The VCU Health System: Leveraging an Anchor Institution for Community Economic Development

Prepared by Michael Edwards for Greg Wingfield, President of the Greater Richmond Partnership, Inc.

Spring 2013, Master of Urban and Regional Planning Program

L. Douglas Wilder School of Government and Public Affairs
Virginia Commonwealth University
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URSP 762, Planning Studio II

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I would also like to thank several other individuals, who without their time and assistance, this plan would not have been possible:

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Executive Summary

The purpose of this plan is to support the Greater Richmond Partnership’s mission to increase jobs and investment in local communities. This plan identifies an anchor institution and the most appropriate and impactful role it can play in the process of achieving the Greater Richmond Partnership’s mission. This plan achieves the objective of determining an appropriate route to sustainable job creation. The Virginia Commonwealth University Health System (VCUHS) is the largest employer in the City of Richmond and is the only Level 1 Trauma Center in the region. As a result, it was chosen as the anchor institution for this plan. Economic theorists agree that a community receives positive effects from strong institutions, but little was known about the potential impact of VCUHS on local communities.

Comprehensive plans and documents from community organizations, institutions and local government were analyzed. Interviews with five key stakeholders in the community were conducted in order to gain a better understanding of local capacity and opinion. Economic and demographic data were obtained from various sources and analyzed in order to quantify and understand issues facing the local community. Anchor institution, and in particular hospital, best practices for community engagement were identified to lie out a framework for engagement and the leveraging of assets.

Through document analysis, interviews with key stakeholders, demographic and economic data analysis and the application of best practices, three goals were identified: enhance innovation, increase local job creation, and improve local citizens’ quality of life and interaction between VCUHS and local communities. The plan determines implementation steps and establishes priorities for VCUHS in order to reach these goals.
Introduction

History and Scope

The *VCU Health System: Leveraging an Anchor Institution for Community Economic Development*, requested by the Greater Richmond Partnership, Inc., fulfills the requirement of the Master of Urban and Regional Planning program in the L. Douglas Wilder School of Government and Public Affairs at VCU.

Over the past 20 years, a growing number of economic development professionals have analyzed the impacts of anchor institutions on local communities. Sometimes the largest employer in the city, the hospital, has increasingly come under the scope of economic development specialists. This project determined the most appropriate role the VCU Health System can undertake to drive economic development in the local community.

The Greater Richmond Partnership, Inc. (GRP) served as the primary client for this plan because of its ability to leverage existing partnerships within the region. The GRP is a regional economic development group formed through a regional public-private partnership and represents Chesterfield County, Hanover County, Henrico County, the City of Richmond and private companies across these jurisdictions. Since its inception in 1994, the GRP has successfully assisted 428 new and expanding companies in the Greater Richmond Region that have invested nearly $7.9 billion and created over 46,000 jobs. Through various programs, the GRP facilitates business expansion, business attraction, talent development and new small business formation and support.
The VCU Health System served as the secondary client because of its role in the implementation of the plan. The Health System is strategically located in downtown Richmond and is the second largest private employer in the Greater Richmond region, employing 7,935 citizens. VCU’s *Quest for Distinction* describes needed steps for the University and Health System to grow, excel and gain national recognition. Theme IV states, “Become [VCU] a national model for community engagement and regional impact” (VCU) Because of the GRP’s long-standing relationship with both public and private entities, it is an excellent facilitator of collaboration among the multiple stakeholders involved in the plan, such as the City of Richmond, the VCU Health System and local neighborhoods. The GRP has a unique role. By supporting local companies and governments, the GRP achieves its mission. The City of Richmond, where the VCU Health System is located, partners with the GRP to drive investment and job creation. The VCU Health System needs this plan to contribute better to the shared success of its community. With a greater understanding of its potential, VCUHS will be capable of a greater impact. Since relocation of the VCU Health System is unlikely, investing in the community and its citizens is the best way for the Health System to ensure quality employees, safe environments and strong local infrastructure in the future.

*Image 1. VCU Question For Distinction Logo*
Beginning in 1828, several doctors at Hampden-Sydney College began a school of medicine in Richmond, Virginia. Over the next century, the school grew and in 1968 merged with the Richmond Professional Institute to form Virginia Commonwealth University (VCU) (In the Tradition of MCV). Today, the VCU Health System houses 865 patient beds, conducts over 20,000 surgeries a year, and employs over 600 physicians and 8,000 staff members (VCU Health System: About US). Like many large hospitals, the VCU Health System is located in a dense urban area surrounded by vibrant and diverse neighborhoods.

Image 2. The historic Egyptian Building at VCU

*The VCU Health System: Leveraging an Anchor Institution for Community Economic Development* will specifically focus on several City of Richmond planning districts. In particular, it will focus on planning districts that include the MCV District/Court End, Jackson Ward, Carver, Shockhoe Bottom and Slip neighborhoods. Area residents have long experienced a disconnection between where they worked and where they lived. Beginning with the flight of families to
suburban neighborhoods and construction of Interstate 95 (I-95) through these communities in 1958 (Interstate 95), development and investment in these communities has come sporadically. This plan will create a lasting connection between the VCU Health System and adjacent communities through its support of community development initiatives.

Figure 1. Planning Districts in Richmond, Va
Figure 1 depicts the planning districts in the City of Richmond and figure 4 relates these planning districts to local neighborhoods. As background, the MCV District/Court End neighborhood is home to the VCU Health System and many of the most famous buildings in the City’s history. Located to the north of Shockoe Hill, the neighborhood is bounded by Jackson Street to the north, Grace and Capital streets to the south, College and 14th Streets to the east and Seventh Street to the west. Because of the historical nature of the neighborhood and the presence of the Health System many of the buildings are publicly owned.

Jackson Ward sits to the west of Court End and north of Broad Street. Once known as the ‘Harlem of the South,’ Jackson Ward experienced serious population decline throughout the second half of the 20th century. Many attribute this to the construction of I-95 that effectively split the neighborhood in half. The City of Richmond has targeted vacant and substandard properties in the neighborhood for various rehabilitation projects. While some thought the construction of the Richmond Convention Center would inject life into the neighborhood, many now believe it has separated residents from most of the downtown (Richmond Downtown Plan 1.9). Carver, located to the west of Jackson Ward along Broad Street and to the north of the VCU Monroe Campus, began as an industrial hub for the City but it is now largely a residential neighborhood for students and working-class citizens. The Shockoe Slip and Shockoe Bottom neighborhoods are located along the James River south and east of the VCU Health System. Beginning in the 1960s and continuing into present day, the Shockoe neighborhoods have been redeveloped as commercial and entertainment districts. Recently, apartments and condominiums have begun to embed within the neighborhood and along the river.

**Purpose, Theoretical Foundation and Approach**

The purpose of this project is to support the Greater Richmond Partnership’s mission to increase jobs and investment into these local communities and the region as a whole. First, the plan determined the most appropriate role
the VCU Health System can undertake to develop the local workforce and provide jobs for citizens in its surrounding community. One role from figure 2 below was chosen and examined in greater detail. Figure 2, analyzed in Kauper-Brown’s *Health Institutions as Anchors in Communities: Profiles of Engaged Institutions*, represents a strategic framework for health institutions to leverage assets to develop communities.

*Figure 2. Roles for Community Engagement*

![Strategic Framework for Leveraging Health Institution Assets for Community Economic Revitalization](image)
Second, the plan provided the GRP with a study of the Community Anchor Institution economic development theory that may be applied to other anchor institutions in the region. The GRP, as the leader of economic development in the Greater Richmond Region, will use this plan to enhance its talent development and business expansion programs. The GRP hopes to bring jobs, investment and regional cooperation to the Richmond region. While the GRP has extensively studied industry cluster development techniques, a study of the role of anchor institutions has never been conducted. The industry cluster theory refers to the ability of economic developers to leverage ‘groups of interconnected businesses that form a significant economic unit (Morfessis1). Clusters organize economies and allow developers to target certain ‘clusters’ as units. These techniques are similar since anchor institutions are often also at the center of vibrant industry clusters. Currently, the GRP targets companies in the Health and Life Sciences industry cluster. The VCU Health System is certainly an important contributor to this cluster and this plan on the economic development role of the VCU Health System will supplement the GRP’s current focus on industry clusters.

Several best practice documents and plans have been identified to help guide this study. Leveraging Anchor Institutions for Local Job Creation and Wealth Building by Steve Dubb and Ted Howard provides an analysis of anchor institutions and guidelines to shape the local community. Specifically, the guidelines analyze actual –‘roles’ that the anchor institution can take. These roles are depicted in figure 2. The purchaser, employer, real estate developer, workforce developer, incubator and network developer are all roles Dubb and Howard describe (6). What role is most appropriate for the VCU Health System? It seems that most institutions have had success using a highly focused approach. An ‘all of the above’ approach is inappropriate in most cases. Local purchasing has been the most successful approach because of the associated spillover effect of keeping money local. Dubb and Howard, however, lay out one specific warning: an anchor institution acting as a real estate developer must be incredibly careful. Displacement of citizens and disruption of a neighborhood can occur rapidly (14). What land development limits might the VCU Health System place on itself?
In *Why Community investment is good for nonprofit anchor institutions: understanding costs, benefits, and the range of strategic options*, Webber specifically analyzes the cost-benefit analysis that is a best practice for the implementation of anchor institution theory. Will the benefits of community development for the VCU Health System outweigh the costs? Often, Webber found that institutions were “overstating costs and understating benefits” (4). Yet, the question remains: how can we measure these costs and benefits? Webber asks, “Can you quantify a doctor being robbed?” (7). Some benefits of engagement cannot be qualified simply. While Webber is not certain that a cost-benefit analysis is appropriate, it seems that this type of analysis is beneficial assuming imperfect information. Furthermore, Webber identifies certain areas in which a medical anchor institution might see an impact. Potential impacts can range from the development of neighborhood identity, development of cultural and educational programs, employment enhancement, recruitment of diverse human capital, and local purchasing (Webber 9). Lastly, Webber examines the role of ‘internal capacity’ and ‘external factors’ (22-24). The plan must determine VCU Health System’s internal strengths as well as potential internal weaknesses.

Moreover, Community-wealth.org is an organization dedicated to providing strategies for building community wealth. On their website, they provide over a dozen examples of models and best practices for achieving community wealth building by leveraging anchor institutions. In particular, SwedishAmerican, a healthcare system in Wisconsin, has been analyzed. SwedishAmerican has established an “employee homeownership assistance program for homes bought within a 6-block radius of the hospital, which includes a $5,000, five-year forgivable grant ($10,000 for low-income employees) to employees in good standing.” In fact, they even provide 50/50 matching grants for home improvement projects (SwedishAmerican, community-wealth.org).

Finally, the University of Pennsylvania (UPenn) Anchor Institutions Toolkit, prepared by the Netter Center for Community Partnerships, identifies five tools, describes their use in West Philadelphia and presents guidelines for
implementation at other institutions. Using documents produced by the city of Philadelphia with local community organization plans and institutional plans, the Toolkit establishes five goals. To achieve these goals, UPenn created five initiatives developed around a strategic framework of three functions: operating (purchase/employer), service/learning (workforce developer/advisor/service provider) and investing (incubator, neighborhood developer/real estate developer) (UPenn 18). These initiatives are similar to those described by Dubb. The third section of the Toolkit is perhaps most important because it describes how the Toolkit can be applied in other contexts. The toolkit establishes five steps for action: assessment and analysis; synthesis; choice and recommendations; implementation; and evaluation (UPenn 100).

This structure is familiar in that it is fundamentally the rational-model for comprehensive planning. The first step seeks to understand the capacity of the anchor and community and the strengths, weaknesses, opportunities and threats (SWOT). Partnerships, alternative approaches, goals and objectives must be determined. Overall, the UPenn Anchor Toolkit establishes a framework for anchor institution action and will serve as the primary guide for developing a local plan tailored to the VCU Health System and adjacent communities.

Several questions shape the analytical approach:

1. What are the economic development goals and objectives of various community development organizations and agencies throughout the community, city and region?
2. What are the Strengths, Weaknesses, Opportunities, and Threats (SWOT) of the VCU Health System in terms of making a contribution to community development? What does the hospital have to offer in terms of assets and capital (social or financial)?
3. What is the most appropriate and potentially impactful role for the VCU Health System in serving as an institutional anchor for Richmond’s community development?
4. In accordance with their role, what goals and objectives must be established?

Initially, the plan will conduct a document analysis through the research and analysis of current plans for economic and workforce development created by the City of Richmond, the GRP, the VCU Health System and other relevant institutions. These plans may be formal comprehensive plans or organizational publications. It will also be useful to analyze plans other institutions have used across the country. This initial analysis will provide a basis for regional, citywide and anchor institution-specific plans. This data is mostly qualitative in nature but is organized to depict common goals and objectives among stakeholders. Along with this research, the plan includes interviews with key stakeholders in each of these organizations and the surrounding community. These interviews provide valuable context to the VCU Health System and examine stakeholder opinion regarding the role the Health System may undertake. Greg Wingfield, President and CEO of the GRP, and representatives from the VCU Health System and the City of Richmond Department of Economic Community Development are all stakeholders that have been interviewed along with representatives from the local communities. In total, five interviews were conducted over the phone, email and in person. Interviews ranged from 15 minutes to an hour. It was important to identify goals and objectives that overlap among various entities and to understand the potential for internal capacity and administrative commitment to a comprehensive development strategy. Furthermore, it will be necessary to gather demographic and economic data associated with communities that surround the VCU Health System to help determine which policies will be appropriate to drive job creation and community engagement. Ultimately, an analysis of potential job creation by the VCUHS is performed. The employment of GIS, statistical analysis and qualitative analysis were used as tools to collect and analyze data. A SWOT analysis was conducted to determine what the hospital may offer in terms of assets and capital (social or financial).
The plan is organized into four parts. Part 1 identifies local community economic development goals and objectives. This part begins with a literature review of local government documents and stakeholder plans. With this information, leaders from these organizations were interviewed to glean more information and detail. Common community goals were established. Part 2 analyzes the VCU Health System using qualitative interviews, a review of past studies of VCU and an analysis of the strengths, weaknesses, opportunities and threats of VCUHS. It was critical to determine what assets the VCU Health System has to offer to the local communities and region. Taking information from Part 1 and 2, Part 3 identifies the most appropriate and impactful role the VCU Health System can serve as a community anchor institution. Applying the goals and objectives of the stakeholders and their organizations to the SWOT analysis of the VCU Health System leads to the most appropriate role. Part 4 establishes goals and objectives for the VCU Health System in line with its role. The overarching goal is to increase jobs and investment in the local communities and region.

The VCU Health System can have a broad impact on economic development in local communities and the greater Richmond region. This research analyzed the social, physical and economic state of several local communities and determined what role the VCU Health System can undertake to make the greatest impact on community development. Furthermore, the research and analysis answered questions posed in the introduction to determine specific implementation strategies to increase jobs and investment in the local community.

Community Profile

The social, physical and economic state of the City of Richmond varies among planning districts and neighborhoods. Unemployment varies nearly 13% among planning districts, from a low of 3.48% to a high of 16.44% while high school graduation rates vary 27%, from a low of 70.0% to a high of 97.0%. The Far West planning district has the
highest owner occupancy, highest educational attainment and lowest unemployment rate. To determine the most appropriate role of the VCU Health System, we must understand the unique issues facing the City of Richmond. This subsection presents data that describes a growing divide between the haves and have-nots in the City. Communities described in this subsection are ones most likely to be affected by the VCU Health System because of their close proximity.

Image 3. Model of Downtown Richmond, VA looking from the north of the City
Figure 3. City of Richmond Planning Districts
While the City of Richmond is composed of nine planning districts, all with unique needs and assets, this plan focuses on those planning districts that lie along the Broad Street corridor. Planning districts that fall within a 1-mile buffer around Broad Street are included.

Table 7. Economic Conditions; U.S. Census

<table>
<thead>
<tr>
<th>Planning Districts</th>
<th>Pop. 16 years +</th>
<th>Civilian labor force</th>
<th>Labor Force Participation Rate</th>
<th>Persons Employed</th>
<th>Employment Rate</th>
<th>Persons Unemployed</th>
<th>Unemployment Rate</th>
<th>Median Household Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>27,489</td>
<td>16,591</td>
<td>60.36%</td>
<td>14,595</td>
<td>87.97%</td>
<td>1,996</td>
<td>12.03%</td>
<td>$38,484.50</td>
</tr>
<tr>
<td>East</td>
<td>21,081</td>
<td>12,178</td>
<td>57.77%</td>
<td>10,505</td>
<td>86.26%</td>
<td>1,673</td>
<td>13.74%</td>
<td>$32,255.75</td>
</tr>
<tr>
<td>Downtown</td>
<td>5,228</td>
<td>3,327</td>
<td>63.64%</td>
<td>2,780</td>
<td>83.56%</td>
<td>547</td>
<td>16.44%</td>
<td>$30,788.00</td>
</tr>
<tr>
<td>Near West</td>
<td>33,602</td>
<td>23,107</td>
<td>68.77%</td>
<td>20,918</td>
<td>90.53%</td>
<td>2,189</td>
<td>9.47%</td>
<td>$40,966.23</td>
</tr>
<tr>
<td>Far West</td>
<td>14,435</td>
<td>9,291</td>
<td>64.36%</td>
<td>8,968</td>
<td>96.52%</td>
<td>323</td>
<td>3.48%</td>
<td>$102,032.50</td>
</tr>
<tr>
<td>Old South</td>
<td>15,789</td>
<td>9,875</td>
<td>62.54%</td>
<td>8,411</td>
<td>85.17%</td>
<td>1,464</td>
<td>14.83%</td>
<td>$37,605.00</td>
</tr>
<tr>
<td>Huguenot</td>
<td>12,541</td>
<td>8,083</td>
<td>64.45%</td>
<td>7,428</td>
<td>91.90%</td>
<td>655</td>
<td>8.10%</td>
<td>$55,172.50</td>
</tr>
<tr>
<td>Midlothian</td>
<td>19,281</td>
<td>13,974</td>
<td>72.48%</td>
<td>12,528</td>
<td>89.65%</td>
<td>1,446</td>
<td>7.50%</td>
<td>$37,505.20</td>
</tr>
<tr>
<td>Broad Rock</td>
<td>18,481</td>
<td>12,327</td>
<td>66.70%</td>
<td>10,669</td>
<td>86.55%</td>
<td>1,658</td>
<td>13.45%</td>
<td>$39,748.00</td>
</tr>
<tr>
<td>City of Richmond</td>
<td>167,927</td>
<td>108,753</td>
<td>64.76%</td>
<td>96,802</td>
<td>89.01%</td>
<td>11,951</td>
<td>7.12%</td>
<td>$46,061.96</td>
</tr>
</tbody>
</table>

The Near West Planning District lies within the City of Richmond census tract 402-416. It is composed of several neighborhoods including Carver, the Fan, Museum District, Oregon Hill and Randolph. Table 1 demonstrates that over 9% of the current labor force is unemployed within the Near West district, up from the City of Richmond’s average rate. The median household income for the neighborhood is $40,966. Within the population 25 years and older in the Near West Planning District, 90.2% have a high school diploma or more, 4.6% have an associate’s degree and 46.0% have a bachelor’s degree or more.
The Downtown Planning District is composed of two census tracts: 302 and 305. The district includes the Jackson Ward, Monroe Ward and Shockoe Slip neighborhoods. At 16.4%, this planning district has the highest unemployment rate in the City. The median household income is also the lowest in the City, $30,788, and 85% of housing units in the downtown are occupied by renters compared to 55% within the entire City. Only 6.0% of the population has an associate’s degree.

The East Planning District is bounded by the James River to the south, Interstates 95 and 64 on the west and north, and the City limits to the north, east, and south. Census tracts 201-212 are within this district, and they include prominent neighborhoods like Shockoe Bottom and Church Hill. The unemployment rate remains high within the neighborhood at 13.74%. A median household income of approximately $32,000 makes this the second poorest neighborhood in the City.

The North Planning District sits to the north of the Downtown Planning District and is composed of parts of Jackson Ward, Ginter Park, Highland Park and Barton Heights. Several of the City’s public housing projects lie within this planning district. Excluding four of the twelve census tracts in this planning district, the unemployment rate is 8.49% nearly 4% lower than the district as a whole. Pockets of extreme poverty impact (Census Tract 103, 107, 109, and 301) the planning district wide unemployment figures. Specifically, census tract 301 has a median household income of $9,926.
Table 8. Race and Ethnicity by Planning District, City of Richmond; U.S. Census

<table>
<thead>
<tr>
<th>Planning District</th>
<th>White alone</th>
<th>Percent</th>
<th>Black or African American alone</th>
<th>Percent</th>
<th>American Indian and Alaska</th>
<th>Percent</th>
<th>Asian alone</th>
<th>Percent</th>
<th>Native Hawaiian and Other Pacific Islander alone</th>
<th>Percent</th>
<th>Hispanic or Latino: Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>8,409</td>
<td>25.5%</td>
<td>22,698</td>
<td>68.9%</td>
<td>83</td>
<td>0.3%</td>
<td>308</td>
<td>0.9%</td>
<td>21</td>
<td>0.1%</td>
<td>476</td>
</tr>
<tr>
<td>East</td>
<td>5,245</td>
<td>19.0%</td>
<td>20,828</td>
<td>75.6%</td>
<td>41</td>
<td>0.1%</td>
<td>178</td>
<td>0.6%</td>
<td>7</td>
<td>0.0%</td>
<td>581</td>
</tr>
<tr>
<td>Downtown</td>
<td>2,425</td>
<td>44.0%</td>
<td>1,571</td>
<td>28.5%</td>
<td>33</td>
<td>0.6%</td>
<td>913</td>
<td>16.6%</td>
<td>6</td>
<td>0.1%</td>
<td>208</td>
</tr>
<tr>
<td>Near West</td>
<td>24,503</td>
<td>68.0%</td>
<td>7,601</td>
<td>21.1%</td>
<td>10</td>
<td>0.0%</td>
<td>1,770</td>
<td>4.9%</td>
<td>0</td>
<td>0.0%</td>
<td>1,163</td>
</tr>
<tr>
<td>Far West</td>
<td>15,570</td>
<td>91.4%</td>
<td>509</td>
<td>3.0%</td>
<td>15</td>
<td>0.1%</td>
<td>257</td>
<td>1.5%</td>
<td>3</td>
<td>0.0%</td>
<td>452</td>
</tr>
<tr>
<td>Old South</td>
<td>5,528</td>
<td>27.0%</td>
<td>13,263</td>
<td>64.9%</td>
<td>19</td>
<td>0.1%</td>
<td>329</td>
<td>1.6%</td>
<td>0</td>
<td>0.0%</td>
<td>433</td>
</tr>
<tr>
<td>Huegonot</td>
<td>8,964</td>
<td>61.9%</td>
<td>4,564</td>
<td>31.5%</td>
<td>29</td>
<td>0.2%</td>
<td>219</td>
<td>1.5%</td>
<td>0</td>
<td>0.0%</td>
<td>475</td>
</tr>
<tr>
<td>Midlothian</td>
<td>4,775</td>
<td>19.2%</td>
<td>14,421</td>
<td>57.9%</td>
<td>64</td>
<td>0.3%</td>
<td>519</td>
<td>2.1%</td>
<td>0</td>
<td>0.0%</td>
<td>4,479</td>
</tr>
<tr>
<td>Broad Rock</td>
<td>3,536</td>
<td>14.6%</td>
<td>16,253</td>
<td>67.0%</td>
<td>17</td>
<td>0.1%</td>
<td>109</td>
<td>0.4%</td>
<td>0</td>
<td>0.0%</td>
<td>3,665</td>
</tr>
<tr>
<td>City of Richmond</td>
<td>78,955</td>
<td>38.9%</td>
<td>101,708</td>
<td>50.1%</td>
<td>311</td>
<td>0.2%</td>
<td>4,602</td>
<td>2.3%</td>
<td>37</td>
<td>0.0%</td>
<td>11,932</td>
</tr>
</tbody>
</table>

Table 2 shows race and ethnicity data by planning district. These demographics vary greatly within different planning districts. While 50.1% of the City of Richmond is Black or African American alone, only 3.0% of these individuals live in the Far West planning district. The highest levels of Hispanic or Latino individuals live in the Broad Rock and Midlothian planning districts south of the James River. Over 97% of the City of Richmond falls within three groups: White, African American and Hispanic.
Table 9. Educational Attainment by Planning District, City of Richmond; U.S. Census

<table>
<thead>
<tr>
<th>Planning District</th>
<th>Population 25 years and over</th>
<th>HS Diploma or More</th>
<th>Percent</th>
<th>Associates Degree</th>
<th>Percent</th>
<th>Bachelor's Degree or More</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>North</td>
<td>22,711</td>
<td>17,577</td>
<td>77.4%</td>
<td>967</td>
<td>4.3%</td>
<td>5,494</td>
<td>24.2%</td>
</tr>
<tr>
<td>East</td>
<td>17011</td>
<td>12,203</td>
<td>71.7%</td>
<td>885</td>
<td>5.2%</td>
<td>3,489</td>
<td>20.5%</td>
</tr>
<tr>
<td>Downtown</td>
<td>2,717</td>
<td>2,434</td>
<td>89.6%</td>
<td>164</td>
<td>6.0%</td>
<td>1,250</td>
<td>46.0%</td>
</tr>
<tr>
<td>Near West</td>
<td>20,365</td>
<td>18,363</td>
<td>90.2%</td>
<td>937</td>
<td>4.6%</td>
<td>10,964</td>
<td>53.8%</td>
</tr>
<tr>
<td>Far West</td>
<td>10,833</td>
<td>10,508</td>
<td>97.0%</td>
<td>474</td>
<td>4.4%</td>
<td>8,115</td>
<td>74.9%</td>
</tr>
<tr>
<td>Old South</td>
<td>13,870</td>
<td>10,933</td>
<td>78.8%</td>
<td>860</td>
<td>6.2%</td>
<td>3,323</td>
<td>24.0%</td>
</tr>
<tr>
<td>Huegonot</td>
<td>10,901</td>
<td>9,899</td>
<td>90.8%</td>
<td>562</td>
<td>5.2%</td>
<td>5,556</td>
<td>51.0%</td>
</tr>
<tr>
<td>Midlothian</td>
<td>15,546</td>
<td>11,378</td>
<td>73.2%</td>
<td>938</td>
<td>6.0%</td>
<td>2,883</td>
<td>18.5%</td>
</tr>
<tr>
<td>Broad Rock</td>
<td>14,822</td>
<td>10,374</td>
<td>70.0%</td>
<td>629</td>
<td>4.2%</td>
<td>1,330</td>
<td>9.0%</td>
</tr>
<tr>
<td>City of Richmond</td>
<td>128,776</td>
<td>103,669</td>
<td>80.5%</td>
<td>6,416</td>
<td>5.0%</td>
<td>42,402</td>
<td>32.9%</td>
</tr>
</tbody>
</table>

Table 3 shows that educational attainment in the City of Richmond is lower than that of the Richmond Metropolitan Statistical Area (MSA) and the Commonwealth of Virginia (Technical Appendix: Section A). 86.6%, 87.9% and 85.9% of citizens have a high school degree or more in the Richmond MSA, Virginia and the United States, respectively. High schools graduation rates are much lower in the City than the MSA and the Commonwealth. The rate of bachelor’s degrees is higher within the City compared to the Richmond MSA, but it is lower than the State as a whole. Low educational attainment will place long-term limitations on the workforce residing in the City of Richmond. The ability to attract companies or develop local businesses relies on the depth of human capital, the “competencies and commitment of the people within an organization” or geography i.e. their skills, experience, potential and capacity (Ceridian).
Table 4 shows that the majority of housing units within the districts are occupied. However, vacant housing rates increase closer to the east and downtown planning districts. Many of the housing units in these specific planning districts, when occupied, are renter occupied. At 21.4%, the downtown planning district, location of the VCUHS, has the largest percentage of residential vacancy rates. This rate is over 30% higher than the average residential vacancy rate in the City of Richmond. More housing information is included in the Technical Appendix: Section A.

Stakeholder Interviews

Stakeholder interviews were conducted to gain perspective on how community leaders view the VCU Health System. Additionally, interviews provided an understanding of how the organizations, and the communities they represent,
see themselves and the relationship they have with the Health System. Stakeholders from Carver and Jackson Ward particularly represent neighborhoods in need of jobs and community investment. Stakeholders from regional organizations and public institutions represent those who wish to foster job creation and investment in these communities. Figure 4 below demonstrates the locations of the following neighborhoods.

**Figure 4. Neighborhoods in Richmond, Va**
Carver

The Near West district comprises several neighborhoods. Carver is a close-knit neighborhood within this district represented by the Carver Area Civic Improvement League (CACIL). Strong institutions like the Maggie L. Walker Governor’s School for Government and International Studies, George Washington Carver Elementary and the Moore Street Baptist Church give the neighborhood pillars to grow around. Historically, the neighborhood has been characterized by its industrial and blue-collar perception. Since the advent of zoning in the City of Richmond, the Carver periphery has been zoned industrial limiting investment in residences (Carver Plan 16). City redevelopment was implemented throughout the mid 20th century that removed blighted properties and replaced them with roads and affordable housing. When the City of Richmond amended the Master Plan in 1988 it rezoned areas from ‘industrial to residential or residential-office for fifty-six properties in the 800 and 1000 blocks of West Marshall Street” (VCU Community Engagement 20). This spurred redevelopment and ownership in Carver.

In a recent interview with Margaret Rush, President of the CACIL, the Carver Neighborhood was discussed. According to Ms. Rush, the goals of the neighborhood are to present a unified front and defend against encroachment form the City and Virginia Commonwealth University. When asked what critical and pressing socio/economic issues existed within the neighborhood, Ms. Rush stressed that the neighborhood is transitional. A transitional neighborhood is typically one were home values are increasing along with other signs of stability. Carver currently has no formal interaction with the VCU Health System, but it does work with VCU to provide work-study opportunities and internship programs for residents (Rush).

An analysis of the Carver Community Plan goals and objectives depicts a neighborhood that envisions a growing, family-oriented residential neighborhood. Six goals were listed: improve neighborhood conditions, provide safe and convenient
transportation, offer enhanced recreation for children, greater public safety, better housing opportunities, and community preservation. According to the Plan, Carver citizens want a clean and safe neighborhood that is proud of its history. The Plan also depicts a neighborhood that seeks better access and housing opportunities (Carver Plan 39).

Jackson Ward

Jackson Ward sits to the west of Court End and north of Broad Street and is split between the North and Downtown planning districts. By the 1900s, African Americans considered Jackson Ward to be a city within a city where entrepreneurs flourished. Once known as the ‘Harlem of the South,’ Jackson Ward was one of the most important African American business communities in the United States (National Park Service). Throughout the second half of the 20th century, the neighborhood experienced serious population decline as urban renewal projects fragmented the community. Many attribute this fact to the construction of I-95 that effectively split the neighborhood in half. The City of Richmond has targeted vacant and substandard properties in the neighborhood for various rehabilitation projects. While some thought the construction of the Richmond Convention Center would inject life into the neighborhood, many now believe it has separated residents from most of the downtown. The Richmond Downtown Plan states that Richmond Convention Center overpowers the neighborhood’s smaller-scale historic structures’ (Richmond Downtown Plan,1.9). These redevelopment efforts have decreased the overall size of the neighborhood. Yet, at 40 acres, Jackson Ward is still the nation’s largest National Historic Landmark associated with African American History (Historic Jackson Ward).

In a recent interview of Charles Finley, President of the Historic Jackson Ward Association, he described his communities’ goals for the future. At this time, the Historic Jackson Ward Association wants to build better relationships with public and private organizations in the City and increase efforts to beautify the neighborhood. Specifically, the neighborhood wants to improve the Abner Clay Park. When asked about pressing issues the neighborhood faces, Mr.
Finley stressed the economic impact made by moving the Black History Museum to the Leigh Street armory and the sudden proliferation of apartment buildings in the neighborhood. Currently, the neighborhood has very little contact with the VCU Health System, but residents are open to initiatives that could create a better relationship with the institution. He adds that a number of medical students and professionals reside in the neighborhood (Finley).

An analysis of the Historic Jackson Ward Strategic Plan depicts a neighborhood that must deal with the pressures of growth while maintaining its unique and rich history. Specifically, the Plan states that the Association wants to undertake initiatives that alleviate blight, confront negligent landlords, increase safety and beautify the neighborhood. Objectives like the implementation of a neighborhood signage plan, the activation of a neighborhood Business Association, elimination of blight around the Hippodrome and Leigh street armory, and relationship building with VCU and the BioTech park will help reach these goals. Several of these goals are incorporated into this plan.

**Shockoe Bottom/Slip**

Shockoe Bottom/Slip neighborhoods fall within the East planning district. The neighborhood is incredibly diverse. Since the 1960s, the neighborhood has been developed as a commercial and entertainment district. While this character remains, apartments and condominiums have begun to embed within the neighborhood. Recently, fears regarding flooding in the neighborhood have been assuaged by the completion of a floodwall along 21st street and real estate activity has increased. The Shockoe Bottom Land Use and Development strategy refers to a trend emerging "that indicates a shift from an industrial and commercial emphasis to one of retail, commercial and residential uses" (Shockoe Bottom Land Use and Development Strategy 3).

An analysis of the Shockoe Bottom Land Use and Development Strategy illustrates the neighborhood’s desire to grow as a mixed-use urban neighborhood while maintaining its historic character. The strategy lays out three general
goals for the neighborhood: retain Shockoe Bottom as a mixed-use area, maintain elements of its historic character, and increase efficiency in the movement of vehicles and people. Specifically, the strategy understands growing trends in the neighborhood: more commercial and residential development in place of manufacturing and warehousing. The Broad Street Corridor is the focus of an entire section of the plan. The corridor should provide a gateway to the communities, enforce infill development and increase pedestrian activity (Shockoe Bottom Land Use and Development Strategy 11).

**Greater Richmond Partnership, Inc.**

The Greater Richmond Partnership Inc. is the leading economic development organization within the Richmond region. A non-profit organization, the GRP originated in 1994 and has since assisted in growth and expansion of business in the region (www grpva com). In a recent interview with Greg Wingfield, President of the GRP, the organization’s long-term goals for the region were discussed along with his opinions on opportunities for the VCU Health System. Simply stated, the long-term goals of the GRP are to increase investment and quality jobs in the Richmond region. The GRP wants to support and facilitate a good and stable business friendly environment. Mr. Wingfield asserted that some important opportunities exist for the GRP to collaborate with the VCU Health System because of the GRP’s marketing strategy around attractive business clusters. Furthermore Mr. Wingfield notes that the GRP seeks to market the health/life sciences industry, which is supported by the VCU Health System. The Virginia Biotechnology Research Park, combined with the VCU Health System, provides an appealing base to attract growing and expanding companies in the health and life sciences field. Furthermore, it seems that opportunities exist for the VCU Health System to work with the City and neighborhoods to better enhance their look and feel. Providing a sense of place and shared design with the community could enhance the Health System’s appeal and relationship with the local community. When asked about the pressing socio-economic issues facing the City and region, Mr. Wingfield mentioned the growing misalignment of our workforce. The region’s talent does not necessarily match available jobs (Wingfield). Primarily, this statement describes the growing
mismatch between the human capital in the region and what human capital is needed to fill employment opportunities in the region.

City of Richmond

Richmond is a City of neighborhoods formed by unique demographics and interests. The City Planning department has organized the City into 9 planning districts. Comprised of land on both sides of the James River, the City is composed of approximately 200,000 citizens, numerous culturally diverse neighborhoods and a combative history. As the City evolves into the 21st century, it hopes to unite neighborhoods under common goals. The fundamental goal of the Richmond Downtown plan is to restore the city center, in particular Broad Street, as the commercial hub for the City and region.

After a review of the City of Richmond’s Downtown Master Plan, it is clear that several of the City’s initiatives focus on how the VCU Health System can engage with the local neighborhoods. The City would like to “Integrate the VCU Health System into Downtown’s urban fabric” (Richmond Downtown Plan 4.22). The City lists several ways in which VCU Health System can better integrate into the community: continue expansion of multiple uses, enhance the streetscape, increased open space and expand multi-modal transportation initiatives on campus. While these are worthy goals, they do not respond to many of the concerns raised in interviews or the literature review of community plans. Furthermore, the City would like for the Health System to create a gateway building that would provide a ‘front door’ to the campus from Broad Street.

In addition to specific goals for the design and growth of the VCU Health System, the City would like to “establish a ‘Live Near Your Work’ program” that would create “employer-assisted housing benefit plans for employees” of companies in downtown Richmond. In the plan, employers ‘provide eligible employees with a forgivable loan of a set amount, typically
between $2,000 and $15,000 depending on local housing costs, as well as housing information and education and innovative financing options’ (Richmond Downtown Plan 7.15). While the VCU Health System is not specifically mentioned, the plan notes that medical institutions have been successful in the implementation of identical initiatives.

These goals and objectives are an attempt to capitalize on the enormous amount of employment and daily foot traffic at the VCU Health System. As the VCU Health System grows, growth would spill over into the surrounding communities in the form of commercial and residential development.

**VCU Health System**

The VCU Health System is one of the most prominent and successful academic health systems in the country and operates as the only level 1 trauma center in the greater Richmond Region. In 2011, the VCU Health System reported over $1.7 billion in operating revenue resulting in a net operating income over $145 million. Its finances are very stable: AA- rating and A1 rating from S&P and Moody, respectively. Of the 8,000 employees of the VCU Health System, 89% are full-time (Chmura).

VCU has demonstrated its commitment to the local community. The Carnegie Foundation lists it as a Research University-Very High Research Activity as well as a Community Engaged institution, one of only 40 national public research universities that hold both distinctions. Furthermore, VCU, including the Health System, implemented the *Quest for Distinction* in 2011. Theme IV of the plan states “[VCU] Become a national model for community engagement and regional impact.” and will require the University and Health System to “deepen and expand its existing partnerships in the local community” (VCU). Three goals are listed under Theme IV: “Expand community engaged scholarship and service learning, create university-community partnerships with a focus on the key targeted areas, provide strategic leadership in addressing sustainability challenges through curricular and service innovations and green facilities and operations” (VCU).
Specific metrics to gauge their economic impact are percentage of alumni in Richmond, Metro and State, number of jobs created in the region and the fiscal impact. A commitment to the local community and region as an economic development engine is evident.

**SWOT Analysis of the VCU Health System**

Following an analysis of community data and stakeholder interviews, certain strengths, weaknesses, opportunities and threats for VCU Health System community engagement became evident. The SWOT analysis indicates which role will be best for the Health System to undertake. Strengths and weaknesses are those the institution has compared to other similar institutions, while opportunities and threats relate to the particular institution.
The VCU Health System has several obvious strengths. An institution wide commitment to the local community is evident in its Quest for Distinction. It is also financially stable and unlikely to relocate. S&P and Moody’s credit reporting give the VCU Health System an AA- and A1 rating, respectively. Financial stability is critical if funding and economic support will be used by the Health System to impact the local community. Since relocation is unlikely, the Health System’s...
strategic location amongst the local community is a great asset. As demonstrated in figure 4, the VCU Health System is located near both commercial, residential and office zones allowing it to have a daily impact on local citizens. The local partnerships the Health System has established with the Virginia Biotechnology Park are critically important because they establish an avenue for increased commercialization and entrepreneurship. Perhaps, the Health System’s greatest strength is its ability to innovate. Innovation can impact local communities by serving as the first step towards job creation. In the past year, VCU disclosed 129 inventions, issued 10 new patents and created two start-up companies. A patent is legally a new idea, and the fact that a "firm has incurred the cost of applying protection implies that the knowledge has some perceived value" (Rogers). In general, patents represent “a new advance on existing knowledge” and, as such, should be considered an innovation (Rogers 11). Eighty-eight of the 129 invention disclosures came from the VCU Health System. This led to over $1.2 million in licensing revenues (VCU Office of Research). Economic developers often use invention disclosure and patent activity as a general proxy for innovation at the university level. Innovation represents a strength because it demonstrates the growth of knowledge and that the organization sees value in these ideas.

In terms of making a contribution to the community, the VCU Health System has several weaknesses that limit its ability to engage in the community. The first weakness is the actual mission of the Health System. In the short-term day-to-day activities, they must focus on their role as a healthcare provider to the local community. This may get in the way of its long-term goal to be a community developer. Federal and state funding will continue to decrease in coming years while the cost of providing health care will continue to rise. Furthermore, the organization is complex. With many different parts, it is difficult to fully activate the institution to serve as a community developer. At this time, the VCU Monroe Campus and VCU Health System may represent differing views on community engagement.

Certain threats may limit community engagement. Facing the intense mission of healthcare provider for the community, the Health System may be forced to allocate its budget in a way that limits community engagement.
Furthermore, threats may come from the community. As interviews pointed out, local communities are *reluctant to allow real estate expansion*. Professionals and other skilled workers are unlikely to acquire and live in dilapidated housing. Therefore, if communities wish to increase home-ownership real estate expansion may be unavoidable. The institution may also encounter a *mismatch of expectations*. The communities may see the VCU Health System’s stable finances as a sign of its ability to promote growth, when, in fact, its budget allocations to the communities may be insufficient to match expectations (Kauper-Brown).

Overall, opportunities for community engagement outweigh the threats. With healthcare policy changing, opportunities may arise for VCU to innovate and meet the needs of the community in new and expanding ways. The Health System has established strategic partnerships with the Virginia BioTechnology Research Park. An opportunity exists for the VCU Health System to draw upon local resources to grow and nurture talented local residents. Students and young community residents can provide a strong and able entrepreneurial community if they are given opportunities to collaborate and create.

The costs and benefits for community engagement are endless and ever changing. To simply limit costs and benefits to expenditures and revenues would be to neglect the true understanding of the nature of community anchor institutional engagement. To grasp any sort of quantitative analysis of community engagement one must explicitly define what role the anchor institution will take.
Innovation, Job Creation and Community Engagement

Based on analysis of qualitative and quantitative data, the most appropriate role for the VCU Health System to engage in the community is to foster innovation among its employees and students along with local youth and adults (see Technical Appendix: Section B for detailed interview questions). While the process of job creation and community investment through innovation has a long investment timeline, the investment has far reaching benefits. The local communities need better jobs and quality investment by regional stakeholders to better their quality of life. The Greater Richmond Partnership, Inc., the City of Richmond and the VCU Health System, along with other stakeholders, must collaborate to increase jobs and investment in these communities. The best way to increase jobs and investment is through homegrown companies that rely on local communities for long-term sustained success. In a recent study by the Kauffman Foundation, Tim Kane found that "on average and for all but seven years between 1977 and 2005, existing firms are net job destroyers, losing 1 million jobs net combined per year" (Kane). On the other hand, in their first-year of operation, “new firms add an average of 3 million jobs” (Kane 2). Furthermore, Kane shows that “job growth is driven, essentially entirely, by startup firms that develop organically” (Kane 6). While large firms provide stability in an economy, they do not function as net job creators. How then do startups begin?
Studies analyzing cities similar to Richmond have shown a potential for a city of similar size to become a 2nd Tier Health Sciences region. A model known as the “state-anchored industrial district” describes what the VCU Health System could spearhead (Mayer 6). In this model, the institution should serve as an incubator, a facility that offers physical space, expertise and business assistance for low or no cost (Small Business Incubators). A critical factor in this model is public funding for research. Over the past 10 years, research funding has grown steadily at VCU. In 2012, total research funding surpassed $260 million.
A basic model can be established to determine the impact of University research funding on entrepreneurship and job growth in Richmond. Using the amount of money given to research projects at the Health System by academic program, one can see the amount of invention disclosures, patents and start-ups created. This intellectual property, linked to research funding, drives job creation through the creation of start-ups. Jobs are created from the initial grant of research funding, to the award of patents and the possible creation of a start-up company. Because of the nature of research
collaboration many of the patents this past year would be considered biomedical engineering. Invention disclosure, on the other hand, can be attributed to specific departments. An invention disclosure is a legal, written document used to determine if a patent for an idea should be sought. It is the first step in seeking a patent. Table 5 depicts intellectual property as a result of research funding at VCU. Of the 129 invention disclosures submitted by VCU, employees of the VCU Health System filed 88. Thirty-three and a half percent of research awards led to 68.2% of the invention disclosures. From these invention disclosures, patents were sought and two startup enterprises began in the past year (VCU Office of Research).

Table 11. Research Awards and Intellectual Property, VCU Technology Transfer Annual Report

<table>
<thead>
<tr>
<th>VCU Medical Research Awards and Intellectual Property (FY 2012)</th>
<th>Dollar Amount</th>
<th>Percent of Total</th>
<th>Invention Disclosures</th>
<th>Patents</th>
<th>Startups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allied Health Professionals</td>
<td>$1.9</td>
<td>0.7%</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dentistry</td>
<td>$1.4</td>
<td>0.5%</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medicine</td>
<td>$119.9</td>
<td>46.1%</td>
<td>70</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td>$2.1</td>
<td>0.8%</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$6.0</td>
<td>2.3%</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>VCU Health System</strong></td>
<td>$131.3</td>
<td>50.5%</td>
<td>88</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Humanities and Sciences</td>
<td>$17.4</td>
<td>6.7%</td>
<td>7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Arts</td>
<td>$37.6</td>
<td>14.5%</td>
<td>1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Engineering</td>
<td>$4.9</td>
<td>1.9%</td>
<td>33</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>$0.15</td>
<td>0.1%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>$1.4</td>
<td>0.5%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>$17.2</td>
<td>6.6%</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>$50.2</td>
<td>19.3%</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$260.2</strong></td>
<td><strong>100.0%</strong></td>
<td><strong>129</strong></td>
<td><strong>10</strong></td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

Jobs are created at several points along the life cycle of an entrepreneurial enterprise. Once a patent has been obtained, entrepreneurs must be attracted to the potential product. With entrepreneur and idea, a startup can be formed.
The startup must attract capital from potential investors. With financial liquidity, the startup can then move into the market where it may become successful. Regardless of the success of the startup, the entrepreneur has now gained valuable experience, capital and connections that can then be applied to future products.

Figure 8. The Life Cycle of Entrepreneurship

In order to implement a plan that draws employees from the local community, it is critical to understand the type and availability of these jobs along with whether or not the workforce matches employment opportunities when they arise. At least one position is immediately filled in a startup: the entrepreneur.
In the biomedical field other employees are necessary. Positions like a lab technician, accounting clerk, etc. are all positions required by a biomedical startup company. Often startups fill these positions from an employee pool that already serves other startups. Because the work may initially be light for the employee, they may work for several startups at once. Their employment is fractional in that their work schedule may be divided among several startups. Does the City of Richmond and region have a workforce that can fill these type positions?

Clinical/Medical Laboratory Technician (SOC 29-2012)

J. Sargeant Reynolds Community College currently offers a two-year associate’s degree in this field. In the past year, 22 students graduated from the program. When employed, the laboratory technician makes a wage of $38,800-$43,000 per year in the Richmond MSA. By 2022, projected employment for lab technicians is 933. Total annual demand is 28 (Chmura).

Biological/Chemical Technicians (SOC 19-4021-4031)

These positions require a two-year associate’s degree or less. Several local institutions, including J. Sargeant Reynolds Community College, grant a degree that can lead to employment in this field. While combined total demand for these positions is only 21 annually, one can expect wages of $47,400-$52,100 (Chmura).

Bookkeeping, Accounting and Auditing Clerks (SOC 43-3031)

These positions can be filled with moderate on-the-job training and a high school degree. In medical and diagnostic laboratories the position is usually paid $40,100 a year in the Richmond MSA. Projected employment by 2022 in the Richmond MSA is 9,370 because of a total annual demand of 217. While these positions are entry-level, as the startup grows, workers may advance with additional training. An occupational career ladder, listed in the Technical Appendix:
Section C, demonstrates potential career growth for medical and clinical laboratory technicians, biological/chemical technicians and bookkeeping, accounting and auditing clerks (Chmura).

Table 12. Biomedical Startup Employment, JobsEq 2.0 Chmura Economics and Analytics

<table>
<thead>
<tr>
<th>SOC</th>
<th>Title</th>
<th>Annual Supply Gap (or Surplus)</th>
<th>Current Employment 2012Q4</th>
<th>Annual Growth Demand</th>
<th>Annual Repl Demand</th>
<th>Total Annual Demand</th>
<th>Projected Employment 2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-2012</td>
<td>Medical and Clinical Laboratory Technicians</td>
<td>-1</td>
<td>811</td>
<td>12</td>
<td>16</td>
<td>28</td>
<td>933</td>
</tr>
<tr>
<td>43-3031</td>
<td>Bookkeeping, Accounting, and Auditing Clerks</td>
<td>-106</td>
<td>8,100</td>
<td>127</td>
<td>90</td>
<td>217</td>
<td>9,370</td>
</tr>
<tr>
<td>19-4021</td>
<td>Biological Technicians</td>
<td>-1</td>
<td>340</td>
<td>4</td>
<td>11</td>
<td>15</td>
<td>380</td>
</tr>
<tr>
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<td>-3</td>
<td>318</td>
<td>1</td>
<td>5</td>
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Demand for these positions is based on current levels of job growth. Based on educational attainment and availability, local citizens can meet the demand for these positions. Total combined demand for these positions is 266 per year over the next 10 years. The result is nearly 2,700 jobs under current growth estimates. As biomedical entrepreneurship increases and startups reach a certain level of success in the region, demand for these positions and others will increase. It is important then to consider the potential for employment increases in positions like sales, marketing and production that would develop as the startup grows. The effects on the Richmond regional economy are difficult to determine because employment growth would occur across various industries.
Goals, Objectives and Implementation Strategies

While wholesale changes over the short-term may be unrealistic, there are several goals, objectives and strategies that can be taken to put the VCU Health System on track to: increase human capital, improve access to information, elevate funding and enhance the quality of life of local citizens. The following vision statement describes the Health System’s role in creating a growing and sustainable economy.

Vision Statement

*Leveraging existing and future assets, the Virginia Commonwealth University Health System (VCUHS) will work to increase jobs and investment in the local community and to create a climate of development, innovation and community.*
Goal 1: Enhance Innovation

Objective 1.1: Increase Local Human Capital

Implementation Step 1.1.1: Develop a strong public education system.

Strategy: Partner with City of Richmond schools and the VCU School of Education, Business and Science to develop education curricula targeted to provide work/life skills required to meet the needs of the current local economy and projected growth industries.

Implementation Step 1.1.2: Develop programs to introduce and cultivate entrepreneurship skills in local youth.

Strategy: Establish an elementary school program that teaches students about entrepreneurship. Host a yearly competition for students that allows them to create a business, present a business plan and receive feedback from local professionals. This program will give youth critical experience in questioning their world and looking for solutions. Most innovation occurs through manipulation of current products and ideas. Establish partnerships with local high school students to teach them skills for health professionals/researchers through local incubators like Virginia Bio Technology Park. Interested students should be given opportunities to gain experience in a healthcare or research environment.

Implementation Step 1.1.3: Create a collaborative program between VCUHS students and MBA candidates.

Strategy: Establish a working relationship between VCUHS students and VCU MBA candidates. This program will connect scientific innovators with students with business experience. Since health science students have little or limited experience working in the entrepreneurial cycle, it is critical that VCUHS develops its students with experience taking health science research to market. This program should steer students towards remaining within the region by connecting...
them with other local entrepreneurs and companies in their fields of interest. On a case-by-case basis the program could identify specific opportunities or scenarios that would increase the likelihood that budding entrepreneurs will remain in the region.

**Objective 1.2: Increase Access to Information for Entrepreneurs**

Implementation Step 1.2.1: Provide competitive intelligence to entrepreneurs and incubators (Edward Lowe Foundation).

Strategy: Provide information that is usually unavailable to entrepreneurs. Legal support, marketability studies and research support can be provided by VCUHS to local entrepreneurs to create a competitive advantage. Information of this kind is often very expensive and cannot be obtained by local incubators.

Implementation Step 1.2.2: Develop an innovation infrastructure.

Strategy: Infrastructure, in this case, is not physical but a cultural fabric that creates opportunities for ideas to collide. Innovation is born from discussion and the collision and repackaging of ideas. VCUHS should make every effort to increase collaboration of all forms. They should host twice-per-month community events or sponsor open space dialogues that can be attended by local citizens. These events should occur in highly visible areas where citizens can be drawn in to contribute to discussion. Topics should be diverse and changing: art and culture, technology and entertainment, etc.

Implementation Step 1.2.3: Create an innovation clearinghouse.

Strategy: The innovation clearinghouse should be an open, virtual or in-person forum for professionals in many fields to critique and build upon ideas. Innovation should occur openly where collaboration is fluid. Good ideas often die in the lab when they could have been delivered with the right connections. Should this step be implemented, members of the
clearinghouse should seek expert advice from the Intellectual Property and Transactional Law Clinic at the University of Richmond (University of Richmond School of Law). Typically, a written contract is established to protect ideas brought before the clearinghouse but which allows further collaboration of other members of the clearinghouse.

**Objective 1.3: Increase Access to Funding for Entrepreneurs**

Implementation Step 1.3.1: Create an institutionally supported Proof of Concept Fund (Edward Lowe Foundation).

Strategy: A lack of funding should never be the reason innovation dies. While figure 5 demonstrates the growth of research funding at VCUHS, the majority of that funding comes from the National Institute of Health. Federal support is subject to political decision makers and could be easily decreased as federal budget concerns increase. To alleviate entrepreneurial risk, VCUHS should partner with local companies to establish a Proof of Concepts fund that awards financial support to ideas that have developed to a certain stage where entrepreneurial interest is present. VCUHS could establish a Board of Directors composed of local leaders in a wide range of industries to make decisions on funding. They should also establish metrics that startups must attain to receive the initial funds or additional funds in the future.

Implementation Step 1.3.2: Establish avenues for private partnerships and investment in research and training.

Strategy: Government support of research and innovation will likely decrease in the future. The funding of innovation has devolved to local private actors. Institutional investors or venture capitalists may provide early financial support if VCUHS ‘co-signs’ the concept. Research and Development firms, trade associations, think tanks, and other academic institutions could form a partnership to fund worthy projects that may have normally received public funding.
Goal 2: Increase Local Job Creation

Objective 2.1: Partner with Local Incubators to Incentivize Local Hiring.

Implementation Step 2.1.1: Establish relationships with the Virginia Bio Technology Park, Dominion Resource Innovation Center, etc.

Strategy: Face-to-face interaction between local incubators and VCUHS is critical. Once a month, these organizations should meet to discuss local hiring and the role that incubators can play.

Implementation Step 2.1.2: Establish local hiring benchmarks that trigger additional funding.

Strategy: In some cases, local hiring will be unrealistic because the necessary skills and experience will not be available in the region. Therefore, all funding opportunities should not be tied to local hiring. The incubator, partnered with VCUHS, should establish a threshold where startups can receive additional funding if they hire a certain amount of local citizens.

Implementation Step 2.1.3: Work with the VCU Office of Tech Transfer to conduct a study that analyzes “fractional employment” or employees that provide services to multiple startup companies.

Strategy: Incubators must be incentivized to hire local individuals. Startups need qualified bookkeepers, technicians, etc. that are created by the local economy. Often, these employees work fractionally for these companies. For instance, a lab technician may work for several startups at once while being employed by an incubator, so they are, in effect, fractionally employed.
Objective 2.2: Provide Avenues for Local Qualified Candidates to Fill VCUHS Employment Opportunities.

Implementation Step 2.2.1: Incentivize VCUHS managers to hire locally with a percentage of senior executives’ bonuses tied to diversity goals.

Strategy: VCUHS is a large and diverse employer but should take additional steps to incentivize local hiring. Qualified employees exist within the region, but no program currently exists that incentivizes their hiring. Incentives must occur at the senior executive level so that local hiring of qualified workers becomes embedded within the hiring culture.

Implementation Step 2.2.2: Amend hiring criteria to place a greater emphasis on local hiring.

Strategy: Hiring decisions are based on a candidate’s ability to meet a defined framework of criteria. These criteria should encourage local hiring by giving additional weight to the applications of job candidates from the immediate local community.

Implementation Step 2.2.3: Make employment opportunities more accessible.

Strategy: While the vast majority of qualified candidates can access online job postings, opportunities must be made for candidates to access job opportunities using other means. Job openings should be posted on print marketing and delivered to community gathering areas such as churches, schools and community centers.
Goal 3: Improve Local Citizens’ Quality of Life and Interaction Between VCUHS and Local Communities

Objective 3.1: Incentivize Local Homeownership by Employees of VCUHS.

Implementation Step 3.1.1: Determine local neighborhoods that are eligible for attractive financing.

Strategy: Neighborhoods in close proximity to VCUHS with high vacancy rates should be made eligible for attractive financing.

Implementation Step 3.1.2: Partner with local lending institutions to provide attractive mortgage interest rates and low down payment requirements for VCUHS employees that live in defined neighborhoods.

Strategy: Employees who live locally should be eligible for lower interest rates or decreased down payment requirements. While incentivizing local homeownership represents substantial initial costs, it will increase foot traffic around the hospital and will decrease others costs associated with parking, etc. Neighborhoods will also become more attractive and safe as vacancy rates decrease. Local homeownership may also increase interaction among employees outside work and promote diversity in the neighborhoods. Experts agree that interaction and diversity resulting from increased density in residential areas is not only attractive to entrepreneurs, but also stimulates innovation.

Objective 3.2: Partner with Organizations to Fund Community Initiatives.

Implementation Step 3.2.1: Establish a system for identifying community needs.
Strategy: Several VCUHS employees at different levels should be identified to create a committee that will interact with the local community to identify community needs. A member of the VCU Community Engagement Office should be a member of this committee. Key stakeholders within the local community should also participate. This committee will work to identify community needs that could be solved by VCUHS and its partners and assign funding towards these goals.

Implementation Step 3.2.2: Partner with a local community development organization to fund one physical improvement program per year.

Strategy: Acting on community needs identified by the committee, VCUHS should determine one physical solution per year that can be realistically accomplished. A potential project could be the rehabilitation of a community park or the creation of mural that represents community culture. While the local community development organization will conduct the project, VCUHS can sponsor the project.

Implementation Step 3.2.3: Partner with a local community development organization to fund one social improvement program per year.

Strategy: Acting on community needs identified by the committee, VCUHS should determine one social solution that can be realistically accomplished. A potential program could be established to review job candidate resumes and to provide job search assistance on Saturdays, once a month, for a defined time period. While the local community development organization will conduct the program, VCUHS can sponsor the program.
Objective 3.3: Establish a Community Benefit Plan.

Implementation Step 3.3.1: Conduct a community needs assessment and assign responsibility for the hospital’s community benefit plan to a hospital employee that will work with the committee established by Implementation Step 3.2.1. This employee will be responsible for the implementation of the plan and allocation of funding.

Strategy: A long-range community benefit plan will act on the community needs determined by the assessment. Responsibility to conduct the study and implement determined actions must be the specific responsibility of a VCUHS employee.

Implementation Step 3.3.2: Create an event in the spring and fall that provides an opportunity for VCUHS employees and community members to clean up the local neighborhood.

Strategy: Interaction between VCUHS and local communities is critical. Bi-annual beautification events allow VCUHS employees to interact with their neighbors and give back to the community. VCUHS must be a visible force for clean and safe neighborhoods.
Implementation Priorities

While each goal, objective and implementation step are critical, some require more immediate action. Goal 3: *Increase local quality of and interaction between VCUHS and local communities* requires immediate action. VCUHS and local communities need a shared vision of a clean, safe and diverse community focused on innovation and job creation. If Goal 3 is reached, Goals 1 and 2 will likely occur. Implementation steps have been prioritized into three groups: Critical (immediate action required); very important (action required within the next year), and important (action required within the next five years).

**Critical Steps:**

- Objective 1.1: Increase local Human Capital
- Objective 2.1: Partner with local incubators to incentivize local hiring.
- Objective 3.3: Establish a Community Benefit Plan.

These steps are considered critical because they provide a foundation for an outstanding quality of life and require long-term cultural change. Without these critical steps, the remaining steps may not be possible. Innovation and safe and clean neighborhoods attract individuals and investors. Entrepreneurs will be attracted to communities that put human capital and safety first.

**Very Important Steps:**

- Objective 1.3: Increase Access to Funding for Entrepreneurs
- Objective 3.1: Incentivize local homeownership by employees of VCUHS.

These steps are considered very important because they provide opportunities for financial support of programs and individuals. Financial support will allow successful programs already established to grow and will increase their...
impact. Local homeownership by employees of VCUHS is vital to the success of local communities but will take time to define the program and find financing. Action should be taken now to establish policy to define the program while VCUHS seeks funding.

**Important Steps:**

- Objective 1.2: Increase Access to Information for Entrepreneurs.
- Objective 2.2: Provide avenues for local qualified candidates to fill VCUHS employment opportunities.
- Objective 3.2: Partner with organizations to fund community initiatives.

These steps are considered important because they will contribute to the overall success of the plan, but they do not require immediate action and do not directly impact the success of the other objectives. Altering employment policy and enacting the changes will be slow and hiring opportunities may not be immediately available. Furthermore, Objective 3.2 is not completely under the control of VCUHS and therefore may be difficult to implement in a timely manner.
Conclusion

As an anchor institution, VCUHS faces many challenges as it attempts to leverage its assets to develop local communities. VCUHS, as the largest employer in the City of Richmond, has a responsibility to its citizens not only as a healthcare provider but also as a tool for community economic development. Developing an innovative community, increasing local job creation and improving the local citizens’ quality of life and interaction with VCUHS must be accomplished to cultivate the local community for the 21st century. VCUHS must make every effort to increase local human capital. Furthermore, they must devise a systematic way to engage with the community to increase safety and the quality of life for local citizens. Local job creation will go a long way in increasing local quality of life.
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