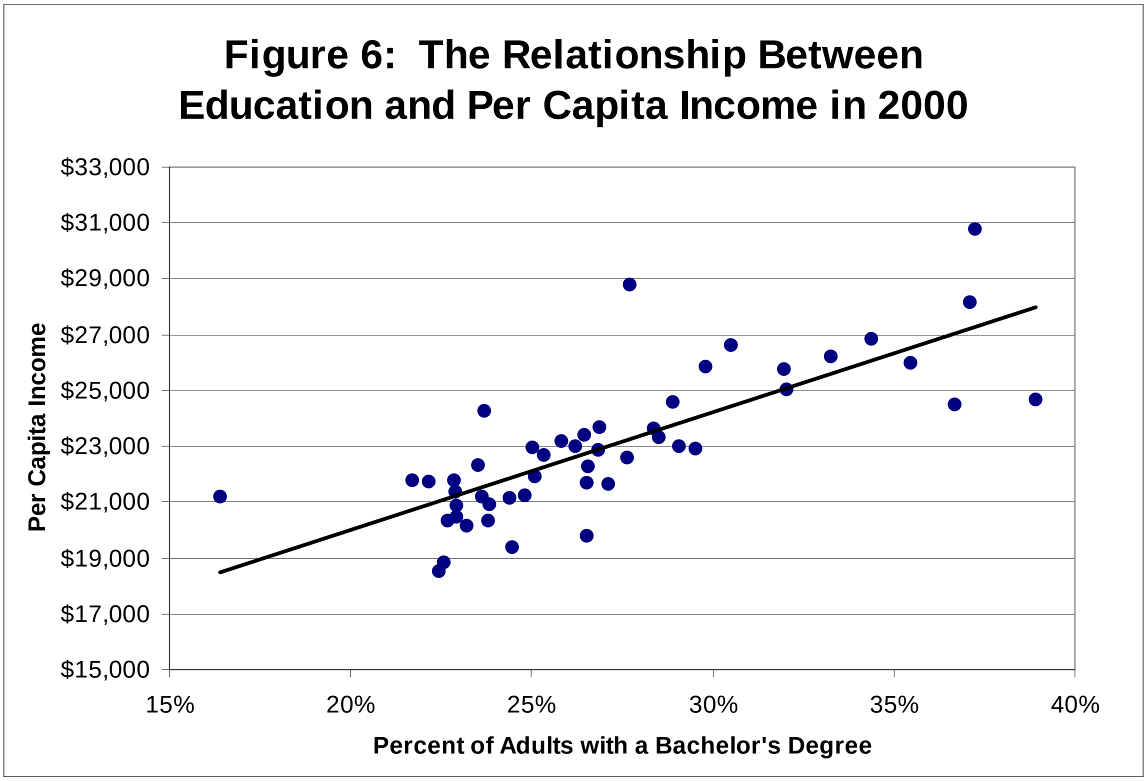


Figure 6: The Relationship Between Education and Per Capita Income in 2000
$33,000
$31,000
$29,000
$27,000
$25,000
$23,000
$21,000
$19,000
$17,000
$15,000
Per Capita Income
15%
20%
25%
30%
35%
40%
Percent of Adults with a Bachelor's Degree

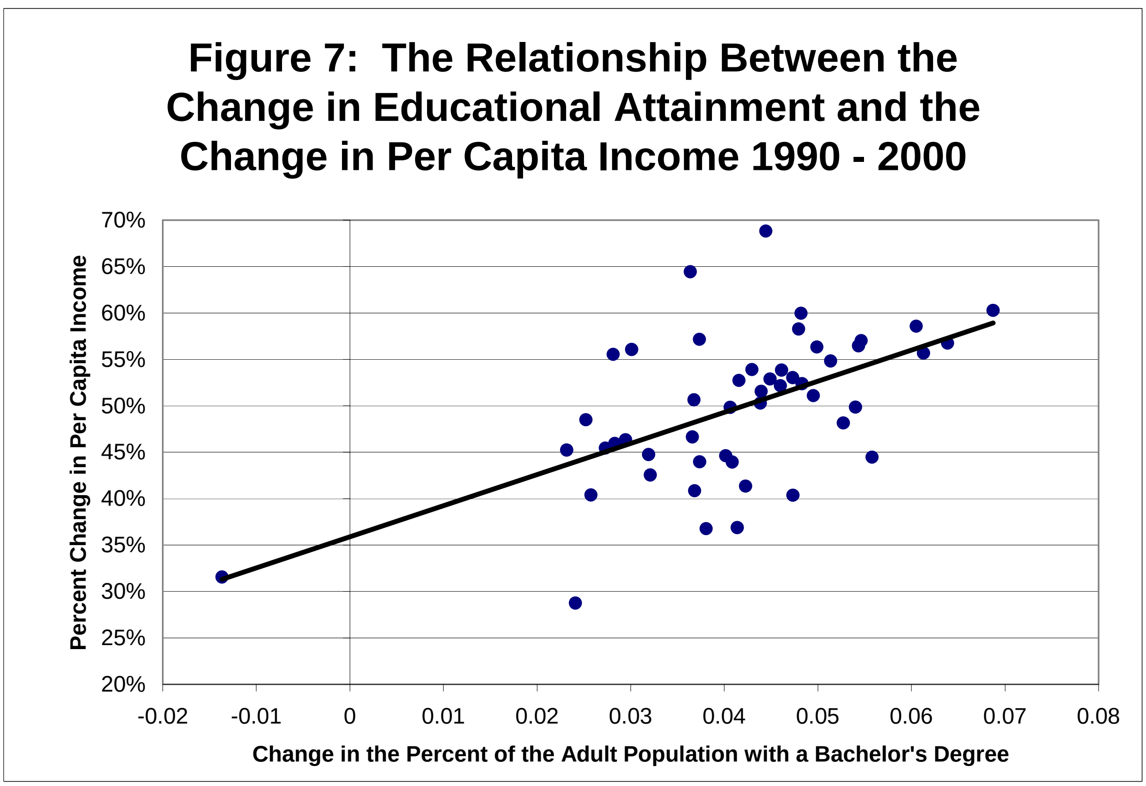


Figure 7: The Relationship Between the Change in Educational Attainment and the Change in Per Capita Income 1990 - 2000
70%
65%
60%
55%
50%
45%
40%
35%
30%
25%
20%
Percent Change in Per Capita Income
-0.02
-0.01
0
0.01
0.02
0.03
0.04
0.05
0.06
0.07
0.08
Change in the Percent of the Adult Population with a Bachelor's Degree

lowest proportion of college graduates.[20] The explanation for the faster rate of income growth among the better educated communities was that a more educated workforce increased productivity which is directly related to income.[21] Finally, because some of the metro regions studied were able to improve their level of educational attainment in less than a single generation, it appears that boosting educational attainment is an appropriate objective for metropolitan areas – even those with a short to intermediate-term time horizon (Gottlieb 1999).[22]

Principle 2: A Quality Educational System is Critical to Creating a Skilled Labor Force

The bedrock of a community's labor supply is its educational system. However, the impact of education upon a community's supply of labor is tempered by the fact that some children coming from a community's educational system will go elsewhere to work while others will migrate into the community who were educated in other locations. As a result, a community is not entirely "in control" of its labor supply through its local school system. This is especially true of communities which are growing rapidly. However, enough of the children educated locally will remain in the community so that the quality of the local school system will impact on the quality of its workforce.

Unfortunately, while some Hampton Roads employers praise the area's workforce for its overall quality, especially its work ethic, others have been disappointed by the level of academic skills acquired in area schools. They voice concern about the quality of the graduates from area high schools which they employ since they find that many cannot read well, write coherently, and do low-level math computations including making change at a cash register. Others complain that their new hires lack good work habits including loyalty to their employer, arriving on time for work, and attendance (ODU 2000).

Also troubling are area test scores. Results from standardized tests such as the Commonwealth's Standards of Learning (SOL) and the Scholastic Aptitude Test (SAT) tend to confirm the assessment made by area employers.[23]

[20] The average proportion of the adult population for the well educated regions was 34.9 percent in 1998 as compared to an average of just 16.3 percent in the less educated regions (Gottlieb 1999).

[21] One estimate using time series data estimated that an additional year of educational attainment would increase U.S. factor productivity by 3.2 percent (Gottlieb 1999).

[22] Some have argued to that enhancing a region's educational attainment is a long-run strategy and therefore not appropriate for a regional plan of action.

[23] Findings regarding the quality of the educational "product" coming from school systems is at odds with the appraisal made by parents. In national surveys, parents typically give their local school system good marks. However, their assessment, while somewhat comforting, has only limited value since parents frequently lack information about the performance of their children as compared to children in other parts of the nation, and indeed, the world. It seems that standardized tests, making special reference to the performance of children in other nations of the developed world are a better indication of the quality of local school systems.

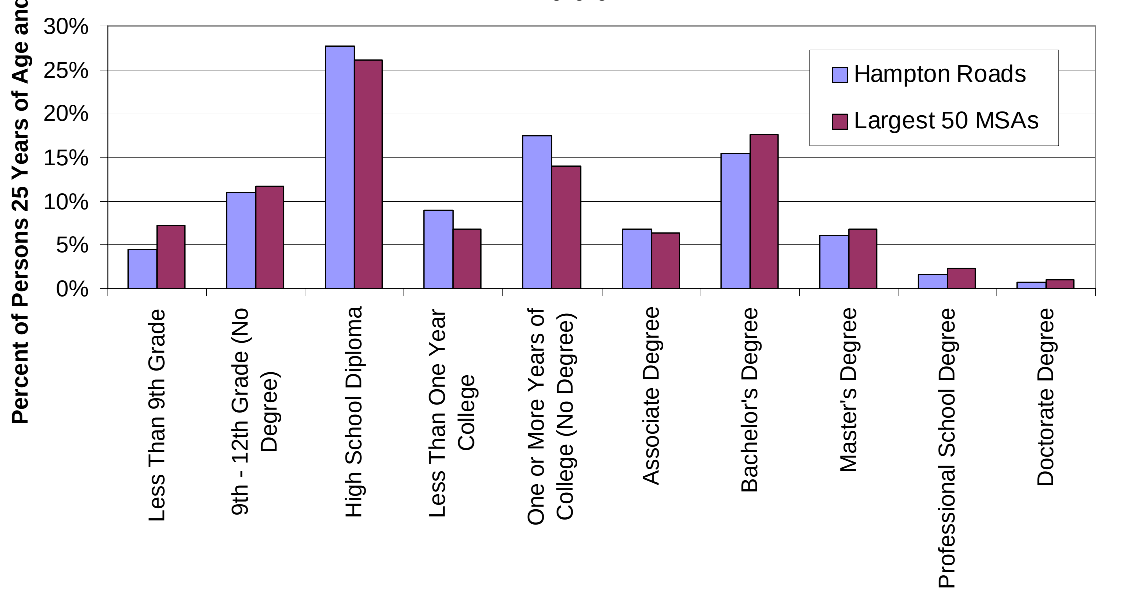
In Hampton Roads the percentile rankings on the SOL exams are generally low with many communities coming in below statewide average. The same is true of SAT scores, which generally are below the state and national averages. Indeed in 1999, none of the seven cities in Hampton Roads had average SAT scores which equaled or exceeded the Virginia and U.S. averages. These findings suggest that area high school graduates are bringing to the local labor market academical skills that are below the expectation of area employers (ODU 2000).

Principle 3: The Supply of College and University Graduates is Critical to the Success of Regional Economies

The world of work is becoming increasingly complex. Jobs require that workers have a good understanding of a rapidly changing array of subjects. In many cases, only those possessing a bachelor's degree or higher have the skills needed for the modern workplace. This is especially true of industries relying heavily on science and engineering technologies.

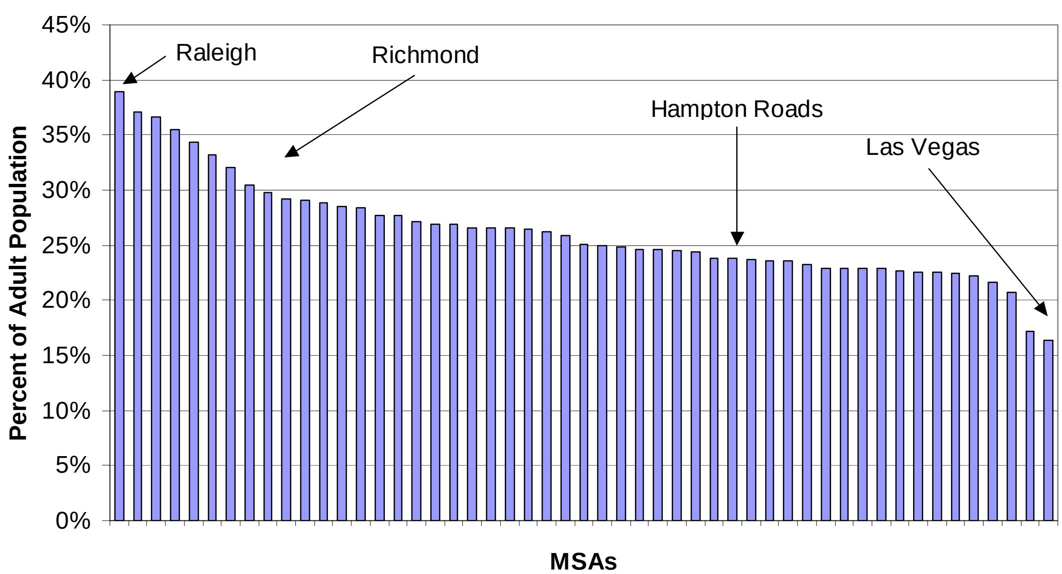
Unfortunately, Hampton Roads is underrepresented in persons with college and graduate school degrees as can be seen in Figure 8 which compares educational attainment in Hampton Roads against the comparable average

Figure 8: Educational Attainment in Hampton Roads as Compared to the Largest 50 MSAs 2000



attainment levels found in the nation's fifty largest MSAs. As can be seen in the figure, Hampton Roads has a disproportionately small representation in Bachelor's, Master's, Professional, and Doctorate Degrees. The ranking of Hampton Roads among the fifty largest MSAs in higher education are shown in Figure 9. Furthermore, there is little to suggest that this situation is changing since comparisons between the 1990 and 2000 Censuses indicate that Hampton Roads is growing its Bachelor's Degree population slower than the average of the fifty largest MSAs as can be seen in Figure 10. By contrast, Hampton Roads is increasing the number of its graduate degree holders at a pace exceeding the rate for the fifty largest MSAs.

Figure 9: Percent of Adult Population with a Bachelor's Degree or Higher in the Fifty Largest MSAs in 2000

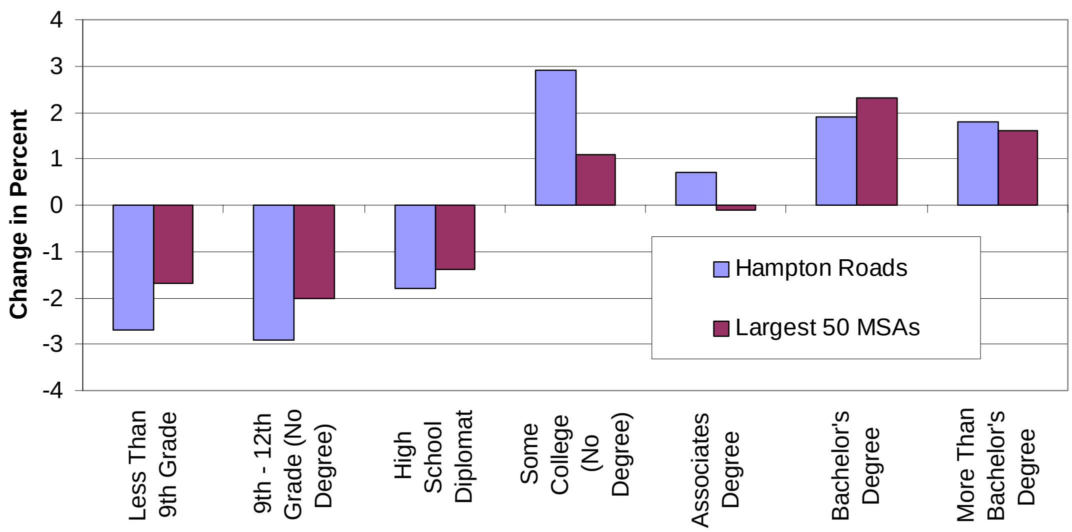


Principle 4: Education is Becoming More Important to National and Regional Economies

The importance of education appears to be increasing with the passage of time. This has been particularly true since 1980 as the ratio of wages paid to college graduates has increased relative to those paid to high school graduates.

Two explanations are commonly offered to explain this trend to relatively higher wages for more educated workers. The first has to do with the global nature of the economy. This view holds that because the world has a far lower percentage of educated workers than does the U.S., the opening of trade has made educated American workers worth more. A second argument is that technical changes over the last several decades have made educated workers relatively more productive than their less-educated peers. More specifically, the introduction of computers into the workplace has enhanced the productivity of better educated workers – many of whom use computers as a part of their work. New technologies have had little effect on the output of less-educated workers, especially those in the service industries, and in some cases has eliminated their jobs (Weil, 2005).

Figure 10: Change in Educational Attainment: Percent of Adults by Educational Level in 2000 Minus Percent of Adults by Educational Level in 1990



America may soon lose its special status as an educationed nation since the world is rapidly increasing its average level of educational attainment. This may ultimately cause the relatively well educated American worker to become less highly prized in the global market with the passage of time. In short, other nations of the world are overtaking the U.S. by most measures of educational attainment.

The statistics on the increase in educational attainment in other parts of the world are striking and illustrate how the U.S. is losing its educational lead. For example, over the period from 1960 to 2000, the average number of years in school increased by 3.1 years in the developing nations of the world while the increase in the developed nation was 2.7 years. Given the initially low levels of educational attainment in the developing nations, it is not surprising that their percent increase in educational attainment was far greater than that for the advanced nations[24] (Weil, 2005).

Most impressive of all was the sevenfold increase in the share of the population in developing nations with a college education between 1960 and 2000. In essence, American college graduates are losing their special status in the world as colleges and universities in other countries pour out graduates in rapidly increasing numbers. In 2005 alone, for example, according to a recent issue of *Fortune,* China will produce 3.3 million college graduates while India will graduate nearly as many (3.1 million). This compares to 1.3 million graduates projected for American college and universities.

The differences in the number of engineers being graduated is even more startling. China and India will graduate 600,000 and 350,000 engineers in 2005, respectively, as compared to 70,000 in the U.S. Part of the disparity in the number of graduates can be attributed to the fact that foreign students are increasingly preferring to attend colleges and universities at home rather than coming to the U.S. since the quality of foreign institutions has increased dramatically in recent years.

The decline in the value of American college graduates will eventually impact on every major MSA in the nation including Hampton Roads. All across the spectrum of jobs, workers in Hampton Roads will feel the effect of foreign competition in what is becoming a global labor market.

ENTREPRENEURSHIP

Principle 1: Entrepreneurship is Critically Important to Regional Economic Development Efforts

Entrepreneurs have been called the lifeblood of the American economy since new, small firms which they create have frequently determined the future direction of growth for the nation's economy. Many economists, at one time or other, have stressed the key role of the entrepreneur in the economy. They point out that entrepreneurial firms have contributed to the growth of regional, state, and national economies by (1) developing innovative products and services, (2) creating new, fast growing firms, (3) generating employment opportunities, and (4) creating wealth.

Various studies have documented the role of entrepreneurial activity in regional economies. Storey and Johnson (1987), for example, attributed regional differences in the birth rate of new firms to differences in the presence of

[24] Some question whether or not improving the educational performance of the nation's K-12 population will help the U.S. to compete globally since, even if young Americans can improve on standardized tests, they still will be uncompetitive with students elsewhere since the wages which they will accept are lower than wages being paid in the U.S.

entrepreneurs. Booth (1986) attributed long waves of regional decline to the absence of entrepreneurs.

Part 4 in this series outlined much of what is known about entrepreneurial activity in Hampton Roads. That report concluded that entrepreneurs, along with their close cousin the small business sector, contribute importantly to the regional economy although a search of the recent research literature on the topic finds that large firms and gazelles (rapidly growing firms of any size) also contribute importantly to economic growth – more so than earlier reported by the nation's research community. In addition, the report used a combination of indirect methods to measure the degree of entrepreneurial activity in the region. That assessment showed that Hampton Roads is under represented in entrepreneurial activity, especially when compared to other metro areas of similar size. This under representation was explained by a variety of factors. These included the presence of an undersized private sector, a mix of sectors that grow slowly and have a history of limited entrepreneurial activity, limited regional wealth from which to fund new enterprises, and the role of area business operations within the larger framework of national and multinational firms giving Hampton Roads the appearance of a "branch plant" economy.

The region needs to boost the rate at which it generates new firms as well as the rate of growth of its existing firms so as to produce more regional "gazelles". This will have the effect of raising area incomes and regional economic growth rates.

Principle 2: The Presence of Venture Capital Plays an Important Role in Fostering the Development of Entrepreneurial Activity in Regions but Alone is Not Sufficient to "Jump Start" that Activity in the Absence of Supporting Resources

In general, financial capital is the most mobile factor of production. Money literally moves at the speed of electrons across the nation and around the world seeking out the best investment opportunities. In fact, differences of a fraction of a percentage point in interest can trigger massive movements of money across nations and around the globe. As a result, capital is available on roughly equal terms in all regions. However, this availability of money is often not true for small firms looking for funding for unique projects since, for small business concerns, the sources of financing tend to be local.

At present, venture capital, one of the most important sources of capital for new, small firms is extremely concentrated geographically. Important centers of venture capital activity are in Silicon Valley, New York City, Route 128 around Boston, Chicago, and the states of Texas, Connecticut, Minnesota, and Colorado. Venture capital is far less available in other areas of the country (Florida 1992).

Many interested in promoting local economies have become enamored with providing venture capital as a mechanism to stimulate local entrepreneurial activity. Venture capital is frequently seen as the key ingredient in boosting a region to the next level of new business startups (Florida 1992).

In spite of this enthusiasm, venture capital should not be viewed as a panacea for a region's economic ills since its impact on area economic development is context sensitive. Adding to preexisting levels of venture capital will only be helpful in a limited number of cases where the other factors important to entrepreneurship are already in place. Making additional venture capital available will only be helpful in those locations where there is already an abundant supply of the other entrepreneurial inputs and where venture capital funding is not sufficiently available. The number of such regions is more than likely small since capital is highly mobile, as indicated above, and will flow to those locations with the most attractive investments (Florida 1992).

Public officials and other regional leaders need to recognize that enhancing the supply of venture capital without simultaneously addressing the other elements required for the creation of new firms will not succeed. Using venture capital as a "quick fix" without working to bolster the basic and underlying economic and technical capacities of an area is short-sighted and could lead to creating the wrong mix of community economic development assets (Florida 1992).

RESEARCH AND DEVELOPMENT

Principle 1: Research and Development Efforts are Vital to Regional Economic Health

Regional productivity can be enhanced through research done by area companies, federal labs, and at local colleges and universities, the majority of which is privately funded.

Unfortunately, the amount of research done in Hampton Roads is limited, especially for an urban area of 1.6 million residents. The region not only has a limited number of company-run research operations but the amount of publicly supported research is also below average for a large urban center (see Part 4 in this series).[25]

While the amount of local research is limited, the picture is brighter at the state level. Virginia has historically ranked between 12th and 14th among the states in the total amount of research being conducted according to the National

[25] In 2001 research and development at three major research institutions in Hampton Roads were the College of William and Mary, $35.8 million (158th nationally); EVMS, $26.3 million (183rd nationally); and Old Dominion University, $24.7 million (186th nationally). Combined, the three would rank 114th nationally (LaVista 2005).

Science Foundation (NSF). However, the picture for academic research is somewhat different. Virginia does not have a high ranking in college and university research, in part because of limited state support. As a result, none of Virginia's colleges and universities is on the list of the top 50 research institutions in the nation.[26] According to NSF figures, the two highest ranking Virginia institutions were Virginia Tech (52nd) and the University of Virginia (69th). Virginia ranks 37th in the nation for university research expressed on a dollars per capita basis. Increasing the state's ranking in college and university research will require enhancing research efforts in the areas funded by the three federal agencies which supply the majority of the nation's federal research dollars. Those federal agencies are the National Institute of Health, the National Science Foundation, and the Department of Defense (LaVista 2005).

Increasing the funding for academic research in the Commonwealth and locally in Hampton Roads will not be easy. Governor Warner has established a goal of increasing funding for research so as to boost three of the state's academic institutions into the ranks of the nation's top 50 research universities by 2010. This goal, while laudable, will be difficult to achieve in light of the large investment that would be required (especially given the state's history of underfunding its colleges and universities). Persuading members of the General Assembly to increase academic funding in Virginia will be especially difficult given that the state would not reap significant economic development benefits for some time, although eventually the return on this public investment would likely to be substantial (ODU 2003).

In Hampton Roads, Old Dominion University and the College of William and Mary have been under funded for some time and their low ranking in academic research reflects that. Members of the area's legislative delegation need to place academic funding near the top of their list of priorities so that the region can benefit from the many advantages that research can provide (ODU 2003).

DIVERSIFICATION

Principle 1: Hampton Roads is Close to the Ideal Level of Regional Economic Diversification

Hampton Roads has long needed to diversify its economy since the federal government and especially the military have played a dominant role in the area's economic activity. This has subjected the region to adverse impacts when defense spending has declined and when large numbers of the community's military have been deployed. The impact of defense cuts was particularly evident

[26] In 2003 Old Dominion University found that all of the region's institutions of higher education would together generate approximately $100 million in research as compared to $750 million in the Research Triangle of North Carolina (Duke, North Carolina State University, and the University of North Carolina).

in the regional economy during the builddown of the 1990s when some sixty thousand direct jobs were lost due to defense cuts.[27] That led to the loss of another thrity thousand indirect or “spin off” jobs giving the region a total loss of well over ninety thousand jobs, directly and indirectly traceable to the reduction of defense outlays in the region.

While the region has from time to time experienced difficulties as a result of its heavy dependence on the military, there have been other times when the region has benefited from the presence of local Department of Defense (DoD) expenditures. The chief benefit has been that DoD expenditures have tended to be countercyclical to private sector spending which tracts the national business cycle. This has had a “calming” effect on the regional economy and has caused Hampton Roads to have a more stable economy than do the majority of the nation’s other MSAs. In fact, work done at HRPDC suggests that the regional economy is more stable than approximately ninety percent of the nation’s metropolitan regions.[28]

However, continuing this process of diversification will lead to a reduction in the role of the defense cycle in the regional economy leaving it subject to the full effects of the national business cycle. In other words, in the past, the defense cycle has frequently offset the national business cycle so that the regional business cycle was “tamed” or made less volatile. However, continuing to diversify the regional economy away from its defense dependence will weaken the impact of the defense cycle leaving the area increasingly sensitive to the vicissitudes of the national business cycle. As a result, Hampton Roads will become more like other MSAs in terms of the severity of its local business cycle.

In essence, the region benefits from being dependent on defense outlays during those times when the U.S. economy is experiencing slow growth or is contracting while it suffers a variety of adverse impacts during times of defense downsizing and military deployments. The region is currently in the “sweet spot” benefiting from the defense segments of its economy while not being overwhelmed by it.

QUALITY OF LIFE

Principle 1: Quality of Life is Gaining Importance Among the Factors that Determine Regional Economic Growth

[27] These jobs included those held by military personnel, federal civilians on military bases, and workers in shipbuilding.

[28] Two procedures were used to make this assessment. The first measured the standard deviations in the year over year percent changes in MSA employment over a thirty year period for each of the nation’s metropolitan areas. The second used the coefficient of variation for annual percent changes in employment. Both measurements show less variation in year over year changes in employment in Hampton Roads than in the majority of the nation’s other MSAs.

Increasingly, economic development officials and researchers are finding that a region's quality of life makes a difference in its economic outcomes. Both companies and people are attracted to regions with a desirable quality of life.

A region's quality of life is determined by its mix of amenities (those factors that enhance the pleasure and satisfaction of living and working in an area). Unfortunately, there has been little agreement as to what those amenities are. Furthermore, asking local residents to rate a community's quality of life will most commonly elicit a positive response since those who value an area's quality of life have remained in the region while those for whom the quality of life was judged to be poor, relative to the wages paid, have migrated to other more desirable locales. In spite of these difficulties in assessing a community's quality of life, there has still emerged a rough consensus about the factors determining a community's quality of life. At the very least, those factors include the climate, the presence of museums and recreational facilities, the scenic quality of its natural environment, housing quality and prices, air and water quality, the availability of good public education, the presence of universities, traffic conditions, and the local cost of living. Each of these and more help to explain why area residents rate a community as having a good or poor quality of life.

Because of its importance to a region's economic prospects for growth and overall economic well-being, efforts have been made to assess an area's quality of life.[29] One of those efforts has been to use differences in area wages to determine the value of a community's quality of life. Those areas with desirable environments will attract labor which drives down wages relative to the national average. Conversely, those areas with degraded environments will need to pay above average wages in order to attract and retain labor. In other words, below average wages tend to suggest above average environmental amenities (the environmental amenities compensate for the below average wages) while above average wages suggest below average environmental quality (above average wages are required to offset undesirable aspects of local living conditions). The difference between the local wage and the national wage created by differences in living conditions has been referred to as a "compensating differential."

AGING POPULATION

Principle 1: Successful Regions will Find Ways to Accommodate their Aging Populations

America's population is aging rapidly as its Baby Boomers near retirement. This will create an enormous challenge for the nation since the members of that generation have fueled the country's economic growth for many

[29] A region's quality of life is generally felt to reflect wages, the cost of living, and the desirability of the human, cultural, and natural environment. The first two, when taken together, constitute the purchasing power of wages.

years. As the boomers retire, the nation will need to replace them with new entrants to the workforce, increase the productivity of the remaining workers, or both. A further difficulty for the economy will be the drain on the federal treasury created by the need to provide federal entitlement payments (Social Security, Medicare, and Medicaid payments) to the newly-retired workers.

Communities will also face their share of difficulties set in motion by the aging of their populations. They will need to provide the kinds of housing desired by their elderly populations including housing on one floor, doors which will accommodate wheel chairs, step-in showers, bathroom hand rails, along with amenities favored by active adults such as walking and biking paths, golf courses, swimming pools, etc. They will also need to create programs and facilities for their aging populations including recreation centers specialized in meeting the needs of the elderly, medical facilities, and transportation and home health care services. All of these will add to the array of public services which communities will be required to provide. The social services provided by private organizations like the United Way will also be in high demand.

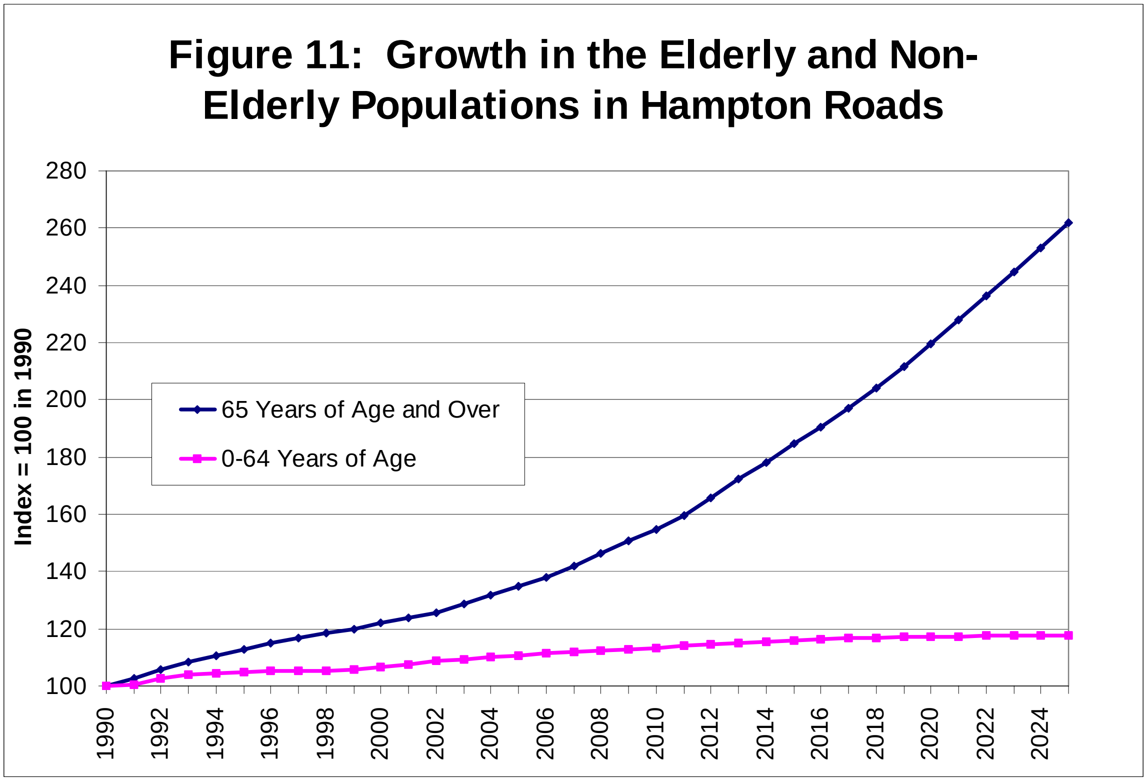
Hampton Roads will soon feel the full impact of the growth in its elderly population. Over the past several decades, the region's population has aged faster than the national population. This above average rate of community aging (expressed through the average age of the population) has been brought on by the decline in the number of military personnel in the region (largely young persons) along with the in-migration of retirees from other locations north and west of Hampton Roads.

The projected growth in the region's elderly population is shown in Figure 11**.** The region needs to begin planning now for the onset of the issues which the retirement of the baby boom generation will produce.

CONSOLIDATING PUBLIC SERVICES

Principle 1: Consolidating Public Services can Reduce the Cost of Local Government and Increase Regional Competitiveness

A region's competitiveness is enhanced when it is able to provide public services at lower costs per capita. One method commonly used to make local governments more efficient is to consolidate public services so that economies of scale and scope can be achieved. The consolidation of services is potentially a bigger issue in Virginia than elsewhere since the state has a system of independent cities and counties as opposed to having cities nested within larger counties as occurs in most other states. Virginia communities can only achieve the economies available in other parts of the nation, where counties take on multi-jurisdictional functions, by agreeing to provide services jointly.



The cost of providing local government services is generally considered to be U-shaped meaning that unit costs decline with an increase in community size and then later increase with community size as inefficiencies or diseconomies of scale develop. The point at which minimum costs are achieved is the optimum economic size for the delivery of services. Since there is a different cost curve for each public service, minimum costs do not all occur at the same community size for all public services. In other words, no community size has been identified as the point of lowest cost for providing all local government services. In general, the dozens of studies done on the relationship between service delivery costs and jurisdiction size have found that large scale economies exist in providing water and sewer services, sanitation, highways and transit while few scale economies occur in providing schools, police and fire protection, and parks (Sullivan 1990).

Local governments are generally aware of the efficiencies that can be achieved by combining service functions to gain efficiencies and have acted to capture those cost savings. For example, a study done in the mid-1980s found that over half of all U.S. cities used some form of joint-service delivery system to serve the public.[30] In order to maintain its competitiveness, Hampton Roads

[30] Another way to achieve economies in providing public services without going through consolidation is for one jurisdiction (usually a smaller one) to contract with another jurisdiction (usually a larger one) for the provision of a public service. Over half of all U.S. cities use this intergovernmental contracting arrangement to acquire public services (Sullivan 1990).

needs to consolidate public services whenever economies of scale can be achieved (Sullivan 1990).

RECOMMENDED PRIORITIES

The above selected principles along with the results from interviews done with area officials and business leaders suggest that the region needs to consider making the following priorities a part of its economic development agenda.

ECONOMIC DEVELOPMENT STRATEGIES

<u>Hampton Roads needs to husband its regional economic development resources in a way that maximizes their use</u>. Not surprisingly, regional funding for economic development is in short supply and must be employed to its best advantage.

As the region continues to craft policies and programs for economic development, it should adhere to two fundamental principles. The first is that "can't lose" economic development strategies offer the region the opportunity to use its limited resources in such a way as to ensure that the regional economy will benefit from efforts to develop the Hampton Roads economy – irrespective of whether or not its economic development objectives are achieved. Can't-lose strategies were discussed above as a guiding principle.

The second is that the region, when designing its economic development policies, needs to focus on the "big stuff" or those things which can have a positive systemic effect on the economy. In general, the region needs to avoid focusing on efforts that will have a relatively small impact on the economy overall.

A corollary to the principle of focusing on the big stuff must be that some strategies may have only minor impacts on the economy but they still may have merit. Those are strategies that will produce small results when compared to the size of the economy overall but which will generate impacts that are likely to greatly exceed the cost of implementation.

PRODUCTIVITY

<u>Enhancing regional productivity should be the first priority in the region's efforts to strengthen its economy</u>. Productivity is one of those strategies that meets the "can't lose" and "big stuff" tests of regional economic development. Increasing productivity will lead to higher regional profits which will help in the attraction and retention of business firms. Furthermore, regional wages are likely to rise since employers with their enhanced productivity will have greater profits

from which to pay higher wages. In addition, the region's workers will be worth more to employers because they can produce more. In short, the region will experience higher wages from greater productivity irrespective of economic development outcomes.

A strategy designed to increase productivity also passes the big stuff test in that no other strategy has the potential to create more benefits for the regional economy than do efforts to increase regional productivity. If the region "gets it right" on productivity, the battle to create a more prosperous region will have been won.

TRANSPORTATION

There are a variety of strategies that can be pursued which will create an increase in regional productivity. The most important method that can be used to enhance regional productivity is to invest in transportation facilities and K-12 education. Of those, investments in transportation are likely to produce the more certain benefits since the investment in children may fail to pay large dividends if those who are educated leave the area. By contrast, new highways will produce annual benefits to the economy as long as they carry traffic. In essence, children can leave while highways cannot. In fact, it's fair to say that the economic benefits to be derived from improving the region's transportation system are so great as to make it the "silver bullet" of regional economic development.

Improving the region's transportation infrastructure will produce multiple benefits. Certainly important is that two of the region's most basic industries, maritime services or the port and tourism, will be encouraged to grow, since each will be more accessible to its "customers". In the case of the port, shippers will be better able to move their goods through the harbor. Without improved access to the port, the growth in the area's maritime operations, which has been strong for many years, may stop. In fact, other competitor ports will likely gain at the expense of the port in Hampton Roads. In a similar fashion, the area's tourism industry will not be able to continue its growth if the nation's travelers are unable to access the region's tourist attractions.

Equally important is that improving the region's transportation facilities will also enhance its productivity. Productivity can be expected to increase because area firms will be able to receive inputs from suppliers and ship outputs to customers at less expense enabling them to produce more at lower costs.

Finally, special attention should be given to the region's need for an alternate crossing of the Hampton Roads harbor. Currently, the harbor represents a formidable barrier to the interaction of the two sides of the region (South Hampton Roads and the Peninsula). In fact, the area's two sub regional labor markets are already semi-independent because of the difficulty residents have in accessing jobs across the harbor. Data from the 2000 Census show that only 4.2 percent of South Hampton Roads residents commute to the Peninsula and only 9.7 percent of Peninsula residents commute across the harbor to South Hampton Roads. Stated differently, only 5.8 percent of all the region's residents commute cross the harbor.[31] This clearly indicates that the harbor is a formidable barrier to commuters.

Not only has the harbor been an effective barrier to the movement of workers, but it has also been an effective barrier to intraregional commerce. According to the Commission's REMI model, South Hampton Roads gets only 4.7 percent of its imported goods and services from the Peninsula while the Peninsula gets 9.5 percent of its imports from South Hampton Roads. In total, only 6.1 percent of the region's imports come from across the harbor.

The statistics on both commuting and commerce illustrate dramatically just how effective the harbor is as a barrier to regional interaction. Without constructing additional highway capacity across the harbor to allow for the freer exchange of people, services, and goods, interaction across the harbor as a percent of the area's economic activity will decline in future years. Any decline in regional interaction threatens to cause the area to function once again as two separate economies as was the case many years ago prior to the construction of the Hampton Roads Bridge Tunnel when travel between the two sides of the region was by ferry or by going around the harbor. Without better access between the two sides of the region, the very existence of Hampton Roads as a single regional economy as opposed to two distinctly different and separate economies is a stake.

ECONOMIC CLUSTERS

Successful regions are increasingly attempting to develop economic clusters[32] While few studies have been done to assess the success of regional and statewide efforts to promote clusters, there is evidence as to the existence of clusters and the role which they play in area economies. Hampton Roads should promote its existing and emerging clusters so as to ensure continued growth and prosperity in the region.

As a part of this analytical effort, work was conducted to find clusters which might be successfully promoted in Hampton Roads. A total of ten clusters were identified. Those clusters, described in Part 2 of this series, were motor vehicles and parts, ship and boat building, electrical equipment manufacturing, tourism, port and distribution functions, senior industries, information technology, technical services, modeling and simulation, and sensors manufacturing.

[31] This percentage is up from 4.0 percent in the 1990 Census.
[32] Clusters are generally defined to be geographical concentrations of industries that have co-located in order to gain performance advantages or efficiencies.

Of the ten which were identified, four offer opportunities of special note. The first of these opportunity areas is tourism and conventions. Tourism offers the region an attractive opportunity since the region is already a travel destination of national importance so that continuing to grow the cluster should be relatively easy. In addition, the nation's expenditures on travel are expected to increase significantly over the next several decades as the baby boomers enter their retirement years when they will devote a growing share of their spending to recreational travel. While some critics of the cluster have voiced concern about the level of wages paid by cluster businesses, it should be observed that those same businesses provide employment opportunities to many who might not otherwise have them (young people and people with little experience and limited job skills).

A second cluster of importance to the region is its port and distribution businesses. Economic activity at the port grows significantly each year and the wages paid in the cluster are generally at or above the regional average. Given the many problems, which have been noted, at competitor ports, there appears to be an opportunity to grow the region's port businesses at above average rates for decades to come.

A third opportunity appears to lie in the region's senior industries cluster. Senior industries is a term that has been used in other parts of the country to describe those businesses that provide housing and services to retirees – especially those having above average incomes. States and communities promoting the seniors cluster have typically benefited from the spending of their affluent retirees. Furthermore, state and local governments have enjoyed the tax revenues, which seniors generate without having to spend for additional public services such as for schools.

Hampton Roads is already attracting affluent seniors in significant numbers from areas to the north even though the cluster has not been promoted in a systematic fashion. A limited effort to expand the cluster is likely to produce positive outcomes since the flow of seniors to the region (chiefly to the Peninsula so far) is a clear indication that Hampton Roads is a desirable location for retired persons with considerable financial resources.

A final opportunity is offered by the modeling and simulation cluster. The region is already host to many defense contractors, which provide modeling, and simulation services to the Defense Department. Building on the successes already experienced by the region should produce good future results. The region can benefit from the high wages paid by businesses in the cluster.

AGING WORKFORCE

A large number of workers will soon exit the region's workforce as the baby boomers retire. The region must begin now to develop plans as to how it will retain these aging workers and how it can attract new entrants into the labor force.

A further problem is that the region's per capita income will suffer as the boomers retire since the area will have fewer workers supporting its population. Unless gains in productivity along with higher wages offset the loss of workers, the total earnings paid to the region's population will decline with a consequent reduction in earnings per person.

Those regions which find replacements for their baby boomers and deal with a slowdown in the growth of or actual decline in the labor force participation ratio (labor force divided by the adult population) will prosper while those that can not will likely experience a decline in their economic growth relative to other metropolitan areas. The "trick" in future years may not be to create new jobs but to simply fill the jobs we already have as the boomers retire.

GENERAL EDUCATION

Incomes and wages in Hampton Roads are and have been for some time below the national average. One way to raise incomes and wages is to better educate the population. Statistics on incomes and wages have consistently shown that higher levels of educational attainment are associated with higher wages and incomes.[33]

Not only do individuals benefit from higher levels of educational attainment, but the communities in which they live benefit as well. In today's knowledge-based economy, if communities are to prosper, they must develop their human resources through education and workforce training.

In order for Hampton Roads to succeed over the next several decades in an increasingly competitive global economy, it must elevate the overall level of the educational attainment of its population. The acquisition of knowledge must be accepted as a lifelong process by the region's population and not just the focus of the K-12 experience since acquiring knowledge can improve one's standard of living, quality of life, and job prospects. The regional economy will respond to an enhanced level of educational attainment by growing more quickly and providing more desirable jobs paying good wages.

Improving the level of educational attainment of the population must begin with the creation of a culture of learning in the region. Without this culture, educational outcomes will be less than desired – irrespective of the level of resources committed to education. Only when the overwhelming majority of area

[33] Employers pay higher wages to persons with more education because they are more productive and because they typically hold jobs which place them in positions which enable them to influence organizational outcomes.

residents see the acquisition of information and knowledge as important to their economic future will a culture of learning exist.

Further supporting the educational process in Hampton Roads is the need to invest in early childhood development. A growing body of research has shown that what children experience before their enter school significantly impacts on their ability to perform academically and later to become healthy, productive adults. Where those early experiences are "impoverished," numerous experiments have shown that intervention programs can lead to better educational outcomes later in life. These programs can include such things as providing prenatal care along with quality preschools. Further, when these programs are targeted at children who were born prematurely or come from disadvantaged families, the cost of intervention programs will be more than offset by later savings in such things as health care, remedial education, criminal justice, and poverty and social assistance programs.[34] In essence the region needs to begin to regard the educational process as beginning at birth – not simply when children first enter school.

Improvements can also be made to the area's school systems. Unfortunately, several of the school systems in Hampton Roads under perform so that the majority of their students score below state and national averages on standardized tests and on various performance measures such as graduation rates. Part of the explanation for these outcomes results from the state's failure to fully fund the Standards of Quality which state law requires.[35] Large differences in educational spending across the political jurisdictions of Hampton Roads further complicates efforts to elevate the level of educational attainment of the population and adds to the perception of some employers that the region's educational system is barely adequate to meet their needs.

Current efforts to raise standards, train and recruit talented teachers, assess progress, and to hold students, parents, and schools accountable for educational outcomes need to be continued. Efforts must be made to ensure that at-risk students are not left behind but are given special assistance so that they may benefit from their educational experience.

Finally, the region's population must come to understand that graduating from high school is not to be viewed as the end of the educational line but the beginning of the next phase of life, which is to go on for more education in two-year or four-year colleges and universities or training in vocational and technical

[34] Governor Warner's website dealing with pre-kindergarten education quotes a 1999 RAND study that found that for every one dollar invested in early childhood development that a savings of seven dollars in remedial education, welfare, and incarceration can be expected.
[35] Because the Standards of Quality need to be revised to reflect current educational requirements, local governments routinely spend above the levels of funding provided by the state to fund education at levels appropriate to meet today's needs.

training schools. The region needs to increase the percentage of its students going on to post-secondary education and training programs.

HIGHER EDUCATION

As the economy evolves, it is becoming more technical requiring ever more complex skill sets. As a result, the demand for a more educated workforce is growing. For example, in 1959, only 20 percent of workers between the ages of thirty and fifty-nine needed a college education to succeed. Today, the corresponding figure is 56 percent. In fact, it is estimated that currently some 65 percent of jobs require higher-level skills requiring such things as the ability to analyze and solve problems, apply knowledge in complex environments, work with a variety of technologies, and team with people from diverse backgrounds. Only post-secondary education in colleges and universities can provide the large numbers of people, which the nation will require to fill the increasingly complex jobs of the future (National Governors' Association 2000).

Hampton Roads is in a relatively good position to provide the educational experiences, which will be required to fill the complex jobs being created today since the region has eight four-year institutions along with three community colleges. Additional private sector institutions provide technical preparation as well (The Future of Hampton Roads 2005).

While the region is well endowed with colleges and universities, only limited funded research is being conducted in those institutions. This is of concern since regions with large research universities generally benefit from their presence. Not only do they enrich the local cultural environment, but they also are populated with students and professors who enrich the local labor supply. The absence of a nationally renowned research university hinders the region's ability to generate new technologies, which can be commercialized and diminishes the community's ability to attract entrepreneurs and private companies, which need to be close to research institutions. Area leaders and members of the General Assembly must work to increase state funding for higher education, both in Hampton Roads and elsewhere in Virginia. Currently, the State of Virginia does not provide the resources that Hampton Roads needs to achieve excellence in higher education and research that will be necessary to create an urban economy that can compete with the nation's other top twenty metro areas.

BRAIN DRAIN

Hampton Roads continues to experience the out migration of a significant number of its young people and college graduates each year. Statistics on higher education highlight the impact of the region's brain drain. In the year 2000, Hampton Roads ranked 29th in terms of enrollment in college programs. However, because of the outflow of young people, the region ranked just 35th in terms of the number of persons holding a bachelor's degree. Much of the difference can be explained by the out-migration of the area's educated young.

This out-migration of the region's talented young people is explained in large part by the relative lack of good job opportunities and career ladders as well as the area's below average wages, neither of which is offset by the region's below average cost of living. Many of these out-migrants are the very people who have the potential to contribute to the regional economy. Ways must be found to make the region more appealing to young people so as to slow and hopefully reverse this loss of regional human capital.[36]

WORKFORCE DEVELOPMENT

The nation's workforce is not keeping up with the changing labor needs of the economy. For example, according to a report issued by The Conference Board in 1999, more than 40 percent of the U.S. workforce and more than 50 percent of the nation's high school graduates do not have the basic skills to do their work. Further, the National Federation of Independent Business reported that 71 percent of small employers seeking employees say that qualified workers are hard to find. Finally, the National Association of Manufacturers finds that 80 percent of manufacturers continue to experience a moderate to serious shortage of qualified candidates for work. In short, the nation needs to do better in preparing its population for the world of work in a rapidly globalizing economy (Tesreau).

Not only do employers find it difficult to find an adequate supply of trained workers, but also this problem is expected to persist and may grow worse. The Bureau of Labor Statistics projects that the jobs with the fastest rate of increase will require more formal education than in the past. In fact, nearly two-thirds of the new jobs expected between 1996 and 2006 will require some skills and education beyond high school (Tesreau).

The prospects for those not acquiring adequate education and training to meet the needs of the future are not good. The use of machines, computers, and other technologies has and will continue to reduce the need for more skilled workers. Further, those who are untrained and unskilled are now subject to competition from low skill and low paid workers in the third world. As a result, workforce training is of special importance to those with few skills given the ease with which their jobs can be replaced by workers in a growing list of nations beginning the development process (Tesreau).

[36] A recent article in *Kiplinger Personal Finance* (October, 2005) entitled "Seven Cool Cities" focused on cities which are commonly regarded as friendly to young professionals and as a result have seen the development of a youthful professional class. Those cities are Athens (GA), Atlanta, Austin, Denver, Minneapolis, Nashville, and Raleigh. According to the article, each of these communities is attractive to young professions because they contain a wealth of recreational opportunities, growing economies, and a cost of living near to the national average.

Unfortunately, American businesses are becoming increasingly reluctant to train their workers given the limited company loyalty of their employees and the growing tendency of the nation's workers to move from job to job. In fact, the Bureau of Labor Statistics finds that the average person between 18 and 32 years of age has held an average of 8.6 jobs. Other estimates are that new entrants to the workforce today will change jobs seven to ten times on average over the course of their working life. In response to the rapid turnover of the workers in many companies, business investment in training as a share of GDP fell by 18 percent between 1988 and 1999 (Tesreau).

If done well, training workers is a win-win situation for everyone. Employers are better off since, after training, they enjoy a variety of benefits including reduced work time per task, reduced error rates, better health and safety rates, reduced waste in production, better team performance, and improved quality of work. Workers also benefit since they are typically happier on the job, feel a greater attachment to their company, and are better paid. Finally, communities also benefit from worker training since they are in a better position to attract firms and entrepreneurs seeking a qualified workforce. Communities that do not engage in training are apt to suffer from high and growing unemployment rates, falling average wages, and a loss of employers requiring skilled workers. <u>In fact, quality and quantity of labor has become so important to firms in recent years that no community can afford not to participate in training activities</u>.

Fortunately, funds have been available to most communities through the federal government's Workforce Investment Act (WIA) of 1998. This Act has provided the framework for the nation's workforce development system for several years and outlines both a state and local system for workforce development. The Act replaced the Jobs Training Partnership Act of 1980.

Under the Act, states are required to create a long-term strategic plan. States are divided into Workforce Investment Areas (WIAs) with each having a Workforce Investment Board (WIB). Under the Act, each local WIA must have at least one "One-Stop" Center, which provides and administers various education and training programs.

At present, Hampton Roads has two separate Workforce Investment Boards – one for the Peninsula and the other for South Hampton Roads. These two Boards have operated successfully for years. <u>However, some in the region have argued for the merger of these two entities so that the area's workforce development efforts can function more efficiently</u>. <u>The wisdom of this argument is open to question given the fact the region has two clearly discernible labor markets – one on each side of Hampton Roads</u>. <u>The existence of these two markets is evidence by the fact that the average employer on one side of Hampton Roads acquires no more than five percent of its labor from the other</u>

side of the region. A further concern is that while occupational needs across the harbor are similar in some cases, in others, they are not and special efforts would need to be made to set up training programs that reflect the individual needs of each side of the region.

Given the prospect that the low percentage of commuting across the harbor is likely to decline in the future since another crossing of the harbor is not likely to be constructed for some time, merging the two workforce boards may not be helpful and could in the long run create more problems than are solved. The issue of merging workforce boards needs to be thoroughly investigated before any final decisions are made to change the present system.

Another issue mentioned repeatedly in interviews of area employers is the lack of “soft skills” on the part of their current employees. Soft skills are those that help workers to find and hold jobs as opposed to the “hard skills” which enable workers to perform their job tasks. Among the most important of the soft skills are interviewing, time management, interpersonal relations, accepting supervision, and having a positive attitude toward all aspect of the workplace. Troubling aspects of the region’s current workforce, mentioned most commonly in interviews with area employers, were failures be on time, to come to work on a regular basis, and to follow instructions. While the soft skills are likely to be more difficult to teach than the hard or job task skills, the frequency with which this problem was mentioned by area employers suggests that area workforce trainers need to work the development of the soft skills into their programs.

ENTREPRENEURSHIP

Entrepreneurial businesses contribute importantly to the economy of Hampton Roads. Unfortunately, while there are no direct measures of entrepreneurial activity at the metro level, work done in this study’s Part 4 revealed that the region is under represented in small, fast growing firms. Eliminating this shortcoming in the Hampton Roads economy will not be easy although the above average rate of growth in the region’s private sector will help to quicken the pace at which the region generates entrepreneurial businesses.

Enhancing entrepreneurship in the region depends upon the development of a local business culture that embraces and nurtures entrepreneurs. Developing an entrepreneurial culture rests upon ensuring that the region possesses an abundance of the inputs required by entrepreneurs (angel, venture, and other forms of capital, specialized legal services needed by startup and technology businesses, a well-trained and technically competent supply of labor, and counselors and advisers familiar with the problems of starting new technology businesses). Furthermore, the regional business climate must allow for risk-taking and avoid heavily penalizing failure. Creating a nurturing environment that will accelerate the creation of new entrepreneurial firms will require taking action along a broad front since there are a great many factors that contribute to creating an environment which is favorable to an entire class of firms. Selected actions likely to produce early results might include teaching entrepreneurship as a career path in area high schools, increasing the number of courses on entrepreneurship in the region's institutions of higher learning, running seminars or discussion groups on issues of interest to would-be entrepreneurs, and providing networking opportunities for entrepreneurs to meet and share experiences. Better funding for small business development centers and incubators can also be helpful.

QUALITY OF LIFE

For many years economic development has focused on growth and job creation. Making mention of the need to preserve the natural environment or enhance the quality of life was felt to be unrelated to economic development and should be a part of a different conversation. In fact, preservation of the environment in some cases was thought to be antithetical to efforts to grow the economy.

Today things are different. With the rise of the knowledge economy, the quality of life, including the quality of the natural environment, has become key to attracting and retaining firms which pay above average wages. Economic development programs need to reassess their historic emphasis on keeping taxes low, offering cheap land, and providing low cost labor and instead focus on building and maintaining a high quality of life. In the future, communities and regions that are committed to creating and maintaining a high quality of life will enjoy a comparative advantage. Decision makers in the nation's rapidly growing knowledge economy and their workers will avoid locations where the air and water are polluted, traffic is in gridlock, the schools do not educate, recreational opportunities are limited, housing is excessively expensive, and the cultural environment is impoverished. The region must continue to stress the preservation of its rich natural environment along with the development of other aspects of the human environment so as to maintain the region's quality of life in order to ensure that people and businesses will continue to value being a part of Hampton Roads.

One effort, which has been made in other parts of the country to enhance the local quality of life, is the development of a regional park(s). Regional parks are intended to fill the gap between large state parks and smaller parks owned and operated by localities. These parks typically can offer a wider range of recreational opportunities than those found in municipal parks and may include such things as extended trails for walking, hiking, and biking. They frequently emphasize unique aspects of an area's natural, cultural, or historic environment. Hampton Roads should investigate the opportunity to create a regional park that can become a centerpiece in the region's long list of recreational amenities. Such a park cannot only serve the interests of area residents but in time can become an important asset used by tourists visiting the region.

REVENUE SHARING

Each of the communities of Hampton Roads faces fiscal stress. This stress causes them to compete vigorously for economic development projects, which can enhance their revenue streams. While this competition can force all parties to "stay sharp" and maintain their competitive skills, it can also work to the detriment of each when they fail to cooperate for the common good. <u>In order to minimize the destructive component of this competition, the communities of Hampton Roads need to explore how they might share the revenues derived from new economic development projects</u>. <u>Sharing the revenues derived from new economic development projects could help communities to moderate their competitive behavior when pursuing economic development opportunities and, as a result, make the region more competitive overall</u>.

REGIONAL COMPETITIVENESS ACT

The Regional Competitiveness Act has been a cornerstone in the funding for regional economic development planning activities. The Act was funded with with a $3.0 million appropriation in 1996 and with a like amount in 1997. In its 1998 session, the General Assembly appropriated a total of $10.0 million for FY 1999 and $6.0 million for FY 2000. A considerable amount of good work was done in Hampton Roads and elsewhere with money provided by the Act. In many cases, the money was used to "seed" important regional projects. Presently, the Act is unfunded. <u>Providing additional funding through the Act should be a priority for the region</u>.

VIRGINIA BUSINESS DEVELOPMENT CENTER

The Small Business Development Center of Hampton Roads, Inc. is part of a statewide network of 29 Small Business Development Centers. The state office located at George Mason University directs these centers. The Small Business Administration with matching state and local funding originally provided funding for the Network. In 2003 the Commonwealth eliminated all funding for the Network resulting in a 30 percent reduction of funding support for operations. Restoration of the state's funding would make it possible for the region's small businesses to continue to receive business planning assistance, counseling, and training including market research for both existing and startup businesses. <u>Given the need to stimulate small business activity in the region, efforts should be made to restore funding as soon as possible</u>.

AFFORDABLE HOUSING

For many years home prices and rents in Hampton Roads did not keep up with comparable measures elsewhere. While housing costs rose rapidly in other metro areas, they increased only modestly in the region. As a result, many having knowledge of housing costs in other regions viewed housing in Hampton Roads as a bargain.

Today, conditions are very different since housing prices have escalated dramatically, beginning in most areas in 2000. The disproportionately large increase in area housing prices in recent years is, in large measure, a reflection of the increase in defense spending in the region. Much of this increase came in the form of higher pay and housing allowances paid to military personnel enhancing the ability of that segment of the community to bid for and purchase area housing. This in turn accelerated regional economic growth rate and kept the unemployment rate low. The strength of the economy added further fuel to the housing "fire" causing housing prices to rise further. Additional causal factors in the increase in housing values were low interest rates making houses more affordable and the fear of investing in the stock market which moved money from stocks to housing.

Data from the ACCRA (America Chamber of Commerce Research Association) survey of the cost of living in metro regions documents the increase in the cost of area housing. In the ACCRA survey done for the second quarter of 1999, home prices in Hampton Roads were found to be 88.6 percent of home prices of the nation's metropolitan regions. By the second quarter of 2005, the area's housing was valued at 91.8 percent of homes covered by the national survey. Further, since housing plays an important role in a region's overall cost of living, the increase in housing prices caused the area's cost of living to rise from 96.9 percent (1999) of the national average computed from the survey to 100.6 percent (2005).

<u>The increase in the price of housing along with the associated increase in the cost of living works to the detriment of the regional economy making the region somewhat less desirable to current residents and businesses along with persons and companies that might consider the area as a potential home</u>. An ancillary issue is that while housing has increased in price it has also become less readily available. Stories of the difficulty of finding housing and the bidding wars that have accompanied the search are legend.

While the increase in home prices has been beneficial to existing housing owners, it has made life more difficult for renters and new homebuyers. Many have been priced out of the housing market with little prospect that their purchasing power of housing will improve anytime soon – especially since interest rates have begun to rise from historically low levels.

<u>If Hampton Roads is to continue to thrive, it must find ways to make its housing more affordable</u>. This will help area residents who are not currently homeowners acquire housing which will add to the region's overall attractiveness both to area residents and to companies that might want a presence in the area. <u>Since land prices make up a large component of the cost of providing housing</u>

and the only one that is amenable to local action, efforts to make housing more affordable must focus on reducing the cost of raw land to area builders and developers. Area local governments need to review their policies on approving land for development if the supply of raw land is to increase.

CONCLUSIONS

Hampton Roads has evolved into a region with a strong and stable economy accompanied by a good quality of life. Over the decades the region has tended to grow at or near the national average rate with unemployment rates consistently below the national average and with less year over year fluctuations in economic activity than are found in ninety percent of the nation's metropolitan regions.

While the region has compiled an enviable economic record in many ways, there is still room for improvement. Both the area's wages and incomes remain stubbornly below the national average and below those metrics for other urban regions in the Southeast. In addition, the defense cycle continues to alternately help and then hinder the area's economic progress depending on the stage of the national defense cycle and the presence or absence of military deployments. The region is still subject to the adverse decisions made by the nation's Base Realignment and Closure Commission (BRAC) with the most recent BRAC action as an object lesson in how decisions made elsewhere can impact on the area's economy, the lives of large numbers of its individuals and households, the fate of entire neighborhoods and political jurisdictions, as well as the budgets of area local governments.

Given the several threats to the region's economic well being as well as its many opportunities to take actions to improve the region, Hampton Roads needs continue its many efforts to maintain and strengthen its regional economy. This report has attempted to identify several broad strategies that can be taken to ensure that the area has a future which is as bright as its past. Special efforts have been made to explore the economic rationale behind each strategy so that the channels by which each will produce impacts are understood and the relative importance of each is appreciated.

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