

**Regional Economic and Demographic Market Analysis and
Economic Impact Assessment of the Port Covington Project/Under
Armour Headquarters Project**

Prepared for:



December 2015

Submitted by:

**Battelle Technology Partnership Practice
505 King Avenue
Columbus, OH 43201**

Battelle endeavors at all times to produce work of the highest quality, consistent with our contract commitments. However, because of the research and/or experimental nature of this work the client undertakes the sole responsibility for the consequence of any use or misuse of, or inability to use, any information, apparatus, process or result obtained from Battelle, and Battelle, its employees, officers, or Trustees have no legal liability for the accuracy, adequacy, or efficacy thereof. Battelle does not engage in research for advertising, sales promotion, or endorsement of our clients' interests including raising investment capital or recommending investments decisions, or other publicity purposes, or for any use in litigation.

Table of Contents

	Page
Acronyms and Abbreviations	vii
1.0 Introduction and Executive Summary.....	1
1.1 Overview of the Port Covington/Under Armour Headquarters Project.....	1
1.2 Role of the Port Covington/Under Armour Headquarters Project in the City and Regional Economy	2
1.3 The Port Covington/Under Armour Headquarters Project in the Context of State and Regional Economic Development and National Real Estate Trends.....	8
1.4 The Economic and Fiscal Impacts of the Port Covington/Under Armour Headquarters Project	9
1.4.1 City Level Impacts.....	9
1.4.2 State Level Impacts.....	10
2.0 Strategic Importance of the Port Covington/Under Armour Headquarters Project	13
2.1 Role of Port Covington/Under Armour Headquarters Project in State and Regional Economic Development.....	14
2.2 Case Study – The Role of Leading Firms in Cluster Development.....	18
2.3 Summary and Conclusion	20
3.0 Consistency of the Port Covington/Under Armour Headquarters Project with National Economic and Real Estate Trends.....	21
3.1 The Re-urbanization of Both Population and Jobs	22
3.2 The Rise of the Creative Class.....	25
3.3 The Emergence of Cities as the Center of the Entrepreneurial and Innovation Economy	27
3.4 A Trend Toward Urban Mixed-Use Developments.....	29
3.5 The Rise of Urban Innovation Districts	32
3.6 The Rise of Super-Commuters in Urban Areas	33
3.7 The Development of Multi-nodal Downtown Business Areas	34
3.8 Summary and Conclusion	36
4.0 The Port Covington/Under Armour Headquarters Project in the Context of Baltimore Regional Population, Economic, and Real Estate Trends.....	37
4.1 Regional Population Trends.....	37
4.2 Migration Trends	46
4.3 Regional Economic Trends.....	49
4.4 Regional Real Estate Trends.....	57
4.4.1 CoStar Regional Real Estate Analysis.....	60
4.4.2 Summary	73
4.5 Population and Employment Projections.....	74
4.6 Summary and Conclusion	80

5.0 The Economic and Fiscal Impact of the Port Covington/Under Armour

Headquarters Project 81

 5.1 Baltimore City and Maryland Impacts..... 86

 5.1.1 Baltimore City Impacts 87

 5.1.2 State of Maryland Impacts 95

 5.2 Economic Impact Methodology and Terms..... 105

Appendix A: Key City, Regional, and State Development Key Informants

Interviewed 107

Appendix B: Key Port Covington / Under Armour Key Informants Interviewed 108

Appendix C: IMPLAN Estimated State and Local Government Revenue Impacts 109

List of Tables

	Page
<i>Table 1. Overview of the Port Covington/Under Armour Headquarters Project.....</i>	<i>2</i>
<i>Table 2. Baltimore City Demographic and Housing Profile</i>	<i>42</i>
<i>Table 3. Baltimore City Resident Educational Attainment and Occupation</i>	<i>43</i>
<i>Table 4. Baltimore Metropolitan Area Demographic and Housing Profile.....</i>	<i>44</i>
<i>Table 5. Baltimore Metropolitan Area Resident Educational Attainment and Occupation</i>	<i>45</i>
<i>Table 6. IRS Migration Data</i>	<i>49</i>
<i>Table 7. Private Sector Employment Trends in Maryland, the Baltimore Metropolitan Area, and Baltimore City</i>	<i>55</i>
<i>Table 8. Industry Specialization in Maryland, the Baltimore Metropolitan Area, and Baltimore City</i>	<i>56</i>
<i>Table 9. Baltimore City Population and Household Projections</i>	<i>77</i>
<i>Table 10. Baltimore Metropolitan Area Population and Household Projections.....</i>	<i>77</i>
<i>Table 11. Baltimore City Employment Projections</i>	<i>78</i>
<i>Table 12. Baltimore Metropolitan Area Employment Projections</i>	<i>79</i>
<i>Table 13. Port Covington Project, Projected Delivery Schedule</i>	<i>85</i>
<i>Table 14. Port Covington Project Total Baltimore City Construction Impacts by Year.....</i>	<i>89</i>
<i>Table 15. Port Covington Project – Mixed-Use Development Baltimore City Construction Impacts by Year</i>	<i>89</i>
<i>Table 16. Port Covington Project – Under Armour Campus Baltimore City Construction Impacts by Year</i>	<i>90</i>
<i>Table 17. Total Port Covington Construction Baltimore City Impacts – Over 23-Year Construction Period</i>	<i>91</i>
<i>Table 18. Under Armour and Port Covington Tenants – Baltimore City Operational Impacts by Year.....</i>	<i>92</i>
<i>Table 19. Port Covington Tenants – Baltimore City Operational Impacts by Year.....</i>	<i>93</i>
<i>Table 20. Under Armour Headquarters Campus – Baltimore City Operational Impacts by Year.....</i>	<i>93</i>
<i>Table 21. Baltimore City – Total Construction and Total Under Armour/Tenant Supported Jobs by Industry and Average Employee Compensation</i>	<i>94</i>
<i>Table 22. Port Covington Project Total Maryland Construction Impacts by Year.....</i>	<i>97</i>
<i>Table 23. Port Covington Project – Mixed-Use Development Maryland Construction Impacts by Year</i>	<i>97</i>

Table 24. Port Covington Project – Under Armour Campus Maryland Construction Impacts by Year.....98

Table 25. Total Port Covington Construction Maryland Impacts Over 23-Year Construction Period.....99

Table 26. Under Armour and Port Covington Tenants – Maryland Operational Impacts by Year.....100

Table 27. Port Covington Tenants – Maryland Operational Impacts by Year.....100

Table 28. Under Armour Headquarters Campus – Maryland Operational Impacts by Year.....101

Table 29. Maryland Impacts – Total Construction and Total Under Armour/Tenant Supported by Industry and Average Employee Compensation102

Table 30. Maryland Impacts – Total Construction and Total Under Armour/Tenant Supported Jobs by County.....103

Table 31. Total Baltimore City Primary Jobs by Place of Worker Residence104

List of Figures

	Page
<i>Figure 1. Recent Baltimore City Employment and Population Trends</i>	<i>3</i>
<i>Figure 2. Baltimore City’s Share of Creative Class Employed Residents and Jobs</i>	<i>6</i>
<i>Figure 3. Baltimore City and Regional Growth in Creative Class Jobs and Employed Residents.....</i>	<i>7</i>
<i>Figure 4. Baltimore City and Regional Growth in Creative Class Jobs and Employed Residents.....</i>	<i>26</i>
<i>Figure 5. Baltimore City’s Share of Creative Class Employed Residents and Jobs</i>	<i>27</i>
<i>Figure 6. United States, Maryland, and Baltimore Population Since 1990.....</i>	<i>38</i>
<i>Figure 7. Selected Components of Demographic Change in Baltimore City and the Baltimore Suburbs, 2000-2013.....</i>	<i>40</i>
<i>Figure 8. Direct Under Armour and Tenant Jobs in the Port Covington Project by Sector.....</i>	<i>41</i>
<i>Figure 9. Baltimore Metropolitan Area Net Migration.....</i>	<i>47</i>
<i>Figure 10. Baltimore City Net Migration</i>	<i>48</i>
<i>Figure 11. United States, Maryland, and Baltimore Employment Since 2000.....</i>	<i>50</i>
<i>Figure 12. Baltimore City’s Share of Metropolitan Area Employment.....</i>	<i>50</i>
<i>Figure 13. Baltimore Metropolitan Area New Housing Units Authorized for Construction by Building Permits.....</i>	<i>57</i>
<i>Figure 14. Baltimore City New Housing Units Authorized for Construction by Building Permits.....</i>	<i>58</i>
<i>Figure 15. Baltimore City’s Share of Metropolitan Area New Housing Units Authorized for Construction by Building Permits</i>	<i>58</i>
<i>Figure 16. Baltimore City and Metropolitan Area Non-Residential Building Permit Activity</i>	<i>59</i>
<i>Figure 17. Baltimore City’s Share of Metropolitan Area Non-Residential Building Permit Activity.....</i>	<i>60</i>
<i>Figure 18. Total Net Absorption in Class A Office Space, Baltimore Metro Region and City of Baltimore, 2001-14.....</i>	<i>63</i>
<i>Figure 19. Total Net Absorption in Class A Office Space, Central Business District and Harbor East, 2001-14.....</i>	<i>64</i>
<i>Figure 20. Vacancy Rates in Class A Office Space, Baltimore Metro Region and City of Baltimore, 2001-14.....</i>	<i>65</i>
<i>Figure 21. Vacancy Rates in Class A Office Space, Central Business District and Harbor East, 2001-14.....</i>	<i>66</i>
<i>Figure 22. Average Leasing Rates, Levels, and Recent Trends, 2008-14</i>	<i>67</i>

Figure 23. Total Net Absorption in Retail, Baltimore Metro Region and City of Baltimore, 2006-14.....69

Figure 24. Total Net Absorption in Retail, Baltimore’s Central Business District, 2006-14.....70

Figure 25. Vacancy Rates in Retail, Baltimore Metro Region, City of Baltimore and the CBD, 2006-14.....71

Figure 26. Average Leasing Rates, Levels and Recent Trends, 2012-1472

Figure 27. Port Covington Project Construction Expenditures by Year.....83

Figure 28. Estimated Direct Job Creation in the Port Covington Project.....86

Acronyms and Abbreviations

Acronym	Definition
CAGR	Compound Annual Growth Rate
CBD	Central Business District
CEDS	Comprehensive Economic Development Strategy
EAGB	Economic Alliance of Greater Baltimore
EBDI	East Baltimore Development, Inc.
ESRI	Environmental Systems Research Institute, Inc.
IMPLAN	Impact Model used in this analysis
IRS	Internal Revenue Service
LEHD	Longitudinal Employer-Household Dynamics
LQ	location quotients
NAICS	North American Industry Classification System
NAIOP	National Association for Industrial and Office Parks
QCEW	Quarterly Census of Employment and Wages
SF	square feet
TPP	Battelle Technology Partnership Practice

1.0 Introduction and Executive Summary

The Battelle Technology Partnership Practice (TPP) was retained by Sagamore Development, LLC to prepare two analyses of the Port Covington/Under Armour® Headquarters Project:

- An economic, demographic, and market assessment of the Baltimore City and metropolitan area to assess how local conditions will shape and influence the success of this project; and
- An analysis of the economic impact of the Port Covington/Under Armour Headquarters Project.

The goal of these two analyses is to assess the role and importance of the development of the Port Covington/Under Armour Headquarters Project in the city, regional, and state economy.

1.1 Overview of the Port Covington/Under Armour Headquarters Project

The Port Covington/Under Armour Headquarters Project is a potentially transformative investment in the next phase of Baltimore’s ongoing urban renaissance. Consisting of 200 acres on the tip of the south Baltimore peninsula and bounded by I-95 and Baltimore Harbor, the Port Covington site will house the corporate headquarters of Under Armour, one of Maryland’s most dynamic, home-grown companies. The project will also include a separate major mixed-use, live-work-play development. Port Covington represents a large scale redevelopment effort that will reshape Baltimore as a place to live, work, and play. The project will consist of the following key elements:

- **Mixed-Use Phase:**
 - 1.2 million square feet of retail space;
 - 1.0 million square feet of office space;
 - A hotel with an estimated 640 rooms;
 - The Sagamore Spirit Distillery, along with various types of planned arts and entertainment space;
 - 148,000 square feet of incubator space in the City Garage, an innovative project that will include both an Under Armour manufacturing testing and scale-up facility as well as a shared manufacturing space open to other Baltimore and regional firms, entrepreneurs, and residents; and
 - A total of 4.8 million square feet of residential space made up of 3,820 apartments with anticipated rents of \$2,200 per month and 855 condominiums with an anticipated average sales price of \$350,000.

- **Under Armour Corporate Headquarters Campus Phase** – the Port Covington/Under Armour Headquarters Project will be anchored by a new corporate headquarters campus for Under Armour, which will consist of:
 - 2.3 million square feet of office space; and
 - 500,000 square feet of innovation space.
- Table 1 provides an overview of the Port Covington/Under Armour Headquarters Project.

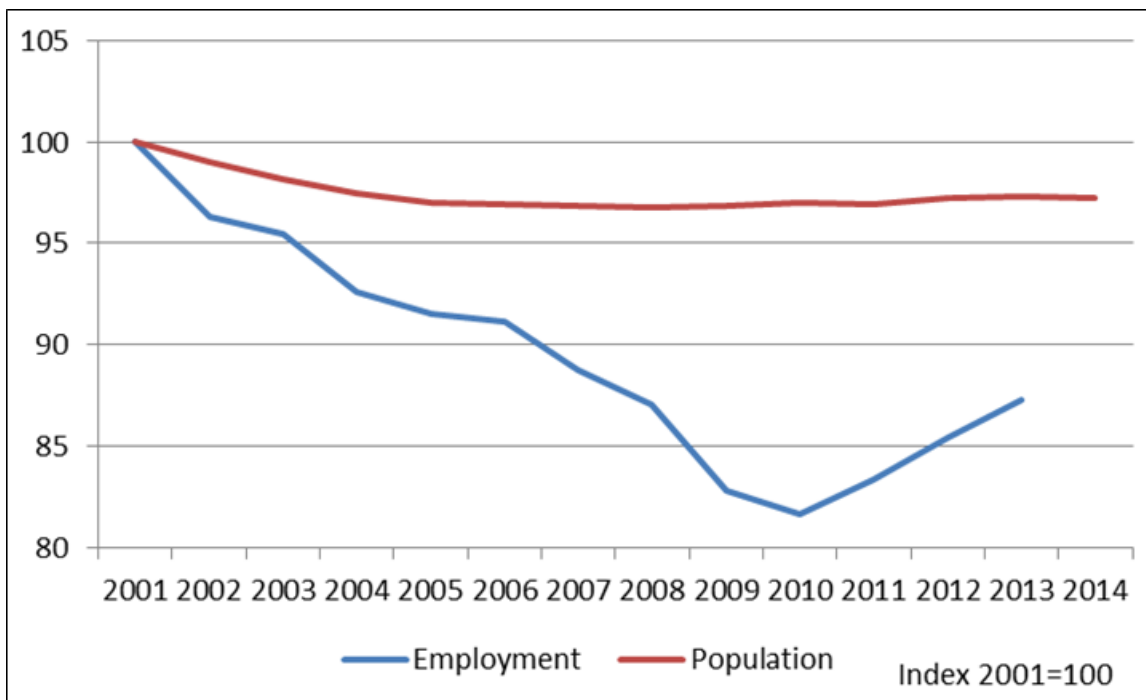
Table 1. Overview of the Port Covington/Under Armour Headquarters Project

Total Construction Budget – \$5.5 Billion	
Project Description at Build-Out	Value
Mixed-Use Development Phase	7,525,820 ft ²
Retail/Restaurant Space	1,198,272 ft ²
Office Space	1,046,482 ft ²
Other Space (Incubator, Distillery, Hotel)	505,632 ft ²
Hotel	640 rooms
Housing - Apartments/Condominiums	4,775,434 ft ²
Housing - Apartments/Condominiums	4,775 units
Under Armour Corporate Campus	2,783,000 ft ²
Office Space	2,278,000 ft ²
Innovation Space	505,000 ft ²

Source: Sagamore Development and Under Armour.

1.2 Role of the Port Covington/Under Armour Headquarters Project in the City and Regional Economy

After decades of decline, Baltimore City is well positioned for growth. Baltimore is a city in transition. After experiencing decades of decline in both population and employment, the city is in the midst of a renaissance (Figure 1). The city’s population has stabilized and, like urban areas across the country, is becoming a destination for young, urban professionals with 2013 population levels slightly above pre-recession levels. Even more importantly, Baltimore City has recently experienced employment growth as the nation, state, and region have recovered from the recent “Great Recession.” Since 2009, the city has experienced stronger employment growth than both the state and surrounding suburban areas.



Source: US Bureau of the Census and IMPLAN Quarterly Census of Employment and Wages (QCEW) data.

Figure 1. Recent Baltimore City Employment and Population Trends

Baltimore City is benefitting from national changes in both residential and employer real estate preferences. For the past several decades, both employers and residents have tended to favor suburban locations. The movement of residents, starting in the 1950s, followed by employers to suburban locations was among the principal causes of urban decay and distress beginning in the 1970s and extending into the 1980s and 1990s. However, this trend began to change over the past decade as both residents and employers began a slow, but accelerating return to urban areas. This urban migration is led by younger workers, predominantly Millennials and members of what economist Richard Florida called the “Creative Class” of workers employed in creative and knowledge-based occupations, who are attracted to the live-work-play environment of downtown and urban areas. Moreover, changes in the structure of the national and international economy are now favoring the technology, innovation, and knowledge-based industry sectors that draw on this talent pool of creative and knowledgeable workers, and these firms are also increasingly favoring urban locations. As the role of innovation, knowledge, and technology-driven sectors (i.e., design, information technology, life sciences, finance, and professional services) in the national economy has increased, a shift of related employment and economic activity back to the urban areas where these industries tend to be concentrated has occurred. These innovation and knowledge-driven industries increasingly favor urban locations, where they can be located near the innovation drivers such as universities and medical centers that generate the talent and technologies utilized, as well as near-similar technology, knowledge, or other creative based companies in what economists term “agglomeration economies.” These two trends, the re-urbanization of both jobs and people, are interrelated and are setting the stage for continued

improvements in urban development. The development of the Port Covington/Under Armour Headquarters Project is a transformational project that has the potential to reinforce these trends in Baltimore City.

In his influential book *The New Geography of Jobs*, Enrico Moretti coined the term the “Great Divergence” to describe how these trends are impacting the performance of cities and regions across the nation, where he states:

“America’s new economic map shows growing differences, not just between people but between communities. A handful of cities with the ‘right’ industries and a solid base of human capital keep attracting good employers and offering high wages, while those at the other extreme, cities with the ‘wrong’ industries and a limited human capital base, are stuck with dead-end jobs and low average wages.”¹

Moretti goes on to divide the nation’s cities into three Americas:

- **Brain Hubs** – cities with a well-educated labor force and strong innovation sector that are adding jobs;
- **Traditional Manufacturing Cities** – whose reliance on older manufacturing industries is causing a loss of both population and jobs; and
- **Middle Cities** – that could go either way.

The Baltimore City region is well positioned to be classified as a Brain Hub. In terms of having a well-educated labor force, the Baltimore region is ranked fourth nationally for percentage of its population with an advanced degree and eighth for percentage of its population with a bachelor’s degree or higher,² and Maryland is ranked second nationally in percentage of its population with an advanced degree and fourth for percentage of its population with a bachelor’s degree or higher. In terms of the strength of the innovation sector, the city is home to two major research universities and academic medical centers, is developing two major life sciences oriented research parks, and Maryland is ranked second in the Milken Institute’s State Science and Technology Index in terms of the vitality of its innovation sector. The Port Covington/Under Armour Headquarters Project has the potential to enhance the city and region’s performance in both the attraction and retention of creative talent and innovation-based industries.

¹ Moretti, E, *The New Geography of Jobs*, Houghton, Mifflin, Harcourt, New York, NY 2012.

² Economic Alliance of Greater Baltimore - <http://www.greaterbaltimore.org/research/education-workforce.aspx>

The development of the Port Covington/Under Armour Headquarters Project is also consistent with recent trends in Baltimore City employment and population dynamics. Baltimore City is a center for regional growth in the Creative Class and Millennial population:

- Since 2000, the city's population of Millennials in the 25-34 age category has expanded by 21 percent, outpacing metropolitan area growth of 17 percent;
- Since 2000, the city's population of workers with a bachelor's degree and above has expanded by 50 percent, outpacing metropolitan area growth of 41 percent; and
- Since 2000, the city's population of workers in management, business, science, and arts occupations has expanded by 38 percent, outpacing metropolitan area growth of 28 percent.

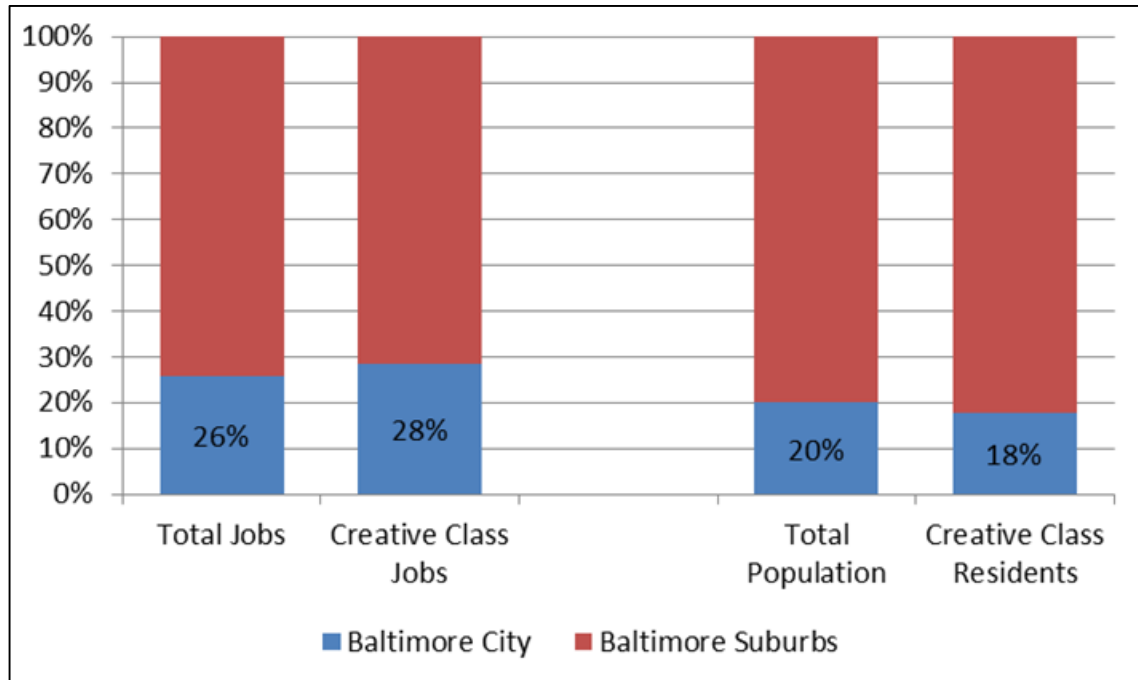
Baltimore City is clearly becoming a center for the region's young, creative, and professional workforce. While the city is experiencing this influx of knowledge workers, its employment base is not keeping up with this trend. Overall, the city has lost jobs since 2001, compared to state growth of 3.0 percent and metropolitan area growth of 5.0 percent; and in the critical professional and technical services that drive the state and regional economy, the city has lost jobs both in the long term, since 2001, and in the post-2009 recovery from the "Great Recession." While overall city employment growth since 2009 has outpaced the state and region, with the city experiencing 5.4 percent growth compared to 3.0 percent and 4.9 percent growth at the state and metropolitan area, respectively, city employment growth has been concentrated in the lower wage transportation and warehousing, administrative and waste services, and accommodation and food services sectors. One bright spot in the city's employment base is management of companies and enterprises, where the city has experienced impressive long term gains and growth, which have outpaced the region and the state since 2009. This sector includes corporate and business headquarters operations, presumably including the headquarters operations of Under Armour.

By combining high quality residential and office space in a transportation accessible, waterfront live-work-play environment, the Port Covington/Under Armour Headquarters Project has the potential to both reinforce the city's attractiveness to the knowledge workers that are remaking the city and attract higher value-added knowledge jobs; thereby strengthening Baltimore's ongoing renaissance.

Furthermore, there is room to grow both the Creative Class and knowledge-based workforce and employment in the city. Battelle prepared an analysis of both Creative Class jobs and residents in the city and region.³ As presented in Figure 2, 28 percent of regional Creative Class jobs are

³ Battelle defined Creative Class jobs and residents based on the occupational classification of workers and residents using the following occupations: 1) The Super Creative Class consisting of computer and mathematical occupations; architecture and engineering occupations; life, physical, and social science occupations; education, training, and library occupations; arts, design, entertainment, sports, and media occupations; and 2) Creative Professionals consisting of management occupations; business and

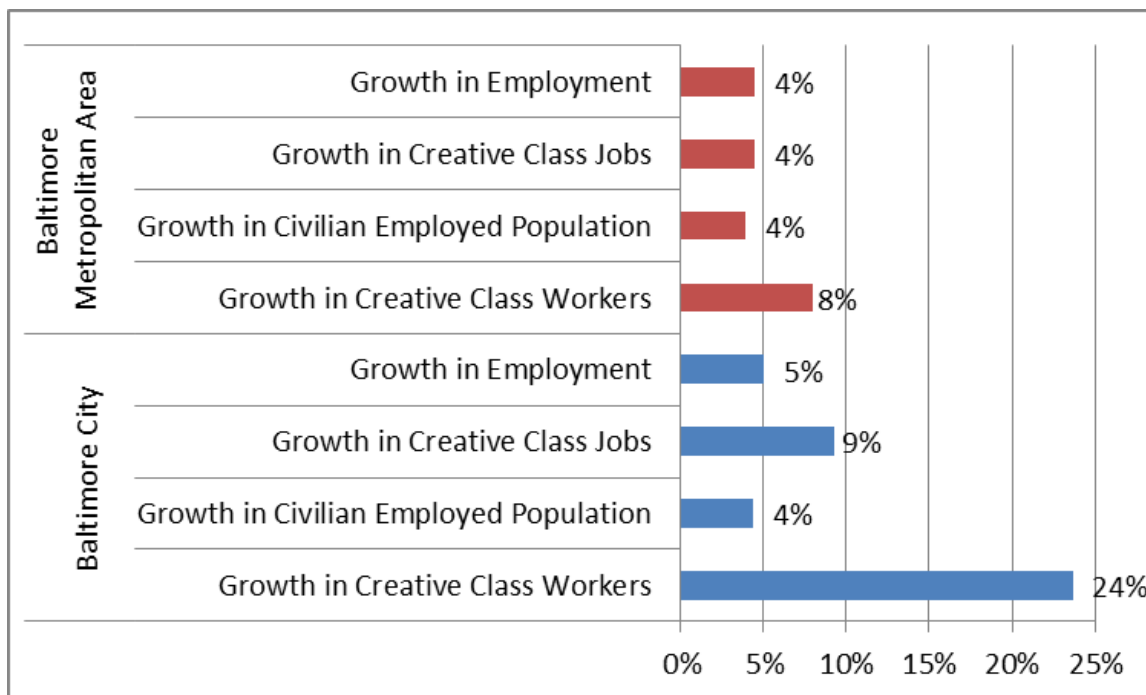
located in Baltimore City, higher than its overall share of employment; however, 18 percent of persons employed in Creative Class occupations reside in Baltimore. Moreover, as presented in Figure 3, growth in both Creative Class jobs and residents in Baltimore City is outpacing overall employment and population growth as well as suburban growth in Creative Class jobs.



Source: US Bureau of the Census American Community Survey Data and Maryland Department of Labor, Licensing, and Regulation Occupational Employment Data. Port Covington/Under Armour Headquarters Project.

Figure 2. Baltimore City's Share of Creative Class Employed Residents and Jobs

financial operations occupations; legal occupations; and healthcare practitioners and technical occupations. The classification used in Richard Florida's book, the *Rise of the Creative Class* also included high end sales and sales management, but data on these occupations were not available. Due to data availability issues, data for population change are for 2010-13, while data for employment change use the more recent 2010-2014 period.



Source: US Bureau of the Census American Community Survey Data and Maryland Department of Labor, Licensing, and Regulation Occupational Employment Data.

Figure 3. Baltimore City and Regional Growth in Creative Class Jobs and Employed Residents

One area of concern for the development of the Port Covington/Under Armour Headquarters Project is the low levels of both population and employment growth that are projected for the City of Baltimore. According to the Maryland Department of Planning Projections, the Baltimore City population is projected to grow by an annual rate of 0.3 percent and employment by a projected annual rate of 0.4 percent. These growth rates appear to be based on the long term experience of the city, not the city’s stronger recent performance.

In spite of these low growth projections, Baltimore City has strong ambitions. In 2011, the Mayor of Baltimore announced a goal to reverse the city’s long term population decline by attracting 10,000 new households to the city. To achieve this goal, both employment and population growth will need to outpace these projections, and the development of the Port Covington/Under Armour Headquarters Project as a transformational investment in the city’s future can play a major role in achieving this goal.

1.3 The Port Covington/Under Armour Headquarters Project in the Context of State and Regional Economic Development and National Real Estate Trends

The development of the Port Covington/Under Armour Headquarters Project is not only consistent with recent employment and demographic trends impacting the city and region, it is consistent with the economic development goals for the city, region, and state, and with broad national urban economic trends and changes in real estate dynamics that are impacting urban development and the performance of cities across the nation.

The Port Covington/Under Armour Headquarters Project is highly consistent with the Comprehensive Economic Development Strategy (CEDS) for Baltimore City. The project builds on five of the six core economic development assets of the city identified in the CEDS and is directly related and supportive of all of the five core economic and population trends impacting the city's growth and development that were identified in the CEDS. The project is also highly consistent with the type of space demands of firms in nearly all of the six industry clusters identified in the CEDs as the city's key industry sectors. The site will be especially attractive to firms in the Financial and Professional Services, Health and Bioscience Technology, Information and Creative Services clusters essential for Baltimore's future development. It will also house destination retail and entertainment locations, including a destination Under Armour store, Sagamore Distillery, potentially a brewery, and entertainment facilities, all within walking distance of the Baltimore Cruise Terminal and in close proximity to the downtown retail/entertainment center. Thus, the project has the potential to facilitate the ongoing development of the city's vibrant arts, culture, and tourism sectors. Finally, the success and growth of Under Armour as a nationally recognized leader and innovative company in the sports apparel, and increasingly in the sports performance technology field, also has the potential to create a new regional industry cluster in this sector. The creation of a vibrant, high quality real estate development near Under Armour could create the real estate assets needed to support the start-up, growth, and attraction of similar firms in this cluster. In addition to Under Armour, the site could house other firms either spun out of Under Armour or attracted by the opportunity to be in its proximity.

The Port Covington/Under Armour Headquarters Project is also highly consistent with seven broad trends in urban economics and real estate that are driving urban development in cities across the nation, which include:

- 1) The re-urbanization of both population and jobs;
- 2) The rise of the Creative Class;
- 3) The emergence of cities as the center of the entrepreneurial and innovation economy;
- 4) A trend toward urban mixed-use developments;

- 5) The rise of urban innovation districts;
- 6) The rise of super-commuters in urban areas; and
- 7) The development of multi-nodal downtown business areas.

All of these national real estate trends auger well for both the potential success and critical role that the Port Covington/Under Armour Headquarters Project can play in the ongoing transformation of Baltimore.

1.4 The Economic and Fiscal Impacts of the Port Covington/Under Armour Headquarters Project

A core goal of this analysis was to assess the economic impacts of the Port Covington/Under Armour Headquarters Project on the city and state's economy. The project will generate substantial economic activity through both the one-time construction expenditures associated with the development of the project and more importantly through ongoing impacts generated by the business and residential activities occurring in the project when it is complete and occupied. Based on the project development data provided by Sagamore Development, the Battelle TPP prepared an estimate of the economic and fiscal impacts that can be expected from the construction of and employment/residential activity occurring in the project using the IMPLAN model. The methodology and results of this analysis are presented in the body of the report below, but the critical findings of this analysis are as follows in Sections 1.4.1 and 1.4.2.

1.4.1 City Level Impacts

The Port Covington/Under Armour Headquarters Project is a transformational investment in the city's economic future. Highlights of its overall impact are included in Sections 1.4.1.1 and 1.4.1.2.

1.4.1.1 One-Time Construction Impacts

Over the 23-year construction period, the \$5.5 billion in total development and construction expenditures associated with the Port Covington Project will generate \$7.6 billion in economic activity, support over 42,000 jobs earning \$3.3 billion in labor income, and generate \$242 million in combined state and local government revenues, including an estimated \$108 million in Baltimore City revenues. The construction impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – Over the 2015-2037 construction period associated with the mixed-use portion of the Port Covington Project, the \$3.8 billion in total development and construction expenditures will generate \$5.4 billion in economic activity, support 29,300 jobs earning \$2.2 billion in labor income, and generate \$165 million in combined

state and local government revenues, including an estimated \$73 million in Baltimore City revenues.

- **Under Armour Headquarters Campus** – Over the 2016-2031 construction period associated with the Under Armour Campus portion of the Port Covington Project, the \$1.6 billion in total development and construction expenditures will generate \$2.2 billion in economic activity, support 12,700 jobs earning nearly \$1.1 billion in labor income, and generate \$78 million in combined state and local government revenues, including an estimated \$35 million in Baltimore City revenues.

1.4.1.2 Ongoing Employment and Resident Based Impacts

When the Port Covington Project is complete and fully occupied in 2037, it will support a total of \$4.3 billion in economic activity in Baltimore City, support 26,500 jobs with an associated \$2.2 billion in labor income, and generate \$209 million in state and local government revenues, including an estimated \$94 million in Baltimore City revenues. The operational impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – In 2037, the mixed-use portion of the development will directly house an estimated total of 7,615 jobs and \$1.1 billion in business activity when it is fully developed, and these business and residential activities will support \$1.9 billion in economic activity, support 12,900 jobs with an associated \$850 million in labor income, and generate \$116 million in state and local government revenues, including an estimated \$53 million in Baltimore City revenues.
- **Under Armour Headquarters Campus** – In 2031, when Under Armour's Campus is fully developed and occupied, it will house an estimated 7,724 jobs and will support \$2.5 billion in overall economic activity, support 13,610 jobs with an associated \$1.4 billion in labor income, and generate \$94 million in state and local government revenues, including an estimated \$41 million in Baltimore City revenues.

1.4.2 State Level Impacts

While the economic activity generated by the construction, business, and residential activities associated with the Port Covington/Under Armour Headquarters Project are centered in Baltimore City, the effects of this large scale development will be felt throughout the State of Maryland's economy. Highlights of its overall impact on the State of Maryland are included in Sections 1.4.2.1 and 1.4.2.2.

1.4.2.1 One-Time Construction Impacts

Over the 23-year construction period, the \$5.5 billion in total development and construction expenditures associated with the Port Covington Project will generate \$9.5 billion in economic

activity in Maryland, support over 54,000 jobs earning \$3.7 billion in labor income, and generate \$402 million in combined state and local government revenues. The construction impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – Over the 2015-2037 construction period associated with the mixed-use portion of the Port Covington Project, the \$3.8 billion in total development and construction expenditures will generate \$6.8 billion in economic activity, support 38,100 jobs earning \$2.6 billion in labor income, and generate \$278 million in combined state and local government revenues.
- **Under Armour Headquarters Campus** – Over the 2016-2031 construction period associated with the Under Armour Campus portion of the Port Covington Project, the \$1.6 billion in total development and construction expenditures will generate \$2.7 billion in economic activity, support 15,900 jobs earning over \$1.1 billion in labor income, and generate \$124 million in combined state and local government revenues.

1.4.2.2 Ongoing Employment and Resident Based Impacts

When the Port Covington Project is complete and fully occupied in 2037, it will support a total \$5.4 billion in economic activity in the State of Maryland, support 33,900 jobs with an associated \$2.5 billion in labor income, and generate \$302 million in state and local government revenues.

The operational impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – In 2037, the mixed-use portion of the development will directly house an estimated total of 7,615 jobs and \$1.1 billion in business activity when it is fully developed, and these business and residential activities will support \$2.3 billion in economic activity, support 15,800 jobs with an associated \$1.0 billion in labor income, and generate \$151 million in state and local government revenues.
- **Under Armour Headquarters Campus** – In 2031, when Under Armour's Campus is fully developed and occupied, it will house an estimated 7,724 jobs and will support \$3.1 billion in overall economic activity, support 18,100 jobs with an associated \$1.6 billion in labor income, and generate \$150 million in state and local government revenues.

The Port Covington/Under Armour Headquarters Project represents a potentially transformational investment in Baltimore City's future. The magnitude of this project makes determining the potential demand for the employment and residential space being developed complex, as no similar project has been undertaken in the region; however, the project is consistent with improving residential and employment performance occurring in cities across the country and in Baltimore. Furthermore, this type of large scale urban redevelopment project is consistent with national and regional real estate trends. Just as major projects such as Charles Center, the Inner Harbor, Camden Yards, and Harbor East have done in the past, Port Covington

will support the ongoing urban renaissance occurring in Baltimore. Its construction will contribute more than \$7.6 billion in economic activity and support 42,000 jobs in the city over its projected 23-year construction period. Once complete and fully occupied, it will host nearly 15,400 jobs and 4,775 residential units, supporting both the economic and population growth of the city. These jobs and residents will contribute an estimated \$4.3 billion in economic activity in Baltimore City and support 26,500 jobs.

2.0 Strategic Importance of the Port Covington/Under Armour Headquarters Project

The development of the Port Covington/Under Armour Headquarters Project is one of the largest real estate and economic development projects that have occurred in Baltimore and, in fact, in the region or state. Baltimore has long been considered an innovator in economic and urban development. From the development of Charles Center in the 1950s, to the development of the Inner Harbor and Camden Yards in the 1980s, to the Empowerment Zone in the 1990s, to the development of two university anchored urban research parks/Innovation Districts in the 2000s, both Baltimore City and Maryland have been at the forefront of urban revitalization strategy. The Port Covington/Under Armour Headquarters Project has the potential to join this list of innovative, high impact urban redevelopment projects.

In order to assess the importance of the Port Covington/Under Armour Headquarters Project to the city, region and state's economic development strategies, Battelle reviewed available economic development plans and reports and conducted interviews with key informants from the economic development community. A list of the key informants interviewed is included in [Appendix A](#) and [Appendix B](#).

2.1 Role of Port Covington/Under Armour Headquarters Project in State and Regional Economic Development

The development of the Port Covington/Under Armour Headquarters Project is consistent with the economic development strategies that have been developed for the city, region, and state. Because the project is located in Baltimore City, Battelle first assessed the potential role of the development project in supporting the goals of the Baltimore Development Corporation's *Seizing the Momentum, Building a Brighter Future: A Comprehensive Economic Development Strategy for Baltimore 2014 Jobs. Investment. Growth* report.⁴ The Baltimore City CEDS identifies six key assets and five economic trends that will shape the city's future economic performance. Baltimore's six key assets include:

- 1) Location** – Baltimore is centrally located on the East Coast of the United States with a strong transportation infrastructure (mass transit, highways, airport) and miles of waterfront property ready for development.
- 2) The Port of Baltimore** – The Port of Baltimore is the 11th most active in the nation, as measured by volume and value of goods. Its inland location makes it the closest Atlantic port to major Midwestern population and manufacturing centers and it is within a day's reach of fully one third of US households.
- 3) Anchor and Nonprofit Institutions** – Baltimore is home to major universities, academic medical centers, and non-profit institutions that provide employment and, in the case of the universities and academic medical centers, drive innovation through research activities and include the development of two life sciences oriented urban research parks to commercialize these technologies in the city.
- 4) Arts, Culture and Tourism Assets** – Baltimore is rich in assets that generate tourism and economic activity, including two major sports stadiums, museums, hotels, and destination retail and tourism locations. Overall, the city attracts 23.9 million visitors a year, spending more than \$5 billion in Baltimore, providing a major source of economic activity and employment.
- 5) Affordability and Neighborhoods** – Baltimore is home to a diverse collection of 278 neighborhoods.
- 6) Available Development Sites** – Baltimore possesses numerous sites available for commercial, retail, residential, industrial, and mixed-use development, including development sites close to key institutional anchors and waterfront parcels for mixed-use, industrial, and maritime uses.

⁴ http://baltimoredevelopment.com/wp-content/uploads/2014/11/BDC-Report_111814.pdf.

The Baltimore City CEDS also identified five trends that are supporting the growth and revitalization of the city:

- **1) Stable and Growing Population** – Baltimore City has reversed its long term decline in population and increased its population since 2010 – with the growth driven by two key demographic groups - “Baby Boomers” in their 60s and “Millennials,” ages 25 to 34. In terms of population growth, the CEDS states that, “A major opportunity for growth rests with retaining more of the thousands of students who graduate each year from Baltimore’s colleges or who are enrolled in graduate and professional programs in the city.”
- **2) Downtown and Community Revitalization** – The city is experiencing an influx of jobs and residents in the downtown area and the CEDS reports that, “From Locust Point to Hampden to Uplands to O’Donnell Heights, projects are creating new housing, commercial and retail space and bolstering neighborhoods.”
- **3) Increasing Wages** – The city is experiencing growth in its already competitive wage structure.
- **4) Employment Growth** – The city has experienced a private sector led increase in employment.
- **5) Growing Number of Well-Educated Workers** – The city CEDS reports that, “over the past decade, Baltimore has realized growth in the percentage of residents having a bachelor’s degree or higher, most likely due to more graduates of colleges in the area staying in the city. Well educated workers also are being attracted to work in medical research in both private-sector and university medical research. And financial firms such as Legg Mason and rapidly growing companies such as Under Armour continue to bring in workers with college degrees. The city can expect to add more jobs requiring at least a college degree, especially those with training in science, technology, math, and engineering.”

The development of the Port Covington/Under Armour Headquarters Project is not only consistent with, but can be expected to amplify, both the key assets and broad trends driving economic development in the city. The Port Covington/Under Armour Headquarters Project builds on five of the six core economic development assets of the city and is directly related and supportive of all of the five core economic and population trends impacting the city’s growth and development. By renewing its commitment to the city, Under Armour is capitalizing on Baltimore’s central location and recently announced that it will be importing products through the Port of Baltimore.⁵ The Port Covington/Under Armour Headquarters Project itself will

⁵ Refer to Under Armour, shipper CMA CGM both announce return to port of Baltimore – Baltimore Sun – <http://www.baltimoresun.com/business/bs-bz-under-armour-port-20150526-story.html>.

redevelop one of the city's available underutilized development sites into a mixed-use facility that will include a substantial retail and destination retail, enhancing the city's already substantial tourism assets, and create a new waterfront neighborhood with a projected 4,775 housing units. In doing so, the project will contribute to downtown and community revitalization by creating a new area for both high wage employment opportunities and a new waterfront destination for the highly educated, Millennials, and Baby Boom residents seeking a high quality live-work-play environment.

Furthermore, the development of the Port Covington/Under Armour Headquarters Project can be expected to create space for and potentially house all six of the industry clusters identified in the CEDS as driving Baltimore's economic future. The high quality live-work-play environment of the site will not only house the expanded headquarters of Under Armour – itself a major component of Baltimore's creative-based business cluster – it will also house the company's logistics operations and, in the City Garage Project, include an advanced manufacturing/product testing, development, and scale-up facility. The mixed-use component of the Port Covington/Under Armour Headquarters Project is creating the type of space demanded by firms in the Financial and Professional Service, Health and Bioscience Technology, Information and Creative Service clusters, essential for Baltimore's future development. The project will also house destination retail and entertainment locations, Sagamore Distillery, potentially a brewery, and entertainment venues, all within walking distance of the Baltimore Cruise Terminal and in close proximity to the already strong downtown/Inner Harbor entertainment district. These retail and entertainment assets can facilitate the ongoing development of the city's vibrant arts, culture, and tourism clusters.

The development of the Port Covington/Under Armour Headquarters Project is also consistent with the economic development strategies in place to grow both the larger Baltimore Metropolitan Area and the overall State of Maryland. At the regional level, the Economic Alliance of Greater Baltimore (EAGB), the regional economic development organization, has identified 13 target business sectors:

- 1) Professional, Scientific, and Technical Services
- 2) Education Services
- 3) Information Technology
- 4) CyberSecurity
- 5) BioHealth
- 6) Health Care
- 7) Gaming and Simulation
- 8) Government
- 9) Not-for-profits

- 10) Financial Services
- 11) Entrepreneurship
- 12) Headquarters and Regional Offices
- 13) Manufacturing

As is described in more detail in the national urban economic and real estate trends section (Section 3.0), the technology and innovation driven companies that are key drivers of most of these 13 sectors are increasingly choosing to locate in the attractive, amenity-rich environment embodied in the Port Covington/Under Armour Headquarters Project. For example, according to the recent *Core Values Why American Companies are Moving Downtown Report* produced by Smart Growth America,⁶ which tracked the movement of a sample of companies into downtown areas, a large number of the nearly 500 companies analyzed that are choosing downtown locations operate in these targeted industries, with 29 percent in professional, scientific, and technical services, 15 percent in information services, 14 percent in finance and insurance, and 4 percent in educational services. The corporately anchored, live-work-play environment of the Port Covington/Under Armour Headquarters Project will create the type of space increasingly demanded by firms in these innovation-driven sectors.

The Port Covington/Under Armour Headquarters Project will be especially important in driving both entrepreneurship and the market for headquarters and regional offices that were identified as critical for the region's growth by the EAGB. The project has the potential to contribute to the ongoing development of Baltimore's entrepreneurial economy in a number of areas. According to the EAGB:

“Greater Baltimore has become one of the leading US metro areas for the start-up and growth of new businesses. The region's educational attainment and research, strong incubator system, access to capital, networking organizations and growing number of prominent success stories create an increasingly attractive entrepreneurial climate.”

Not only will the project house one of Maryland's greatest entrepreneurial success stories in Under Armour, it will include a planned 148,000 square feet of incubator space in the City Garage space as well as planned flex-innovation space. With the development of these real estate assets, the site can be expected to be attractive to entrepreneurs seeking a dynamic live-work-play environment tied to a major growth company.

In the area of headquarters and regional offices, Maryland has been criticized for losing many of its corporate headquarters facilities over the past decade, with the state now home to only four Fortune 500 companies, all of which are located in the Washington DC suburbs. Looking at the larger Fortune 1,000 companies adds seven more companies to the list, including three in

⁶ <http://www.smartgrowthamerica.org/core-values>.

Baltimore and four more in the metropolitan area.⁷ According to the EAGB, the Baltimore region is well positioned to improve attracting both headquarters and regional corporate offices and the metropolitan area is "...no longer highly dependent on just a few large local employers, Greater Baltimore has successfully made the transition to the New Economy. The diversified mix of large, midsize, and small headquarters and strategic regional offices provides the market with one of the highest concentrations of management talent in the US." A waterfront, corporate-anchored, live-work-play development like Port Covington will create an attractive location to attract and grow these types of firms.

Finally, the development of the Port Covington/Under Armour Headquarters Project is consistent with the 2011 *Charting Maryland's Economic Path: Discovery Diversity & Opportunity: A Five Year Strategic Plan* and the Maryland Department of Business and Economic Development's economic development efforts. The *Charting Maryland's Economic Path* plan begins by explicitly recognizing the vital role that entrepreneurship and innovation will play in Maryland in the following quote:

"Economic growth comes to places where discovery is put to work. Entrepreneurship in companies of all sizes, ages, and industries is the engine of this translation. Innovation – new products, new processes, and new ways of doing things – drives company competitiveness and expansion. Fast growth companies of all ages are responsible for the majority of job creation."

The Plan established expanding the development and commercialization of new technologies and supporting entrepreneurship as two of the seven foundations of the state's economic growth plan.

2.2 Case Study – The Role of Leading Firms in Cluster Development

A single innovative firm or grouping of firms can drive the creation of an entire cluster of related industries. Early pioneers in semiconductors drove the creation of Silicon Valley, new life sciences and Information Technology firms drove the creation of Route 128 in Boston, and both New York City and Boston's Kendall Square are realizing the development of diverse high technology business clusters in downtown areas based on the start-up, growth, and attraction of key firms. The experience of states and regions around the nation has demonstrated that the development of entire clusters of related industries can be catalyzed by the start-up or attraction of a single high-growth, innovative firm. In *The New Geography of Jobs*, Moretti describes how Bill Gates and Paul Allen moved Microsoft® to their hometown of Seattle, and thereby stimulated that city's emergence as a high technology center not only through its growth and development but because "when Microsoft moved to Seattle, the city increased its attractiveness to other high technology companies. Microsoft effectively serves as the anchor of the local high-

⁷ Battelle Analysis of Fortune 500 list - <http://fortune.com/fortune500/>.

tech sector and a magnet for other software companies.” Success begets success, and the success of Microsoft attracted workers, entrepreneurs, and other businesses to the Seattle region.

The economics literature contains numerous examples of where a single firm or a collection of firms has catalyzed the development of an entire large-scale cluster of economic activity and employment. The continued success and growth of Under Armour has the potential to catalyze similar success in Baltimore with the development of a related cluster of sport-oriented apparel and footwear, itself an increasingly innovation and technology-driven business area.

2.3 Summary and Conclusion

The development of the Port Covington/Under Armour Headquarters Project is consistent with and supportive of the economic strategies in place at the city, regional, and state level. By creating the space needed to house the expected growth of Under Armour, the project will anchor the company in the city and region; thereby, maintaining the national headquarters of a member of the Fortune 1,000 list, one of only 11 such ranked firms in Maryland. The development of mixed-use space that combines high quality office and innovation space in a waterfront, live-work-play environment will create the type of space and environment that is demanded by the key industries targeted for growth at the city, regional, and state levels and should support ongoing job growth and retention efforts. Finally, the tremendous success of Under Armour has the potential to facilitate the growth of a new industry cluster in the city and region, diversifying the city, region, and state's economy from its traditional reliance on federal employment and contracting.

3.0 Consistency of the Port Covington/Under Armour Headquarters Project with National Economic and Real Estate Trends

One of the most important urban economic trends of the past decade is the reversal of the long term decline that has occurred in both population and employment in America's major urban areas, especially in older industrial cities like Baltimore. After decades of losing both residents and jobs to the suburbs, there has been a remarkable change occurring in America's cities over the past several years. Cities are experiencing a net in-migration of residents, spearheaded by younger, educated workers, especially Millennials. Cities that have long been the preferred location of business and professional services as well as universities and academic medical centers – the so-called “Meds and Eds” in urban development – have also experienced stronger job growth. This employment growth has been especially strong in the knowledge and innovation sectors of our economy, as new entrepreneurial and high technology businesses have started up or chosen to locate near major innovation drivers. Cities are transitioning from being observed as blighted, high crime areas to “hip” places to live and work. According to the City Observatory, an urban-focused think tank, in its *Surging City Center Job Growth* report:

“For over half a century, American cities were decentralizing, with suburban areas surpassing city centers in both population and job growth. It appears that these economic and demographic tides are now changing. Over the past few years, urban populations in America's cities have grown faster than outlying areas, and our research shows that jobs are coming with them. Our analysis of census data shows that downtown employment centers of the nation's largest metropolitan areas are recording faster job growth than areas located further from the city center.”⁸

Across the nation, cities are experiencing a re-urbanization of both population and jobs. This trend has been shaped by a change in real estate preferences that is altering where people want to live and work. Increasingly, younger workers and innovative companies have begun to favor urban areas. This change was led by younger – Millennials – or the cohort of population born from the 1980s to early 2000. According to the Urban Land Institute's *America in 2015 A ULI Survey of Views on Housing, Transportation, and Community*,⁹ “Cities are home to more of the nation's younger generations, composed of 42 percent Millennials and 23 percent Generation Xers, while only 25 percent of city dwellers are Baby Boomers and 9 percent are from the silent and war-baby generations.” The role of Millennials was also highlighted in the PWC-ULI report *Emerging Trends in Real Estate* report,¹⁰ which found that “The Millennial and baby-boom generations have had a hand in a number of significant real estate changes over the decades. The baby-boom generation led the move to the suburbs during the 1960s, and the Millennial

⁸ <http://cityobservatory.org/city-center-jobs/>.

⁹ <http://uli.org/research/centers-initiatives/terwilliger-center-for-housing/research/community-survey/>.

¹⁰ <http://uli.org/research/centers-initiatives/center-for-capital-markets/emerging-trends-in-real-estate/>.

generation is driving the move back to the city.” Jobs have increasingly followed these workers back to the cities.

The development of the Port Covington/Under Armour Headquarters Project is consistent with these changes in urban real estate preferences. Based on a review of the recent literature on urban economics and real estate trends, Battelle identified seven broad and inter-related national trends in urban economics and real estate dynamics that are impacting urban development and the performance of cities across the nation:

- 1) The re-urbanization of both population and jobs;
- 2) The rise of the Creative Class;
- 3) The emergence of cities as the center of the entrepreneurial and innovation economy;
- 4) A trend toward urban mixed-use developments;
- 5) The rise of urban innovation districts;
- 6) The rise of super-commuters in urban areas; and
- 7) The development of multi-nodal downtown business areas.

The Port Covington/Under Armour Headquarters Project is a major, corporate-anchored, mixed-use urban redevelopment project that will include more than 10 million square feet of entertainment, office, retail, and residential space in a waterfront, amenity-rich location. As such, it is consistent with each of these major trends that are impacting urban economies and redevelopment across the nation.

3.1 The Re-urbanization of Both Population and Jobs

Over the past decade, older industrial cities across the nation, including Baltimore, have realized a reversal of a long term trend of decline in both population and jobs. These trends were best recently described in two reports by the City Observatory, a think tank with a long-term research agenda to develop detailed new information about city and metro economies. In the *Young and Restless* report,¹¹ the City Observatory analyzed trends in what it terms the “Young and Restless” or 25 to 34 year-olds with a bachelor’s degree or higher level of education who are increasingly moving to the close-in neighborhoods of the nation’s large metropolitan areas. This report found that this migration is fueling economic growth and urban revitalization. Some of the major findings of this report include:

¹¹ <http://cityobservatory.org/ynr/>.

- Well-educated young adults are disproportionately found in a few metropolitan areas. Two-thirds of the nation's 25-34 year olds with a bachelor's degree live in the nation's 51 largest metropolitan areas, those with a million or more population.
- Within the largest metropolitan areas, well-educated young adults are increasingly moving to close-in urban neighborhoods. Talented young adults, in the aggregate are much more likely to choose to locate in close-in urban neighborhoods than are other Americans.
- Talented young adults are playing a key role in driving urban revitalization.
- Businesses are increasingly locating in or near urban centers to better tap into the growing pool of well-educated young workers.
- The availability of talented young workers also plays a key role in the formation and growth of new firms, because start-ups and young firms employ disproportionately large numbers of young, well educated workers.

The *Downtown Partnership of Baltimore's Downtown Baltimore Outlook 2017 Analysis of Market Rate Housing Demand in Downtown Baltimore and Adjacent Neighborhoods* report also describes the improving urban residential market driven by these changes:

“The remarkable transformation of American households (particularly the emerging predominance of one- and two-person households) over the past decade, combined with steadily increasing traffic congestion and rising gasoline prices, has resulted in significant changes in neighborhood and housing preferences, with major shifts from predominantly single-family detached houses in lower-density, auto-oriented suburbs to a diverse mix of detached houses, attached houses and higher-density apartments in downtowns and walkable, transit-served, mixed-use traditional neighborhoods. This fundamental transformation of American households is likely to continue for at least the next decade, representing an unprecedented demographic foundation on which cities can rebuild their downtowns and in-town neighborhoods.”

The *Surging City Center Job Growth* report,¹² also produced by the City Observatory found that cities across the nation have reversed the trend over the past half century of decentralization, or suburbanization, of population and job growth. This report found several major trends which include:

“While the shift of metropolitan job growth toward services is aiding job centralization, the strong central city growth of 2007-11 appears to be driven by the growing competitiveness of central cities relative to peripheral locations. Our analysis shows that

¹² <http://cityobservatory.org/city-center-jobs/>.

city centers had unusually strong job growth relative to peripheral locations in the wake of the Great Recession.”

“The story is not just that job growth in central cities is improving when compared to outlying areas – city centers have also erased their competitive disadvantage. The data make it clear that city centers are more competitive in 2011 than they were in 2007.”

“The strength of city centers appears to be driven by a combination of the growing attractiveness of urban living, and the relatively stronger performance of urban-centered industries (business and professional services, software) relative to decentralized industries (construction, manufacturing) in this economic cycle.”

“The key conclusions of this analysis are two-fold: first, the composition of industrial employment continues to shift in favor of industries that are disproportionately located in central cities. This shift to knowledge- and service-based industries has the potential to generate additional job growth in city centers. The big change in the last few years is in the relative competitive position of city centers: in 2002-07 the declining competitiveness of central cities more than offset the compositional shift in their favor. In the 2007-11 period, city centers erased their competitive disadvantage.”

Baltimore City is benefitting from the re-urbanization of both population and jobs. Taken together, these two national trends, the re-urbanization of people and jobs identified by the City Observatory, are indicative of the development potential of the Port Covington/Under Armour Headquarters Project and its potential future impact on Baltimore’s ongoing urban renaissance. Indeed, Baltimore data in both reports support this idea, with the City Observatory finding that:

- The Baltimore Metropolitan Area is ranked 18th nationally in terms of the number of 25-34 year olds with a college education, and that this population grew by 32 percent since 2000, among the highest rates of growth among leading metropolitan areas and 13th best nationally in terms of the increase in the percentage of college educated young adults.
- Baltimore is ranked 9th highest in terms of the number of college educated young adults living in close-in neighborhoods located within three miles of the Central Business District (CBD).
- In terms of employment growth, Baltimore City is one of the cities where job decentralization slowed in the recovery – with 2009-11 employment in the urban core matched or exceeded the performance of the periphery. Baltimore, as with most major cities also saw an improvement in its competitive position. As will be demonstrated in the employment analysis in Section 4.0, Baltimore City has outperformed the suburbs in the post 2009 recovery from the recent “Great Recession.”

As a result, the development of the Port Covington/Under Armour Headquarters Project is consistent with and could strengthen Baltimore's performance in the national trend of the re-urbanization of both population and jobs.

3.2 The Rise of the Creative Class

In his influential book, *The Rise of the Creative Class*, economist Richard Florida described how the rise of the Creative Class of skilled and educated workers is becoming the driving force behind the modern, post-industrial economy. Knowledge-based and innovative industries, such as biotechnology, design, entertainment, and information technologies are replacing traditional manufacturing as the drivers of regional economic growth. In this model, what makes a place attractive for business is the pool of available local talent, or the workers with the required education, skills, and talent to “create new ideas, new technology, and/or creative content.” Florida defines the Creative Class as consisting of two major groupings:

- The super Creative Class of individuals working in computer and mathematical occupations; architecture and engineering occupations; life, physical, and social science occupations; education, training, and library occupations; arts, design, entertainment, sports, and media occupations; and
- Creative professionals, consisting of management occupations; business and financial operations occupations; legal occupations; healthcare practitioners and technical occupations; and high-end sales and sales management.

According to the Creative Class Model, because talent is mobile, the local pool of Creative Class workers, and therefore the attractiveness of a city for new creative and knowledge-based industries, depends on three main factors: 1) the amenities that create an attractive place to live; 2) universities that generate and attract talent; and 3) low barriers to entry – or openness to a diverse population. Talent alone is insufficient for success in the creative economy. According to Florida, three things are required for success in the innovation economy. Florida calls these factors the “three Ts” of the creative economy, and they include: 1) *Technology*, or the ideas and innovations to be developed; 2) *Talent*, or the Creative Class workers to develop them; and 3) *Tolerance*, in the form of an open and supportive environment in which creative activities can flourish. In order for a region to thrive it must have all three.

Baltimore is attracting both Creative Class residents and jobs. The Battelle TPP analyzed both the number of employed residents working in Creative Class occupations and the location of these Creative Class jobs for both the city and in the metropolitan area.¹³ As presented in

¹³ Battelle defined Creative Class jobs and residents based on the occupational classification of workers and residents using the following occupations: 1) The Super Creative Class – consisting of computer and mathematical occupations; architecture and engineering occupations; life, physical, and social science occupations; education, training, and library occupations; arts, design, entertainment, sports, and media occupations; and 2) Creative Professionals consisting of management occupations; business and financial operations occupations; legal occupations; and healthcare practitioners and technical occupations. The classification

Figure 4, between 2010 and 2013, the number of Baltimore City residents who are employed in Creative Class occupations grew by 24 percent, far outpacing the 8 percent overall growth in the metropolitan area. Overall, the role of the creative economy is becoming more important in Baltimore City, with employment in Creative Class occupations outpacing overall employment growth in the 2010-2014 period, growing by 9 percent compared to 5 percent growth in total employment. The growth in both Creative Class jobs and residents is stronger in Baltimore City than in the region as a whole.

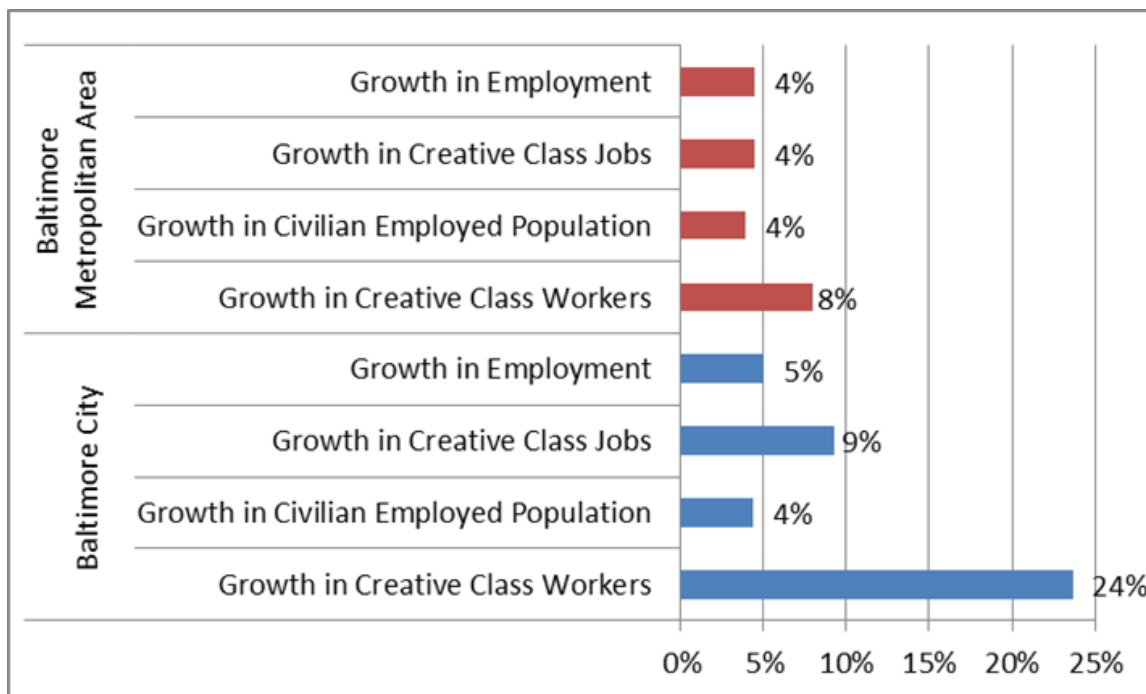


Figure 4. Baltimore City and Regional Growth in Creative Class Jobs and Employed Residents

Another key measure of success in the Creative economy is the migration patterns of Creative Class workers. According to a US Bureau analysis of migration patterns, the Baltimore Metropolitan Area is ranked 17th nationally in terms of the in-migration of Creative Class workers from outside of the metropolitan area.¹⁴ Baltimore appears to be succeeding in developing as a Creative Class city.

Furthermore, there is room to grow the Creative Class residential base in the city. As presented in Figure 5, 28 percent of regional Creative Class jobs are located in Baltimore City, higher than its overall share of employment; however, only 18 percent of persons employed in Creative

used in Richard Florida's book, the Rise of the Creative Class, also included high-end sales and sales management, but data on these occupations were not available. Due to data availability issues – data for population change are for 2010-13 while data for employment change use the more recent 2010-2014 period.

¹⁴ <http://www.census.gov/content/dam/Census/library/working-papers/2013/demo/SEHSD-WP2013-11.pdf>

Class occupations reside in Baltimore City. Thus, many of Baltimore’s Creative Class workers commute into the city. In today’s changing real estate environment where workers, especially the younger workers who account for a large and growing share of employment in Creative Class occupations, favor an urban, live-work-play environment, the city can expect to realize a continued inflow of Creative Class workers. Port Covington, with its waterfront location; access to transportation; mix of retail, entertainment, and employment space; and anchored by a leading corporate name is likely to be attractive to Creative Class residents and facilitate the ongoing population growth in the city for younger, creative, Millennial residents.

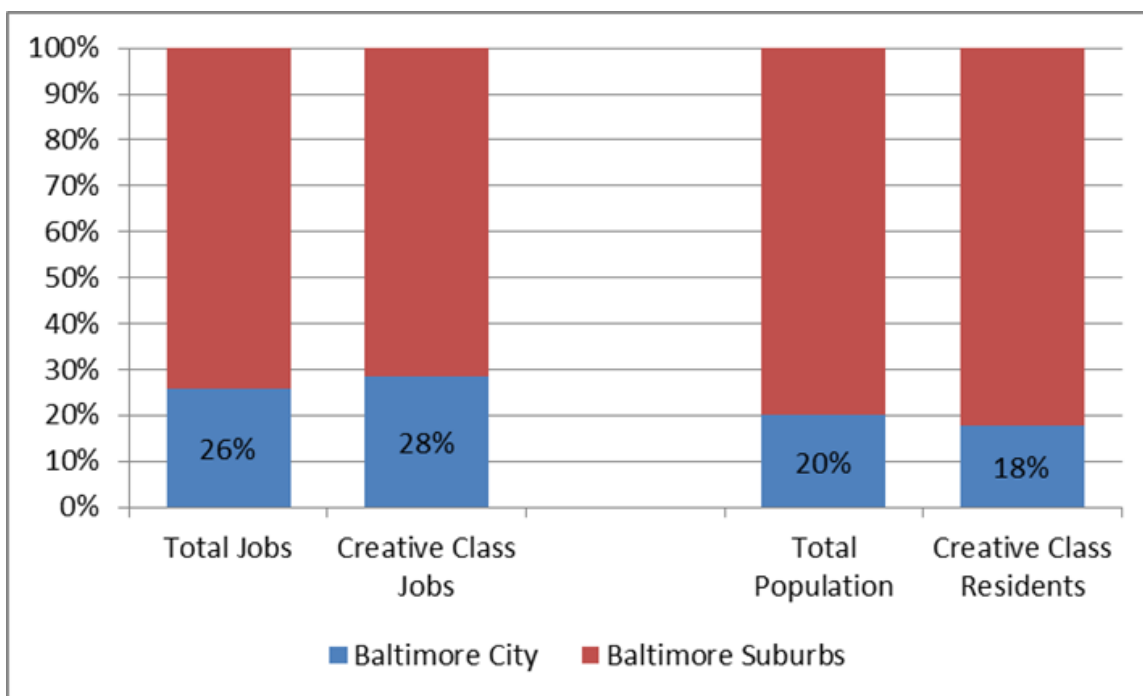


Figure 5. Baltimore City’s Share of Creative Class Employed Residents and Jobs

3.3 The Emergence of Cities as the Center of the Entrepreneurial and Innovation Economy

Cities are emerging not only as centers for young, educated Creative Class workers and jobs, but they are increasingly serving as the center for the high technology business activity that used to favor suburban locations. According to a Harvard Business Review article:

“Remember just a decade ago when the term “inner city” basically meant “dead city,” conjuring up images of destruction, dereliction and despair? Today, inner cities are “in” — innovative, hip hotbeds of convenient culture, commerce and connection. ... The centripetal force of today’s cities is pulling the ambitious and educated back in, and increasing cities’ innovative capacity, without sacrificing (at least some would argue) their inclusiveness. Entrepreneurs, too, are moving downtown: London, Boston,

Barcelona and Buenos Aires are balancing the suburban pull of Silicon Valley and Route 128.”¹⁵

Similarly Richard Florida’s *Startup City: The Urban Shift in Venture Capital and High Technology* report¹⁶ reported the following findings:

“High tech startups are taking an urban turn. Manhattan and Brooklyn, downtown San Francisco, and Santa Monica are all becoming tech hubs. This is a new development. While large urban centers have historically been sources of venture capital, the high tech startups they funded were mainly, if not exclusively, located in suburban campuses in California’s Silicon Valley, Boston’s Route 128 corridor, the Research Triangle of North Carolina, and in the suburbs of Austin and Seattle. But high tech development, startup activity, and venture investment have recently begun to shift to urban centers and also to close-in, mixed-use, transit-oriented walkable suburbs.”

“A growing number of industry commentators and academic researchers, including myself, have called attention to an urban shift in high tech startups. A large body of literature documents the return of people, jobs and commerce to the urban core, a trend Alan Ehrenhalt has dubbed ‘the great inversion.’ And several studies have charted the rise of significant high tech startup clusters in urban locations.”

“When combined with walkable, mixed-use suburbs, urban centers account for substantial shares of venture capital investment in most leading high tech metros. Suburban high tech is not going away — established companies that need large footprints will continue to occupy suburban campuses. But the newest and most innovative developments in the industry are likely to emerge from urban and urban-like locations.”

Changes within high technology industries, such as the movement of the emphasis from hardware to software and from internal/closed to collaborative/open innovation systems have changed the spatial dynamics for high technology industries and are driving the movement of innovation companies and entrepreneurs to cities. According to *The New Economy of the Inner City* article by Thomas Hutton:

“The growth of creative, knowledge-based and technology-intensive industries within certain precincts of the inner city constitute important aspects of the spatiality of the New Economy. These new industry clusters are shaped by the convergence of culture and urban development, by the increasing significance of technology in value-added production and by the competitive advantage of the inner city for creative industries.”¹⁷

¹⁵ <https://hbr.org/2012/06/planting-entrepreneurial-innov/>.

¹⁶ http://martinprosperity.org/media/Startup%20City_14-03-14.pdf.

¹⁷ Thomas A. Hutton, “The New Economy of the Inner City,” *Cities*, Volume 21, 2004, page 90

Suburbs and even exurban areas can also be competitive sites for attracting clusters of industry activities of knowledge-based and technology-intensive sectors, but as Hutton explains, the metropolitan core represents the “creative habitat” par excellence for these new industry clusters because they offer “a critical mass of human capital, amenity attributes, and environmental conditions.”

According to Enrico Moretti in *The New Geography of Jobs*:

“A growing body of research suggests that cities are not just a collection of individuals but complex, interrelated environments that foster the generation of new ideas and new ways of doing business...the innovation sector is more than science and engineering. It includes industries as diverse as entertainment, industrial design, marketing, and even finance.”

As the innovation economy is shaped by the convergence of technologies, human capital and place becomes more important. As Hutton reports:

“The defining industries of the inner city’s New Economy comprise hybridized firms, which combine creative inputs and applied design with technology-intensive communications and production systems in the fabrication of high-value outputs. These include long-established industries such as architecture, industrial design, graphic arts and design, and fashion design, as well as archetypical New Economy industries exemplified by software design, Internet design and services, computer graphics and imaging, and multimedia industries.”

Under Armour is an example of the entrepreneurial, innovation-based companies that are driving urban redevelopment across the nation and the world. The company combines design with technology to create an innovative consumer good. As a result, the development of its campus in an urban setting is consistent with the rise of innovation driven activities in urban areas across the nation.

3.4 A Trend Toward Urban Mixed-Use Developments

One of the key drivers of the re-urbanization of both population and jobs has been the focus on mixed-use developments in areas that integrate rather than separate residential, office, and retail/entertainment uses, creating a live-work-play environment in downtown areas across the nation. According to the PWC-ULI report *Emerging Trends in Real Estate* report: ¹⁸

“Downtown transformations have combined the key ingredients of housing, retail, dining, and walk-to-work offices to regenerate urban cores, spurring investment and

¹⁸ Refer to Note 9.

development and raising the quality of life for a roster of cities. So let's call these re-emergent downtowns "18-hour markets." Though they quiet down noticeably in the wee hours, deep into the evening the mix of shops, restaurants, and entertainment truly generates excitement. This is catalyzed by walk-to-work housing that encourages employers in the knowledge and talent industries to keep their offices downtown."

PWC-ULI's report *Emerging Trends in Real Estate* continues in reporting that this trend is broad based and national in scope:

"The development of vibrant urban centers is almost a universal trend among the 75 markets included in the 2015 survey. Only five markets have realized negative growth in urban center population over the past three years."

This finding was further echoed by the International Downtown Association, which reports:

"Downtowns across the United States are thriving. From Boston to San Diego, Seattle to Miami, cities are diversifying their economies and land use, restoring and enlivening public spaces. During the last three decades, city centers have been adding arts, culture, dining, education, medical, and research institutions, along with hospitality, leisure, and sports venues. Simultaneously, there has been a dramatic and sustained increase in residents, living both within business districts and adjacent neighborhoods."

"Places once shunned as empty and unsafe at night are being redeveloped at higher density and are thriving after dark. They have become preferred places for work, entertainment, and living. Patrons of downtown regional destinations mingle with office workers, resident young professionals, empty nesters, and, in many cities, an expanding number of families with children. The trends of diversification, animation, and residential revival are occurring as well on and around urban colleges, universities, medical centers, research parks, and other urban commercial zones."¹⁹

Live-work-play development is taking hold in Baltimore. According to the Downtown Partnership of Baltimore's 2014 *State of Downtown Report*:

"Nationally, employment in city centers is growing while suburban employment growth is beginning to decline...the keys to this growth include a resurgence in business services jobs, neighborhoods that are active 24 hours a day, and, perhaps most importantly, a mixed-use symbiosis created when people cluster where they work with where they live. Downtown Baltimore, in 2014, continued to capitalize on all these trends, growing its employment and residential base, adding retail, welcoming performance venues like Chesapeake Shakespeare Theatre, and realizing increased private sector activity that

¹⁹ https://www.ida-downtown.org/eweb/docs/WC13/MT13/MT13_Levy.pdf.

included high-value commercial real estate transactions and progress on long-awaited projects such as One Light Street, Mechanic Center, and the former McCormick site.”

The International Downtown Association measured for 150 cities the extent to which the live-work-play dynamic was taking place. Using 2011 data, they ranked urban downtown employment centers by the percentage of working residents living within the commercial downtown area or within the surrounding one-mile radius who also work downtown. Downtown Baltimore is ranked in the second tier of top live-work-play centers with a high live-work-play quotient of almost 27 percent. The top ranked live-work-play centers have over 30 percent or more of the working residents living within these employment centers, or within the surrounding one-mile radius, also work within this area.

Furthermore, the mixed-use, live-work-play environment is not only driving urban renewal, locating in such an environment has become increasingly important for companies themselves. According to the National Association for Industrial and Office Parks (NAIOP), the Commercial Real Estate Development Association’s *Preferred Office Locations Comparing Location Preferences and Performance of Office Space in CBDs, Suburban Vibrant Centers and Suburban Areas* report:²⁰

“Office space users seem to be increasingly dissatisfied with overwhelmingly auto-dependent, single-use, low-density suburban office parks, office campuses and similar office environments. Today, many appear to prefer amenity-rich urban places. In fact, most companies experiencing employee attrition due to retirement now consider relocating from suburban to urban office space to attract Gen Y workers (also known as Millennials), many of whom prefer places where they can work, dine, shop, recreate, learn, etc. in close proximity.”

“Attractive office space typically is close to cafes, restaurants, retail shops, personal and business services, hospitality and civic uses. The best locations are compact, walkable places near housing and public transit. Office tenants expect their employees to be more satisfied in places that offer diverse, connected land uses. As a result, these companies anticipate higher productivity, less turnover and, possibly, more innovation. To become more competitive in the emerging knowledge-based economy, many companies are choosing to locate in these types of places.”

By combining the headquarters campus of a major innovation-driven firm with a mixed-use office, entertainment, retail, and residential development in close proximity to downtown, Port

²⁰ <http://www.naiop.org/preferredofficelocations>.

Covington will further the development of the live-work-play environment in Baltimore City that is already reshaping downtown.

3.5 The Rise of Urban Innovation Districts

There is an emerging development trend in urban areas that integrates the emergence of cities as centers for entrepreneurial and innovation activities and the increasing importance of mixed-use, live-work-play environments in cities. This trend is the rise of what are called Innovation Districts, a term coined in a recent Brookings Institution report, *The Rise of Innovation Districts: A New Geography of Innovation in America*.²¹

“For the past 50 years, the landscape of innovation has been dominated by places like Silicon Valley—suburban corridors of spatially isolated corporate campuses, accessible only by car, with little emphasis on the quality of life or on integrating work, housing, and recreation. A new complementary urban model is now emerging, giving rise to what we and others are calling “innovation districts.” These districts, by our definition, are geographic areas where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators. They are also physically compact, transit-accessible, and technically-wired and offer mixed-use housing, office, and retail.”

According to the Brookings Institution report, Innovation Districts combine economic, physical, and networking assets in a concentrated geographic area to enhance and drive innovation activity and attract and retain talent. The concentration of these three types of assets fosters the creation of a critical mass of resources and activities to support and enhance innovation activity.

Economic assets include the firms, institutions and organizations that develop, deploy, and commercialize innovations. *Physical assets* are the buildings and open spaces that are developed in such a way as to foster the connections and collaborations that drive innovation. *Networking assets* are the relationships among the firms, institutions, entrepreneurs, and people organized to foster innovation.

Brookings identifies three major types of Innovation Districts:

- 1) The *Anchor Plus* model typically consists of a large scale mixed-use development centered around a major anchor institution such as a university or academic medical center and hosting related firms, entrepreneurs, and start-ups.
- 2) The *Re-imagined Urban Area* model is often found near or along historic waterfronts where industrial or warehouse districts are undergoing a physical and economic transformation to chart a new path of innovative growth.

²¹ <http://www.brookings.edu/events/2014/06/09-innovation-districts>.

3) The *Urbanized Science Park* model consists of efforts where traditional suburban research parks are revitalized through increased density and mixed-use development to create a denser, live-work-play environment.

According to the Brookings Institution's report, Innovation Districts represent a new paradigm in promoting the innovation economy based on the emerging "open innovation model," where technology development, commercialization, and entrepreneurship are facilitated by the interactions among the key actors. According to Brookings:

"Collectively, these three shifts—a converging knowledge economy, more open innovation ecosystems, and changing demographics—are stirring new demands for density, proximity, collaboration, and walkability, and in so doing are re-working the spatial geography of innovation. With concerted effort, the rise of innovation districts holds the potential to bring numerous benefits to the cities and regions in which they are located, and to the people who live and work there."

Innovation Districts represent a place-based strategy to strengthen the local innovation economy through spatial patterns of development that combine anchor institutions; employment, open, and collaborative space; and networking resources in a way that enhances interactions among organizations and individuals.

The Port Covington/Under Armour Headquarters Project represents a corporately anchored Innovation District. The development project will be anchored by the headquarters campus of a major creative and innovation driven company in Under Armour and is located in a *Re-imagined Urban Area*, thereby combining the first two Innovation District models. Under Armour will centralize its major design, marketing, research, and manufacturing scale-up facility in the Port Covington/Under Armour Headquarters Project and will seek to attract some of its suppliers and subcontractors onto the site. The employment space is also projected to host the entrepreneurial and start-up companies that are attracted to the waterfront, live-work-play environment and will also include dedicated space for innovation companies, including the 148,000 square foot Parking Garage incubator space.

3.6 The Rise of Super-Commuters in Urban Areas

Another national real estate trend that impacts the development potential of the Port Covington/Under Armour Headquarters Project is the rise of the so-called super-commuters or "a person who works in the central county of a given metropolitan area, but lives beyond the boundaries of that metropolitan area, commuting long distance by air, rail, car, bus, or a combination of modes."²² Indeed, Baltimore is part of a larger Baltimore-Washington, DC

²² Moss, and Qing, C., "The Emergence of the "Super-Commuter," Rudin Center for Transportation, New York University Wagner School of Public Service, 2012.

consolidated metropolitan area with substantial commuter and economic relationships, and Washington DC has been identified as a major center for super-commuters.²³ Super-commuting is based on changes in both technology and employment practices and according to Moss and Qing:

“Many workers are not expected to physically appear in a single office at all: the global economy has made it possible for highly-skilled workers to be employed on a strictly virtual basis, acquiring clients anywhere and communicating via email, phone and video conference. Furthermore, the global economy has rendered the clock irrelevant, making it possible for people to work, virtually, in a different time zone than the one in which they live. Simply put, the workplace is no longer fixed in one location, but rather where the worker is situated. As a result, city labor sheds (where workers live) have expanded over the past decade to encompass not just a city’s exurbs, but also distant, non-local metropolitan regions, resulting in greater economic integration between cities situated hundreds of miles apart.”

“Across the country, city labor sheds (where workers live) are expanding rapidly and super-commuter growth rates are far outpacing workforce growth rates. Super-commuting is on the rise among workers in the central commuting counties of ten of the largest metropolitan labor forces in the nation, with the exceptions of Atlanta and Minneapolis.”

Port Covington, with its location on I-95 and potential access to light rail can represent a prime residential location for super-commuters. It is well known that Baltimore, with lower housing and living costs, established rail connections, and connected by I-95 has emerged as a residential location for workers commuting to the larger Washington, DC economic and employment center. According to a Battelle analysis of Longitudinal Employer-Household Dynamics (LEHD) data from the US Bureau of the Census, nearly 10 percent of employed Baltimore City residents, 21,653 workers, commute to jobs in the Washington, DC metropolitan area, and an additional 1,088 are employed in the Philadelphia Metropolitan Area and 892 work in the New York Metropolitan Area.²⁴

3.7 The Development of Multi-nodal Downtown Business Areas

In another report on the dramatic population and employment shifts occurring in urban areas, the International Downtown Association’s *Downtown Rebirth: Documenting the Live-Work Dynamic in 21st Century U.S. Cities* report described the population and employment growth occurring in urban areas, with a specific focus on downtown areas²⁵. This report highlights the

²³ Refer to http://www.census.gov/newsroom/releases/pdf/paper_mega_%20commuters_us.pdf.

²⁴ Battelle TPP analysis of LEHD place of work data from <http://lehd.ces.census.gov/>.

²⁵ https://www.ida-downtown.org/eweb/docs/WC13/MT13/MT13_Levy.pdf.

recent shifts in both population and employment in downtown areas, as described in the following two quotes:

“The post-World War II narrative of urban decline was a tale of contracting, single-use office districts left empty after dark; obsolete, historic structures demolished for surface parking or interstate highways; and falling real estate values and abandoned housing. It is the decline from which American downtowns are rebounding as they restore economic and land-use diversity, reclaim old buildings, and redevelop empty lots.”

“In the wake of the Great Recession, it became clear that many of the restored, culturally-rich, dense, and walkable environments of cities in the United States fared better than their low-density, suburban counterparts. Reflective of deeper demographic, cultural, and energy trends, office occupancy levels and housing values are now often higher in downtowns than in surrounding suburbs.”

The *Downtown Rebirth: Documenting the Live-Work Dynamic in 21st Century U.S. Cities* report moves past the already discussed trend toward the re-urbanization of both population and jobs to describe four different patterns of employment density:

- 1) Cities with one dominant downtown employment node in the central business district.
- 2) Cities with one dominant downtown employment node, plus a secondary employment node that is typically built around one or more anchor institution districts.
- 3) Cities with multiple, strong employment nodes.
- 4) Cities with decentralized employment throughout an urbanized area.

The report identifies Baltimore as having a downtown CBD employment node with a secondary employment node surrounding Johns Hopkins Hospital and University. Indeed, with the development of the Harbor East area immediately outside of the traditional downtown CBD area and the emerging West Baltimore employment center developing in and around the UMBioPark, a case can be made that Baltimore is home to several distinct and emerging employment nodes.

The development of the Port Covington/Under Armour Headquarters Project would add a new and distinct employment node to the south of the traditional CBD. The development of such a large employment center may be a point of concern in that it could attract activities that would otherwise occur in the traditional downtown area; however, there is a general consensus among the key informants interviewed for this project that while the development of Harbor East and the East Baltimore Development, Inc. (EBDI) Project in East Baltimore may have led to the movement or attraction of some employers to areas outside of the traditional CBD, these projects have done far more to strengthen the city and in fact are major contributors to the recent turnaround in both population and employment growth. Thus, the development of Port

Covington/Under Armour Headquarters Project is observed by all of the key informants interviewed not as a challenge to downtown, where several older office buildings have already been converted into hotels or apartment buildings, but as the creator of a major potential engine of population and employment growth for the city.

3.8 Summary and Conclusion

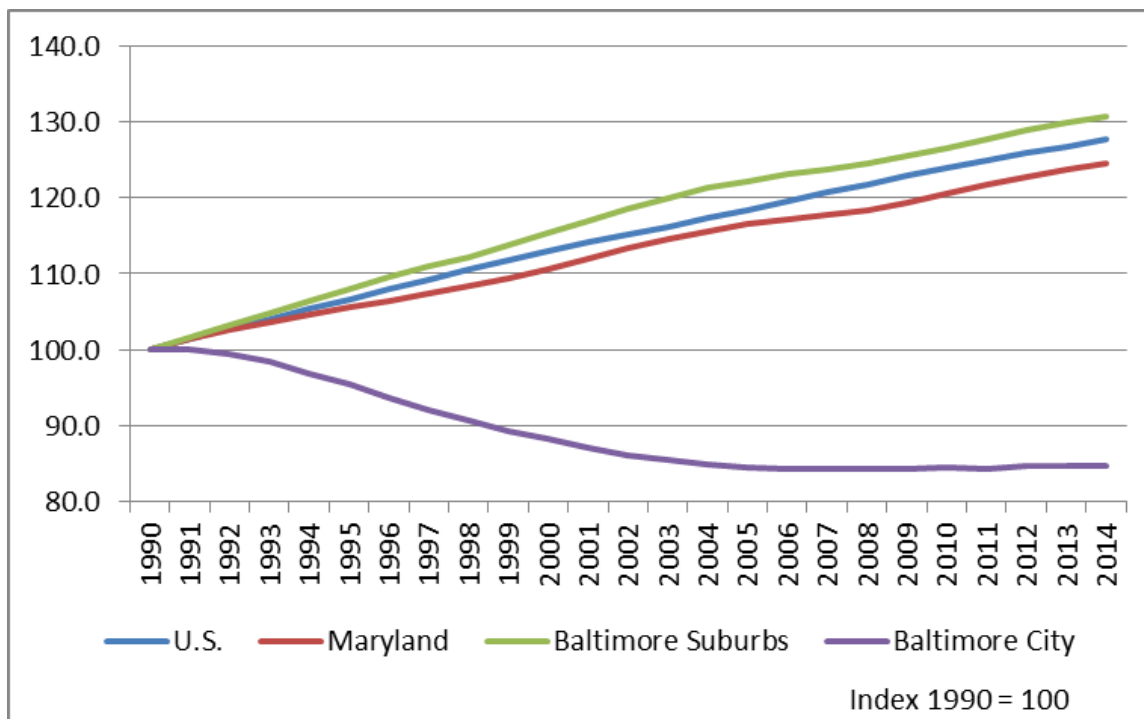
The goal in identifying these broad economic and real estate trends is to assess the Port Covington/Under Armour Headquarters Project in the context of the major issues that are shaping urban development across the nation. As described in more detail in Section 4.0, Baltimore City appears to have reversed its long term decline in both population and employment and is experiencing a re-urbanization of both population and employment. Baltimore is experiencing an influx of young, educated Creative Class workers. With the development of two life sciences research parks that have the potential to emerge as Innovation Districts, the city is becoming a center of entrepreneurial and innovation activity. Anchored by Under Armour, Port Covington has the potential to emerge as a corporate-anchored Innovation District and create a live-work-play environment that will reinforce the attractiveness of the city for young, skilled, educated Creative Class workers and innovation economy companies.

4.0 The Port Covington/Under Armour Headquarters Project in the Context of Baltimore Regional Population, Economic, and Real Estate Trends

In order for the Port Covington/Under Armour Headquarters Project to be successful, it must be consistent with the broad population, economic, and real estate trends shaping the city and region. It is important to note the difficulties inherent in analyzing the market for a project of the magnitude of Port Covington. The development project as it is currently planned will ultimately exceed 10 million square feet, consisting of the 2.8 million square foot Under Armour Headquarters Campus and 7.5 million square feet of entertainment, office, innovation, retail, and residential space, as well as park land, a marina, and other areas. This investment represents a potentially transformative investment in Baltimore's ongoing redevelopment efforts and is much larger than other city development projects. For example the Harbor East project, which extended Baltimore's downtown area into an older, underutilized industrial area, is only 20 acres with 3.0 million square feet of planned space. This section of the report describes recent Baltimore City and regional trends in population, employment, and real estate activity in order to provide the economic context for the Port Covington/Under Armour Headquarters Project.

4.1 Regional Population Trends

As in older industrial cities across the nation, Baltimore City experienced a substantial long term decline in population. Between the 1970 and 2010 decennial censuses, Baltimore City's population fell from 905,787 to 620,961, a four decade long decline in population. As presented in Figure 6, while the suburbs have grown more rapidly than the nation since 1990 and the state has lagged national population growth, the city's population has declined by just over 15 percent. However, as is evident in the chart, the city's population began to stabilize in 2007, and since that time, the city has experienced modest gains in population.



Source: US Bureau of the Census.

Figure 6. United States, Maryland, and Baltimore Population Since 1990

As described in the discussion of national urban economic and real estate trends above, there has been a national shift in national real estate preferences, with both younger (Millennials) and older (Empty Nester) populations preferring an urban, city environment. This trend is evident in Baltimore in the population shifts occurring in the city and the region. Trends in city and metropolitan area population are presented in Tables 2 through 5, with the some of the key findings including:

- Baltimore City is experiencing growth in both its the Millennial and Empty Nester populations:
 - Since 2000, the city’s population of Millennials (age 25-34) has increased by 21 percent, outpacing 11 percent growth at the metropolitan area level.
 - Since 2000, the city’s population of Empty Nesters (age 55-64) has increased by 39 percent, lagging the overall region but still providing a source of population growth.
- The success of the city in attracting younger residents is also evident in the median age of the population, which fell from 35.5 years old in 2000 to 34.6 in 2013, while the median age of the Metropolitan area’s population increased.
- A central tenant of the *Rise of the Creative Class* theory in economic development is that regions that are open and tolerant of diverse populations are more likely to attract

Creative Class workers. One recognized measure of openness and tolerance is the attraction of immigrant and foreign born populations. Since 2000, the city's foreign born population has increased by 50 percent and its Hispanic population has increased by 157 percent. While the city's growth in these populations has lagged the larger metropolitan area, which realized a 74 percent and 176 percent growth, respectively, it is clear that both the city and region are attracting these populations.

- While Baltimore City, with its substantial concentration of urban poverty, continues to lag the overall metropolitan area in median household income, with overall median household income of \$42,266 at only 62 percent of the metropolitan area level, the growth in this measure slightly outpaced the rate of growth at the metropolitan area level.
- Baltimore City is experiencing an influx of both educated and professional workers. Richard Florida's *Rise of the Creative Class* holds that regions that attract better educated and Creative Class workers perform better:
 - Since 2000, the city's population aged 25 and above with a bachelor's degree has increased by 44 percent and its population with an advanced degree grew by 57 percent, outpacing metropolitan area growth of 32 percent and 54 percent, respectively.
 - Since 2000, the city's employed population aged 16 and above working in management, business, science, and arts occupations (key occupations of the Creative Class) has increased by 38 percent, outpacing metropolitan area growth of 28 percent.
 - The entire Baltimore Metropolitan Area is attracting educated and skilled workers with strong growth in these populations occurring in the city.

The entire Baltimore region is emerging as a thriving center for younger, educated, and skilled workers, with Baltimore City serving as a center for this growth. As described in both Richard Florida's *Rise of the Creative Class* and Enrico Moretti's *New Geography of Jobs*, regions that are attracting young, educated, and skilled workers outperform other regions. These younger, educated, and talented workers are increasingly favoring urban locations. As a result of this change, Baltimore City is transitioning from a distressed, high poverty drag on regional growth to a locus of attraction for creative and new economy workers. As presented in Figure 7, the city's growth in these workers is outpacing suburban growth and thereby contributing to regional success. The development of the Port Covington/Under Armour Headquarters Project has the potential to further strengthen these trends and thereby support ongoing development in the region.

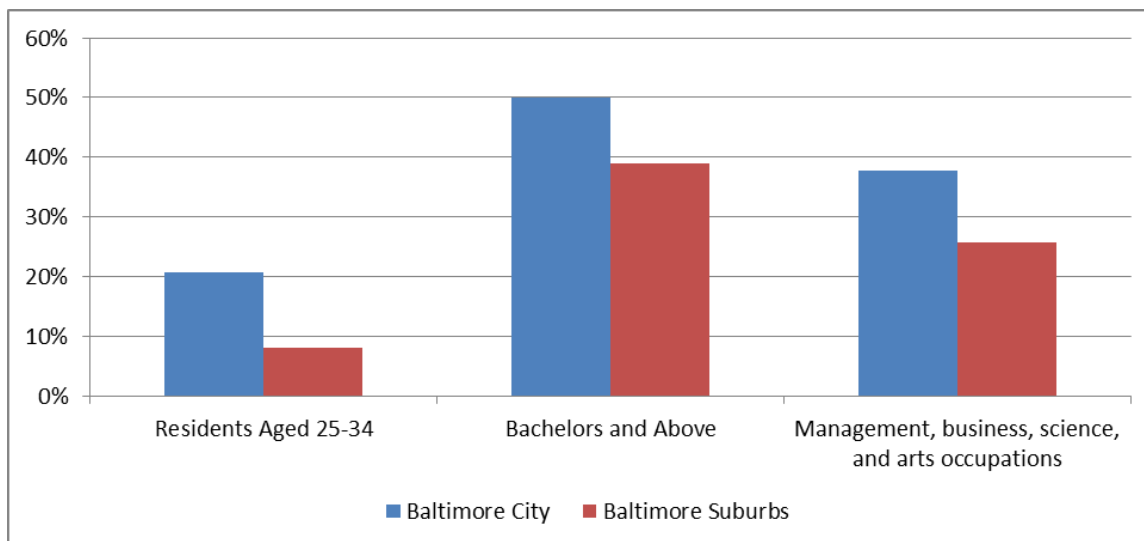


Figure 7. Selected Components of Demographic Change in Baltimore City and the Baltimore Suburbs, 2000-2013

Despite these positive recent demographic changes, challenges remain in Baltimore City and the region. Despite the recent influx of young, educated, and talented workers, as the recent civil unrest has demonstrated, Baltimore City still has a concentration of urban poverty. According to 2013 American Community Survey data, the poverty rate in the city remains high at 23.3 percent, and substantially higher than suburban levels of 11.2 percent. Only 62 percent of Baltimore City residents are in the civilian labor force and 6.8 percent of city workers are unemployed, compared to 68 percent and 4.8 percent at the metropolitan area level. Nearly 11 percent of city residents lack health insurance, compared to less than 9 percent in the metropolitan area.

The diverse job opportunities that will be created at the Port Covington site have the potential to help address some of these socio-economic disparities. As presented in Figure 8, the jobs created in the Port Covington/Under Armour Headquarters Project will cross the spectrum of industries, ranging from high wage, high benefit jobs in the management of companies and professional services and non-profits sectors, which account for 81 percent of the estimated jobs in the project, to 19 percent of jobs in the retail, personal services, and entertainment/restaurant/hotel sectors, where substantial entry-level job opportunities exist. Thus, the project will create both the knowledge and Creative Class jobs demanded by the new migrants to the city as well as create jobs for existing city residents.

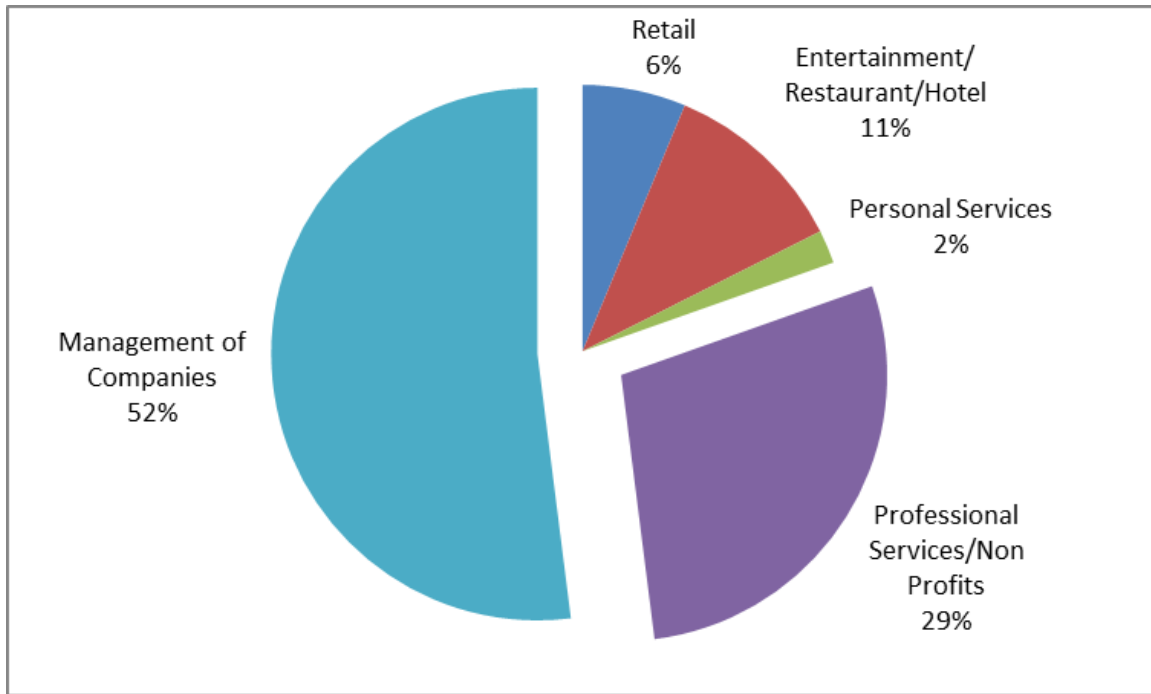


Figure 8. Direct Under Armour and Tenant Jobs in the Port Covington Project by Sector

Table 2. Baltimore City Demographic and Housing Profile

	2000	%	2008	%	2013	%	Percent Change		
							2000-8	2008-13	2000-13
Demographic Profile									
Population	651,154		636,919		622,104		(2%)	(2%)	(4%)
Households	257,996		238,454		244,114		(8%)	2%	(5%)
Average Household Size	2.4		2.59		2.44				
Race									
White Alone	205,982	32%	203,440	32%	187,993	30%	(1%)	(8%)	(9%)
Black Alone	418,951	64%	401,908	63%	391,451	63%	(4%)	(3%)	(7%)
Asian	9,985	2%	12,601	2%	14,728	2%	26%	17%	48%
Other	6,682	1%	7,196	1%	14,797	2%	8%	106%	121%
Two or More Races	9,554	1%	11,774	2%	13,135	2%	23%	12%	37%
Hispanic	11,061	2%	17,014	3%	28,440	5%	54%	67%	157%
Foreign Born	29,638	5%	37,327	6%	44,321	7%	26%	19%	50%
Age									
0-14	135,497	21%	126,109	20%	112,346	18%	(7%)	(11%)	(17%)
15-24	96,997	15%	100,550	16%	89,511	14%	4%	(11%)	(8%)
25-34	93,248	14%	88,014	14%	112,475	18%	(6%)	28%	21%
35-44	101,544	16%	85,888	13%	73,837	12%	(15%)	(14%)	(27%)
45-54	83,408	13%	92,425	15%	83,493	13%	11%	(10%)	0%
55-64	54,539	8%	68,626	11%	75,573	12%	26%	10%	39%
65 +	85,921	13%	75,307	12%	74,869	12%	(12%)	(1%)	(13%)
Median Age	35.0		35.5		34.6				
Median Household Income	\$30,078		\$40,313		\$42,266				
Housing Profile									
Total Units	<u>300,477</u>		<u>294,319</u>		<u>295,773</u>				
Owner-Occupied	129,869	43%	122,463	42%	112,858	38%	(6%)	(8%)	(13%)
Renter-Occupied	128,127	43%	115,991	39%	131,256	44%	(9%)	13%	2%
Vacant	42,481	14%	55,865	19%	51,659	17%	32%	(8%)	22%

Source: US. Bureau of the Census.

Table 3. Baltimore City Resident Educational Attainment and Occupation

	2000	%	2008	%	2013	%	Percent Change		
							2000-8	2008-13	2000-13
Population 25 and over	<u>419,581</u>	<u>100%</u>	<u>410,260</u>	<u>100%</u>	<u>420,247</u>	<u>100%</u>			
Less than high school	132,699	32%	90,843	22%	76,386	18%	(32%)	(16%)	(42%)
High school graduate	118,175	28%	124,515	30%	122,048	29%	5%	(2%)	3%
Some college, no degree	73,677	18%	78,589	19%	81,627	19%	7%	4%	11%
Associate's degree	14,706	4%	14,806	4%	19,752	5%	1%	33%	34%
Bachelor's degree	43,746	10%	51,232	12%	62,996	15%	17%	23%	44%
Graduate or professional degree	36,578	9%	50,275	12%	57,438	14%	37%	14%	57%
Civilian employed population 16 years and over	<u>256,036</u>	<u>100%</u>	<u>288,132</u>	<u>100%</u>	<u>275,356</u>	<u>100%</u>			
Management, business, science, and arts occupations	83,017	32%	103,285	36%	114,443	42%	24%	11%	38%
Service occupations	51,294	20%	65,862	23%	56,692	21%	28%	(14%)	11%
Sales and office occupations	69,280	27%	73,104	25%	62,109	23%	6%	(15%)	(10%)
Natural resources, construction, and maintenance occupations	18,115	7%	17,646	6%	14,534	5%	(3%)	(18%)	(20%)
Production, transportation, and material moving occupations	34,330	13%	28,235	10%	27,578	10%	(18%)	(2%)	(20%)

Source: US Bureau of the Census.

Table 4. Baltimore Metropolitan Area Demographic and Housing Profile

	2000	%	2008	%	2013	%	Percent Change		
							2000-8	2008-13	2000-13
Demographic Profile									
Population	2,552,994		2,667,117		2,770,738		4%	4%	9%
Households	974,071		1,005,383		1,037,921		3%	3%	7%
Average Household Size	2.55		2.58		2.60				
Race									
White Alone	1,719,315	67%	1,722,902	65%	1,703,860	61%	0%	(1%)	(1%)
Black Alone	699,962	27%	763,368	29%	803,254	29%	9%	5%	15%
Asian	68,873	3%	103,122	4%	138,307	5%	50%	34%	101%
Other	26,115	1%	29,006	1%	51,384	2%	11%	77%	97%
Two or More Races	38,729	2%	48,719	2%	73,933	3%	26%	52%	91%
Hispanic	51,329	2%	88,994	3%	141,663	5%	73%	59%	176%
Foreign Born	146,128	6%	209,003	8%	254,774	9%	43%	22%	74%
Age									
0-14	540,894	21%	514,216	19%	513,421	19%	(5%)	(0%)	(5%)
15-24	323,583	13%	379,434	14%	369,287	13%	17%	(3%)	14%
25-34	354,647	14%	337,181	13%	395,038	14%	(5%)	17%	11%
35-44	438,027	17%	385,687	14%	346,976	13%	(12%)	(10%)	(21%)
45-54	362,570	14%	415,836	16%	413,235	15%	15%	(1%)	14%
55-64	226,075	9%	306,704	11%	354,064	13%	36%	15%	57%
65 +	307,198	12%	328,059	12%	378,717	14%	7%	15%	23%
Median Age	36.3		37.7		38.2				
Median Household Income	\$49,938		\$66,112		\$68,455				
Housing Profile									
Total Units	<u>1,048,046</u>		<u>1,110,289</u>		<u>1,142,386</u>				
Owner-Occupied	651,816	62%	682,184	61%	684,387	59.9%	5%	0%	5%
Renter-Occupied	322,255	31%	323,199	29%	353,534	30.9%	0%	9%	10%
Vacant	73,975	7%	104,906	9%	104,465	9.1%	42%	(0%)	41%

Source: US Bureau of the Census.

Table 5. Baltimore Metropolitan Area Resident Educational Attainment and Occupation

	2000	%	2008	%	2013	%	Percent Change		
							2000-8	2008-13	2000-13
Population 25 and over	<u>1,691,080</u>	<u>100%</u>	<u>1,773,467</u>	<u>100%</u>	<u>1,888,030</u>	<u>100%</u>			
Less than high school	306,272	18%	219,005	12%	199,137	11%	(28%)	(9%)	(35%)
High school graduate	458,761	27%	479,521	27%	491,931	26%	5%	3%	7%
Some college, no degree	341,196	20%	360,505	20%	376,729	20%	6%	5%	10%
Associate's degree	91,009	5%	106,152	6%	125,098	7%	17%	18%	37%
Bachelor's degree	292,770	17%	349,042	20%	386,326	20%	19%	11%	32%
Graduate or professional degree	201,072	12%	259,242	15%	308,809	16%	29%	19%	54%
Civilian employed population 16 years and over	<u>1,232,921</u>	<u>100%</u>	<u>1,371,925</u>	<u>100%</u>	<u>1,378,453</u>	<u>100%</u>			
Management, business, science, and arts occupations	490,723	40%	575,804	42%	627,294	46%	17%	9%	28%
Service occupations	173,156	14%	216,813	16%	223,145	16%	25%	3%	29%
Sales and office occupations	337,893	27%	350,898	26%	325,558	24%	4%	(7%)	(4%)
Natural resources, construction, and maintenance occupations	105,860	9%	114,487	8%	97,236	7%	8%	(15%)	(8%)
Production, transportation, and material moving occupations	125,289	10%	113,923	8%	105,220	8%	(9%)	(8%)	(16%)

Source: US Bureau of the Census.

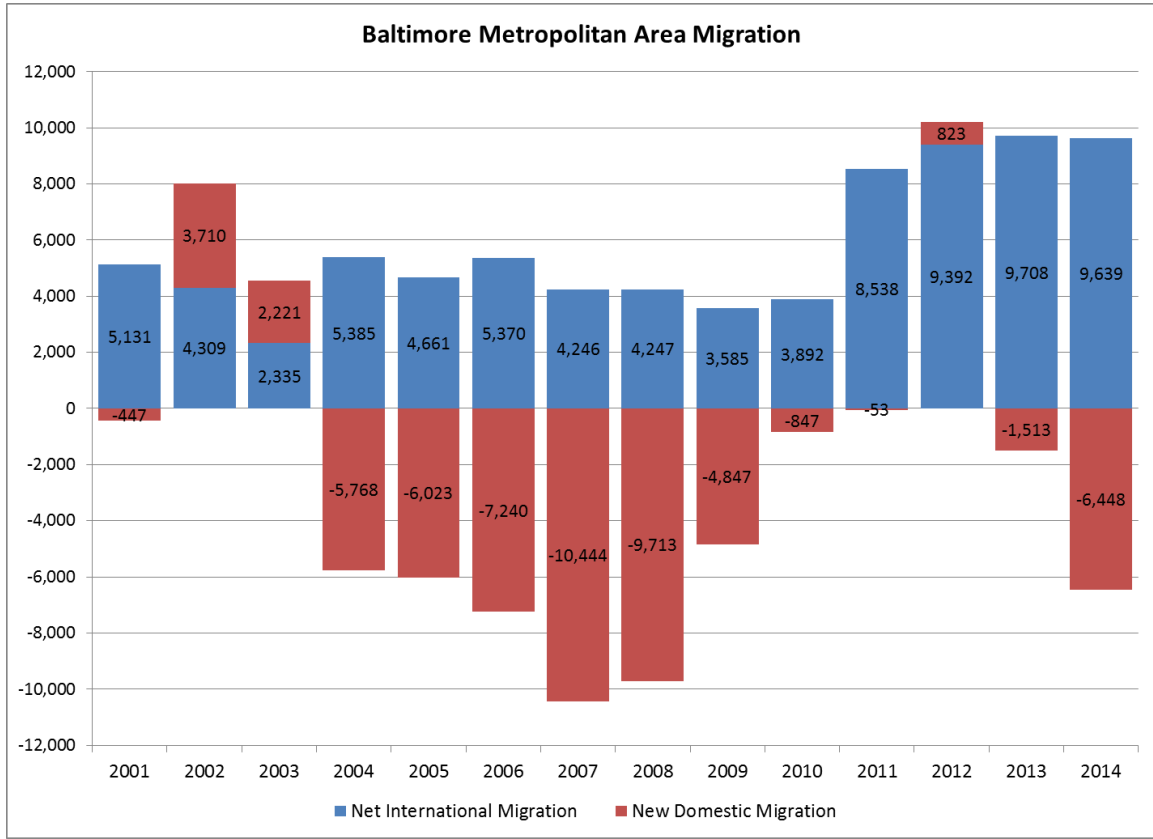
4.2 Migration Trends

Patterns of migration can also influence the attractiveness of a region. A region's population growth is driven by two primary components of population change: 1) natural change (births minus deaths) and 2) net migration (number of new residents moving into the community less the number of existing residents moving out of the community). Migration can be further broken into domestic migration (that which originates within the United States) and international migration (that which originates outside the United States). Domestic out-migration has been a source of population loss at the state, region, and especially at the city level. For the overall region, the out-migration of residents, many moving to lower cost neighboring states, has generally been offset by growth in foreign in-migration; however, for Baltimore City out-migration has been the driving force for long term population loss (refer to Table 6 for the IRS Migration Data).

Battelle analyzed data on city and regional migration patterns using both US Bureau of the Census and for the city, Internal Revenue Service (IRS) migration data. Key trends include:

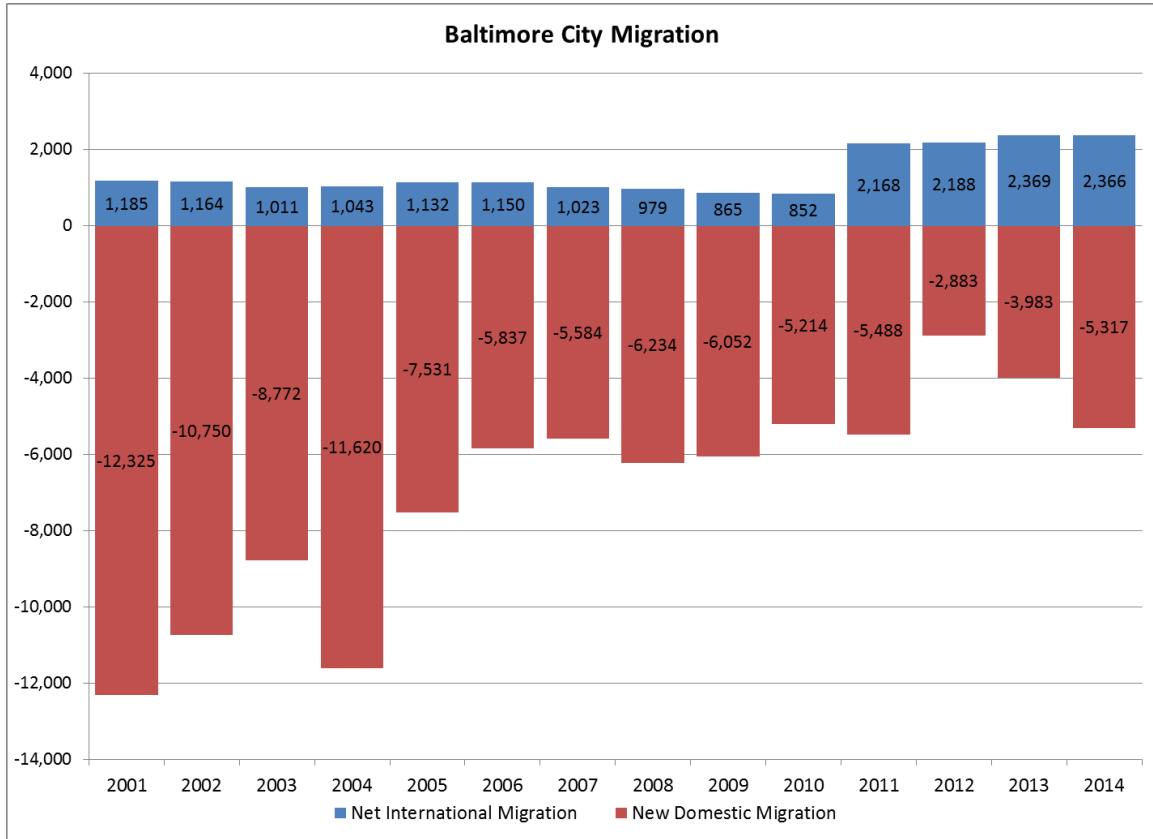
- At the metropolitan area level, domestic out-migration since 2001 has been offset by international in-migration (Figure 9).
- Baltimore City has experienced a net loss in population from migration (Figure 10).
- Based on analysis of IRS migration data, Baltimore City is losing population, primarily to neighboring Baltimore and Harford Counties and also to York County, PA, but gaining foreign and out-of-state residents.

While city out-migration is primarily driven by cost and quality of life considerations, by creating a high quality live-work-play environment, Port Covington has the potential to at least partially offset historic patterns of out-migration in the city, especially by supporting the continued growth in younger, educated and older Empty Nester residents.



Source: US Bureau of the Census.

Figure 9. Baltimore Metropolitan Area Net Migration



Source: US Bureau of the Census.

Figure 10. Baltimore City Net Migration

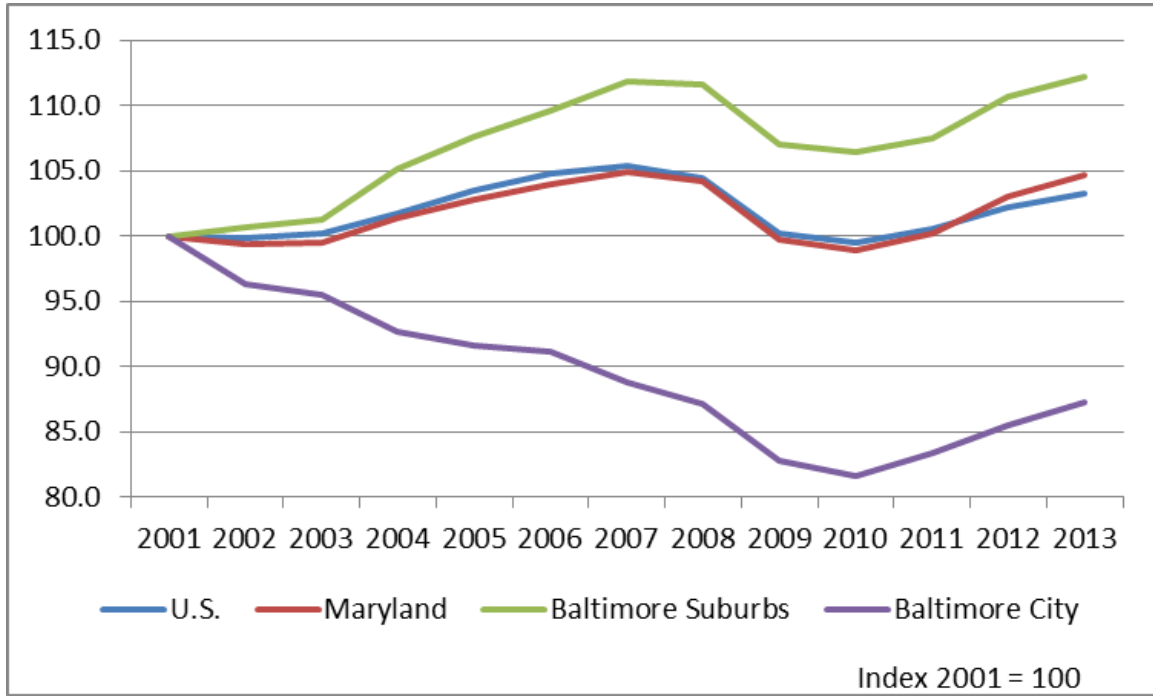
Table 6. IRS Migration Data

	2005	2006	2007	2008	2009	2010	2011
Total In-Migration (Returns)	16,203	17,227	17,517	17,964	17,571	16,782	16,571
In-State	10,120	10,583	10,819	11,095	10,598	10,383	9,834
Out-of-State Foreign	6,083	6,644	6,698	6,869	6,973	6,399	6,737
Average Adjusted Gross Income	\$35,806	\$38,625	\$39,726	\$39,494	\$37,714	\$37,810	\$40,495
Total Out-Migration (Returns)	17,176	17,849	17,942	18,861	17,585	17,294	17,350
In-State	12,111	12,176	11,983	12,174	11,628	11,750	11,178
Out-of-State and Foreign	5,065	5,673	5,959	6,687	5,957	5,544	6,172
Average Adjusted Gross Income	\$41,242	\$43,040	\$43,882	\$44,182	\$44,124	\$43,826	\$45,330
Net In-Migration	(973)	(622)	(425)	(897)	(14)	(512)	(779)
In-State	(1,991)	(1,593)	(1,164)	(1,079)	(1,030)	(1,367)	(1,344)
Other	1,018	971	739	182	1,016	855	565
Difference in Average Adjusted Gross Income	(\$5,435)	(\$4,416)	(\$4,156)	(\$4,688)	(\$6,411)	(\$6,016)	(\$4,835)

Source: IRS Migration Data.

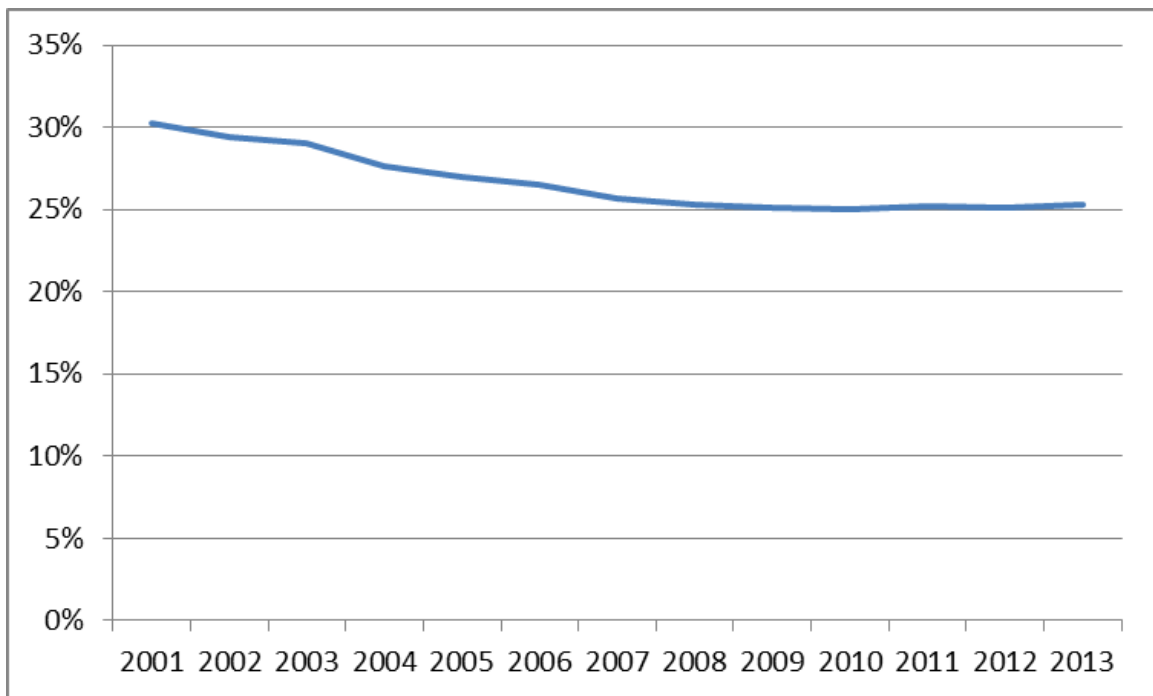
4.3 Regional Economic Trends

While Baltimore City has traditionally served as the center of the regional economy, as a result of declines in employment, the city has realized its share of regional employment fall over time. Since 1970, Baltimore City’s share of total metropolitan area employment has fallen from 54 percent of regional employment to 25 percent in 2013. As presented in Figure 11, the decline in Baltimore City’s employment has recovered and actually grown more rapidly than the region since the end of the Great Recession and the city’s share of regional employment has stabilized (Figure 12).



Source: Battelle Analysis of IMPLAN QCEW Data.

Figure 11. United States, Maryland, and Baltimore Employment Since 2000



Source: Battelle Analysis of IMPLAN QCEW Data.

Figure 12. Baltimore City's Share of Metropolitan Area Employment

The improvement in Baltimore City's employment situation is being driven by the changes in employer real estate preferences described in Section 3.0 of this report. As described in reports by the City Observatory, International Downtown Association, the Urban Land Institute and others, employers are reversing the long term trend in the suburbanization of employment and are increasingly favoring urban locations. This trend is being driven by the growth in the urban "innovation economy," the growth of Creative Class industries, and the rise of urban Innovation Districts. All of these trends are evident in Baltimore City and are being driven by the desire of both employers and workers to locate in dynamic live-work-play environments. Employment trends at the state, metropolitan, and city level over the last two business cycles, from the recovery from the 2001 recession through the advent and recovery from the recent Great Recession, are presented in Table 7, with key findings including:

- Over the long term, 2001-2013 period, the metropolitan area lagged the state in employment growth, and Baltimore City experienced a net decline in employment.
- However, in the post-2009 recovery from the Great Recession, the region outperformed the state and the city outperformed both the region and the state.
- Long term and post-recession employment growth in the city has been driven by its traditionally dominant educational services and health care and social assistance sectors, the so-called "Meds and Eds" in urban development:
 - These two sectors drive the city's economy and account for 39 percent of total employment, compared to 19 percent of state and 21 percent of metropolitan area employment.
- In addition to these two sectors, recent post-2009 growth in the city has also been strong in the following sectors of the economy: management of companies and enterprises, which includes headquarters and regional offices of corporations, such as Under Armour with 81 percent growth; transportation and warehousing with 38 percent growth; administrative and waste services with 35 percent growth; and accommodation and food services with 11 percent growth.
- Interestingly, the city has not experienced growth in its professional and technical services sector. This sector is driving the growth of the State and regional economy.
- The finance and insurance sector, which was historically a driver of the city economy, has realized a substantial decline in both long term and post-recession employment. This decline is most likely due to both the long term and recent recession driven consolidation of this industry.
- As has occurred nationally, manufacturing employment has continued to experience a decline in employment over both the long term and near term.

While employment trends are an important indicator of economic performance, it is also important to assess the key drivers of the regional economy. This assessment was accomplished by analyzing the concentration of employment at the summary and detailed industry level using location quotients (LQ).²⁶ Industries with a high LQ, typically above 1.2, are often identified as the key drivers of a regional economy, as the high employment concentration may be indicative of a regional comparative advantage in that sector. Industry concentrations/LQs for key state and regional industry drivers are presented in Table 8, with the key findings including:

- The importance of the “Meds and Eds,” educational services and health care, and social assistance sectors to the city’s economy is evident in their high LQs, with colleges and universities having an LQ of 6.24 and hospitals having an LQ of 4.28, indicating an employment concentration of 624 percent and 428 percent, respectively of the national average.
- The city’s average concentration of employment in the professional services sector has an LQ of 1.00 or exactly the national average. The city’s employment concentration in this sector, which is the core driver of both the state and metropolitan area’s economies is far below the Maryland LQ of 1.60 and regional LQ of 1.45:
 - Not surprisingly, the city has a high concentration of employment in legal services, specialized design services, accounting and bookkeeping services, and architectural and engineering services, because these sectors have traditionally dominated urban economies.
 - The city, however, has below average concentrations of employment in the computer systems design and related services, management and technical consulting services, and an average concentration in the scientific research and development services, all of which are specialized in the state and region.
- Despite recent growth in the retail and accommodation and food services, the city has a below average concentration of employment in both broad sectors:
 - According to data from Environmental Systems Research Institute, Inc. (ESRI), Baltimore City has a “retail gap” or unmet retail needs of almost \$2 billion, indicating a need for the retail component of the mixed-use portion of Port Covington, but a surplus (supply exceeds demand) in food and drink (restaurants).

²⁶ According to the US Bureau of Labor Statistics - Location Quotients (LQs) are ratios that allow an area's distribution of employment by industry to be compared to a reference or base area's distribution (in this analysis they were compared to the national average). If an LQ is equal to 1, then the industry has the same share of its area employment as it does in the reference area. An LQ greater than 1 indicates an industry with a greater share of the local area employment than is the case in the reference area and a LQ lower than 1 indicated a lower share. LQs are used to measure the concentration of employment in a particular economy with high LQs (generally a threshold of 1.2 is used) indicating the potential presence of a comparative advantage and the existence of a core industry cluster in that sector.

The development of the Port Covington/Under Armour Headquarters Project has the potential to support employment growth in industries where the city is strong and address gaps where the city is weak. As described above, corporations, headquarters and regional offices, and firms in the creative and innovative sectors of the economy are increasingly favoring urban, live-work-play environments like Port Covington. As a result, the project can support city and regional economic development in the following three ways:

- 1) By combining the headquarters campus of a major innovation-driven firm with a mixed-use office, entertainment, retail, and residential development in close proximity to downtown, Port Covington will further the development of the live-work-play environment in Baltimore City that is already reshaping downtown. The site is a potentially attractive location for companies in the management of companies and enterprises sector of the economy where the city is already doing well and can attract businesses in the professional services sector where the city has been weak.
- 2) By including 148,000 square feet of incubator and innovation space, Port Covington has the potential to make the city more attractive to firms in the innovation, creative, information technology, and high technology sectors that will drive the future growth of the city and region. This incubator and innovation space alone has the potential to house an estimated 420 jobs, while planning innovation/flex space can attract even more jobs.
- 3) By including 1.2 million square feet of retail and restaurant space as well as destination retail space, the Sagamore Distillery, and other entertainment space, Port Covington will attract tenants that will address the “retail gap” in the city and support the continued development of the city’s vibrant arts, culture, and tourism sectors.

All of these industries represent targets or identified clusters in the city, regional and/or state economic development strategies.

The development of the Port Covington project will also support the continued growth and development of Under Armour as a prime example of a home-grown, Maryland-based corporation in a way that will support the growth and diversification of the regional economy. The Under Armour Headquarters Campus will house the logistics operations and in the City Garage Project, house an advanced manufacturing and product testing, development, and scale up facility. Under Armour’s growth has already contributed to the recent growth in the management of companies and enterprises sector in the city. Through its Curtis Bay operations and recent decision to import products through the Port of Baltimore, Under Armour also has and will increasingly contribute to the growth of the city’s transportation and warehousing sector and maritime industry. A goal of the project, both through the development of the City Garage Project and development of local manufacturing capabilities, is to address the decline in manufacturing that has occurred in the city and region by including local manufacturing space. Finally, by supporting the continued growth and success of Under Armour the Port Covington

project has the potential to support the development of a new industry cluster centered on the design and production of sport-oriented apparel and footwear, itself an increasingly innovation and technology-driven business area.

Table 7. Private Sector Employment Trends in Maryland, the Baltimore Metropolitan Area, and Baltimore City

	Maryland				Baltimore Metro Area				Baltimore City			
	Emp. 2013	% of Total	Emp. Change		Emp. 2013	% of Total	Emp. Change		Emp. 2013	% of Total	Emp. Change	
			2001-13	2009-13			2001-13	2009-13			2001-13	2009-13
Total	2,044,448	100%	14.0%	3.0%	1,037,835	100%	4.6%	4.9%	262,124	100%	(13%)	5.4%
Agriculture, forestry, fishing, and hunting	4,975	0%	2%	0%	1,440	0%	5%	(7%)	9	0%	162%	(10%)
Mining, quarrying, and oil and gas extraction	1,341	0%	36%	25%	320	0%	(9%)	37%	0	0%	n.m.	n.m.
Utilities	9,774	0%	9%	4%	5,365	1%	40%	(6%)	2,764	1%	2%	(27%)
Construction	146,076	7%	3%	(8%)	68,137	7%	(6%)	(2%)	9,387	4%	(23%)	(4%)
Manufacturing	106,456	5%	(21%)	(5%)	57,438	6%	(37%)	(9%)	12,029	5%	(51%)	(12%)
Wholesale trade	85,815	4%	16%	6%	46,540	4%	(12%)	1%	7,570	3%	(43%)	(3%)
Retail trade	284,428	14%	4%	(1%)	136,332	13%	(5%)	3%	16,469	6%	(29%)	2%
Transportation and warehousing	65,327	3%	2%	(2%)	37,516	4%	3%	10%	11,834	5%	12%	38%
Information	39,484	2%	(9%)	(0%)	16,056	2%	(35%)	(21%)	3,659	1%	(62%)	(21%)
Finance and insurance	95,169	5%	16%	(4%)	49,283	5%	(11%)	(3%)	11,715	4%	(50%)	(13%)
Real estate and rental and leasing	43,021	2%	25%	0%	20,634	2%	(9%)	4%	4,599	2%	(35%)	4%
Professional and technical services	235,799	12%	33%	10%	108,611	10%	27%	11%	18,882	7%	(25%)	(1%)
Management of companies and enterprises	25,652	1%	100%	42%	11,497	1%	256%	57%	1,639	1%	154%	81%
Administrative and waste services	155,414	8%	29%	10%	78,443	8%	0%	18%	22,443	9%	(8%)	35%
Educational services	61,353	3%	62%	12%	41,878	4%	25%	3%	25,287	10%	14%	2%
Health care and social assistance	341,812	17%	34%	7%	192,085	19%	32%	7%	75,700	29%	21%	9%
Arts, entertainment, and recreation	41,659	2%	28%	5%	21,948	2%	26%	22%	4,467	2%	(10%)	0%
Accommodation and food services	212,440	10%	33%	7%	102,825	10%	22%	9%	22,531	9%	5%	11%
Other services, except public administration	88,453	4%	10%	5%	41,487	4%	7%	2%	11,140	4%	(7%)	4%

Source: IMPLAN QCEW.

Table 8. Industry Specialization in Maryland, the Baltimore Metropolitan Area, and Baltimore City

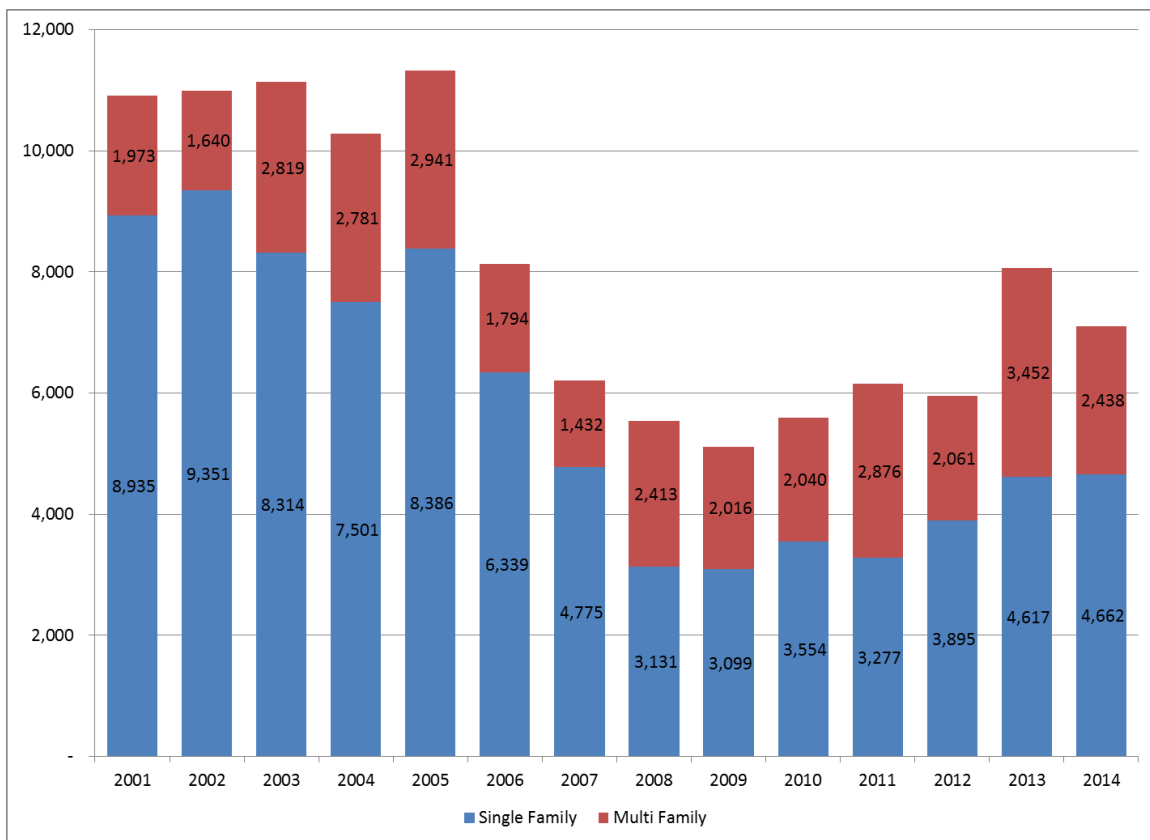
Industry	NAICS	Maryland	Baltimore	Baltimore
		LQ	Metro LQ	City LQ
Finance and Insurance	52	0.93	0.95	0.90
Banks	521	0.21	0.73	2.68
Securities, commodity contracts, investments	523	1.08	1.37	2.17
Hospitals	622	1.22	1.59	4.28
Colleges and Universities	6,113	1.13	1.93	6.24
Professional and Technical Services	541	1.60	1.45	1.00
Legal services	5,411	0.94	1.15	2.10
Accounting and bookkeeping services	5,412	1.17	1.14	1.23
Architectural and engineering services	5,413	1.65	1.67	1.25
Specialized design services	5,414	1.21	1.21	1.58
Computer systems design and related services	5,415	2.21	1.84	0.58
Management and technical consulting services	5,416	1.68	1.36	0.51
Scientific research and development services	5,417	2.72	2.04	0.97
Retail	44-45	1.04	0.98	0.47
Accommodation and food services	71	0.96	0.92	0.80

Source: Battelle Analysis of IMPLAN QCEW.

4.4 Regional Real Estate Trends

Given the recent growth in population and employment described above, it is not surprising that Baltimore City has realized a dramatic improvement in real estate activity. In order to assess the development potential of the Port Covington project, Battelle analyzed recent trends in real estate permitting activity using Maryland Department of Planning²⁷ and Baltimore Metropolitan Council²⁸ data, and on the local office and retail market conditions using CoStar data.

Trends in residential permitting activity indicates a recovery from the recent recessionary levels, and while housing permits still lag pre-recession levels at the Baltimore Metropolitan Area level (Figure 13), Baltimore City housing permits are well above pre-recession levels (Figure 14). Most importantly, as presented in Figure 15, Baltimore City’s share of residential building permits has realized dramatic improvement over the past decade and a half, rising from just 2 percent of permits in 2001 to well above 10 percent in the last several years.

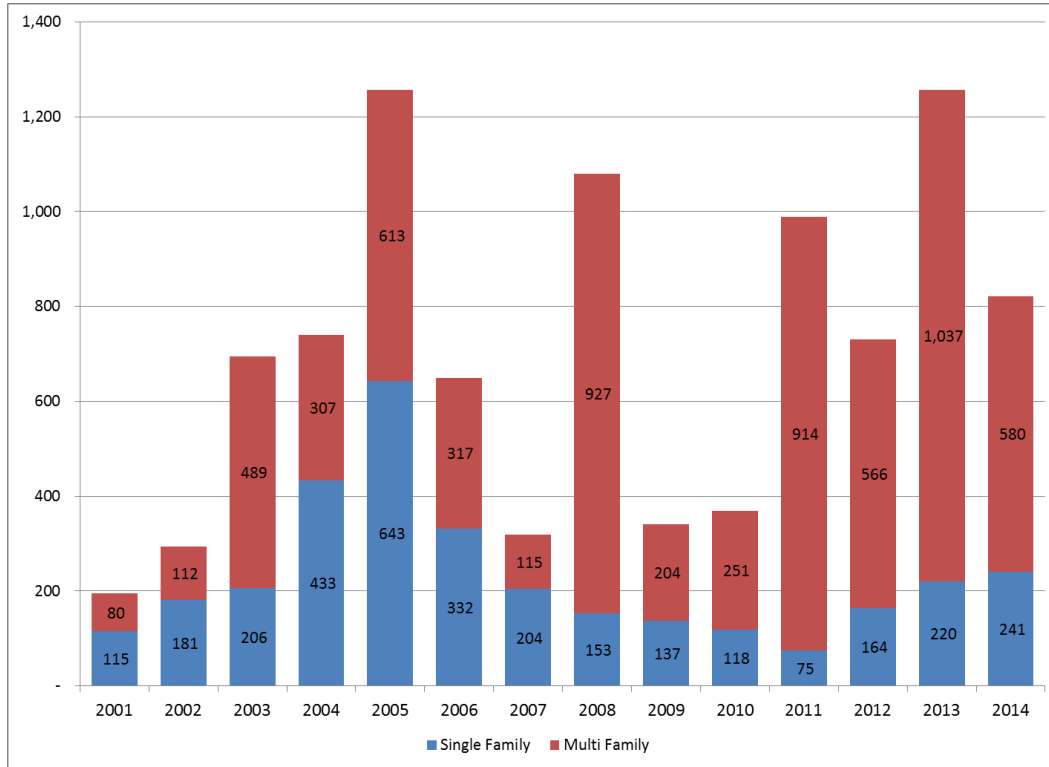


Source: Maryland Department of Planning.

Figure 13. Baltimore Metropolitan Area New Housing Units Authorized for Construction by Building Permits

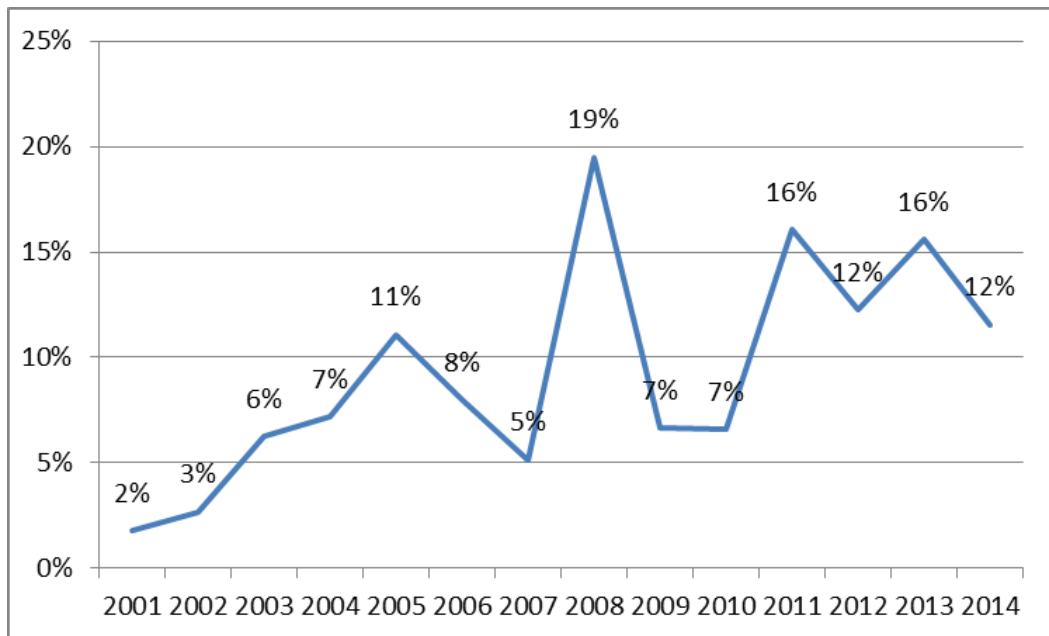
²⁷ <http://www.mdp.state.md.us/msdc/newhh/newhh.shtml>.

²⁸ <http://www.baltometro.org/information-center/documents/category/tag?tagid=70>.



Source: Maryland Department of Planning.

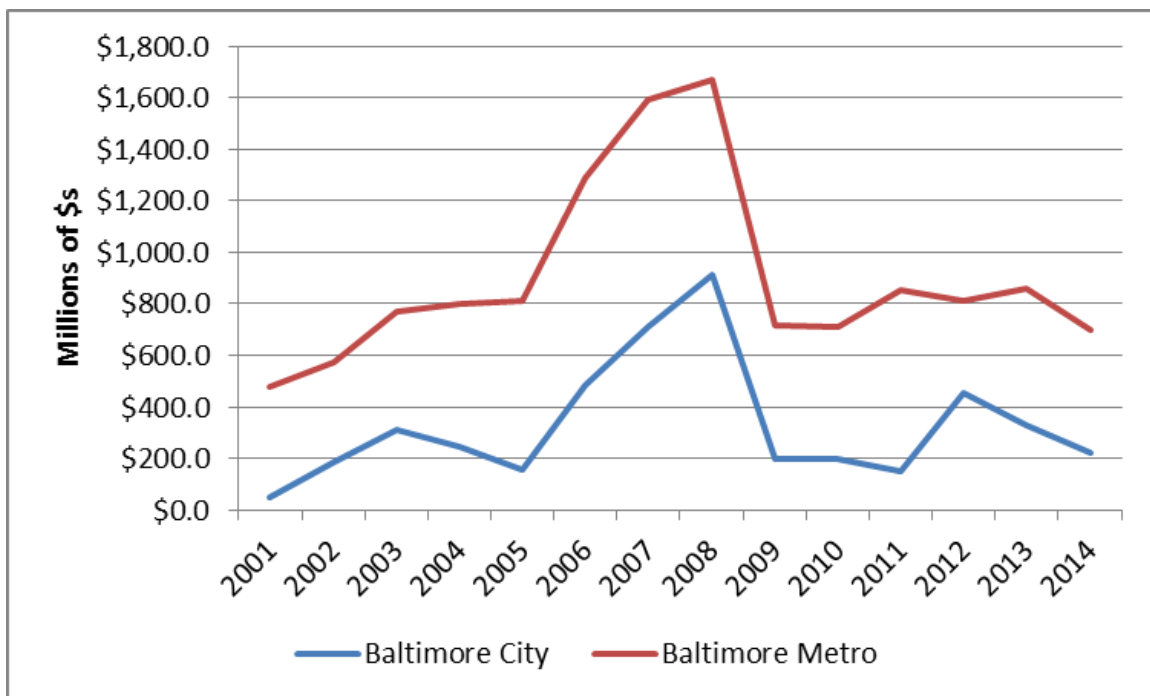
Figure 14. Baltimore City New Housing Units Authorized for Construction by Building Permits



Source: Maryland Department of Planning.

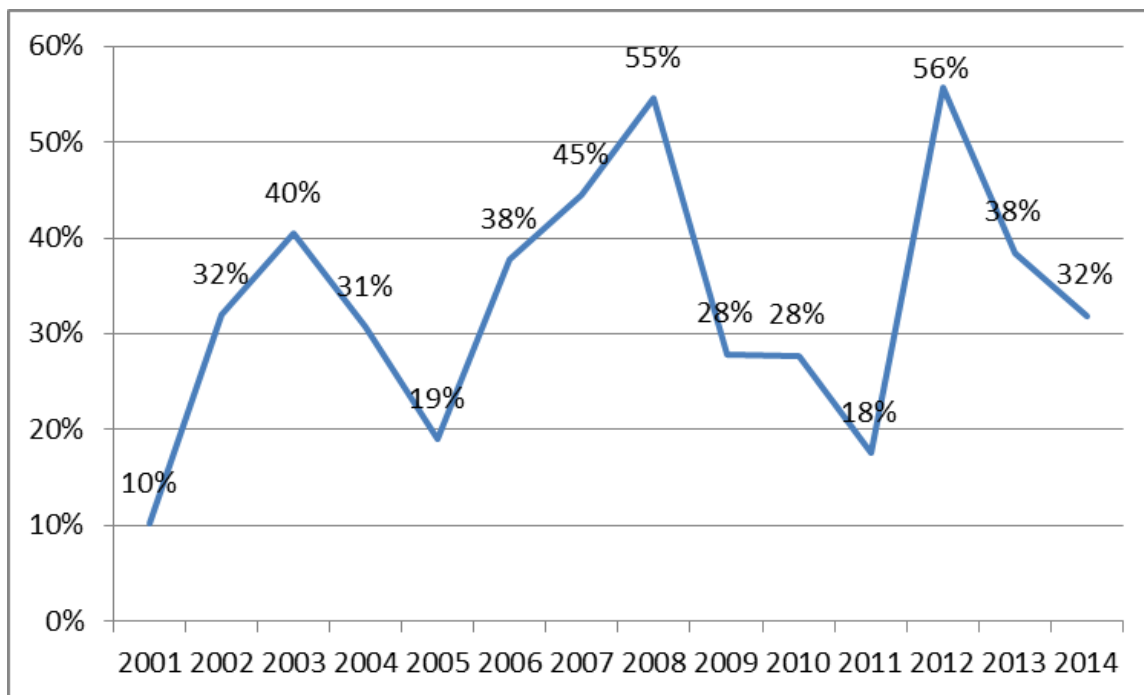
Figure 15. Baltimore City's Share of Metropolitan Area New Housing Units Authorized for Construction by Building Permits

Baltimore City has realized a similar improvement in non-residential building permitting activity. According to data on the value of non-residential building permit activity from the Baltimore Metropolitan Council, the value of non-residential permits in Baltimore City rose from \$49.9 million in 2001 to a high of \$912 million in 2009, recovering to \$451 million in 2012 and falling to \$223 million in 2014 (Figure 16). While Baltimore City has generally matched the regional trends in non-residential building activity, the city has realized a marked improvement in its share of non-residential permitting, increasing from 10 percent in 2001 to between 18 percent and a high of 56 percent over the past five years (Figure 17).



Source: Baltimore Metropolitan Council.

Figure 16. Baltimore City and Metropolitan Area Non-Residential Building Permit Activity



Source: Baltimore Metropolitan Council.

Figure 17. Baltimore City's Share of Metropolitan Area Non-Residential Building Permit Activity

4.4.1 CoStar Regional Real Estate Analysis

In addition to tracking permitting activity, Battelle also analyzed city and regional trends in office and retail real estate activity using data from CoStar. The CoStar database allows for an assessment of the current position and recent trends across key facets of the region's commercial real estate market to further frame and set context for the Port Covington development project.²⁹ Battelle examined the regional market for Class A office space as well as retail real estate across four key geographies of the region:

- The Baltimore Metropolitan Area
- The City of Baltimore
- The City's Central Business District
- The Harbor East Neighborhood

Each of the regional assessments can offer valuable insights at different levels of granularity with the overall metropolitan area and city level demonstrating broader trends and the more refined areas of the CBD and Harbor East providing more specific insights into what is occurring in the

²⁹ CoStar maintains a live database of more than 4.5 million commercial real estate properties. For this study, Battelle has purchased a subscription to the CoStar database for the Baltimore Market, one that CoStar has been tracking longer than almost any other and so maintains a lengthy historical time series.

traditional business center of the city (in the CBD) and in a recent comparable, large-scale development (Harbor East).

Case Study – Harbor East

Baltimore’s Inner Harbor East, or more commonly referred to now as Harbor East, is a vibrant mixed-use development on Baltimore’s waterfront, just outside of the traditional Central Business District. The success of this project demonstrates the potential of urban mixed-use developments like Port Covington in Baltimore City. The development of Harbor East has replaced older industrial warehouses and factories with modern amenities and an “Eat/Sleep/Work/Play” environment designed to serve residents, visitors, and workers, with an array of dining, entertainment, recreational, work, hotel, and residential offerings in a modern, urban setting.

The Harbor East website operated by the Harbor East Management Group, boasts the following uses within the development:

- Major companies/industry presence – including Legg Mason’s new world headquarters in a 24-story state-of-the-art office tower that also houses Johns Hopkins’ Carey Business School
- Hotels – five, including a new Four Seasons and the Marriott Waterfront
- Residential – five locations for condominiums
- Restaurants – more than 20
- Retail – approximately two dozen listed on the site, including higher-end shopping and retailers such as Whole Foods
- Entertainment – including access to the marina and its boat slips, a movie theater, and a health and fitness center.

By assessing the experience of Harbor East, one can gain key insights into the potential for the Port Covington project, which will offer a similar mixed-use style environment.

4.4.1.1 Baltimore's Office Market Trends

4.4.1.1.1 Inventory and Absorption

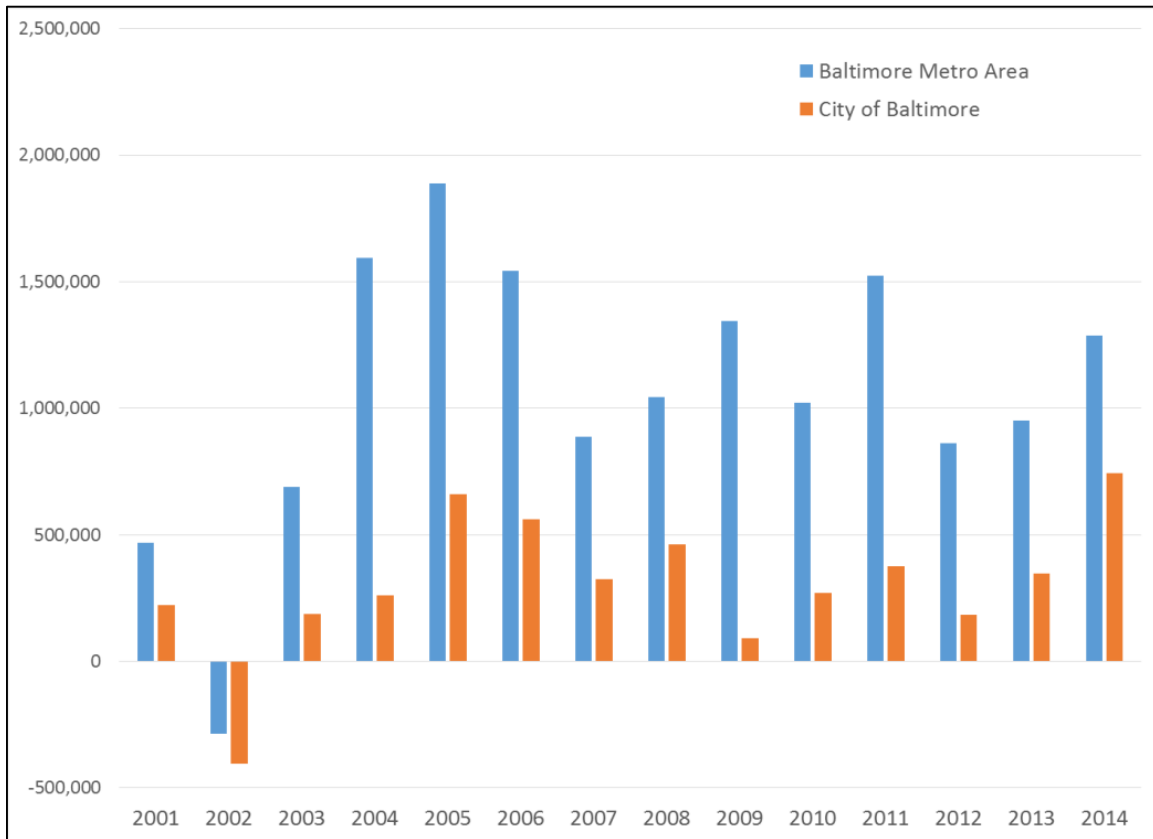
The Baltimore Metropolitan Area's Class A office space totaled nearly 46 million square feet across 377 buildings as of the first quarter of 2015. This value represents 33 percent of the region's total office space in terms of square feet. The metro region experienced steady growth in its stock of rentable Class A space from 2002 through 2010, but has since slowed its growth and a minimal amount has been added thus far in 2015. This fact undoubtedly reflects, at least in part, the effects of the recession that began late in 2007 and officially lasted through mid-2009, though the often considerable lag in construction starts through completion played into the continued strength through 2010.

The City of Baltimore's 17.2 million square feet of Class A space represents 38 percent of the broader metropolitan area market and the trend for the city has been similar since 2001. From 2001 through 2010, the city added to its Class A stock at an average rate of 3.4 percent per year, but since 2010, annual growth has averaged only 1.5 percent. There is some evidence of a rebound in the city market, however, following the slowdown in recent years as 2014 registered a 3.8 percent increase in the Class A stock as two new buildings were added last year.

The inventory of Class A space has been much steadier in the more refined areas examined within the city—the CBD and the Harbor East neighborhood. Both have maintained a steady inventory of 9.4 and 1.3 million square feet of space, respectively. The last addition of a Class A building was in 2009 in Harbor East and in 2004 in the CBD.

Net absorption has been positive for the overall Baltimore Metropolitan Area as well as the City of Baltimore since 2002 and recent evidence indicates that the city is bouncing back. The city is helping to drive the recent upward trend in absorption over the 2012 through 2014 period, particularly in this most recent year when the city experienced its largest net absorption figure over the 13-year period examined for this analysis. In 2014, the city had a net absorption of over 742,000 square feet, 81,000 square feet larger than the nearly 661,000 absorbed in 2005, and more than double that of 2013.

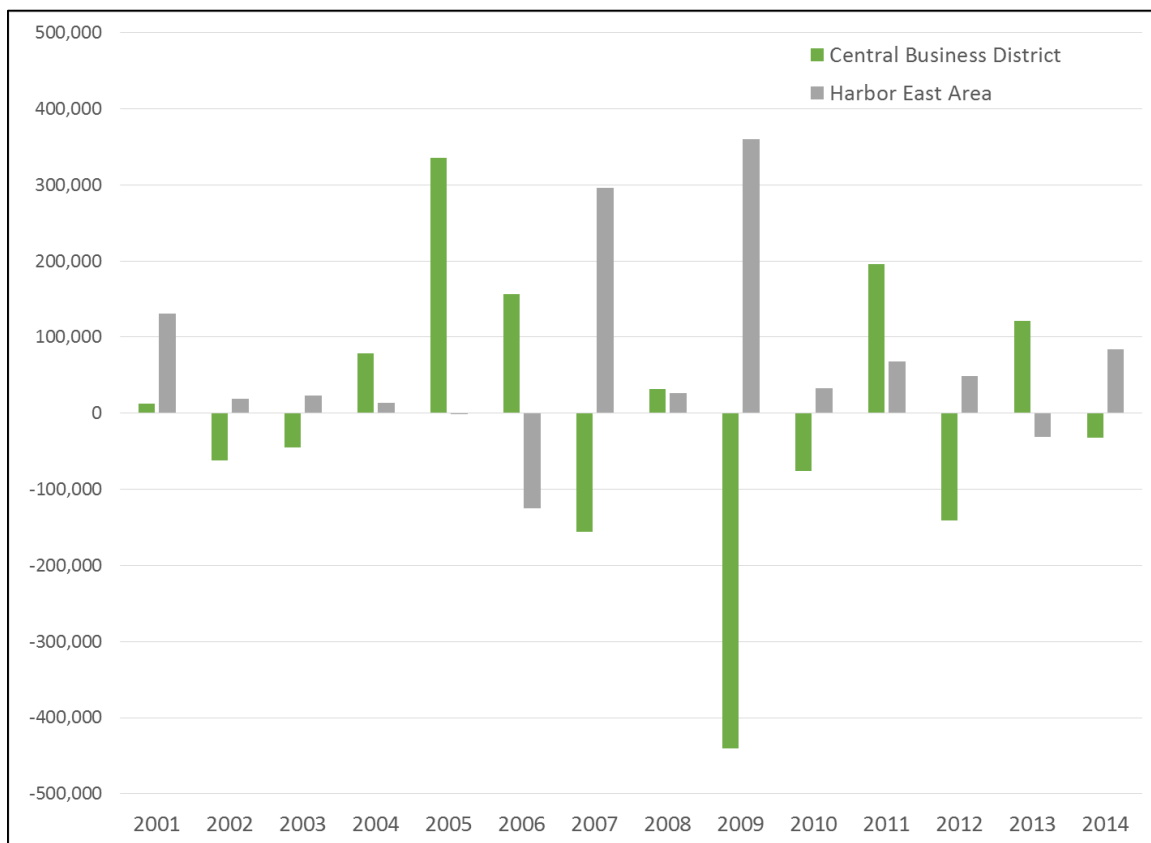
In addition, the suburbanization of Class A space slowed in the past several years. Considering the difference in absorption between the overall Baltimore Metropolitan Area and the absorption within the city, it is clear from Figure 18 that suburban areas of the regional market have continually comprised the majority of net absorption for many years. In fact, from 2003 to 2012, suburban areas (considered here as everything outside of the city) accounted for 3 of every 4 square feet of net absorption, on average. In 2013 that figure dropped to 63 percent and the city's strong 2014 lead to a suburban share of just 42 percent, the lowest figure since the early 2000s. This shift toward Class A office space within the city, consistent with the trends and preferences described previously in this report, appears to be taking place.



Source: Battelle analysis of CoStar online commercial real estate database.

Figure 18. Total Net Absorption in Class A Office Space, Baltimore Metro Region and City of Baltimore, 2001-14

The city's CBD has realized its Class A market absorption fluctuate considerably (Figure 19). In the depths of the recession, the CBD had an extremely large negative absorption declining by more than 440,000 square feet. The recovery has been uneven with the CBD unable to put together two positive years in a row. By contrast, the trend for Class A space in Harbor East has been much more steady and positive with gains in net absorption during seven of the last eight years, a period which included the deep national recession and relatively stagnant and slow economic recovery. This fact could signal a shift, to some degree, toward the smaller but desirable Harbor East neighborhood by CBD tenants.



Source: Battelle analysis of CoStar online commercial real estate database.

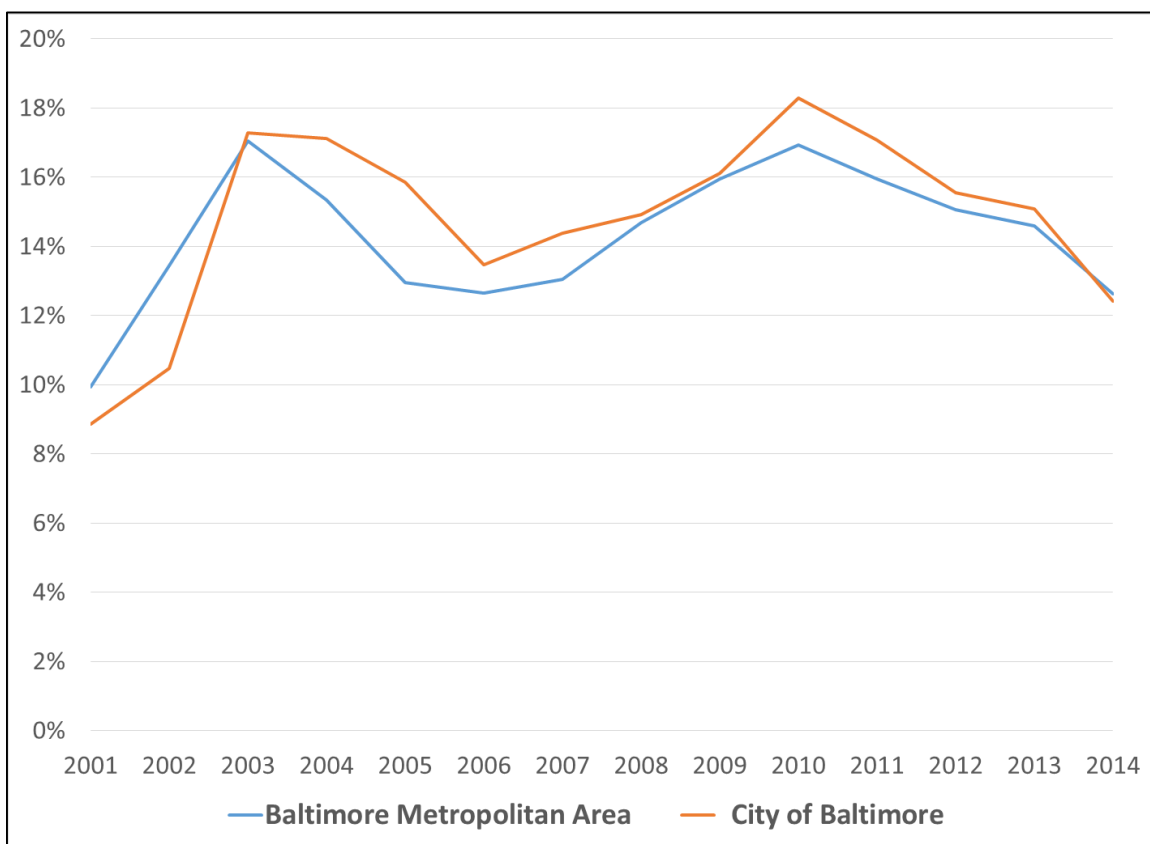
Figure 19. Total Net Absorption in Class A Office Space, Central Business District and Harbor East, 2001-14

4.4.1.1.2 Vacancies

Beyond improving absorption, an assessment of office vacancies indicates that the further stabilization and gains have been made within and across the Baltimore market. The Baltimore Metropolitan Area recorded an average vacancy rate of 12.6 percent in 2014 in its Class A office space, a rate which has declined significantly in recent years as absorption has bitten into the region’s stock of existing space (Figure 20). The vacancy rate peaked across the region at 16.9 percent in 2010 with the fallout from the recession, and matched the peak rate reached in 2003 (17.0 percent) following the 2001 recession. The improving conditions in the region have lowered the stock of vacant Class A space from a peak of 7.1 million square feet in 2010 to 5.8 million square feet in 2014.

Vacancy rates in the city have tracked closely with the broader regional trend, though reached a slightly greater peak in 2010 at 18.3 percent and the improvement (decline) in vacancies has been steeper during the economic recovery with the city’s rate reaching 12.4 percent in 2014, just below that for the entire metro market. Evidence from the first quarter of 2015 shows the

vacancy rate for both geographies improving even more with the metro standing at 12.0 percent and the region ticking down to 12.2 percent.

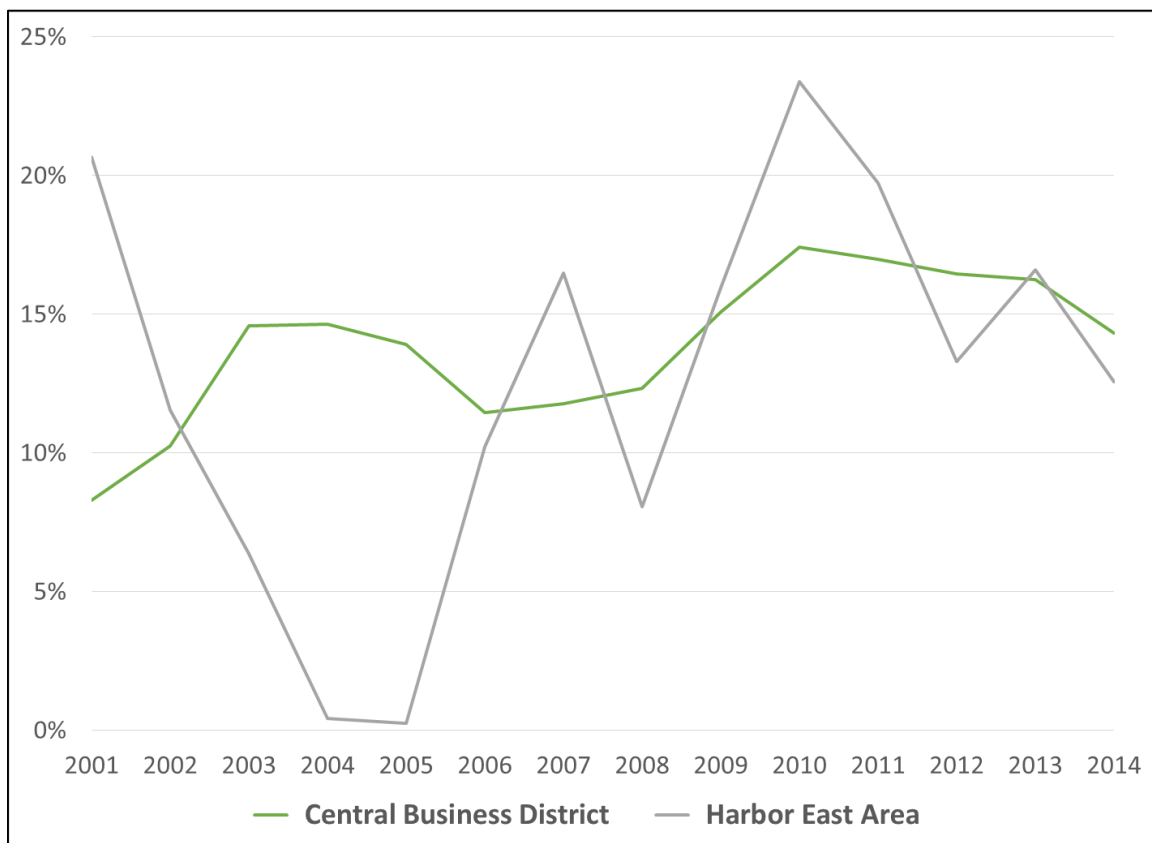


Source: Battelle analysis of CoStar online commercial real estate database.

Figure 20. Vacancy Rates in Class A Office Space, Baltimore Metro Region and City of Baltimore, 2001-14

The Class A vacancy rate improved substantially for the city's CBD in 2014 reaching 14.3 percent in 2014, after averaging nearly 17 percent over the prior 4 years (Figure 21). This current vacancy rate, which is about 2 percentage points greater than that for the Baltimore Metropolitan Area's market as a whole as well as for the city, continues a recent pattern for the CBD, which has shifted since the 2000s. During that decade, the CBD maintained a vacancy rate below that for the metro area and the city. Since 2010, the rate of vacancies in the CBD has exceeded that for the region, though by just 1 or 2 percentage points.

Vacancy rates for Harbor East office space have fluctuated more, reflecting the smaller rentable area as well as the opening of new buildings in 2007 and 2009. The improvement in rates in Harbor East has moved along with that for the region with the vacancy rate standing at 12.6 percent in 2014 and evidence in early 2015 that the rate has dropped much further down to only 4.1 percent.

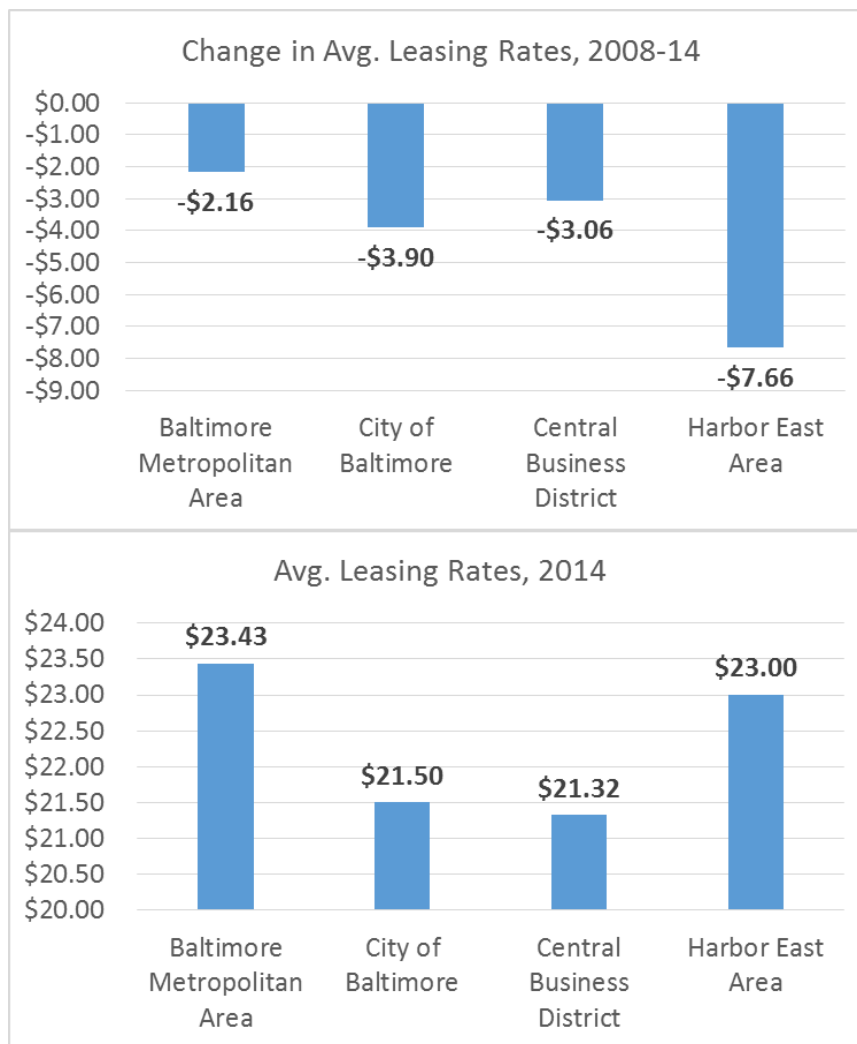


Source: Battelle analysis of CoStar online commercial real estate database.

Figure 21. Vacancy Rates in Class A Office Space, Central Business District and Harbor East, 2001-14

4.4.1.1.3 Lease Rates

The average leasing rate for Class A space in the overall Baltimore Metropolitan Area stood at \$23.43 per square foot in 2014 with the trend in average rates declining steadily in recent years, despite the improvement in absorption and vacancies (Figure 22). It is clear the market has not recovered its pricing position since the peak of the economic expansion when average leasing rates peaked in 2008. This experience has played out similarly across the geographies examined here with steady average rate declines, though in 2014, the Harbor East leasing rate increased from \$21.67 to \$23.00. The increase for Harbor East is not the only potential bright spot for developers, however, as the first quarter of 2015 saw upticks for the other three geographies in rental rates, though whether this continues for the entire year remains to be seen.



Source: Battelle analysis of CoStar online commercial real estate database.

Figure 22. Average Leasing Rates, Levels, and Recent Trends, 2008-14

The market for regional Class A office space has rebounded following the recession, improving significantly particularly in the last year. Regional economic gains in employment and population have translated into increased demand for high-end, desirable office space.

4.4.1.2 Baltimore’s Retail Market Trends

4.4.1.2.1 Inventory and Absorption

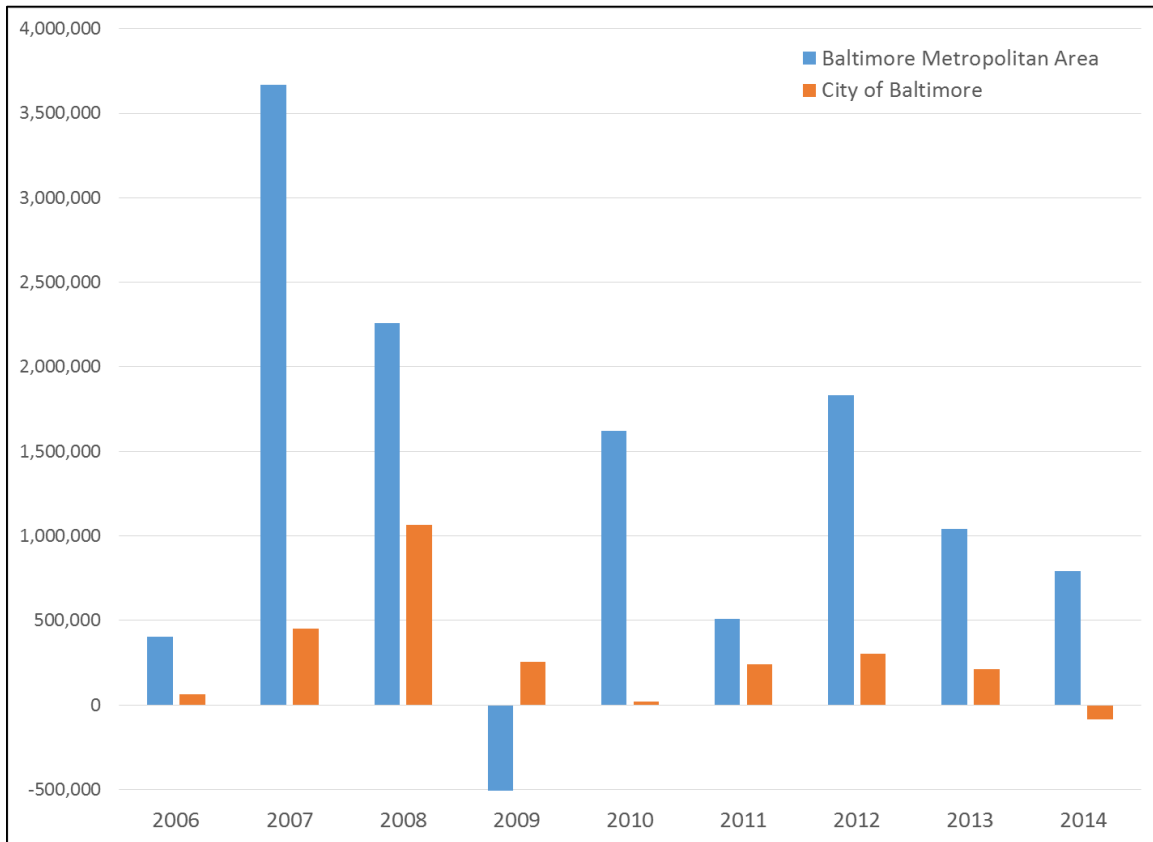
CoStar has tracked Baltimore’s retail real estate market since 2006 and recorded gains in rentable building area each year over this period, though at a somewhat decreasing rate of growth. In 2014, the Baltimore Metropolitan Area had 136.6 million square feet of retail space in total spanning just over 12,000 buildings. Through 2009, the region was adding square feet of rentable space at a rate of 1.5 percent per year, on average. Following the recession, the average rate of increase slowed to 0.5 percent growth per year.

The City of Baltimore accounts for 29 percent of this rentable retail space, a share that has remained steady since CoStar began tracking the market. In 2014, the city's stock of existing rentable retail space totaled 39.4 million square feet within 5,309 buildings. Within the city, the retail inventory has not increased substantially adding just 1.47 million square feet since 2006. The growth trend in retail inventory has been similar to that for the metro area averaging close to 1 percent gain through 2009 but just 0.2 percent space added per year, on average, since the recession ended.

Rentable inventory in the city's CBD has been flat since 2006, with no increases in square footage recorded by CoStar since 2006. The CBD has 3.7 million square feet of retail space that spans 465 buildings. CoStar has minimal to no retail property tracking at this time for the Harbor East neighborhood.

The Baltimore Metropolitan Area has maintained a consistently positive net absorption of retail space across the market during 7 of the last 8 years tracked by CoStar. In 5 of these 7 years, the regional absorption topped more than 1 million square feet. The region's lone negative figure, where "move outs" of retail space exceeded the space for "move ins," occurred in 2009 in the depths of the recession (Figure 23). The region has since rebounded in terms of absorption, however the last two years have not reached the levels in 2012 (1.8 million square feet (SF), coinciding with delivery of 1.1 million SF), the most recent peak in retail absorption. Strengths in population and employment growth have contributed to these steady gains in the real estate market for retail storefronts.

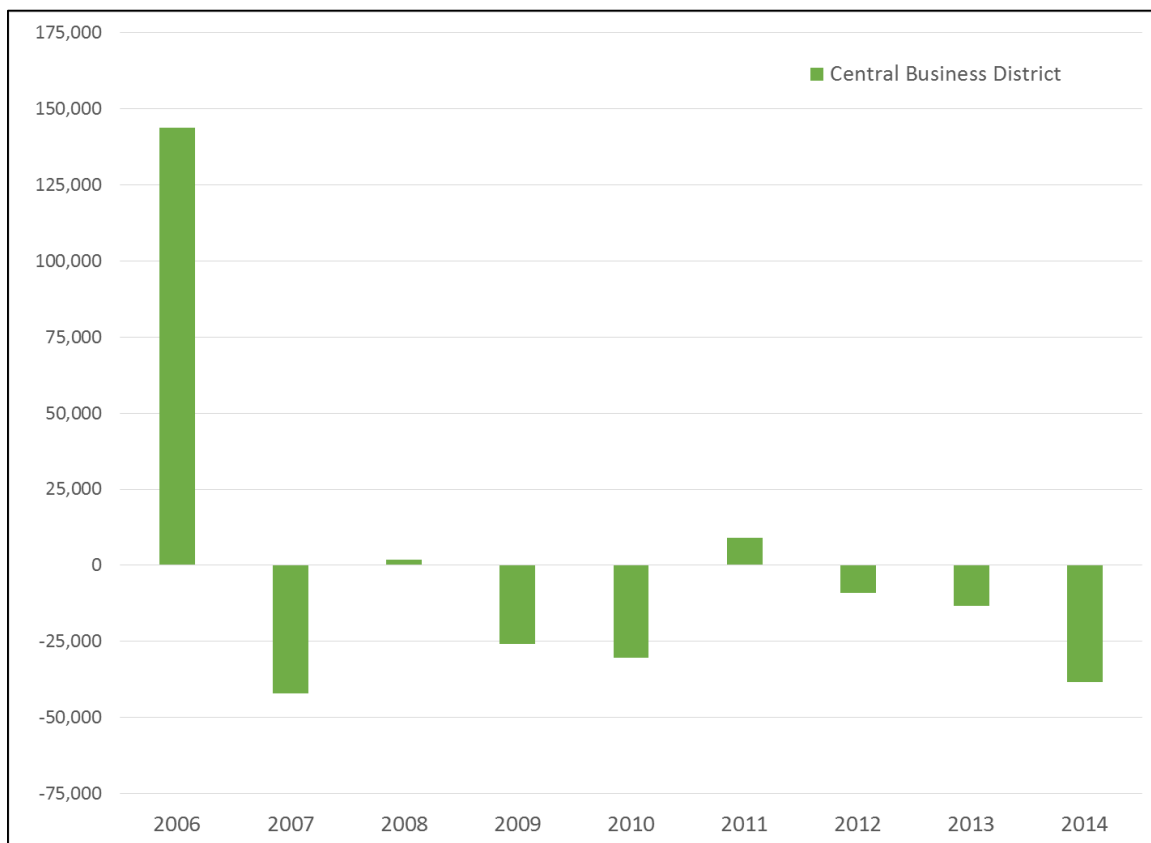
Similarly, the City of Baltimore has had a positive recent track record in terms of net absorption since 2006; though unlike the overall metro area, in 2014 the city saw its first negative net absorption in retail. Following three solid years from 2011 through 2013, where the city averaged about 250,000 square feet absorbed per year, net absorption in retail was 84,974 square feet in 2014.



Source: Battelle analysis of CoStar online commercial real estate database.

Figure 23. Total Net Absorption in Retail, Baltimore Metro Region and City of Baltimore, 2006-14

Despite the negative absorption in the City of Baltimore’s retail market in 2014, the generally positive real estate trends in retail at the metropolitan area and city levels in recent years have not translated into greater demand within the CBD. Since 2008, the CBD has experienced just one year of positive net absorption, in 2011, within its 465 buildings and across its 3.7 million square feet rentable area (Figure 24). With no new rentable retail building area delivered since 2006, the retail market within the CBD has been stagnant with net move-outs during this period.



Source: Battelle analysis of CoStar online commercial real estate database.

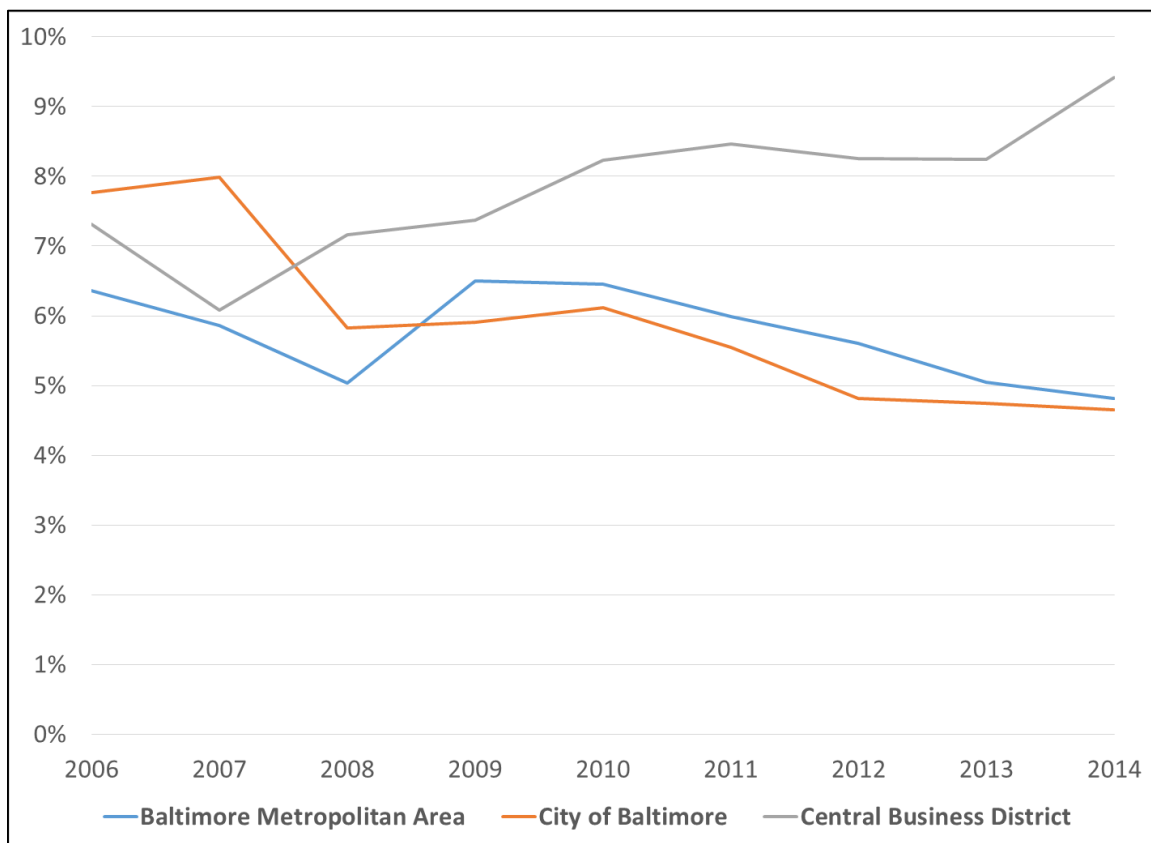
Figure 24. Total Net Absorption in Retail, Baltimore's Central Business District, 2006-14

4.4.1.2.2 Vacancies

The position and trends across the Greater Baltimore Market for retail real estate described above bare out further in an assessment of regional vacancies. In 2014, the vacant stock of retail space across the Baltimore Metropolitan Region totaled 6.58 million square feet, which translates into a vacancy rate of only 4.8 percent.

The steady trend in positive net absorption across the region has lowered the vacancy rates across both the metro area as well as within the City of Baltimore. The region's 4.8 percent rate is down significantly from the 6.5 percent vacancy rate during the height of the recession and the first year of the nascent economic recovery in 2009 and 2010. The city's low 4.7 percent vacancy rate has declined even further from the 8.0 percent rate in 2007 at the peak of the previous economic expansion and further illustrates the trends toward urban renaissance and revitalization described throughout this report.

Not faring well is the city's CBD, which as illustrated through the net absorption figures, has experienced net move-outs in recent years. Corresponding to this trend is a higher vacancy rate, which has steadily climbed from 6.1 percent in 2007 to 9.4 percent today (Figure 25).



Source: Battelle analysis of CoStar online commercial real estate database.

Figure 25. Vacancy Rates in Retail, Baltimore Metro Region, City of Baltimore and the CBD, 2006-14

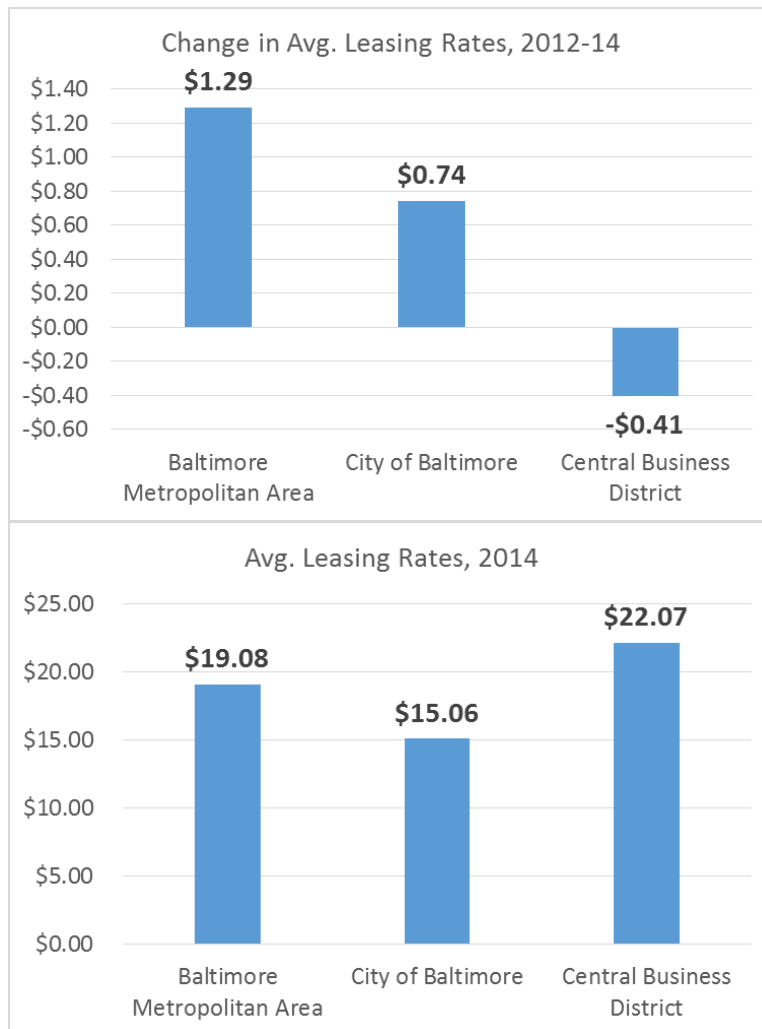
So as the city’s retail real estate market has improved, the CBD performed increasingly poorly. This trend begs the question of which areas of the city are improving in the retail market. While CoStar does not have enough detailed coverage in its database to examine the Harbor East neighborhood closely, it is evident the area has made tremendous strides in attracting a wide array of retail establishments. These establishments include higher-end and diverse shopping at Anthropologie, J. Crew, Lululemon, Whole Foods, and Under Armour’s Brand House; dining at one of more than 20 restaurants; catching a movie at the Landmark Theatres; or visiting the spa at the Four Seasons. Harbor East and its success demonstrate the realized demand available to retailers in the city, and the increasing attraction of desirable retail offerings that are extremely competitive with the suburbs.

4.4.1.2.3 Lease Rates

Average lease rates vary across the region’s geography, with the overall metropolitan area averaging \$19.08 per square foot of retail space in 2014 (Figure 26). Within the broader region, the City of Baltimore’s average leasing rate stands at \$15.06 and the CBD, with its more

expensive and limited real estate averaging \$22.07. The recent trends and trajectories for these rates differ, based on the demand conditions described above.

Leasing rates are increasing as demand has risen for the metro region as well as for the city. Rates bottomed out in 2012 for these geographies and have since increased. The trend within the CBD, however, has differed, with leasing rates steadily increasing from 2008 through 2013 and up by more than \$9.00 or 63 percent, on average, over that period. In 2014, the rate climb halted and the CBD saw rental rates fall back to just over \$22. The softening demand described previously may finally be having an impact on the cost of retail space in the heart of the city.



Source: Battelle analysis of CoStar online commercial real estate database.

Figure 26. Average Leasing Rates, Levels and Recent Trends, 2012-14

4.4.2 Summary

The Port Covington/Under Armour Headquarters Project will occur in and can potentially sustain a dramatically improving city real estate market. Baltimore City is experiencing a dramatic improvement in its construction permitting and office/retail markets driven by recent growth in both population and employment. Net absorption has been steady and positive in both the Class A office and retail markets for both the overall metropolitan area as well as for the city. Demand for Baltimore's office space has rebounded with net absorption in 2014 more than double that of the previous year. Despite a slightly negative absorption in 2014, the city's retail market has been strong in recent years, and the evidence from Harbor East in terms of both office space and anecdotally in retail reinforces the national trends toward a new focus on mixed-use developments thriving within the urban core and effectively competing with the suburbs.

In addition, Port Covington's mixed-use office space is in line with recent trends. In the post-2009 period of recovery from the Great Recession, total net absorption of Class A space has averaged 1.1 million square feet at the metropolitan area level and 380,000 square feet in the city, outpacing the average delivery of new office space of 960,000 and 290,000 per year square feet, respectively. These rates were below absorption and delivery rates occurring before the recession. Most of the initial office space planned for Port Covington is for the Under Armour Campus, with most of the mixed-use space coming on line between 2020 and 2026. Given the quality and location of the development, this level of space is in alignment with recent trends in the city and region, especially given recent national and city trends in urban employment dynamics.³⁰

Also, Port Covington's mixed-use retail space represents a high share of retail space activity. Similarly, post-recession net absorption of retail space has averaged 1.2 million square feet at the metropolitan area level and 140,000 square feet (impacted by the negative net absorption in 2014) at the city level, exceeding average annual deliveries of 690,000 and 80,000 square feet per year, respectively. These rates were also well below pre-recession levels. The Port Covington Project has a strong retail component, consisting of 1.2 million square feet of retail and restaurant space, with deliveries starting in 2020 and averaging almost 67,000 square feet per year after that. Thus, the project will represent a significant portion of recent retail space activity in the city. The attractive location, live-work-play character and substantial residential component of the project, and recent success of similar projects like Harbor East bode well for this type of space; however, the project does represent a large share of recent retail space activity.

³⁰ This analysis focusses on the mixed-use portion of the development as Under Armour is the sole tenant of its campus development.

Port Covington's residential space is in line with recent residential permitting activity. The Port Covington Project will include 4,775 condominium and apartment units. The first residential units are projected to come on line in 2020, when 833 units will be delivered, and range from 37 units to 672 units, averaging 265 units per year. This planned delivery schedule represents less than half of recent annual permitting activity, an ambitious level, but supportable if recent city population growth trends continue or strengthen, as is expected.

The experience of Harbor East demonstrates that urban mixed-use developments can strengthen the city's performance. Since 2001, Harbor East has grown from less than 0.5 million to 1.3 million square feet of Class A office space and attracted substantial related hotel, retail, and entertainment development. During this time, the city's CBD held its own while the development of Harbor East contributed to the growth of the city's employment and population. Based on a Battelle analysis of LEHD data for the Census tract containing the Harbor East area, between 2002 and 2011³¹ the population of employed residents in Harbor East doubled and the number of jobs in the area almost doubled. Moreover, based on this analysis, the residents attracted to Harbor East are taking advantage of the live-work-play options offered, with 58 percent of residents working in the city, much higher than the 46 percent of overall city residents that live and work in the city.

4.5 Population and Employment Projections

While recent Baltimore City and regional trends in population, employment, and real estate are strongly supportive of the development of the Port Covington/Under Armour Headquarters Project, low levels of projected near and long term population and employment growth represent a challenge to this project. According to both population and employment projections prepared by the Maryland Department of Planning,³² both Baltimore City and the larger metropolitan area are projected to experience relatively modest rates of growth. Based on Maryland Department of Planning projections:

- Baltimore City's population is projected to grow by an annual growth rate of less than 1 percent (0.3 percent) and the number of households is projected to grow by 0.5 percent annually from 2015 through 2030 (Table 9):
 - Strangely, despite national trends and recent growth, the city's population of younger workers (aged 25-34) and Empty Nesters (aged 55-64), is projected to decline.

³¹ Refer to Note 28 for a description of the LEHD. LEHD data only go from 2002 to 2011, so the time periods employed in this analysis differ from the 2001-15 period used in the real estate analysis.

³² http://www.mdp.state.md.us/msdc/S3_Projection.shtml.

- The share of population in the next highest age brackets from these groups is projected to grow, indicating the expectation that these recently attracted populations are expected to age in place.
- In contrast, the overall metropolitan area population is projected to experience stronger growth of 0.5 percent annually through 2030, indicating a reversal of recent trends favoring urban residency (Table 10).
- Similarly, in terms of employment projections,³³ despite strong post-recession growth in employment, Baltimore City employment is projected to grow by less than 1 percent (0.4 percent) a year through 2030 (Table 11):
 - At the sector level, there is a stronger projected growth in management of companies and enterprises at 2.1 percent annually; arts, entertainment, and recreation at 1.1 percent annually; accommodation and food services at 0.5 percent annually; and professional and technical services at 0.6 percent annually; all bode well for the project, but city retail employment is projected to decline.
- In contrast, employment in the larger metropolitan area is projected to grow at almost twice the rate of the city, with stronger growth in all key sectors, again despite recent national and city trends (Table 12).

Battelle purchased and analyzed several private projections, each with similar results. This analysis is based on the official state projections. It is clear that these projections are based on the long-term trends in the city, not the recent improvements occurring both in Baltimore City and in cities across the nation in terms of population and employment growth.

Investment in projects such as Port Covington will be needed to support the ongoing transformation occurring in Baltimore City. Baltimore City has strong ambitions. In 2011, the Mayor of Baltimore announced a goal to reverse the city's long term population decline by attracting 10,000 new households to the city. Recent real estate development, including the Excelon Headquarters and the development of two life sciences based urban research parks/Innovation Districts, indicate that the development community has faith that there is a strong potential for employment growth to continue in the city. In the area of population growth, a recent report by the Baltimore Neighborhood Indicators Alliance, the Grow Baltimore Brief #1 Understanding Migration in Baltimore City³⁴ found that, "there are some signs that the city's number of households has been trending upwards" and indicates that the city is above the track

³³ The employment projections used here use a different basis from the early analysis of IMPLAN QCEW private employment and include all workers including government and self-employed workers. Projections based on private employment are not available from the Maryland Department of Planning, but these figures represent a broader measure of employment and are still representative of expected employment growth patterns.

³⁴ http://bniajfi.org/wp-content/uploads/2015/03/BNIAJFI_GrowBaltimore_Brief1_March2015.pdf.

needed to attain this goal. Given both national urban growth trends coupled with the recent performance of the city and ongoing development activity, there is strong reason to expect that Baltimore City can exceed these low projections for population and employment growth and support continued development projects like Port Covington.

Table 9. Baltimore City Population and Household Projections

	2000	2010	2015	2020	2025	2030	2035	2040	Change 2000-15		Change 2015-30	
									#	CAGR*	#	CAGR
Population	651,154	620,961	625,000	634,100	644,000	651,100	655,650	659,100	(26,154)	(0.4%)	26,100	0.3%
Age												
0-14	135,497	110,932	106,798	106,465	106,647	106,906	102,905	96,666	(28,699)	(2.4%)	108	0.0%
15-24	96,997	100,738	90,272	82,031	83,561	81,487	80,433	83,672	(6,725)	(0.7%)	(8,785)	(0.7%)
25-34	93,248	103,564	123,114	132,222	121,688	116,788	122,739	125,792	29,866	2.8%	(6,326)	(0.4%)
35-44	101,544	76,564	78,228	89,908	107,388	115,275	105,778	99,714	(23,316)	(2.6%)	37,047	2.6%
45-54	83,408	87,445	77,841	68,766	70,551	80,563	94,640	100,196	(5,567)	(0.7%)	2,722	0.2%
55-64	54,539	68,906	73,586	73,416	65,581	57,995	59,498	67,739	19,047	3.0%	(15,591)	(1.6%)
65 +	85,921	72,812	75,158	81,284	88,582	92,086	89,657	85,321	(10,763)	(1.3%)	16,928	1.4%
Households	257,996	249,900	254,925	261,975	270,025	275,425	279,575	283,900	(3,071)	(0.1%)	20,500	0.5%

Source: Maryland Department of Planning Projections.

CAGR - Compound Annual Growth Rate.

Table 10. Baltimore Metropolitan Area Population and Household Projections

	2000	2010	2015	2020	2025	2030	2035	2040	Change 2000-15		Change 2015-30	
									#	CAGR	#	CAGR
Population	2,552,994	2,710,489	2,796,400	2,881,500	2,943,000	2,993,850	3,037,250	3,080,650	243,406	0.9%	197,450	0.5%
Age												
0-14	540,894	511,503	506,758	513,239	517,424	526,296	526,131	522,037	(34,136)	(0.6%)	19,538	0.3%
15-24	323,583	378,645	376,745	366,588	364,640	361,091	363,124	377,041	53,162	1.5%	(15,654)	(0.3%)
25-34	354,647	362,245	403,414	428,682	423,131	409,224	411,198	415,541	48,767	1.3%	5,810	0.1%
35-44	438,027	362,510	344,494	368,133	404,039	425,108	421,614	407,838	(93,533)	(2.4%)	80,614	1.4%
45-54	362,570	423,553	399,152	353,873	335,104	355,181	387,218	407,111	36,582	1.0%	(43,971)	(0.8%)
55-64	226,075	329,522	368,305	391,270	368,594	327,120	310,819	329,720	142,230	5.0%	(41,185)	(0.8%)
65 +	307,198	342,511	397,527	459,702	530,064	589,828	617,139	621,355	90,329	2.6%	192,301	2.7%
Households	974,071	1,038,775	1,075,925	1,122,900	1,163,375	1,194,050	1,218,275	1,241,100	101,854	1.0%	118,125	0.7%

Source: Maryland Department of Planning Projections.

Table 11. Baltimore City Employment Projections

	2001	2013	2015	2020	2025	2030	Change 2001-13		Change 2009-13		Projected Growth - 2013-2030	
							#	CAGR	#	CAGR	#	CAGR
Total	421,320	395,935	400,600	412,300	419,000	424,500	(25,385)	(0.5%)	11,824	0.8%	28,565	0.4%
Agriculture, forestry, fishing, and hunting	65	55	100	100	0	0	(10)	(1.4%)	(8)	(3.3%)	(55)	(100.0%)
Mining, quarrying, and oil and gas extraction	33	97	100	100	100	100	64	9.4%	51	20.5%	3	0.2%
Utilities	2,757	2,842	2,800	2,700	2,700	2,700	85	0.3%	(920)	(6.8%)	(142)	(0.3%)
Construction	14,070	11,962	12,500	13,100	13,500	14,000	(2,108)	(1.3%)	(487)	(1.0%)	2,038	0.9%
Manufacturing	25,170	12,819	12,300	11,700	11,100	10,500	(12,351)	(5.5%)	(1,377)	(2.5%)	(2,319)	(1.2%)
Wholesale trade	14,787	9,086	9,000	9,000	9,000	8,900	(5,701)	(4.0%)	13	0.0%	(186)	(0.1%)
Retail trade	23,812	19,612	19,700	19,600	19,400	19,300	(4,200)	(1.6%)	448	0.6%	(312)	(0.1%)
Transportation and warehousing	13,091	14,794	15,000	15,500	15,400	15,500	1,703	1.0%	2,823	5.4%	706	0.3%
Information	10,449	4,656	4,500	4,400	4,300	4,200	(5,793)	(6.5%)	(865)	(4.2%)	(456)	(0.6%)
Finance and insurance	25,694	16,320	16,800	17,300	17,500	17,400	(9,374)	(3.7%)	(1,376)	(2.0%)	1,080	0.4%
Real estate and rental and leasing	10,543	10,839	11,100	11,400	11,500	11,700	296	0.2%	252	0.6%	861	0.5%
Professional and technical services	30,290	25,705	26,300	27,200	27,900	28,300	(4,585)	(1.4%)	(17)	(0.0%)	2,595	0.6%
Management of companies and enterprises	854	1,837	2,000	2,200	2,400	2,600	983	6.6%	734	13.6%	763	2.1%
Administrative and waste services	27,893	28,225	29,100	30,400	31,600	32,500	332	0.1%	6,746	7.1%	4,275	0.8%
Educational services	27,332	30,907	32,200	34,400	36,100	37,400	3,575	1.0%	972	0.8%	6,493	1.1%
Health care and social assistance	67,757	83,313	84,700	89,300	92,000	94,500	15,556	1.7%	6,975	2.2%	11,187	0.7%
Arts, entertainment, and recreation	6,576	8,069	8,400	9,000	9,400	9,700	1,493	1.7%	510	1.6%	1,631	1.1%
Accommodation and food services	22,439	24,074	24,600	25,500	26,000	26,400	1,635	0.6%	2,395	2.7%	2,326	0.5%
Other services, except public administration	20,021	21,733	21,800	22,700	23,100	23,500	1,712	0.7%	1,377	1.6%	1,767	0.5%
Government and government enterprises	77,687	68,990	67,600	66,700	66,000	65,300	(8,697)	(1.0%)	(6,422)	(2.2%)	(3,690)	(0.3%)

Source: Maryland Department of Planning Projections.

Table 12. Baltimore Metropolitan Area Employment Projections

	2001	2013	2015	2020	2025	2030	Change 2001-13		Change 2009-13		Projected Growth - 2013-2030	
							#	CAGR	#	CAGR	#	CAGR
Total	1,545,739	1,730,491	1,776,800	1,871,400	1,927,200	1,970,700	184,752	0.9%	71,182	1.1%	240,209	0.8%
Agriculture, forestry, fishing, and hunting	7,548	7,034	6,700	6,700	6,400	6,200	(514)	(0.6%)	492	1.8%	(834)	(0.7%)
Mining, quarrying, and oil and gas extraction	958	1,841	2,000	2,100	2,100	1,900	883	5.6%	502	8.3%	59	0.2%
Utilities	5,318	5,606	5,600	5,500	5,500	5,600	288	0.4%	(460)	(2.0%)	(6)	(0.0%)
Construction	94,549	95,680	101,700	110,500	116,400	122,200	1,131	0.1%	(1,779)	(0.5%)	26,520	1.4%
Manufacturing	95,019	62,439	60,000	58,700	56,400	54,400	(32,580)	(3.4%)	(5,217)	(2.0%)	(8,039)	(0.8%)
Wholesale trade	60,580	56,943	57,800	59,900	61,000	61,700	(3,637)	(0.5%)	205	0.1%	4,757	0.5%
Retail trade	166,132	163,559	166,900	172,100	174,400	176,200	(2,573)	(0.1%)	2,943	0.5%	12,641	0.4%
Transportation and warehousing	48,688	51,552	53,300	56,600	57,400	58,300	2,864	0.5%	4,870	2.5%	6,748	0.7%
Information	29,771	22,392	22,100	22,100	21,900	22,000	(7,379)	(2.3%)	(5,076)	(5.0%)	(392)	(0.1%)
Finance and insurance	74,684	88,389	92,200	97,800	100,000	100,900	13,705	1.4%	1,514	0.4%	12,511	0.8%
Real estate and rental and leasing	54,988	75,802	79,100	82,100	83,700	84,700	20,814	2.7%	433	0.1%	8,898	0.7%
Professional and technical services	124,735	162,715	170,200	182,300	190,800	197,200	37,980	2.2%	12,062	1.9%	34,485	1.1%
Management of companies and enterprises	4,206	13,016	14,400	16,700	18,500	19,800	8,810	9.9%	4,559	11.4%	6,784	2.5%
Administrative and waste services	99,668	111,376	116,600	125,100	132,100	137,600	11,708	0.9%	12,561	3.0%	26,224	1.3%
Educational services	44,869	57,916	60,900	66,200	70,800	74,700	13,047	2.1%	2,378	1.1%	16,784	1.5%
Health care and social assistance	173,077	229,144	235,500	253,800	265,400	275,000	56,067	2.4%	15,332	1.7%	45,856	1.1%
Arts, entertainment, and recreation	31,043	43,293	45,700	50,600	54,000	56,400	12,250	2.8%	6,344	4.0%	13,107	1.6%
Accommodation and food services	89,679	110,336	114,700	122,400	127,300	131,000	20,657	1.7%	8,628	2.1%	20,664	1.0%
Other services, except public administration	79,158	94,781	96,700	103,500	107,400	110,700	15,623	1.5%	5,575	1.5%	15,919	0.9%
Government and government enterprises	261,069	276,677	274,700	276,700	275,700	274,200	15,608	0.5%	5,316	0.5%	(2,477)	(0.1%)

Source: Maryland Department of Planning Projections.

4.6 Summary and Conclusion

Recent patterns of population and employment growth in Baltimore City indicate that the city is a full participant in the national trend towards urban revitalization that is reshaping cities across the nation. Both workers and employers, in Baltimore and across the nation, are increasingly favoring the option for the live-work-play environment provided by the redevelopment of downtown areas and embodied in the Port Covington/Under Armour Headquarters Project. Baltimore City has realized an influx of younger, educated, and skilled residents – driven by Millennials and Empty Nesters. The City has also reversed its long term decline in employment and experienced stronger growth than the region and state in the post-Great Recession recovery. As demonstrated by the experience of the Harbor East project, developments like Port Covington have the potential to capitalize and strengthen this trend and support the ongoing revitalization of Baltimore; however, challenges remain. The city has lagged in employment growth in key professional services and technology-based industries and continues to have a higher rate of poverty and distress than surrounding jurisdictions. Port Covington has the potential to support the recent population and employment growth in the city by supporting the growth of this innovative firm in a new downtown campus and creating the mixed-use, live-work-play environment favored by younger workers, Empty Nesters, and innovation companies.

5.0 The Economic and Fiscal Impact of the Port Covington/Under Armour Headquarters Project

Sagamore Development retained the Battelle Memorial Institute's TPP to analyze the economic activity³⁵ in Baltimore City and in the State of Maryland that is generated by:

- The construction expenditures associated with the Port Covington/Under Armour Headquarters Project; and
- The estimated employment and income associated with the new residents that will be located in both the mixed-use and Under Armour Campus portions of the development project.

The Port Covington Project is a large and complex undertaking consisting of more than 10 million square feet of space. The overall parameters of the project are likely to change as the project evolves. As a result, this analysis is based on initial estimates of construction costs and the types of space planned for development prepared and supplied by Sagamore Development and the corporate real estate office of Under Armour.

Battelle used the IMPLAN input-output models for Baltimore City and the State of Maryland to estimate the economic activity supported by the construction expenditures, projected Under Armour employment, and estimated employment associated with the mixed-use tenant businesses and residents likely to be attracted to the Port Covington Project.³⁶ The inputs to the IMPLAN analysis were as follows:

- For pre-development construction-related impacts, the input to the IMPLAN modeling was the actual construction budgets, net of land acquisition associated with each phase of the development. All construction expenditures and their associated impacts are expressed in current 2015 dollars.
- For the post-development, ongoing operational impacts of Port Covington, the input to the IMPLAN modeling was the projected employment to be located in the mixed-use and Under Armour Campus portions of the project. The operational impacts for the Under

³⁵ This analysis does not assess the extent to which the development of the Port Covington Project, including the Under Armour Campus and tenants to be located in the mixed-use office, retail, hotel, entertainment, residential and other space being developed compete with or substitute for other development and business activities occurring within the city. Furthermore, since Under Armour is moving from its existing Tide Point facility, some of the jobs analyzed already exist in the city. However, Under Armour has completely utilized its existing facility and the job growth occurring in the headquarters campus does represent new jobs to the city and state economy. Furthermore, given the redevelopment occurring in South Baltimore and attractiveness of the Tide Point facility, it can be expected that in-fill development can fill at least a portion of the space vacated by Under Armour. Thus, this analysis measures the relationship between the Port Covington Project and the larger Baltimore City and Maryland economies. As a result, this report estimates the economic linkages between this development and the larger city/state economy, not the true economic impacts of these activities. Throughout this report all dollar values are expressed in current 2015\$ and totals may not sum due to rounding.

³⁶ For a description of the IMPLAN model and approach used in this analysis, refer to the Methodology Section (Section 5.2).

Armour Campus portion of the development were estimated based on projections of company employment moving to the site by year, provided by Under Armour. For the mixed-use portion of the project, tenant employment was estimated based on the following standard relationships of employment to square feet: one job per 250 square feet of office space; one job per 350 square feet of incubator/innovation space; one job per 450 square feet of retail/restaurant space; and one job per 1,000 square feet of other (distillery); all generally accepted relationships of employment to building size. Under Armour employment was analyzed in the management of companies sector of the economy and for the mixed-use tenants, the industry composition of employment was estimated based on current patterns of employment in Baltimore City in the targeted sectors.

- For the residential portion of the development, the resident incomes associated with the condominium and apartments being developed were estimated based on the projected rent levels of the apartments and sales price of the condominium units being developed based on standard relationships of resident incomes to housing cost as follows:
 - For rental units, an average rental rate of \$2.20 per square foot was used based on the average Class A apartment building rental rate for the downtown area from the Downtown Partnership of Baltimore's 2014 State of Downtown report, with resident incomes estimated based on this projected rent level using the 30 percent of income devoted to rent determined to be affordable by the US Department of Housing and Urban Development.
 - For owner-occupied, condominium housing, resident incomes were estimated based on a standard relationship of housing cost being 2.5 times income using an estimated sales price of \$350,000, based on comparable units in the area and data provided by Sagamore Development.

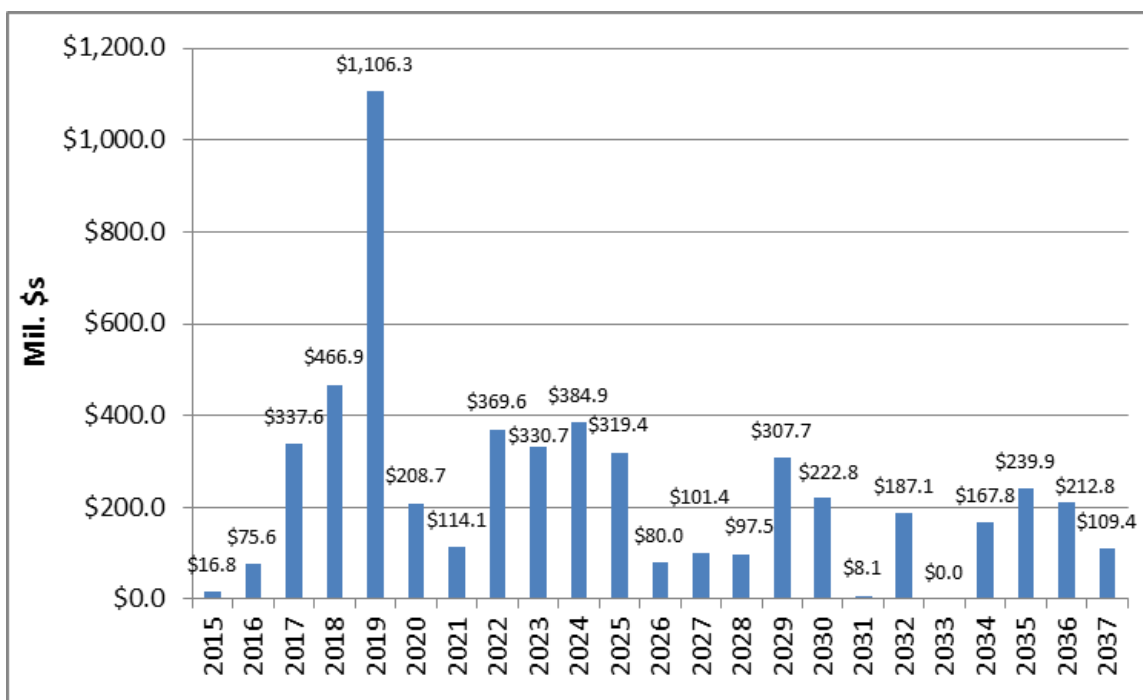
Several further simplifying assumptions were made in order to facilitate the implementation of this analysis. These assumptions include:

- Construction for the mixed-use portion of the project is projected to be completed in the calendar year in which it is allocated.
- Because the projected lease-up schedule of the properties developed is unknown, the economic activity occurring in the Under Armour campus and mixed-use commercial buildings developed are based on each building being fully occupied in the year completed. Thus, this analysis measures the total development potential of each building in the year in which it is completed.

The development of the Port Covington/Under Armour Headquarters Project is one of the largest development projects, if not the largest development project, in the history of the Baltimore City.

The expenditures associated with the development of the site and construction of the buildings and required infrastructure will provide a major source of jobs and economic activity to a city in need. Once the project is complete, it will house the significantly expanded headquarters of one of Maryland’s leading companies. The mixed-use portion of the development will create attractive waterfront space for new professional residents as well as employment space for entertainment, professional, retail, and technology companies drawn to the development by its accessible, live-work-play environment. Thus, the development of the project will bring one-time construction jobs into the city, and once complete, will house both residents and jobs that will contribute to the economic vitality of the city.

The total construction budget for the project over the next 23 years will total nearly \$5.5 billion, composed of \$3.8 billion in construction and development costs associated with the mixed-use portion of the development and \$1.6 billion associated with the Under Armour Campus portion of the development. Construction has already begun on the project’s infrastructure with the projected construction costs by year ranging from \$16.8 million in 2015 to over \$1.1 billion in 2019 (Figure 27). The direct construction jobs on the site will reach a high of almost 5,600 in the peak year of construction activity in 2019.



Source: Sagamore Development and Under Armour.

Figure 27. Port Covington Project Construction Expenditures by Year

While the one-time impacts associated with the development and construction of the Port Covington Project are impressive, the ongoing employment impacts generated by the development of a new corporate headquarters campus for Under Armour and the jobs and

residential space in the mixed-use portion of the project represent a transformative investment in the ongoing redevelopment occurring in Baltimore City. As presented in Table 13, once it is fully developed, the Port Covington Project will consist of more than 10 million square feet of space and include:

- 1.2 million square feet of retail/restaurant/entertainment space
- 3.8 million square feet of office/innovation space
- A hotel with a planned 640 rooms
- 4,775 residential units

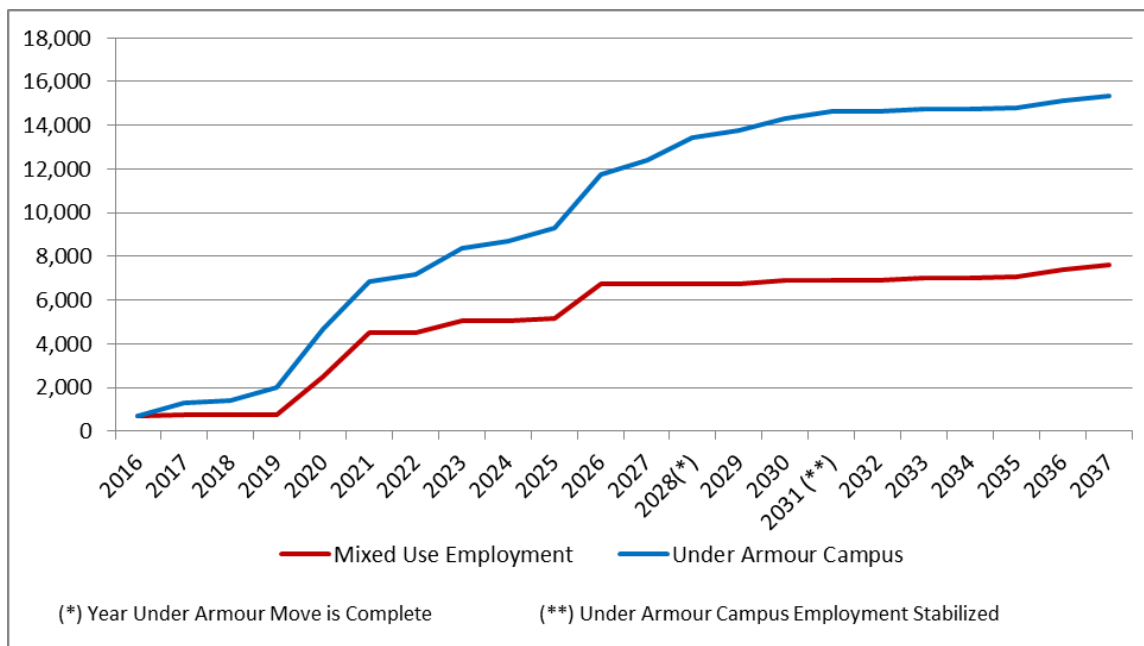
Once this space is complete and occupied, it has the potential to house nearly 15,300 jobs at its planned completion in 2037, consisting of more than 7,600 jobs in the mixed-use portion of the development and over 7,700 jobs in the Under Armour Campus portion of the project. As presented in Figure 28, employment in the first phase of the project, projected to be completed in 2016, will start at close to 700 jobs, gradually growing to almost 15,300 in 2037 when the project is complete and fully occupied. The new jobs created by the expansion of Under Armour and by the business and residential tenants in the mixed-use portion will support a dramatic expansion in economic activity in the City of Baltimore.

Table 13. Port Covington Project, Projected Delivery Schedule

Year	Square Feet of Space							Residential Units	Hotel Rooms
	Retail/ Restaurant	Office	Other ¹	Residential	Mixed-Use Development	Under Armour Campus	Total Port Covington		
2016	-	67,702	148,332	-	216,034	-	216,034	-	-
2017	-	-	55,575	-	55,575	170,000	225,575	-	-
2018	-	-	-	-	-	-	-	-	-
2019	-	-	-	-	-	510,000	510,000	-	-
2020	466,811	104,934	301,725	833,190	1,706,660	-	1,706,660	833	640
2021	34,740	489,030	-	-	523,770	315,000	838,770	-	-
2022	-	-	-	-	-	-	-	-	-
2023	126,086	61,898	-	671,634	859,618	345,000	1,204,618	672	-
2024	-	-	-	-	-	-	-	-	-
2025	44,435	-	-	250,919	295,354	448,000	743,354	251	-
2026	121,238	322,918	-	448,145	892,301	-	892,301	448	-
2027	-	-	-	-	-	266,000	266,000	-	-
2028	15,317	-	-	37,219	52,536	-	52,536	37	-
2029	-	-	-	-	-	207,000	207,000	-	-
2030	68,926	-	-	404,115	473,041	-	473,041	404	-
2031	5,000	-	-	324,510	329,510	162,000	491,510	325	-
2032	-	-	-	-	-	-	-	-	-
2033	54,200	-	-	426,000	480,200	-	480,200	426	-
2034	-	-	-	-	-	360,000	360,000	-	-
2035	21,604	-	-	436,460	458,064	-	458,064	436	-
2036	133,231	-	-	391,526	524,757	-	524,757	392	-
2037	<u>106,684</u>	-	-	<u>551,716</u>	<u>658,400</u>	-	<u>658,400</u>	<u>552</u>	-
Total	1,198,272	1,046,482	505,632	4,775,434	7,525,820	2,783,000	10,308,820	4,775	640

(1) Other includes the planned Incubator (2016), Sagamore Distillery (2017, Hotel (2020) and a Brewery (2020)

Source: Sagamore Development.



Source: Battelle and Under Armour.

Figure 28. Estimated Direct Job Creation in the Port Covington Project

5.1 Baltimore City and Maryland Impacts

The development of the Port Covington Project will generate substantial economic activity in the City of Baltimore and the State of Maryland, through both the construction of the project and through the business and residential activities occurring in the project when it is complete and occupied. Based on the assumptions described above, Battelle estimated two types of economic impacts associated with the development of the Port Covington Project on the Baltimore City and on the larger Maryland economy:

- **One-Time Construction Impacts** represent the economic activity supported by the development, infrastructure investment, and construction activity associated with the Port Covington Project on both the Baltimore City and State of Maryland economy and were estimated by year of planned activity.
- **Ongoing Employment and Resident Based Impacts** represent the city and state level economic activity supported by the tenant business operations and new city residents locating in the mixed-use portion of the Port Covington project and by the Under Armour corporate activities occurring in the headquarters campus portion of the project based on the total number of jobs created.³⁷ These economic activity estimates are cumulative and

³⁷ The IMPLAN model used in this analysis can be used to estimate impacts based on either projected revenues or employment. As described above, because the exact mix of tenants in the mixed-use portion of the development is unknown at this time, the economic impact estimates were prepared based on projected employment by sector based on the size of the development using standard relationships of employment per square foot of development and the mix of likely tenants based on the existing composition of employment in the City for the mixed-use portion of the development and projected Under Armour Headquarters

represent the total economic activity generated by the business and residential activities occurring in the project each year. The key findings of this analysis are included in Sections 5.1.1 and 5.1.2.

5.1.1 Baltimore City Impacts

5.1.1.1 One-Time Construction Impacts

The development, infrastructure, and construction spending associated with the Port Covington project range from a low of \$16.8 million in 2015 to a high of over \$1.1 billion in the peak year of construction activity in 2019 (Table 14). This construction spending represents a source of economic activity in the City of Baltimore that will create jobs in the construction sector, in its related supplier sector (ranging from architecture and engineering to the manufacture and sale of construction raw materials), and as a result of the spending supported by the construction and related jobs created.

The economic activity supported by these development and construction expenditures range from \$22.4 million in economic activity, supporting 137 jobs with an associated \$11.6 million in labor income, and generating \$0.7 million in state and local government revenues in 2015 to a high of \$1.5 billion in economic activity, supporting 8,480 jobs with an associated \$672 million in labor income, and generating \$49.6 million in state and local government revenues in 2019.

Over the 23-year construction period, the \$5.5 billion in total development and construction expenditures associated with the Port Covington Project will generate \$7.6 billion in economic activity, support over 42,000 jobs earning \$3.3 billion in labor income, and generate \$242 million in combined state and local government revenues, including an estimated \$108 million in Baltimore City revenues. As presented in Tables 15, 16, and 17, the construction impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – Over the 2015-2037 construction period associated with the mixed-use portion of the Port Covington Project, the \$3.8 billion in total development and construction expenditures will generate \$5.4 billion in economic activity, support 29,300 jobs earning \$2.2 billion in labor income, and generate \$165 million in combined state and local government revenues, including an estimated \$73 million in Baltimore City revenues.
- **Under Armour Headquarters Campus** – Over the 2016-2031 construction period associated with the Under Armour Campus portion of the Port Covington Project, the \$1.6 billion in total development and construction expenditures will generate \$2.2 billion in economic activity, support 12,700 jobs earning nearly \$1.1 billion in labor income, and

Campus employment. The impacts of the projected Under Armour Campus employment were based on the Management of Companies sector of the City economy.

generate \$78 million in combined state and local government revenues, including an estimated \$35 million in Baltimore City revenues.

5.1.1.2 Ongoing Employment and Resident Based Impacts

The businesses and residents locating in the mixed-use portion of the Port Covington Project, and the expanding operations of Under Armour occurring in the headquarters campus portion of the project represent an important source of economic activity in Baltimore City. These businesses will create jobs in the city, thereby expanding the city's economy, and the residents of the development's 4,775 residential units will also contribute to city economic activity by purchasing goods and services from other city companies.

The ongoing jobs locating within the Port Covington project will start small, with an estimated 695 jobs locating in the development in 2016 and then grow incrementally as the later phases of the mixed-use and Under Armour campus portion of the development are completed, with total potential job creation totaling nearly 15,300 jobs when Port Covington is complete and fully occupied (Table 18).

The business and residential activities occurring in the Port Covington Project will support \$192 million in economic activity, supporting 1,162 jobs with an associated \$95 million in labor income, and generating \$7 million in state and local government revenues in 2016.

This economic activity will accelerate as Under Armour begins to move into the project in 2017, growing to a total of \$4.3 billion in economic activity when the development is fully occupied in 2037, supporting 26,493 jobs with an associated \$2.2 billion in labor income, and generating \$209 million in state and local government revenues, including an estimated \$94 million in Baltimore City revenues. The operational impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – In 2037, the mixed-use portion of the development will directly house an estimated total of 7,600 jobs and \$1.1 billion in business activity when it is fully developed, and these business and residential activities will support \$1.9 billion in economic activity, support 12,900 jobs with an associated \$0.9 billion in labor income, and generate \$116 million in state and local government revenues, including an estimated \$53 million in Baltimore City revenues (Table 19).
- **Under Armour Headquarters Campus** – In 2031, when Under Armour's Campus is fully developed and occupied, it will house an estimated 7,724 jobs and will support \$2.5 billion in overall economic activity, supporting 13,600 jobs with an associated \$1.4 billion in labor income, and generating \$94 million in state and local government revenues, including an estimated \$41 million in Baltimore City revenues (Table 20).

Table 14. Port Covington Project Total Baltimore City Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																							
Direct	\$16.8	\$75.6	\$337.6	\$466.9	\$1,106.3	\$208.7	\$114.1	\$369.6	\$330.7	\$384.9	\$319.4	\$80.0	\$101.4	\$97.5	\$307.7	\$222.8	\$8.1	\$187.1	\$0.0	\$167.8	\$239.9	\$212.8	\$109.4
Indirect	\$2.1	\$13.8	\$63.2	\$85.2	\$217.2	\$33.9	\$23.9	\$81.2	\$54.4	\$86.6	\$66.1	\$11.1	\$16.1	\$14.7	\$70.0	\$51.4	\$1.1	\$50.6	\$0.0	\$46.6	\$57.3	\$57.6	\$31.2
Induced	\$3.6	\$13.8	\$60.9	\$85.6	\$207.9	\$39.8	\$19.7	\$68.6	\$62.2	\$71.7	\$61.9	\$15.7	\$19.9	\$18.8	\$57.0	\$41.6	\$1.6	\$34.6	\$0.0	\$31.5	\$44.9	\$40.4	\$20.8
Total	\$22.4	\$103.2	\$461.7	\$637.8	\$1,531.5	\$282.4	\$157.8	\$519.4	\$447.2	\$543.1	\$447.5	\$106.9	\$137.3	\$131.0	\$434.8	\$315.7	\$10.8	\$272.3	\$0.0	\$245.9	\$342.1	\$310.8	\$161.4
Employment (Jobs)																							
Direct	102	376	1,648	2,323	5,596	1,108	515	1,791	1,737	1,859	1,652	454	561	534	1,474	1,070	46	846	0	763	1,146	992	503
Indirect	11	72	331	447	1,436	179	125	576	287	632	509	59	100	78	510	386	6	417	0	401	445	501	281
Induced	25	96	424	596	1,448	277	137	478	433	499	431	110	138	131	397	289	11	241	0	219	313	281	145
Total	137	544	2,404	3,366	8,480	1,564	777	2,845	2,457	2,990	2,592	623	799	743	2,381	1,745	63	1,504	0	1,383	1,904	1,774	929
Labor Income (Mil. \$s)																							
Direct	\$9.3	\$34.3	\$150.7	\$212.9	\$504.4	\$100.8	\$47.6	\$161.4	\$157.3	\$167.2	\$147.3	\$40.7	\$50.2	\$48.1	\$132.7	\$96.1	\$4.1	\$75.6	\$0.0	\$67.9	\$102.7	\$87.9	\$44.4
Indirect	\$0.9	\$5.3	\$24.1	\$32.7	\$86.1	\$13.4	\$8.9	\$32.0	\$21.5	\$34.2	\$26.9	\$4.6	\$6.6	\$6.0	\$27.6	\$20.3	\$0.5	\$19.9	\$0.0	\$18.5	\$22.7	\$23.1	\$12.5
Induced	\$1.4	\$5.4	\$23.8	\$33.4	\$81.2	\$15.5	\$7.7	\$26.8	\$24.3	\$28.0	\$24.2	\$6.1	\$7.8	\$7.3	\$22.3	\$16.2	\$0.6	\$13.5	\$0.0	\$12.3	\$17.6	\$15.8	\$8.1
Total	\$11.6	\$44.9	\$198.6	\$279.0	\$671.7	\$129.7	\$64.2	\$220.2	\$203.1	\$229.4	\$198.3	\$51.5	\$64.6	\$61.4	\$182.6	\$132.7	\$5.2	\$109.1	\$0.0	\$98.7	\$143.0	\$126.8	\$65.1
Estimated S&L Gov. Revenues (Mil. \$s)																							
Est. State Rev	\$0.4	\$1.8	\$8.0	\$10.9	\$27.4	\$5.1	\$2.6	\$9.0	\$8.2	\$9.4	\$8.2	\$2.1	\$2.6	\$2.5	\$7.5	\$5.5	\$0.2	\$4.5	\$0.0	\$4.1	\$5.9	\$5.3	\$2.8
Est. City Rev	\$0.3	\$1.5	\$6.4	\$8.7	\$22.2	\$4.1	\$2.0	\$7.3	\$6.6	\$7.6	\$6.6	\$1.7	\$2.1	\$2.0	\$6.0	\$4.4	\$0.2	\$3.7	\$0.0	\$3.3	\$4.8	\$4.3	\$2.2

Source: Battelle and IMPLAN.

Table 15. Port Covington Project – Mixed-Use Development Baltimore City Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																							
Direct	\$16.8	\$30.8	\$153.4	\$250.6	\$938.0	\$94.2	\$76.2	\$257.9	\$188.8	\$264.4	\$245.2	\$0.0	\$16.4	\$10.9	\$218.4	\$153.1	\$0.0	\$187.1	\$0.0	\$167.8	\$239.9	\$212.8	\$109.4
Indirect	\$2.1	\$7.5	\$37.6	\$55.2	\$193.8	\$18.0	\$18.7	\$65.7	\$34.7	\$69.8	\$55.8	\$0.0	\$4.3	\$2.7	\$57.6	\$41.8	\$0.0	\$50.6	\$0.0	\$46.6	\$57.3	\$57.6	\$31.2
Induced	\$3.6	\$5.0	\$24.7	\$43.1	\$174.8	\$17.2	\$12.3	\$46.7	\$34.3	\$48.0	\$47.3	\$0.0	\$3.1	\$1.7	\$39.5	\$27.9	\$0.0	\$34.6	\$0.0	\$31.5	\$44.9	\$40.4	\$20.8
Total	\$22.4	\$43.3	\$215.6	\$348.8	\$1,306.6	\$129.4	\$107.2	\$370.2	\$257.8	\$382.2	\$348.3	\$0.0	\$23.7	\$15.3	\$315.6	\$222.7	\$0.0	\$272.3	\$0.0	\$245.9	\$342.1	\$310.8	\$161.4
Employment (Jobs)																							
Direct	102	121	603	1,095	4,641	458	300	1,157	933	1,176	1,231	0	78	43	968	675	0	846	0	763	1,146	992	503
Indirect	11	39	195	287	1,312	94	97	494	182	543	454	0	37	14	444	334	0	417	0	401	445	501	281
Induced	25	35	172	300	1,217	120	85	325	239	334	330	0	22	12	275	194	0	241	0	219	313	281	145
Total	137	195	970	1,682	7,170	672	482	1,976	1,353	2,052	2,014	0	137	69	1,687	1,203	0	1,504	0	1,383	1,904	1,774	929
Labor Income (Mil. \$s)																							
Direct	\$9.3	\$11.4	\$56.9	\$102.8	\$418.7	\$42.5	\$28.3	\$104.6	\$85.1	\$105.9	\$109.5	\$0.0	\$6.9	\$4.0	\$87.3	\$60.7	\$0.0	\$75.6	\$0.0	\$67.9	\$102.7	\$87.9	\$44.4
Indirect	\$0.9	\$2.7	\$13.5	\$20.2	\$76.4	\$6.8	\$6.7	\$25.5	\$13.3	\$27.2	\$22.6	\$0.0	\$1.7	\$1.0	\$22.4	\$16.3	\$0.0	\$19.9	\$0.0	\$18.5	\$22.7	\$23.1	\$12.5
Induced	\$1.4	\$1.9	\$9.6	\$16.8	\$68.3	\$6.7	\$4.8	\$18.2	\$13.4	\$18.7	\$18.5	\$0.0	\$1.2	\$0.7	\$15.4	\$10.9	\$0.0	\$13.5	\$0.0	\$12.3	\$17.6	\$15.8	\$8.1
Total	\$11.6	\$16.1	\$80.1	\$139.8	\$563.4	\$56.0	\$39.8	\$148.3	\$111.8	\$151.9	\$150.6	\$0.0	\$9.9	\$5.7	\$125.1	\$87.9	\$0.0	\$109.1	\$0.0	\$98.7	\$143.0	\$126.8	\$65.1
Estimated S&L Gov. Revenues (Mil. \$s)																							
Est. State Rev	\$0.4	\$0.6	\$3.1	\$5.2	\$23.0	\$2.1	\$1.6	\$6.1	\$4.5	\$6.3	\$6.3	\$0.0	\$0.4	\$0.2	\$5.2	\$3.6	\$0.0	\$4.5	\$0.0	\$4.1	\$5.9	\$5.3	\$2.8
Est. City Rev	\$0.3	\$0.5	\$2.5	\$4.1	\$18.6	\$1.6	\$1.2	\$4.9	\$3.6	\$5.0	\$5.1	\$0.0	\$0.3	\$0.2	\$4.1	\$2.9	\$0.0	\$3.7	\$0.0	\$3.3	\$4.8	\$4.3	\$2.2

Source: Battelle and IMPLAN.

Table 16. Port Covington Project – Under Armour Campus Baltimore City Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Output (Mil. \$s)																	
Direct	--	\$44.8	\$184.2	\$216.4	\$168.3	\$114.6	\$37.9	\$111.7	\$141.9	\$120.4	\$74.2	\$80.0	\$85.0	\$86.6	\$89.3	\$69.7	\$8.1
Indirect	--	\$6.2	\$25.6	\$30.1	\$23.4	\$15.9	\$5.3	\$15.5	\$19.7	\$16.7	\$10.3	\$11.1	\$11.8	\$12.0	\$12.4	\$9.7	\$1.1
Induced	--	\$8.8	\$36.2	\$42.5	\$33.1	\$22.5	\$7.5	\$22.0	\$27.9	\$23.7	\$14.6	\$15.7	\$16.7	\$17.0	\$17.6	\$13.7	\$1.6
Total	--	\$59.9	\$246.1	\$289.0	\$224.8	\$153.0	\$50.6	\$149.2	\$189.5	\$160.9	\$99.2	\$106.9	\$113.6	\$115.7	\$119.2	\$93.0	\$10.8
Employment (Jobs)																	
Direct	--	254	1,045	1,228	955	650	215	634	805	683	421	454	482	491	506	395	46
Indirect	--	33	136	160	125	85	28	83	105	89	55	59	63	64	66	52	6
Induced	--	61	252	296	230	157	52	153	194	165	102	110	116	119	122	95	11
Total	--	349	1,434	1,684	1,310	892	295	869	1,104	937	578	623	662	674	695	542	63
Labor Income (Mil. \$s)																	
Direct	--	\$22.8	\$93.8	\$110.1	\$85.7	\$58.3	\$19.3	\$56.9	\$72.2	\$61.3	\$37.8	\$40.7	\$43.3	\$44.1	\$45.4	\$35.5	\$4.1
Indirect	--	\$2.6	\$10.6	\$12.5	\$9.7	\$6.6	\$2.2	\$6.4	\$8.2	\$6.9	\$4.3	\$4.6	\$4.9	\$5.0	\$5.1	\$4.0	\$0.5
Induced	--	\$3.4	\$14.2	\$16.6	\$12.9	\$8.8	\$2.9	\$8.6	\$10.9	\$9.3	\$5.7	\$6.1	\$6.5	\$6.7	\$6.9	\$5.4	\$0.6
Total	--	\$28.9	\$118.6	\$139.3	\$108.3	\$73.7	\$24.4	\$71.9	\$91.3	\$77.5	\$47.8	\$51.5	\$54.7	\$55.7	\$57.4	\$44.8	\$5.2
Estimated S&L Gov. Revenues (Mil. \$s)																	
Est. State Rev	--	\$1.2	\$4.8	\$5.7	\$4.4	\$3.0	\$1.0	\$2.9	\$3.7	\$3.2	\$1.9	\$2.1	\$2.2	\$2.3	\$2.3	\$1.8	\$0.2
Est. City Rev	--	\$1.0	\$3.9	\$4.6	\$3.6	\$2.4	\$0.8	\$2.4	\$3.0	\$2.6	\$1.6	\$1.7	\$1.8	\$1.8	\$1.9	\$1.5	\$0.2

Source: Battelle and IMPLAN.

Table 17. Total Port Covington Construction Baltimore City Impacts – Over 23-Year Construction Period

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Total - Port Covington Project				
Output (Mil. \$s)	\$5,465.3	\$1,135.3	\$1,022.4	\$7,623.1
Employment (# of Jobs)	27,097	7,789	7,119	42,004
Labor Income (Mil. \$s)	\$2,443.8	\$448.2	\$399.5	\$3,291.5
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$242.2</u>
Est. State Rev (Mil. \$s)	--	--	--	\$134.1
Est. City Rev (Mil. \$s)	--	--	--	\$108.1
Total – Mixed-Use Development				
Output (Mil. \$s)	\$3,832.1	\$908.4	\$701.3	\$5,441.8
Employment (# of Jobs)	17,831	6,579	4,883	29,293
Labor Income (Mil. \$s)	\$1,612.5	\$354.0	\$274.0	\$2,240.5
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$164.7</u>
Est. State Rev (Mil. \$s)	--	--	--	\$91.3
Est. City Rev (Mil. \$s)	--	--	--	\$73.4
Total -- Under Armour Campus				
Output (Mil. \$s)	\$1,633.2	\$226.9	\$321.1	\$2,181.3
Employment (# of Jobs)	9,266	1,209	2,236	12,711
Labor Income (Mil. \$s)	\$831.4	\$94.2	\$125.5	\$1,051.0
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$77.5</u>
Est. State Rev (Mil. \$s)	--	--	--	\$42.8
Est. City Rev (Mil. \$s)	--	--	--	\$34.7

Source: Battelle and IMPLAN.

Table 18. Under Armour and Port Covington Tenants – Baltimore City Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$123.8	\$318.9	\$334.5	\$451.9	\$836.0	\$1,190.3	\$1,256.8	\$1,439.1	\$1,505.6	\$1,602.7	\$2,006.5	\$2,135.7	\$2,322.6	\$2,389.1	\$2,465.9	\$2,533.2	\$2,533.2	\$2,541.4	\$2,541.4	\$2,544.6	\$2,564.8	\$2,580.9
Indirect	\$37.9	\$87.6	\$93.7	\$138.9	\$249.5	\$324.7	\$350.3	\$410.5	\$436.1	\$472.7	\$586.0	\$635.8	\$707.5	\$733.2	\$761.5	\$787.3	\$787.3	\$789.4	\$789.4	\$790.3	\$795.5	\$799.7
Induced	\$30.7	\$64.2	\$68.7	\$102.7	\$241.8	\$332.4	\$351.5	\$443.2	\$462.3	\$505.4	\$640.9	\$678.1	\$750.0	\$769.0	\$799.6	\$839.2	\$839.2	\$867.6	\$867.6	\$895.7	\$924.2	\$962.0
Total	\$192.4	\$470.8	\$496.9	\$693.5	\$1,327.3	\$1,847.4	\$1,958.6	\$2,292.8	\$2,404.0	\$2,580.8	\$3,233.5	\$3,449.6	\$3,780.1	\$3,891.3	\$4,027.0	\$4,159.7	\$4,159.7	\$4,198.4	\$4,198.4	\$4,230.6	\$4,284.5	\$4,342.6
Employment (Jobs)																						
Direct	695	1,318	1,400	2,018	4,659	6,826	7,176	8,347	8,697	9,272	11,737	12,417	13,423	13,773	14,276	14,638	14,638	14,758	14,758	14,806	15,102	15,339
Indirect	254	509	540	776	1,382	1,892	2,026	2,356	2,489	2,680	3,349	3,608	3,982	4,116	4,264	4,398	4,398	4,410	4,410	4,415	4,444	4,467
Induced	214	447	479	715	1,681	2,313	2,446	3,082	3,215	3,515	4,458	4,716	5,215	5,348	5,561	5,836	5,836	6,033	6,033	6,227	6,425	6,687
Total	1,162	2,275	2,419	3,509	7,722	11,030	11,647	13,785	14,401	15,467	19,544	20,742	22,621	23,237	24,101	24,872	24,872	25,201	25,201	25,448	25,970	26,493
Labor Income (Mil. \$s)																						
Direct	\$65.3	\$140.2	\$150.5	\$228.4	\$426.0	\$634.2	\$678.0	\$791.1	\$834.8	\$897.2	\$1,143.6	\$1,228.7	\$1,351.3	\$1,394.9	\$1,443.0	\$1,486.9	\$1,486.9	\$1,490.5	\$1,490.5	\$1,491.9	\$1,500.8	\$1,507.8
Indirect	\$17.3	\$38.8	\$41.5	\$61.4	\$108.3	\$143.1	\$154.4	\$180.8	\$192.1	\$208.1	\$258.8	\$280.8	\$312.4	\$323.7	\$335.9	\$347.3	\$347.3	\$348.1	\$348.1	\$348.4	\$350.3	\$351.9
Induced	\$12.0	\$25.1	\$26.9	\$40.1	\$94.3	\$129.7	\$137.2	\$172.8	\$180.3	\$197.1	\$250.0	\$264.5	\$292.4	\$299.8	\$311.9	\$327.3	\$327.3	\$338.3	\$338.3	\$349.2	\$360.2	\$374.9
Total	\$94.6	\$204.2	\$218.8	\$329.9	\$628.5	\$907.0	\$969.5	\$1,144.8	\$1,207.2	\$1,302.4	\$1,652.4	\$1,774.0	\$1,956.0	\$2,018.3	\$2,090.8	\$2,161.5	\$2,161.5	\$2,176.9	\$2,176.9	\$2,189.5	\$2,211.3	\$2,234.6
Estimated S&L Gov. Revenues (Mil. \$s)																						
	\$6.9	\$34.6	\$35.6	\$43.1	\$76.5	\$101.0	\$105.3	\$120.3	\$124.5	\$131.9	\$161.1	\$169.4	\$182.3	\$186.6	\$192.5	\$198.0	\$198.0	\$200.3	\$200.3	\$202.2	\$205.7	\$209.3
Est. State Rev	\$3.9	\$18.6	\$19.1	\$23.4	\$41.6	\$55.2	\$57.6	\$66.0	\$68.4	\$72.5	\$88.7	\$93.4	\$100.7	\$103.1	\$106.4	\$109.5	\$109.5	\$110.8	\$110.8	\$111.8	\$113.7	\$115.6
Est. City Rev	\$3.0	\$16.0	\$16.5	\$19.7	\$34.9	\$45.8	\$47.6	\$54.3	\$56.2	\$59.4	\$72.4	\$76.0	\$81.6	\$83.5	\$86.1	\$88.5	\$88.5	\$89.6	\$89.6	\$90.5	\$92.1	\$93.7

Source: Battelle and IMPLAN.

Table 19. Port Covington Tenants – Baltimore City Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$123.8	\$211.1	\$211.1	\$211.1	\$424.8	\$753.9	\$753.9	\$814.0	\$814.0	\$820.7	\$1,052.8	\$1,052.8	\$1,055.1	\$1,055.1	\$1,065.6	\$1,066.3	\$1,066.3	\$1,074.5	\$1,074.5	\$1,077.8	\$1,097.9	\$1,114.0
Indirect	\$37.9	\$46.1	\$46.1	\$46.1	\$91.0	\$156.4	\$156.4	\$169.4	\$169.4	\$171.2	\$218.2	\$218.2	\$218.8	\$218.8	\$221.5	\$221.7	\$221.7	\$223.8	\$223.8	\$224.7	\$229.9	\$234.1
Induced	\$30.7	\$32.9	\$32.9	\$32.9	\$122.7	\$206.1	\$206.1	\$262.4	\$262.4	\$279.5	\$365.6	\$365.6	\$384.4	\$384.4	\$395.9	\$416.4	\$416.4	\$444.8	\$444.8	\$472.9	\$501.4	\$539.2
Total	\$192.4	\$290.0	\$290.0	\$290.0	\$638.4	\$1,116.4	\$1,116.4	\$1,245.8	\$1,245.8	\$1,271.4	\$1,636.7	\$1,636.7	\$1,658.3	\$1,658.3	\$1,683.0	\$1,704.5	\$1,704.5	\$1,743.2	\$1,743.2	\$1,775.4	\$1,829.2	\$1,887.3
Employment (Jobs)																						
Direct	695	750	750	750	2,494	4,528	4,528	5,055	5,055	5,154	6,715	6,715	6,749	6,749	6,902	6,914	6,914	7,034	7,034	7,082	7,378	7,615
Indirect	254	293	293	293	557	1,017	1,017	1,101	1,101	1,111	1,436	1,436	1,439	1,439	1,454	1,455	1,455	1,467	1,467	1,472	1,501	1,524
Induced	214	229	229	229	852	1,433	1,433	1,824	1,824	1,942	2,541	2,541	2,670	2,670	2,750	2,893	2,893	3,090	3,090	3,284	3,481	3,743
Total	1,162	1,272	1,272	1,272	3,903	6,978	6,978	7,981	7,981	8,207	10,692	10,692	10,859	10,859	11,107	11,262	11,262	11,591	11,591	11,838	12,360	12,882
Labor Income (Mil. \$s)																						
Direct	\$65.3	\$68.3	\$68.3	\$68.3	\$152.8	\$344.7	\$344.7	\$377.0	\$377.0	\$380.0	\$513.1	\$513.1	\$514.2	\$514.2	\$518.7	\$519.1	\$519.1	\$522.6	\$522.6	\$524.1	\$532.9	\$540.0
Indirect	\$17.3	\$20.5	\$20.5	\$20.5	\$38.4	\$69.0	\$69.0	\$74.6	\$74.6	\$75.2	\$96.8	\$96.8	\$97.0	\$97.0	\$98.0	\$98.1	\$98.1	\$98.9	\$98.9	\$99.2	\$101.1	\$102.7
Induced	\$12.0	\$12.8	\$12.8	\$12.8	\$47.8	\$80.4	\$80.4	\$102.2	\$102.2	\$108.9	\$142.4	\$142.4	\$149.5	\$149.5	\$154.1	\$162.1	\$162.1	\$173.1	\$173.1	\$184.0	\$195.1	\$209.7
Total	\$94.6	\$101.6	\$101.6	\$101.6	\$239.0	\$494.0	\$494.0	\$553.8	\$553.8	\$564.0	\$752.4	\$752.4	\$760.7	\$760.7	\$770.9	\$779.3	\$779.3	\$794.6	\$794.6	\$807.3	\$829.1	\$852.3
Estimated S&L Gov. Revenues (Mil. \$s)																						
Est. State Rev	\$3.9	\$14.6	\$14.6	\$14.6	\$26.7	\$39.4	\$39.4	\$43.3	\$43.3	\$44.2	\$54.2	\$54.2	\$54.9	\$54.9	\$55.8	\$56.5	\$56.5	\$57.8	\$57.8	\$58.8	\$60.7	\$62.6
Est. City Rev	\$3.0	\$13.0	\$13.0	\$13.0	\$23.4	\$33.6	\$33.6	\$36.9	\$36.9	\$37.6	\$45.8	\$45.8	\$46.4	\$46.4	\$47.2	\$47.7	\$47.7	\$48.8	\$48.8	\$49.7	\$51.3	\$53.0

Source: Battelle and IMPLAN.

Table 20. Under Armour Headquarters Campus – Baltimore City Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$0.0	\$107.9	\$123.4	\$240.8	\$411.2	\$436.4	\$502.9	\$625.2	\$691.6	\$782.0	\$953.7	\$1,082.9	\$1,267.4	\$1,333.9	\$1,400.4	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9
Indirect	\$0.0	\$41.6	\$47.6	\$92.8	\$158.5	\$168.3	\$193.9	\$241.1	\$266.7	\$301.5	\$367.7	\$417.5	\$488.7	\$514.3	\$540.0	\$565.6	\$565.6	\$565.6	\$565.6	\$565.6	\$565.6	\$565.6
Induced	\$0.0	\$31.4	\$35.8	\$69.8	\$119.1	\$126.3	\$145.5	\$180.7	\$199.8	\$225.8	\$275.3	\$312.5	\$365.6	\$384.7	\$403.7	\$422.8	\$422.8	\$422.8	\$422.8	\$422.8	\$422.8	\$422.8
Total	\$0.0	\$180.8	\$206.9	\$403.5	\$688.8	\$731.0	\$842.2	\$1,047.0	\$1,158.2	\$1,309.4	\$1,596.8	\$1,812.9	\$2,121.8	\$2,232.9	\$2,344.1	\$2,455.2	\$2,455.2	\$2,455.2	\$2,455.2	\$2,455.2	\$2,455.2	\$2,455.2
Employment (Jobs)																						
Direct	0	568	650	1,268	2,165	2,298	2,648	3,292	3,642	4,118	5,022	5,702	6,674	7,024	7,374	7,724	7,724	7,724	7,724	7,724	7,724	7,724
Indirect	0	216	248	483	825	876	1,009	1,254	1,388	1,569	1,914	2,173	2,543	2,676	2,810	2,943	2,943	2,943	2,943	2,943	2,943	2,943
Induced	0	218	250	486	829	879	1,013	1,258	1,391	1,572	1,916	2,175	2,545	2,678	2,811	2,943	2,943	2,943	2,943	2,943	2,943	2,943
Total	0	1,003	1,147	2,237	3,819	4,053	4,670	5,805	6,421	7,259	8,852	10,050	11,762	12,378	12,994	13,610	13,610	13,610	13,610	13,610	13,610	13,610
Labor Income (Mil. \$s)																						
Direct	\$0.0	\$72.0	\$82.2	\$160.1	\$273.1	\$289.5	\$333.3	\$414.1	\$457.8	\$517.3	\$630.5	\$715.5	\$837.2	\$880.7	\$924.3	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9
Indirect	\$0.0	\$18.3	\$21.0	\$40.9	\$69.9	\$74.1	\$85.4	\$106.2	\$117.5	\$132.9	\$162.0	\$184.0	\$215.3	\$226.6	\$237.9	\$249.2	\$249.2	\$249.2	\$249.2	\$249.2	\$249.2	\$249.2
Induced	\$0.0	\$12.3	\$14.0	\$27.3	\$46.5	\$49.4	\$56.8	\$70.6	\$78.1	\$88.2	\$107.6	\$122.1	\$142.8	\$150.3	\$157.7	\$165.2	\$165.2	\$165.2	\$165.2	\$165.2	\$165.2	\$165.2
Total	\$0.0	\$102.5	\$117.2	\$228.3	\$389.5	\$413.0	\$475.6	\$590.9	\$653.4	\$738.4	\$900.1	\$1,021.6	\$1,195.3	\$1,257.6	\$1,320.0	\$1,382.3	\$1,382.3	\$1,382.3	\$1,382.3	\$1,382.3	\$1,382.3	\$1,382.3
Estimated S&L Gov. Revenues (Mil. \$s)																						
Est. State Rev	\$0.0	\$3.9	\$4.5	\$8.7	\$14.9	\$15.8	\$18.2	\$22.6	\$25.0	\$28.3	\$34.5	\$39.2	\$45.8	\$48.2	\$50.6	\$53.0	\$53.0	\$53.0	\$53.0	\$53.0	\$53.0	\$53.0
Est. City Rev	\$0.0	\$3.0	\$3.4	\$6.7	\$11.5	\$12.2	\$14.0	\$17.4	\$19.3	\$21.8	\$26.5	\$30.1	\$35.2	\$37.1	\$38.9	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8	\$40.8

Source: Battelle and IMPLAN.

5.1.1.2.1 Quality of Jobs Created by the Construction of and Tenant and Under Armour Operations Occurring in the Port Covington Project

The construction of and business operations supported by Under Armour and the mixed-use tenants locating in the Port Covington Project will create substantial employment opportunities for city, regional, and State of Maryland residents (Table 21). The jobs created by the construction and business/residential activities occurring in Port Covington will cross the spectrum from high wage, high benefits jobs in the utilities, finance and the management of companies sectors of the city economy to jobs in sectors such as the arts, entertainment and recreation, real estate, and retail sectors that provide significant entry-level and lower skills requirement job opportunities.

Table 21. Baltimore City – Total Construction and Total Under Armour/Tenant Supported Jobs by Industry and Average Employee Compensation

Item	Total Construction Jobs Over 23-Year Period		Total Employment Impact at Buildout in 2037	
	# of Jobs	Average Employee Compensation ¹	# of Jobs	Average Employee Compensation ¹
Total	42,004	\$72,845	26,493	\$77,588
Natural Resources	2	\$1,185	4	\$1,294
Mining	1	NA	0	NA
Utilities	43	\$184,737	47	\$186,866
Construction	27,178	\$85,024	94	\$74,891
Manufacturing	273	\$71,773	198	\$47,725
Wholesale Trade	768	\$80,255	188	\$80,234
Retail Trade	4,395	\$28,428	1,839	\$29,735
Transportation & Warehousing	626	\$67,871	242	\$64,818
Information	171	\$79,754	422	\$82,003
Finance & Insurance	616	\$116,872	726	\$120,779
Real Estate	644	\$33,940	659	\$29,983
Professional Scientific & Technical Services	1,204	\$83,903	5,111	\$82,931
Management of Companies	69	\$71,866	8,034	\$124,225
Administrative & Waste Services	988	\$36,919	1,334	\$38,004
Educational Services	364	\$67,158	338	\$67,013
Health & Social Services	2,115	\$61,545	1,993	\$61,638
Arts, Entertainment & Recreation	291	\$26,928	459	\$24,492
Accommodation & Food Services	1,129	\$28,524	2,837	\$30,222
Other Services	945	\$38,828	1,796	\$43,101
Government and Non-NAICS	185	\$60,901	173	\$60,684

(1) Average Employee Compensation includes wages, salaries, and benefits.

Source: Battelle and IMPLAN.

5.1.2 State of Maryland Impacts

Battelle also estimated the economic activity attributable to the one-time impacts of the construction of the project as well as the ongoing employment and resident based impacts of the Under Armour campus and mixed-use residential and business tenant activities associated with the Port Covington Project at the State of Maryland level. State impacts are larger than the estimated city impacts presented above because more of the supplier (indirect) and household income (induced) impacts associated with the development of and business/residential tenant activities occurring in the project are captured within the larger Maryland economy.

5.1.2.1 One-Time Construction Impacts

The economic activity supported by these development and construction expenditures range from \$28 million in economic activity, supporting 171 jobs with an associated \$13 million in labor income, and generating \$1.2 million in state and local government revenues in 2015 to a high of \$1.9 billion in economic activity, supporting 10,900 jobs with an associated \$768 million in labor income, and generating \$82 million in state and local government revenues in 2019 (Table 22).

Over the 23-year construction period, the \$5.5 billion in total development and construction expenditures associated with the Port Covington Project will generate \$9.4 billion in economic activity, support over 54,000 jobs earning \$3.7 billion in labor income, and generate \$402 million in combined state and local government revenues. As presented in Tables 23, 24, and 25 the construction impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – Over the 2015-2037 construction period associated with the mixed-use portion of the Port Covington Project, the \$3.8 billion in total development and construction expenditures will generate \$6.8 billion in economic activity, support 38,100 jobs earning \$2.6 billion in labor income, and generate \$278 million in combined state and local government revenues.
- **Under Armour Headquarters Campus** – Over the 2016-2031 construction period associated with the Under Armour Campus portion of the Port Covington Project, the \$1.6 billion in total development and construction expenditures will generate \$2.7 billion in economic activity, support 15,900 jobs earning over \$1.1 billion in labor income, and generate \$124 million in combined state and local government revenues.

5.1.2.2 Ongoing Employment and Resident Based Impacts

The ongoing jobs locating within the Port Covington project will start small, with an estimated 695 jobs locating in the development in 2016 and then growing incrementally as the later phases of the mixed-use and Under Armour campus portion of the development are completed, with

total potential job creation totaling nearly 15,300 jobs when Port Covington is complete and fully operational.

The business and residential activities occurring in the Port Covington Project will support \$232 million in economic activity, supporting 1,425 jobs with an associated \$105 million in labor income, and generating \$10 million in state and local government revenues in 2016.

This economic activity will accelerate as Under Armour begins to move into the project in 2017, growing to a total of \$5.4 billion in economic activity when the development is fully occupied in 2037, supporting 33,900 jobs with an associated \$2.5 billion in labor income, and generating \$302 million in state and local government revenues (Table 26). The operational impacts of each of the two components of the project are as follows:

- **Mixed-Use Development** – In 2037, the mixed-use portion of the development will directly house an estimated total of 7,600 jobs and \$1.1 billion in business activity when it is fully developed, and these business and residential activities will support \$2.3 billion in economic activity, supporting 15,800 jobs with an associated \$1.0 billion in labor income, and generating \$151 million in state and local government revenues (Table 27).
- **Under Armour Headquarters Campus** – In 2031, when Under Armour’s Campus is fully developed and occupied, it will house an estimated 7,724 jobs and will support \$3.1 billion in overall economic activity, supporting 18,100 jobs with an associated \$1.6 billion in labor income, and generating \$150 million in state and local government revenues (Table 28).

Table 22. Port Covington Project Total Maryland Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																							
Direct	\$16.8	\$75.6	\$337.6	\$466.9	\$1,106.3	\$208.7	\$114.1	\$369.6	\$330.7	\$384.9	\$319.4	\$80.0	\$101.4	\$97.5	\$307.7	\$222.8	\$8.1	\$187.1	\$0.0	\$167.8	\$239.9	\$212.8	\$109.4
Indirect	\$3.6	\$22.9	\$104.7	\$141.6	\$357.2	\$56.7	\$39.4	\$132.5	\$90.9	\$141.0	\$108.0	\$18.8	\$26.8	\$24.7	\$114.0	\$83.6	\$1.9	\$81.3	\$0.0	\$74.7	\$92.8	\$92.5	\$49.9
Induced	\$7.2	\$28.3	\$125.3	\$176.0	\$427.2	\$81.3	\$40.8	\$141.5	\$127.2	\$147.9	\$127.1	\$32.0	\$40.5	\$38.3	\$117.8	\$85.8	\$3.2	\$71.9	\$0.0	\$65.3	\$92.8	\$83.7	\$43.3
Total	\$27.6	\$126.8	\$567.6	\$784.5	\$1,890.8	\$346.8	\$194.4	\$643.6	\$548.8	\$673.7	\$554.5	\$130.8	\$168.7	\$160.5	\$539.4	\$392.1	\$13.3	\$340.4	\$0.0	\$307.9	\$425.6	\$389.0	\$202.6
Employment (Jobs)																							
Direct	102	376	1,648	2,323	5,596	1,108	515	1,791	1,737	1,859	1,652	454	561	534	1,474	1,070	46	846	0	763	1,146	992	503
Indirect	18	119	542	732	2,243	295	203	883	475	963	773	99	160	130	778	585	10	620	0	592	670	740	413
Induced	51	200	885	1,243	3,017	574	288	1,000	898	1,045	898	226	286	270	832	606	23	508	0	462	656	592	306
Total	171	694	3,076	4,298	10,856	1,978	1,006	3,674	3,110	3,867	3,323	779	1,007	934	3,084	2,261	79	1,974	0	1,817	2,473	2,323	1,221
Labor Income (Mil. \$s)																							
Direct	\$9.3	\$34.3	\$150.7	\$212.9	\$504.4	\$100.8	\$47.6	\$161.4	\$157.3	\$167.2	\$147.3	\$40.7	\$50.2	\$48.1	\$132.7	\$96.1	\$4.1	\$75.6	\$0.0	\$67.9	\$102.7	\$87.9	\$44.4
Indirect	\$1.3	\$7.7	\$35.1	\$47.6	\$122.5	\$19.5	\$12.9	\$45.1	\$31.3	\$48.0	\$37.6	\$6.7	\$9.5	\$8.7	\$38.7	\$28.5	\$0.7	\$27.6	\$0.0	\$25.5	\$31.7	\$31.7	\$17.1
Induced	\$2.5	\$9.8	\$43.4	\$60.9	\$147.9	\$28.2	\$14.1	\$49.0	\$44.0	\$51.2	\$44.0	\$11.1	\$14.0	\$13.3	\$40.8	\$29.7	\$1.1	\$24.9	\$0.0	\$22.6	\$32.1	\$29.0	\$15.0
Total	\$13.1	\$49.9	\$221.5	\$312.4	\$767.7	\$143.7	\$73.1	\$250.8	\$226.7	\$261.4	\$225.8	\$55.2	\$70.2	\$66.4	\$208.5	\$151.4	\$5.6	\$128.1	\$0.0	\$115.9	\$166.5	\$148.6	\$76.5
Estimated S&L Gov. Revenues (Mil. \$s)																							
Est. State Rev	\$0.7	\$2.9	\$13.1	\$17.9	\$44.9	\$8.3	\$4.3	\$15.0	\$13.3	\$15.7	\$13.5	\$3.3	\$4.2	\$4.0	\$12.5	\$9.1	\$0.3	\$7.7	\$0.0	\$7.0	\$9.9	\$9.0	\$4.7
Est. Local Rev	\$0.5	\$2.4	\$10.6	\$14.6	\$36.6	\$6.7	\$3.4	\$12.2	\$10.8	\$12.8	\$11.0	\$2.7	\$3.5	\$3.3	\$10.2	\$7.4	\$0.3	\$6.3	\$0.0	\$5.7	\$8.1	\$7.3	\$3.8

Source: Battelle and IMPLAN.

Table 23. Port Covington Project – Mixed-Use Development Maryland Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																							
Direct	\$16.8	\$30.8	\$153.4	\$250.6	\$938.0	\$94.2	\$76.2	\$257.9	\$188.8	\$264.4	\$245.2	\$0.0	\$16.4	\$10.9	\$218.4	\$153.1	\$0.0	\$187.1	\$0.0	\$167.8	\$239.9	\$212.8	\$109.4
Indirect	\$3.6	\$12.3	\$61.4	\$90.7	\$317.6	\$29.8	\$30.5	\$106.2	\$57.5	\$112.6	\$90.6	\$0.0	\$6.8	\$4.3	\$93.0	\$67.2	\$0.0	\$81.3	\$0.0	\$74.7	\$92.8	\$92.5	\$49.9
Induced	\$7.2	\$10.4	\$51.6	\$89.5	\$359.9	\$35.5	\$25.7	\$96.9	\$70.5	\$99.7	\$97.4	\$0.0	\$6.5	\$3.7	\$82.1	\$57.9	\$0.0	\$71.9	\$0.0	\$65.3	\$92.8	\$83.7	\$43.3
Total	\$27.6	\$53.5	\$266.4	\$430.7	\$1,615.5	\$159.5	\$132.4	\$461.0	\$316.8	\$476.7	\$433.1	\$0.0	\$29.7	\$18.9	\$393.5	\$278.2	\$0.0	\$340.4	\$0.0	\$307.9	\$425.6	\$389.0	\$202.6
Employment (Jobs)																							
Direct	102	121	603	1,095	4,641	458	300	1,157	933	1,176	1,231	0	78	43	968	675	0	846	0	763	1,146	992	503
Indirect	18	63	314	464	2,034	153	156	745	298	814	681	0	55	22	667	498	0	620	0	592	670	740	413
Induced	51	73	365	632	2,542	251	181	684	498	704	688	0	46	26	580	409	0	508	0	462	656	592	306
Total	171	257	1,281	2,191	9,217	862	637	2,587	1,729	2,694	2,600	0	179	91	2,215	1,583	0	1,974	0	1,817	2,473	2,323	1,221
Labor Income (Mil. \$s)																							
Direct	\$9.3	\$11.4	\$56.9	\$102.8	\$418.7	\$42.5	\$28.3	\$104.6	\$85.1	\$105.9	\$109.5	\$0.0	\$6.9	\$4.0	\$87.3	\$60.7	\$0.0	\$75.6	\$0.0	\$67.9	\$102.7	\$87.9	\$44.4
Indirect	\$1.3	\$3.9	\$19.7	\$29.4	\$108.3	\$9.9	\$9.8	\$35.7	\$19.4	\$37.9	\$31.4	\$0.0	\$2.4	\$1.4	\$31.2	\$22.6	\$0.0	\$27.6	\$0.0	\$25.5	\$31.7	\$31.7	\$17.1
Induced	\$2.5	\$3.6	\$17.9	\$31.0	\$124.6	\$12.3	\$8.9	\$33.5	\$24.4	\$34.5	\$33.7	\$0.0	\$2.2	\$1.3	\$28.4	\$20.1	\$0.0	\$24.9	\$0.0	\$22.6	\$32.1	\$29.0	\$15.0
Total	\$13.1	\$19.0	\$94.5	\$163.2	\$651.6	\$64.7	\$46.9	\$173.8	\$128.9	\$178.3	\$174.6	\$0.0	\$11.5	\$6.7	\$146.9	\$103.4	\$0.0	\$128.1	\$0.0	\$115.9	\$166.5	\$148.6	\$76.5
Estimated S&L Gov. Revenues (Mil. \$s)																							
Est. State Rev	\$0.7	\$1.1	\$5.4	\$8.9	\$37.9	\$3.5	\$2.7	\$10.3	\$7.3	\$10.6	\$10.4	\$0.0	\$0.7	\$0.4	\$8.8	\$6.2	\$0.0	\$7.7	\$0.0	\$7.0	\$9.9	\$9.0	\$4.7
Est. Local Rev	\$0.5	\$0.9	\$4.3	\$7.2	\$30.9	\$2.8	\$2.2	\$8.4	\$6.0	\$8.7	\$8.5	\$0.0	\$0.6	\$0.3	\$7.1	\$5.0	\$0.0	\$6.3	\$0.0	\$5.7	\$8.1	\$7.3	\$3.8

Source: Battelle and IMPLAN.

Table 24. Port Covington Project – Under Armour Campus Maryland Construction Impacts by Year

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Output (Mil. \$s)																	
Direct	--	\$44.8	\$184.2	\$216.4	\$168.3	\$114.6	\$37.9	\$111.7	\$141.9	\$120.4	\$74.2	\$80.0	\$85.0	\$86.6	\$89.3	\$69.7	\$8.1
Indirect	--	\$10.5	\$43.3	\$50.9	\$39.6	\$27.0	\$8.9	\$26.3	\$33.4	\$28.3	\$17.5	\$18.8	\$20.0	\$20.4	\$21.0	\$16.4	\$1.9
Induced	--	\$17.9	\$73.7	\$86.5	\$67.3	\$45.8	\$15.2	\$44.7	\$56.7	\$48.2	\$29.7	\$32.0	\$34.0	\$34.6	\$35.7	\$27.9	\$3.2
Total	--	\$73.3	\$301.2	\$353.8	\$275.3	\$187.3	\$62.0	\$182.6	\$231.9	\$196.9	\$121.4	\$130.8	\$139.0	\$141.6	\$145.9	\$113.9	\$13.3
Employment (Jobs)																	
Direct	--	254	1,045	1,228	955	650	215	634	805	683	421	454	482	491	506	395	46
Indirect	--	56	229	269	209	142	47	139	176	150	92	99	106	108	111	87	10
Induced	--	127	520	611	475	324	107	315	401	340	210	226	240	245	252	197	23
Total	--	437	1,794	2,107	1,639	1,116	369	1,088	1,381	1,173	723	779	828	844	869	679	79
Labor Income (Mil. \$s)																	
Direct	--	\$22.8	\$93.8	\$110.1	\$85.7	\$58.3	\$19.3	\$56.9	\$72.2	\$61.3	\$37.8	\$40.7	\$43.3	\$44.1	\$45.4	\$35.5	\$4.1
Indirect	--	\$3.8	\$15.5	\$18.2	\$14.1	\$9.6	\$3.2	\$9.4	\$11.9	\$10.1	\$6.2	\$6.7	\$7.1	\$7.3	\$7.5	\$5.8	\$0.7
Induced	--	\$6.2	\$25.5	\$29.9	\$23.3	\$15.9	\$5.2	\$15.5	\$19.6	\$16.7	\$10.3	\$11.1	\$11.8	\$12.0	\$12.4	\$9.6	\$1.1
Total	--	\$30.9	\$127.1	\$149.3	\$116.1	\$79.0	\$26.2	\$77.0	\$97.8	\$83.1	\$51.2	\$55.2	\$58.7	\$59.7	\$61.6	\$48.1	\$5.6
Estimated S&L Gov. Revenues (Mil. \$s)																	
Est. State Rev	--	\$1.9	\$7.7	\$9.0	\$7.0	\$4.8	\$1.6	\$4.7	\$5.9	\$5.0	\$3.1	\$3.3	\$3.5	\$3.6	\$3.7	\$2.9	\$0.3
Est. Local Rev	--	\$1.5	\$6.3	\$7.4	\$5.7	\$3.9	\$1.3	\$3.8	\$4.8	\$4.1	\$2.5	\$2.7	\$2.9	\$3.0	\$3.0	\$2.4	\$0.3

Source: Battelle and IMPLAN.

**Table 25. Total Port Covington Construction Maryland Impacts
Over 23-Year Construction Period**

Item	Direct Impact	Indirect Impact	Induced Impact	Total Impact
<u>Total - Port Covington Project</u>				
Output (Mil. \$s)	\$5,465.3	\$1,859.6	\$2,104.5	\$9,429.5
Employment (# of Jobs)	27,097	12,042	14,865	54,004
Labor Income (Mil. \$s)	\$2,443.8	\$634.9	\$728.5	\$3,739.3
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$401.5</u>
Est. State Rev (Mil. \$s)	--	--	--	\$221.3
Est. Local Rev (Mil. \$s)	--	--	--	\$180.2
<u>Total - Mixed-Use Development</u>				
Output (Mil. \$s)	\$3,832.1	\$1,475.5	\$1,451.4	\$6,759.0
Employment (# of Jobs)	17,831	10,015	10,253	38,099
Labor Income (Mil. \$s)	\$1,612.5	\$497.8	\$502.5	\$2,612.7
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$277.7</u>
Est. State Rev (Mil. \$s)	--	--	--	\$153.2
Est. Local Rev (Mil. \$s)	--	--	--	\$124.5
<u>Total -- Under Armour Campus</u>				
Output (Mil. \$s)	\$1,633.2	\$384.2	\$653.1	\$2,670.5
Employment (# of Jobs)	9,266	2,027	4,612	15,905
Labor Income (Mil. \$s)	\$831.4	\$137.1	\$226.0	\$1,126.6
State and Local Tax Revenues (Mil. \$s)	--	--	--	<u>\$123.8</u>
Est. State Rev (Mil. \$s)	--	--	--	\$68.1
Est. Local Rev (Mil. \$s)	--	--	--	\$55.7

Source: Battelle and IMPLAN.

Table 26. Under Armour and Port Covington Tenants – Maryland Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$123.8	\$318.9	\$334.5	\$451.9	\$836.0	\$1,190.3	\$1,256.8	\$1,439.1	\$1,505.6	\$1,602.7	\$2,006.5	\$2,135.7	\$2,322.6	\$2,389.1	\$2,465.9	\$2,533.2	\$2,533.2	\$2,541.4	\$2,541.4	\$2,544.6	\$2,564.8	\$2,580.9
Indirect	\$48.8	\$115.6	\$123.3	\$181.4	\$331.5	\$429.5	\$462.4	\$540.3	\$573.2	\$620.3	\$767.0	\$830.9	\$923.1	\$956.0	\$992.6	\$1,025.7	\$1,025.7	\$1,028.6	\$1,028.6	\$1,029.8	\$1,036.9	\$1,042.6
Induced	\$59.0	\$133.2	\$142.8	\$215.1	\$472.5	\$625.5	\$666.3	\$830.9	\$871.6	\$953.9	\$1,199.2	\$1,278.4	\$1,407.3	\$1,447.9	\$1,520.4	\$1,592.7	\$1,592.7	\$1,637.0	\$1,637.0	\$1,680.5	\$1,726.1	\$1,785.7
Total	\$231.7	\$567.8	\$600.6	\$848.5	\$1,640.0	\$2,245.4	\$2,385.5	\$2,810.3	\$2,950.4	\$3,176.9	\$3,972.7	\$4,245.0	\$4,653.0	\$4,793.0	\$4,978.9	\$5,151.6	\$5,151.6	\$5,207.0	\$5,207.0	\$5,254.9	\$5,327.8	\$5,409.1
Employment (Jobs)																						
Direct	695	1,318	1,400	2,018	4,659	6,826	7,176	8,347	8,697	9,272	11,737	12,417	13,423	13,773	14,276	14,638	14,638	14,758	14,758	14,806	15,102	15,339
Indirect	313	671	713	1,033	1,869	2,514	2,695	3,137	3,318	3,577	4,455	4,806	5,313	5,494	5,696	5,878	5,878	5,894	5,894	5,901	5,940	5,972
Induced	417	941	1,008	1,519	3,330	4,411	4,699	5,857	6,144	6,723	8,452	9,011	9,915	10,202	10,716	11,224	11,224	11,534	11,534	11,837	12,156	12,573
Total	1,425	2,930	3,122	4,570	9,858	13,751	14,570	17,341	18,159	19,572	24,643	26,234	28,651	29,469	30,688	31,740	31,740	32,186	32,186	32,544	33,198	33,884
Labor Income (Mil. \$s)																						
Direct	\$65.3	\$140.2	\$150.5	\$228.4	\$426.0	\$634.2	\$678.0	\$791.1	\$834.8	\$897.2	\$1,143.6	\$1,228.7	\$1,351.3	\$1,394.9	\$1,443.0	\$1,486.9	\$1,486.9	\$1,490.5	\$1,490.5	\$1,491.9	\$1,500.8	\$1,507.8
Indirect	\$19.2	\$44.7	\$47.7	\$70.1	\$125.4	\$164.2	\$176.9	\$206.6	\$219.3	\$237.3	\$294.2	\$318.9	\$354.4	\$367.0	\$380.9	\$393.7	\$393.7	\$394.6	\$394.6	\$395.0	\$397.3	\$399.1
Induced	\$20.4	\$46.1	\$49.4	\$74.5	\$163.3	\$216.3	\$230.4	\$287.2	\$301.3	\$329.7	\$414.5	\$441.9	\$485.6	\$499.6	\$525.6	\$550.5	\$550.5	\$565.7	\$565.7	\$580.7	\$596.4	\$616.8
Total	\$104.9	\$231.1	\$247.6	\$372.9	\$714.7	\$1,014.7	\$1,085.3	\$1,285.0	\$1,355.4	\$1,464.3	\$1,852.4	\$1,989.5	\$2,191.3	\$2,261.6	\$2,349.5	\$2,431.1	\$2,431.1	\$2,450.8	\$2,450.8	\$2,467.6	\$2,494.4	\$2,523.8
Estimated S&L Gov. Revenues (Mil. \$s)	\$10.2	\$43.5	\$45.1	\$57.2	\$104.2	\$135.9	\$142.7	\$165.4	\$172.2	\$183.9	\$225.4	\$238.6	\$258.6	\$265.4	\$275.4	\$284.3	\$284.3	\$288.0	\$288.0	\$291.1	\$296.1	\$301.6
Est. State Rev	\$5.7	\$23.5	\$24.4	\$31.2	\$56.9	\$74.5	\$78.3	\$90.9	\$94.7	\$101.2	\$124.3	\$131.7	\$143.0	\$146.8	\$152.3	\$157.3	\$157.3	\$159.3	\$159.3	\$161.0	\$163.7	\$166.7
Est. Local Rev	\$4.5	\$20.0	\$20.7	\$26.0	\$47.2	\$61.4	\$64.4	\$74.5	\$77.5	\$82.6	\$101.1	\$106.9	\$115.7	\$118.6	\$123.1	\$127.0	\$127.0	\$128.7	\$128.7	\$130.1	\$132.4	\$134.9

Source: Battelle and IMPLAN.

Table 27. Port Covington Tenants – Maryland Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$123.8	\$211.1	\$211.1	\$211.1	\$424.8	\$753.9	\$753.9	\$814.0	\$814.0	\$820.7	\$1,052.8	\$1,052.8	\$1,055.1	\$1,055.1	\$1,065.6	\$1,066.3	\$1,066.3	\$1,074.5	\$1,074.5	\$1,077.8	\$1,097.9	\$1,114.0
Indirect	\$48.8	\$62.2	\$62.2	\$62.2	\$128.0	\$213.4	\$213.4	\$230.8	\$230.8	\$233.1	\$294.8	\$294.8	\$295.6	\$295.6	\$299.3	\$299.6	\$299.6	\$302.5	\$302.5	\$303.6	\$310.7	\$316.4
Induced	\$59.0	\$66.4	\$66.4	\$66.4	\$218.8	\$356.5	\$356.5	\$445.9	\$445.9	\$472.8	\$612.8	\$612.8	\$628.5	\$628.5	\$660.4	\$692.1	\$692.1	\$736.4	\$736.4	\$779.9	\$825.5	\$885.1
Total	\$231.7	\$339.7	\$339.7	\$339.7	\$771.6	\$1,323.8	\$1,323.8	\$1,490.7	\$1,490.7	\$1,526.6	\$1,960.4	\$1,960.4	\$1,979.3	\$1,979.3	\$2,025.2	\$2,057.9	\$2,057.9	\$2,113.4	\$2,113.4	\$2,161.3	\$2,234.1	\$2,315.5
Employment (Jobs)																						
Direct	695	750	750	750	2,494	4,528	4,528	5,055	5,055	5,154	6,715	6,715	6,749	6,749	6,902	6,914	6,914	7,034	7,034	7,082	7,378	7,615
Indirect	313	377	377	377	749	1,326	1,326	1,435	1,435	1,448	1,858	1,858	1,863	1,863	1,884	1,885	1,885	1,901	1,901	1,908	1,947	1,979
Induced	417	469	469	469	1,539	2,512	2,512	3,138	3,138	3,326	4,312	4,312	4,417	4,417	4,644	4,865	4,865	5,175	5,175	5,479	5,798	6,215
Total	1,425	1,596	1,596	1,596	4,782	8,365	8,365	9,629	9,629	9,928	12,885	12,885	13,029	13,029	13,430	13,664	13,664	14,110	14,110	14,468	15,123	15,808
Labor Income (Mil. \$s)																						
Direct	\$65.3	\$68.3	\$68.3	\$68.3	\$152.8	\$344.7	\$344.7	\$377.0	\$377.0	\$380.0	\$513.1	\$513.1	\$514.2	\$514.2	\$518.7	\$519.1	\$519.1	\$522.6	\$522.6	\$524.1	\$532.9	\$540.0
Indirect	\$19.2	\$24.1	\$24.1	\$24.1	\$46.9	\$81.0	\$81.0	\$87.4	\$87.4	\$88.1	\$112.3	\$112.3	\$112.5	\$112.5	\$113.7	\$113.8	\$113.8	\$114.7	\$114.7	\$115.1	\$117.4	\$119.2
Induced	\$20.4	\$23.0	\$23.0	\$23.0	\$75.5	\$123.2	\$123.2	\$154.0	\$154.0	\$163.2	\$211.6	\$211.6	\$216.1	\$216.1	\$227.9	\$238.8	\$238.8	\$254.1	\$254.1	\$269.0	\$284.7	\$305.2
Total	\$104.9	\$115.4	\$115.4	\$115.4	\$275.3	\$548.8	\$548.8	\$618.3	\$618.3	\$631.3	\$837.0	\$837.0	\$842.8	\$842.8	\$860.4	\$871.7	\$871.7	\$891.4	\$891.4	\$908.2	\$935.0	\$964.3
Estimated S&L Gov. Revenues (Mil. \$s)	\$10.2	\$32.4	\$32.4	\$32.4	\$61.9	\$91.0	\$91.0	\$101.2	\$101.2	\$103.6	\$127.6	\$127.6	\$128.7	\$128.7	\$131.9	\$134.0	\$134.0	\$137.7	\$137.7	\$140.8	\$145.8	\$151.3
Est. State Rev	\$5.7	\$17.3	\$17.3	\$17.3	\$33.2	\$49.3	\$49.3	\$54.8	\$54.8	\$56.2	\$69.3	\$69.3	\$69.9	\$69.9	\$71.7	\$72.8	\$72.8	\$74.8	\$74.8	\$76.5	\$79.2	\$82.2
Est. Local Rev	\$4.5	\$15.2	\$15.2	\$15.2	\$28.7	\$41.8	\$41.8	\$46.4	\$46.4	\$47.5	\$58.2	\$58.2	\$58.8	\$58.8	\$60.2	\$61.2	\$61.2	\$62.9	\$62.9	\$64.3	\$66.6	\$69.1

Source: Battelle and IMPLAN.

Table 28. Under Armour Headquarters Campus – Maryland Operational Impacts by Year

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Output (Mil. \$s)																						
Direct	\$0.0	\$107.9	\$123.4	\$240.8	\$411.2	\$436.4	\$502.9	\$625.2	\$691.6	\$782.0	\$953.7	\$1,082.9	\$1,267.4	\$1,333.9	\$1,400.4	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9	\$1,466.9
Indirect	\$0.0	\$53.4	\$61.1	\$119.2	\$203.5	\$216.0	\$248.9	\$309.5	\$342.4	\$387.1	\$472.1	\$536.1	\$627.4	\$660.4	\$693.3	\$726.2	\$726.2	\$726.2	\$726.2	\$726.2	\$726.2	\$726.2
Induced	\$0.0	\$66.8	\$76.4	\$148.7	\$253.8	\$269.1	\$309.8	\$385.0	\$425.7	\$481.1	\$586.4	\$665.6	\$778.8	\$819.4	\$860.0	\$900.6	\$900.6	\$900.6	\$900.6	\$900.6	\$900.6	\$900.6
Total	\$0.0	\$228.1	\$260.9	\$508.7	\$868.5	\$921.5	\$1,061.7	\$1,319.7	\$1,459.7	\$1,650.3	\$2,012.3	\$2,284.5	\$2,673.7	\$2,813.7	\$2,953.7	\$3,093.6	\$3,093.6	\$3,093.6	\$3,093.6	\$3,093.6	\$3,093.6	\$3,093.6
Employment (Jobs)																						
Direct	0	568	650	1,268	2,165	2,298	2,648	3,292	3,642	4,118	5,022	5,702	6,674	7,024	7,374	7,724	7,724	7,724	7,724	7,724	7,724	7,724
Indirect	0	294	336	656	1,119	1,188	1,369	1,702	1,883	2,129	2,596	2,948	3,450	3,631	3,812	3,993	3,993	3,993	3,993	3,993	3,993	3,993
Induced	0	472	539	1,050	1,792	1,900	2,188	2,718	3,005	3,397	4,140	4,699	5,498	5,785	6,072	6,358	6,358	6,358	6,358	6,358	6,358	6,358
Total	0	1,333	1,525	2,974	5,076	5,386	6,204	7,712	8,530	9,643	11,759	13,349	15,623	16,440	17,258	18,076	18,076	18,076	18,076	18,076	18,076	18,076
Labor Income (Mil. \$s)																						
Direct	\$0.0	\$72.0	\$82.2	\$160.1	\$273.1	\$289.5	\$333.3	\$414.1	\$457.8	\$517.3	\$630.5	\$715.5	\$837.2	\$880.7	\$924.3	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9	\$967.9
Indirect	\$0.0	\$20.6	\$23.6	\$45.9	\$78.4	\$83.3	\$95.9	\$119.3	\$132.0	\$149.2	\$182.0	\$206.6	\$241.8	\$254.5	\$267.2	\$279.9	\$279.9	\$279.9	\$279.9	\$279.9	\$279.9	\$279.9
Induced	\$0.0	\$23.1	\$26.4	\$51.5	\$87.8	\$93.1	\$107.2	\$133.2	\$147.3	\$166.5	\$202.9	\$230.3	\$269.5	\$283.6	\$297.6	\$311.7	\$311.7	\$311.7	\$311.7	\$311.7	\$311.7	\$311.7
Total	\$0.0	\$115.7	\$132.2	\$257.5	\$439.4	\$465.9	\$536.5	\$666.6	\$737.1	\$833.0	\$1,015.4	\$1,152.5	\$1,348.5	\$1,418.8	\$1,489.1	\$1,559.4	\$1,559.4	\$1,559.4	\$1,559.4	\$1,559.4	\$1,559.4	\$1,559.4
Estimated S&L Gov. Revenues (Mil. \$s)	\$0.0	\$11.1	\$12.7	\$24.8	\$42.3	\$44.8	\$51.6	\$64.2	\$71.0	\$80.2	\$97.8	\$111.0	\$129.9	\$136.7	\$143.5	\$150.3	\$150.3	\$150.3	\$150.3	\$150.3	\$150.3	\$150.3
Est. State Rev	\$0.0	\$6.2	\$7.1	\$13.9	\$23.8	\$25.2	\$29.0	\$36.1	\$39.9	\$45.1	\$55.0	\$62.4	\$73.0	\$76.8	\$80.6	\$84.5	\$84.5	\$84.5	\$84.5	\$84.5	\$84.5	\$84.5
Est. Local Rev	\$0.0	\$4.9	\$5.6	\$10.8	\$18.5	\$19.6	\$22.6	\$28.1	\$31.1	\$35.1	\$42.8	\$48.6	\$56.9	\$59.9	\$62.8	\$65.8	\$65.8	\$65.8	\$65.8	\$65.8	\$65.8	\$65.8

Source: Battelle and IMPLAN.

5.1.2.2.1 Quality of Jobs Created by the Construction of and Tenant and Under Armour Operations Occurring in the Port Covington Project

The construction of and business operations supported by Under Armour and the mixed-use tenants locating in the Port Covington Project will create substantial employment opportunities for city, regional, and State of Maryland residents (Table 29). The jobs created by the construction and business/residential activities occurring in Port Covington will cross the spectrum from high wage, high benefits jobs in the utilities, finance, and the management of companies sectors of the state economy to jobs in sectors such as the arts, entertainment, and recreation, real estate, and retail sectors that provide significant entry-level and lower skills requirement job opportunities.

Table 29. Maryland Impacts – Total Construction and Total Under Armour/Tenant Supported by Industry and Average Employee Compensation

Item	Total Construction Jobs Over 23-Year Period		Total Employment Impact at Buildout in 2037	
	# of Jobs	Average Employee Compensation ¹	# of Jobs	Average Employee Compensation ¹
Total	54,004	\$57,782	33,884	\$65,953
Natural Resources	48	\$10,577	39	\$9,148
Mining	79	\$41,301	6	\$12,826
Utilities	75	\$145,834	72	\$147,131
Construction	28,148	\$70,830	205	\$62,384
Manufacturing	822	\$66,613	266	\$66,150
Wholesale Trade	1,516	\$81,416	452	\$81,423
Retail Trade	6,802	\$25,569	2,963	\$29,810
Transportation & Warehousing	1,136	\$45,064	489	\$43,581
Information	343	\$76,307	524	\$76,510
Finance & Insurance	1,403	\$66,146	1,466	\$66,262
Real Estate	1,405	\$22,084	1,303	\$18,408
Professional Scientific & Technical Services	1,893	\$69,043	6,003	\$68,665
Management of Companies	234	\$123,698	8,140	\$126,093
Administrative & Waste Services	1,599	\$35,437	1,693	\$36,743
Educational Services	660	\$44,668	554	\$44,347
Health & Social Services	3,225	\$52,590	2,848	\$52,823
Arts, Entertainment & Recreation	574	\$20,625	686	\$18,708
Accommodation & Food Services	2,014	\$23,976	3,534	\$25,758
Other Services	1,675	\$35,146	2,357	\$36,685
Government and Non-NAICS	354	\$68,718	287	\$68,787

(1) Average Employee Compensation includes wages, salaries and benefits.

Source: Battelle and IMPLAN.

5.1.2.2.2 Geography of Jobs Created by the Construction of and Tenant and Under Armour Operations Occurring in the Port Covington Project

The construction of the project and the Under Armour and tenant business operations and new residents locating in the Port Covington Project will create a substantial number of jobs both in Baltimore City and across the state. While the job creation impacts of the Port Covington Project are centered in Baltimore City, the job impacts associated with the project will be felt throughout the State of Maryland.³⁸ The estimated distribution of the direct and multiplier effect jobs created by the construction of and Under Armour and mixed-use tenant activities occurring in the Port Covington are presented in Table 30.

Table 30. Maryland Impacts – Total Construction and Total Under Armour/Tenant Supported Jobs by County

County/City	Total Construction Jobs Over 23-Year Period		Total Employment Impact at Buildout in 2037	
	# of Jobs	% of Total	# of Jobs	% of Total
Total	54,004	100.0%	33,884	100.0%
Allegany	147	0.3%	91	0.3%
Anne Arundel	1,511	2.8%	931	2.7%
Baltimore	2,001	3.7%	1,232	3.6%
Calvert	130	0.2%	80	0.2%
Caroline	55	0.1%	34	0.1%
Carroll	325	0.6%	200	0.6%
Cecil	165	0.3%	101	0.3%
Charles	238	0.4%	147	0.4%
Dorchester	62	0.1%	38	0.1%
Frederick	517	1.0%	319	0.9%
Garrett	82	0.2%	51	0.1%
Harford	477	0.9%	294	0.9%
Howard	799	1.5%	492	1.5%
Kent	49	0.1%	30	0.1%
Montgomery	2,596	4.8%	1,599	4.7%
Prince George's	1,691	3.1%	1,041	3.1%
Queen Anne's	88	0.2%	54	0.2%
St. Mary's	251	0.5%	154	0.5%
Somerset	41	0.1%	25	0.1%
Talbot	109	0.2%	67	0.2%
Washington	316	0.6%	195	0.6%
Wicomico	221	0.4%	136	0.4%
Worcester	130	0.2%	80	0.2%
Baltimore City	42,004	77.8%	26,493	78.2%

Source: Battelle and IMPLAN.

³⁸ The IMPLAN model estimates employment by place of work. The direct and indirect construction and tenant related jobs are measured in the location, Baltimore City, or the State of Maryland in which the jobs are created. Battelle estimated the distribution of indirect and induced jobs created by location in Maryland based on the results of the city and state analyses, based on the distribution of employment by jurisdiction in Maryland, based on data from the US Bureau of Economic Analysis.

Because the IMPLAN economic analysis conducted measures jobs at the place of work, the job impacts above measure the location of the jobs created by place of work, not by the place of residence of the workers performing those jobs. According to a Battelle analysis of LEHD data from the US Bureau of the Census, two-thirds of the jobs located in Baltimore City are filled by in-commuters from outside of the city.³⁹ This fact is especially true for major construction activities, where, based on conversations with key informants in the construction industry, large scale projects like Port Covington draw a large number of their skilled trades workers from a large laborshed area, around 125 miles, with workers on similar Baltimore City construction projects drawn from Northern Virginia, Pennsylvania, Delaware, and West Virginia. It is clear from this analysis that the many of the 42,004 Baltimore City construction-related jobs created over the 23-year Port Covington construction period and the 26,493 Under Armour and mixed-use tenant supported jobs projected to be located in the development at build-out will be filled by workers drawn not only from throughout the state, but from the entire Middle Atlantic region. The total Baltimore City primary jobs by place of worker residence is presented in Table 31.

Table 31. Total Baltimore City Primary Jobs by Place of Worker Residence

Place of Residence	# of Jobs	% of Total
Total Jobs	<u>309,957</u>	<u>100%</u>
Maryland	<u>293,910</u>	<u>95%</u>
Baltimore City	103,191	33%
Baltimore County	100,025	32%
Anne Arundel County	22,292	7%
Howard County	16,222	5%
Harford County	14,585	5%
Prince George's County	9,285	3%
Montgomery County	8,115	3%
Carroll County	6,578	2%
Frederick County	2,412	1%
Cecil County	1,528	0%
Washington County	1,287	0%
Queen Anne's County	1,166	0%
Charles County	1,133	0%
Rest of Maryland	6,091	2%
Pennsylvania	6,488	2%
Virginia	2,985	1%
District of Columbia	1,811	1%
Delaware	1,173	0%
All Other Locations	3,590	1%

Source: Battelle Analysis of 2012 LEHD Data.

³⁹ Battelle TPP analysis of LEHD place of work data from <http://lehd.ces.census.gov/> based on Primary Jobs.

5.2 Economic Impact Methodology and Terms

Battelle prepared this analysis of the economic contribution of the Port Covington project on the Baltimore City and Maryland economies using the IMPLAN input-output model for the city and state. IMPLAN is one of the most widely used models in the nation, and can be used to analyze the impacts of companies, projects, or of entire industries. An input-output analysis examines the relationships among businesses and among businesses and final consumers. Input-output analysis is based on the use of multipliers, which describe the response of an economy to a change in demand or production. Multipliers measure the effects on an economy from a source of economic activity, in this case the construction of, and estimated Under Armour and tenant employment that are projected to occur in the Port Covington site.

The economic activity generated in a city, county, region, or state is greater than the simple total of spending associated with the event or activity being studied because as this money is earned it is, in turn, spent, earned, and re-spent by other businesses and workers in the local economy through successive cycles of spending, earning, and re-spending. However, the spending in each successive cycle is less than in the preceding cycle because a certain portion of spending “leaks” out of the economy in each round of spending. Leakages occur through purchases of goods or services from outside of the region and federal taxation. The IMPLAN multipliers used in this analysis capture the effects of these multiple rounds of spending. This analysis focuses on four measures of economic impact:

- **Output** – The total value of production or sales in all industries;
- **Employment** – The total number of full and part time jobs in all industries;
- **Labor Income** – The wages and salaries, including benefits, and other labor income earned by the workers holding the jobs created; and
- **State and Local Government Revenues** – The revenues accruing to state and local governments as a result of the estimated impacts. These are broken down by type of revenue in [Appendix C](#).

Four measures of the economic activity and impact are included in this report:

- **Direct Effects** – The change in economic activity being analyzed—in this case:
 - The construction expenditures associated with the development of the Port Covington project.
 - The estimated employment in the Under Armour Headquarters Campus and of the tenants locating in the mixed-use portion of the development.
- **Indirect Effects** – The changes in inter-industry purchases, for example the purchase of construction materials by the developer or the purchase of goods and services by Under

Armour or other mixed-use tenant companies, in response to the change in demand from the directly affected industries.

- **Induced Effects** – The changes in spending from households as income and population increase due to changes in production.
- **Total Effects** – The combined total of direct, indirect, and induced effects.

Appendix A: Key City, Regional, and State Development Key Informants Interviewed

1. Mike Gill, Secretary Maryland Department of Business and Economic Development
2. Bill Cole, President and CEO, Baltimore Development Corporation
3. Tom Sadowski, President, Economic Alliance of Greater Baltimore
4. Kirby Fowler, President, Downtown Partnership of Baltimore
5. Bob Aydukovic, President, Maryland Center for Construction Education

Appendix B: Key Port Covington / Under Armour Key Informants Interviewed

1. Brad Dickerson, COO/CFO, Under Armour
2. Tom Geddes, Managing Partner, Kevin Plank Industries
3. Marc Weller, President, Sagamore Development Corporation
4. Demian Costa, Sagamore Innovation
5. Neil Jurgens, Vice President Global Corporate Real Estate & Campus at Under Armour
6. Brian E. Miller, Director, Corporate Real Estate, Under Armour

Appendix C: IMPLAN Estimated State and Local Government Revenue Impacts

Table C-1. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Construction of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$0.70	\$3.26	\$14.38	\$19.60	\$49.58	\$9.14	\$4.60	\$16.30	\$14.84	\$17.03	\$14.86	\$3.80	\$4.78	\$4.51	\$13.55	\$9.88	\$0.39	\$8.21	\$0.00	\$7.48	\$10.69	\$9.63	\$4.97
Dividends	\$0.00	\$0.00	\$0.01	\$0.01	\$0.02	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.00
Social Ins Tax- Employee Contribution	\$0.01	\$0.02	\$0.09	\$0.13	\$0.31	\$0.06	\$0.03	\$0.10	\$0.10	\$0.10	\$0.09	\$0.02	\$0.03	\$0.03	\$0.08	\$0.06	\$0.00	\$0.05	\$0.00	\$0.04	\$0.06	\$0.06	\$0.03
Social Ins Tax- Employer Contribution	\$0.01	\$0.04	\$0.18	\$0.25	\$0.60	\$0.12	\$0.06	\$0.19	\$0.19	\$0.20	\$0.17	\$0.05	\$0.06	\$0.06	\$0.16	\$0.12	\$0.00	\$0.09	\$0.00	\$0.08	\$0.12	\$0.11	\$0.05
Tax on Production and Imports: Sales Tax	\$0.18	\$0.95	\$4.18	\$5.60	\$14.50	\$2.62	\$1.33	\$4.75	\$4.35	\$4.96	\$4.36	\$1.12	\$1.41	\$1.33	\$3.94	\$2.88	\$0.11	\$2.38	\$0.00	\$2.17	\$3.11	\$2.80	\$1.45
Tax on Production and Imports: Property Tax	\$0.18	\$0.92	\$4.04	\$5.41	\$14.02	\$2.53	\$1.28	\$4.59	\$4.21	\$4.79	\$4.22	\$1.09	\$1.37	\$1.28	\$3.81	\$2.78	\$0.11	\$2.30	\$0.00	\$2.10	\$3.01	\$2.71	\$1.40
Tax on Production and Imports: Motor Vehicle Lic	\$0.00	\$0.02	\$0.09	\$0.12	\$0.31	\$0.06	\$0.03	\$0.10	\$0.09	\$0.10	\$0.09	\$0.02	\$0.03	\$0.03	\$0.08	\$0.06	\$0.00	\$0.05	\$0.00	\$0.05	\$0.07	\$0.06	\$0.03
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.03	\$0.14	\$0.61	\$0.81	\$2.11	\$0.38	\$0.19	\$0.69	\$0.63	\$0.72	\$0.63	\$0.16	\$0.21	\$0.19	\$0.57	\$0.42	\$0.02	\$0.35	\$0.00	\$0.32	\$0.45	\$0.41	\$0.21
Tax on Production and Imports: S/L NonTaxes	\$0.00	\$0.00	\$0.01	\$0.02	\$0.05	\$0.01	\$0.00	\$0.02	\$0.01	\$0.02	\$0.01	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.00	\$0.01	\$0.00	\$0.01	\$0.01	\$0.01	\$0.00
Corporate Profits Tax	\$0.01	\$0.05	\$0.20	\$0.28	\$0.68	\$0.12	\$0.07	\$0.24	\$0.19	\$0.25	\$0.20	\$0.04	\$0.06	\$0.05	\$0.20	\$0.15	\$0.00	\$0.13	\$0.00	\$0.12	\$0.16	\$0.15	\$0.08
Personal Tax: Income Tax	\$0.24	\$0.93	\$4.11	\$5.77	\$14.07	\$2.68	\$1.33	\$4.65	\$4.19	\$4.86	\$4.20	\$1.06	\$1.34	\$1.27	\$3.87	\$2.82	\$0.11	\$2.36	\$0.00	\$2.15	\$3.05	\$2.76	\$1.43
Personal Tax: NonTaxes (Fines- Fees)	\$0.04	\$0.15	\$0.67	\$0.95	\$2.31	\$0.44	\$0.22	\$0.76	\$0.69	\$0.80	\$0.69	\$0.17	\$0.22	\$0.21	\$0.63	\$0.46	\$0.02	\$0.39	\$0.00	\$0.35	\$0.50	\$0.45	\$0.23
Personal Tax: Motor Vehicle License	\$0.01	\$0.02	\$0.11	\$0.15	\$0.36	\$0.07	\$0.03	\$0.12	\$0.11	\$0.13	\$0.11	\$0.03	\$0.03	\$0.03	\$0.10	\$0.07	\$0.00	\$0.06	\$0.00	\$0.06	\$0.08	\$0.07	\$0.04
Personal Tax: Property Taxes	\$0.00	\$0.01	\$0.05	\$0.06	\$0.16	\$0.03	\$0.01	\$0.05	\$0.05	\$0.05	\$0.05	\$0.01	\$0.02	\$0.01	\$0.04	\$0.03	\$0.00	\$0.03	\$0.00	\$0.02	\$0.03	\$0.03	\$0.02
Personal Tax: Other Tax (Fish/Hunt)	\$0.00	\$0.01	\$0.02	\$0.03	\$0.08	\$0.01	\$0.01	\$0.03	\$0.02	\$0.03	\$0.02	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02	\$0.00	\$0.01	\$0.00	\$0.01	\$0.02	\$0.02	\$0.01

Table C-2. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Construction of the Mixed-Use Portion of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	0.70	1.13	5.64	9.33	41.59	3.71	2.80	11.00	8.11	11.32	11.34	0.00	0.75	0.40	9.31	6.57	0.00	8.21	0.00	7.48	10.69	9.63	4.97
Dividends	0.00	0.00	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00
Social Ins Tax- Employee Contribution	0.01	0.01	0.04	0.07	0.26	0.03	0.02	0.07	0.05	0.07	0.07	0.00	0.00	0.00	0.06	0.04	0.00	0.05	0.00	0.04	0.06	0.06	0.03
Social Ins Tax- Employer Contribution	0.01	0.01	0.07	0.13	0.50	0.05	0.04	0.13	0.10	0.13	0.13	0.00	0.01	0.01	0.11	0.07	0.00	0.09	0.00	0.08	0.12	0.11	0.05
Tax on Production and Imports: Sales Tax	0.18	0.32	1.60	2.56	12.14	1.01	0.79	3.18	2.36	3.27	3.32	0.00	0.22	0.11	2.69	1.90	0.00	2.38	0.00	2.17	3.11	2.80	1.45
Tax on Production and Imports: Property Tax	0.18	0.31	1.54	2.47	11.73	0.98	0.77	3.07	2.28	3.16	3.21	0.00	0.21	0.11	2.60	1.84	0.00	2.30	0.00	2.10	3.01	2.71	1.40
Tax on Production and Imports: Motor Vehicle Lic	0.00	0.01	0.03	0.05	0.26	0.02	0.02	0.07	0.05	0.07	0.07	0.00	0.00	0.00	0.06	0.04	0.00	0.05	0.00	0.05	0.07	0.06	0.03
Tax on Production and Imports: Severance Tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax on Production and Imports: Other Taxes	0.03	0.05	0.23	0.37	1.77	0.15	0.12	0.46	0.34	0.48	0.48	0.00	0.03	0.02	0.39	0.28	0.00	0.35	0.00	0.32	0.45	0.41	0.21
Tax on Production and Imports: S/L NonTaxes	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.00
Corporate Profits Tax	0.01	0.02	0.10	0.16	0.59	0.06	0.05	0.18	0.11	0.18	0.16	0.00	0.01	0.01	0.15	0.11	0.00	0.13	0.00	0.12	0.16	0.15	0.08
Personal Tax: Income Tax	0.24	0.33	1.67	2.91	11.84	1.16	0.83	3.17	2.31	3.27	3.22	0.00	0.21	0.12	2.69	1.90	0.00	2.36	0.00	2.15	3.05	2.76	1.43
Personal Tax: NonTaxes (Fines- Fees)	0.04	0.05	0.27	0.48	1.94	0.19	0.14	0.52	0.38	0.54	0.53	0.00	0.04	0.02	0.44	0.31	0.00	0.39	0.00	0.35	0.50	0.45	0.23
Personal Tax: Motor Vehicle License	0.01	0.01	0.04	0.08	0.31	0.03	0.02	0.08	0.06	0.08	0.08	0.00	0.01	0.00	0.07	0.05	0.00	0.06	0.00	0.06	0.08	0.07	0.04
Personal Tax: Property Taxes	0.00	0.00	0.02	0.03	0.13	0.01	0.01	0.04	0.03	0.04	0.04	0.00	0.00	0.00	0.03	0.02	0.00	0.03	0.00	0.02	0.03	0.03	0.02
Personal Tax: Other Tax (Fish/Hunt)	0.00	0.00	0.01	0.02	0.07	0.01	0.00	0.02	0.01	0.02	0.02	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.02	0.02	0.01

Table C-3: Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Construction of the Under Armour Campus Portion of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	\$0.00	\$2.13	\$8.74	\$10.27	\$7.99	\$5.44	\$1.80	\$5.30	\$6.73	\$5.71	\$3.52	\$3.80	\$4.03	\$4.11	\$4.23	\$3.31	\$0.39
Dividends	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Social Ins Tax- Employee Contribution	\$0.00	\$0.01	\$0.06	\$0.07	\$0.05	\$0.04	\$0.01	\$0.03	\$0.04	\$0.04	\$0.02	\$0.02	\$0.03	\$0.03	\$0.03	\$0.02	\$0.00
Social Ins Tax- Employer Contribution	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.1	\$0.1	\$0.05	\$0.04	\$0.00
Tax on Production and Imports: Sales Tax	\$0.0	\$0.6	\$2.6	\$3.0	\$2.4	\$1.6	\$0.5	\$1.6	\$2.0	\$1.7	\$1.0	\$1.1	\$1.2	\$1.2	\$1.25	\$0.98	\$0.11
Tax on Production and Imports: Property Tax	\$0.0	\$0.6	\$2.5	\$2.9	\$2.3	\$1.6	\$0.5	\$1.5	\$1.9	\$1.6	\$1.0	\$1.1	\$1.2	\$1.2	\$1.21	\$0.95	\$0.11
Tax on Production and Imports: Motor Vehicle Lic	\$0.0	\$0.0	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.03	\$0.02	\$0.00
Tax on Production and Imports: Severance Tax	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.0	\$0.1	\$0.4	\$0.4	\$0.3	\$0.2	\$0.1	\$0.2	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.2	\$0.18	\$0.14	\$0.02
Tax on Production and Imports: S/L NonTaxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.00	\$0.00	\$0.00
Corporate Profits Tax	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.05	\$0.04	\$0.00
Personal Tax: Income Tax	\$0.0	\$0.6	\$2.4	\$2.9	\$2.2	\$1.5	\$0.5	\$1.5	\$1.9	\$1.6	\$1.0	\$1.1	\$1.1	\$1.1	\$1.18	\$0.92	\$0.11
Personal Tax: NonTaxes (Fines- Fees)	\$0.0	\$0.1	\$0.4	\$0.5	\$0.4	\$0.2	\$0.1	\$0.2	\$0.3	\$0.3	\$0.2	\$0.2	\$0.2	\$0.2	\$0.19	\$0.15	\$0.02
Personal Tax: Motor Vehicle License	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.03	\$0.02	\$0.00
Personal Tax: Property Taxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.01	\$0.01	\$0.00
Personal Tax: Other Tax (Fish/Hunt)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.01	\$0.01	\$0.00

Table C-4: Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Mixed-Use Tenants and Under Armour Campus Operations Occurring in the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$6.89	\$34.60	\$35.59	\$43.11	\$76.49	\$101.01	\$105.26	\$120.27	\$124.52	\$131.88	\$161.11	\$169.36	\$182.34	\$186.58	\$192.52	\$197.99	\$197.99	\$200.35	\$200.35	\$202.24	\$205.72	\$209.35
Dividends	\$0.01	\$0.02	\$0.03	\$0.03	\$0.06	\$0.09	\$0.09	\$0.11	\$0.11	\$0.12	\$0.15	\$0.16	\$0.17	\$0.18	\$0.18	\$0.19	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20	\$0.20
Social Ins Tax- Employee Contribution	\$0.04	\$0.09	\$0.10	\$0.15	\$0.29	\$0.40	\$0.43	\$0.51	\$0.54	\$0.59	\$0.74	\$0.80	\$0.89	\$0.92	\$0.95	\$0.98	\$0.98	\$0.99	\$0.99	\$1.00	\$1.01	\$1.02
Social Ins Tax- Employer Contribution	\$0.08	\$0.18	\$0.19	\$0.29	\$0.56	\$0.78	\$0.84	\$0.99	\$1.05	\$1.14	\$1.44	\$1.55	\$1.72	\$1.77	\$1.84	\$1.90	\$1.90	\$1.92	\$1.92	\$1.93	\$1.95	\$1.97
Tax on Production and Imports: Sales Tax	\$1.89	\$13.27	\$13.54	\$15.58	\$27.06	\$34.56	\$35.72	\$40.34	\$41.50	\$43.66	\$52.48	\$54.72	\$58.35	\$59.50	\$61.31	\$62.91	\$62.91	\$63.79	\$63.79	\$64.49	\$65.81	\$67.17
Tax on Production and Imports: Property Tax	\$1.82	\$12.83	\$13.09	\$15.06	\$26.16	\$33.41	\$34.52	\$38.99	\$40.11	\$42.20	\$50.73	\$52.89	\$56.40	\$57.51	\$59.26	\$60.81	\$60.81	\$61.66	\$61.66	\$62.34	\$63.61	\$64.93
Tax on Production and Imports: Motor Vehicle Lic	\$0.04	\$0.28	\$0.29	\$0.33	\$0.57	\$0.73	\$0.75	\$0.85	\$0.87	\$0.92	\$1.11	\$1.15	\$1.23	\$1.25	\$1.29	\$1.32	\$1.32	\$1.34	\$1.34	\$1.36	\$1.39	\$1.41
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Tax on Production and Imports: Other Taxes	\$0.27	\$1.93	\$1.97	\$2.27	\$3.93	\$5.03	\$5.19	\$5.87	\$6.03	\$6.35	\$7.63	\$7.96	\$8.48	\$8.65	\$8.91	\$9.15	\$9.15	\$9.28	\$9.28	\$9.38	\$9.57	\$9.77
Tax on Production and Imports: S/L NonTaxes	\$0.01	\$0.04	\$0.05	\$0.05	\$0.09	\$0.12	\$0.12	\$0.14	\$0.14	\$0.15	\$0.18	\$0.18	\$0.20	\$0.20	\$0.21	\$0.21	\$0.21	\$0.21	\$0.21	\$0.22	\$0.22	\$0.23
Corporate Profits Tax	\$0.19	\$0.67	\$0.71	\$0.95	\$1.76	\$2.38	\$2.52	\$2.94	\$3.08	\$3.30	\$4.10	\$4.37	\$4.79	\$4.92	\$5.09	\$5.26	\$5.26	\$5.32	\$5.32	\$5.38	\$5.45	\$5.54
Personal Tax: Income Tax	\$2.11	\$4.37	\$4.67	\$6.96	\$13.26	\$19.49	\$20.78	\$24.47	\$25.76	\$27.73	\$35.28	\$37.78	\$41.54	\$42.82	\$44.32	\$45.78	\$45.78	\$46.11	\$46.11	\$46.38	\$46.84	\$47.33
Personal Tax: NonTaxes (Fines- Fees)	\$0.35	\$0.72	\$0.77	\$1.14	\$2.17	\$3.20	\$3.41	\$4.01	\$4.22	\$4.55	\$5.78	\$6.20	\$6.81	\$7.02	\$7.27	\$7.51	\$7.51	\$7.56	\$7.56	\$7.61	\$7.68	\$7.76
Personal Tax: Motor Vehicle License	\$0.05	\$0.11	\$0.12	\$0.18	\$0.34	\$0.50	\$0.54	\$0.63	\$0.66	\$0.72	\$0.91	\$0.98	\$1.07	\$1.11	\$1.14	\$1.18	\$1.18	\$1.19	\$1.19	\$1.20	\$1.21	\$1.22
Personal Tax: Property Taxes	\$0.02	\$0.05	\$0.05	\$0.08	\$0.15	\$0.22	\$0.23	\$0.27	\$0.29	\$0.31	\$0.40	\$0.42	\$0.47	\$0.48	\$0.50	\$0.51	\$0.51	\$0.52	\$0.52	\$0.52	\$0.53	\$0.53
Personal Tax: Other Tax (Fish/Hunt)	\$0.01	\$0.02	\$0.03	\$0.04	\$0.07	\$0.11	\$0.11	\$0.14	\$0.14	\$0.15	\$0.20	\$0.21	\$0.23	\$0.24	\$0.25	\$0.25	\$0.25	\$0.26	\$0.26	\$0.26	\$0.26	\$0.26

Table C-5. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Mixed-Use Tenant Operations Occurring in the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$6.89	\$27.66	\$27.66	\$27.66	\$50.12	\$73.04	\$73.04	\$80.23	\$80.23	\$81.82	\$100.09	\$100.09	\$101.28	\$101.28	\$102.97	\$104.21	\$104.21	\$106.57	\$106.57	\$108.46	\$111.94	\$115.57
Dividends	\$0.01	\$0.02	\$0.02	\$0.02	\$0.03	\$0.05	\$0.05	\$0.06	\$0.06	\$0.06	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08	\$0.09	\$0.09	\$0.09
Social Ins Tax- Employee Contribution	\$0.04	\$0.04	\$0.04	\$0.04	\$0.10	\$0.21	\$0.21	\$0.23	\$0.23	\$0.24	\$0.32	\$0.32	\$0.32	\$0.32	\$0.32	\$0.33	\$0.33	\$0.34	\$0.34	\$0.34	\$0.35	\$0.36
Social Ins Tax- Employer Contribution	\$0.1	\$0.1	\$0.08	\$0.08	\$0.20	\$0.40	\$0.40	\$0.45	\$0.45	\$0.46	\$0.61	\$0.61	\$0.62	\$0.62	\$0.63	\$0.64	\$0.64	\$0.65	\$0.65	\$0.66	\$0.68	\$0.70
Tax on Production and Imports: Sales Tax	\$1.9	\$11.4	\$11.40	\$11.40	\$19.91	\$26.98	\$26.98	\$29.48	\$29.48	\$30.08	\$35.92	\$35.92	\$36.35	\$36.35	\$37.01	\$37.46	\$37.46	\$38.34	\$38.34	\$39.04	\$40.36	\$41.72
Tax on Production and Imports: Property Tax	\$1.8	\$11.0	\$11.02	\$11.02	\$19.25	\$26.08	\$26.08	\$28.50	\$28.50	\$29.07	\$34.72	\$34.72	\$35.14	\$35.14	\$35.77	\$36.21	\$36.21	\$37.06	\$37.06	\$37.74	\$39.01	\$40.33
Tax on Production and Imports: Motor Vehicle Lic	\$0.0	\$0.2	\$0.24	\$0.24	\$0.42	\$0.57	\$0.57	\$0.62	\$0.62	\$0.63	\$0.76	\$0.76	\$0.77	\$0.77	\$0.78	\$0.79	\$0.79	\$0.81	\$0.81	\$0.82	\$0.85	\$0.88
Tax on Production and Imports: Severance Tax	\$0.0	\$0.0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.3	\$1.7	\$1.66	\$1.66	\$2.90	\$3.92	\$3.92	\$4.29	\$4.29	\$4.37	\$5.22	\$5.22	\$5.29	\$5.29	\$5.38	\$5.45	\$5.45	\$5.58	\$5.58	\$5.68	\$5.87	\$6.07
Tax on Production and Imports: S/L NonTaxes	\$0.0	\$0.0	\$0.04	\$0.04	\$0.07	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.14	\$0.14
Corporate Profits Tax	\$0.2	\$0.5	\$0.45	\$0.45	\$0.92	\$1.49	\$1.49	\$1.67	\$1.67	\$1.71	\$2.15	\$2.15	\$2.20	\$2.20	\$2.22	\$2.26	\$2.26	\$2.32	\$2.32	\$2.38	\$2.45	\$2.54
Personal Tax: Income Tax	\$2.1	\$2.3	\$2.26	\$2.26	\$5.23	\$10.98	\$10.98	\$12.29	\$12.29	\$12.51	\$16.73	\$16.73	\$16.90	\$16.90	\$17.12	\$17.30	\$17.30	\$17.62	\$17.62	\$17.89	\$18.35	\$18.85
Personal Tax: NonTaxes (Fines- Fees)	\$0.3	\$0.4	\$0.37	\$0.37	\$0.86	\$1.80	\$1.80	\$2.02	\$2.02	\$2.05	\$2.74	\$2.74	\$2.77	\$2.77	\$2.81	\$2.84	\$2.84	\$2.89	\$2.89	\$2.93	\$3.01	\$3.09
Personal Tax: Motor Vehicle License	\$0.1	\$0.1	\$0.06	\$0.06	\$0.14	\$0.28	\$0.28	\$0.32	\$0.32	\$0.32	\$0.43	\$0.43	\$0.44	\$0.44	\$0.44	\$0.45	\$0.45	\$0.45	\$0.45	\$0.46	\$0.47	\$0.49
Personal Tax: Property Taxes	\$0.0	\$0.0	\$0.03	\$0.03	\$0.06	\$0.12	\$0.12	\$0.14	\$0.14	\$0.14	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.19	\$0.20	\$0.20	\$0.20	\$0.21	\$0.21
Personal Tax: Other Tax (Fish/Hunt)	\$0.0	\$0.0	\$0.01	\$0.01	\$0.03	\$0.06	\$0.06	\$0.07	\$0.07	\$0.07	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10	\$0.10

Table C-6. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Baltimore City Impacts of the Under Armour Campus Portion of the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$0.00	\$6.93	\$7.93	\$15.45	\$26.37	\$27.97	\$32.22	\$40.04	\$44.28	\$50.05	\$61.03	\$69.28	\$81.07	\$85.31	\$89.54	\$93.78	\$93.78	\$93.78	\$93.78	\$93.78	\$93.78	\$93.78
Dividends	\$0.00	\$0.01	\$0.01	\$0.02	\$0.03	\$0.03	\$0.04	\$0.05	\$0.05	\$0.06	\$0.07	\$0.08	\$0.09	\$0.10	\$0.10	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11
Social Ins Tax- Employee Contribution	\$0.00	\$0.05	\$0.06	\$0.11	\$0.18	\$0.20	\$0.23	\$0.28	\$0.31	\$0.35	\$0.43	\$0.48	\$0.57	\$0.60	\$0.63	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66	\$0.66
Social Ins Tax- Employer Contribution	\$0.00	\$0.09	\$0.11	\$0.21	\$0.36	\$0.38	\$0.44	\$0.54	\$0.60	\$0.68	\$0.83	\$0.94	\$1.10	\$1.15	\$1.21	\$1.27	\$1.27	\$1.27	\$1.27	\$1.27	\$1.27	\$1.27
Tax on Production and Imports: Sales Tax	\$0.00	\$1.88	\$2.15	\$4.19	\$7.15	\$7.58	\$8.74	\$10.86	\$12.01	\$13.58	\$16.56	\$18.80	\$22.00	\$23.15	\$24.30	\$25.45	\$25.45	\$25.45	\$25.45	\$25.45	\$25.45	\$25.45
Tax on Production and Imports: Property Tax	\$0.00	\$1.81	\$2.08	\$4.05	\$6.91	\$7.33	\$8.44	\$10.50	\$11.61	\$13.12	\$16.00	\$18.17	\$21.26	\$22.38	\$23.49	\$24.60	\$24.60	\$24.60	\$24.60	\$24.60	\$24.60	\$24.60
Tax on Production and Imports: Motor Vehicle Lic	\$0.00	\$0.04	\$0.05	\$0.09	\$0.15	\$0.16	\$0.18	\$0.23	\$0.25	\$0.29	\$0.35	\$0.40	\$0.46	\$0.49	\$0.51	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54	\$0.54
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.00	\$0.27	\$0.31	\$0.61	\$1.04	\$1.10	\$1.27	\$1.58	\$1.75	\$1.97	\$2.41	\$2.73	\$3.20	\$3.37	\$3.53	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70	\$3.70
Tax on Production and Imports: S/L NonTaxes	\$0.00	\$0.01	\$0.01	\$0.01	\$0.02	\$0.03	\$0.03	\$0.04	\$0.04	\$0.05	\$0.06	\$0.06	\$0.07	\$0.08	\$0.08	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09	\$0.09
Corporate Profits Tax	\$0.00	\$0.22	\$0.25	\$0.49	\$0.84	\$0.89	\$1.03	\$1.28	\$1.41	\$1.60	\$1.95	\$2.21	\$2.59	\$2.73	\$2.86	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00
Personal Tax: Income Tax	\$0.00	\$2.11	\$2.42	\$4.70	\$8.03	\$8.51	\$9.80	\$12.18	\$13.47	\$15.22	\$18.55	\$21.05	\$24.64	\$25.92	\$27.20	\$28.49	\$28.49	\$28.49	\$28.49	\$28.49	\$28.49	\$28.49
Personal Tax: NonTaxes (Fines- Fees)	\$0.00	\$0.35	\$0.40	\$0.77	\$1.32	\$1.40	\$1.61	\$2.00	\$2.21	\$2.50	\$3.04	\$3.45	\$4.04	\$4.25	\$4.46	\$4.67	\$4.67	\$4.67	\$4.67	\$4.67	\$4.67	\$4.67
Personal Tax: Motor Vehicle License	\$0.00	\$0.05	\$0.06	\$0.12	\$0.21	\$0.22	\$0.25	\$0.31	\$0.35	\$0.39	\$0.48	\$0.54	\$0.64	\$0.67	\$0.70	\$0.74	\$0.74	\$0.74	\$0.74	\$0.74	\$0.74	\$0.74
Personal Tax: Property Taxes	\$0.00	\$0.02	\$0.03	\$0.05	\$0.09	\$0.10	\$0.11	\$0.14	\$0.15	\$0.17	\$0.21	\$0.24	\$0.28	\$0.29	\$0.31	\$0.32	\$0.32	\$0.32	\$0.32	\$0.32	\$0.32	\$0.32
Personal Tax: Other Tax (Fish/Hunt)	\$0.00	\$0.01	\$0.01	\$0.03	\$0.04	\$0.05	\$0.05	\$0.07	\$0.07	\$0.08	\$0.10	\$0.12	\$0.14	\$0.14	\$0.15	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16

Table C-7. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Construction of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$1.19	\$5.35	\$23.67	\$32.50	\$81.59	\$14.98	\$7.70	\$27.16	\$24.07	\$28.42	\$24.49	\$6.07	\$7.71	\$7.25	\$22.65	\$16.53	\$0.62	\$13.99	\$0.00	\$12.76	\$17.93	\$16.36	\$8.50
Dividends	\$0.00	\$0.00	\$0.02	\$0.02	\$0.05	\$0.01	\$0.01	\$0.02	\$0.01	\$0.02	\$0.02	\$0.00	\$0.00	\$0.00	\$0.02	\$0.01	\$0.00	\$0.01	\$0.00	\$0.01	\$0.01	\$0.01	\$0.01
Social Ins Tax- Employee Contribution	\$0.00	\$0.02	\$0.08	\$0.11	\$0.27	\$0.05	\$0.03	\$0.09	\$0.08	\$0.09	\$0.08	\$0.02	\$0.03	\$0.02	\$0.07	\$0.05	\$0.00	\$0.04	\$0.00	\$0.04	\$0.06	\$0.05	\$0.02
Social Ins Tax- Employer Contribution	\$0.01	\$0.04	\$0.16	\$0.22	\$0.52	\$0.10	\$0.05	\$0.17	\$0.16	\$0.17	\$0.15	\$0.04	\$0.05	\$0.05	\$0.14	\$0.10	\$0.00	\$0.08	\$0.00	\$0.07	\$0.11	\$0.09	\$0.05
Tax on Production and Imports: Sales Tax	\$0.32	\$1.57	\$6.94	\$9.40	\$24.04	\$4.33	\$2.25	\$8.01	\$7.07	\$8.39	\$7.25	\$1.79	\$2.28	\$2.14	\$6.68	\$4.88	\$0.18	\$4.14	\$0.00	\$3.78	\$5.30	\$4.85	\$2.52
Tax on Production and Imports: Property Tax	\$0.31	\$1.52	\$6.71	\$9.08	\$23.24	\$4.19	\$2.17	\$7.74	\$6.84	\$8.10	\$7.00	\$1.73	\$2.20	\$2.06	\$6.46	\$4.72	\$0.18	\$4.00	\$0.00	\$3.66	\$5.12	\$4.69	\$2.44
Tax on Production and Imports: Motor Vehicle Lic	\$0.01	\$0.03	\$0.15	\$0.20	\$0.51	\$0.09	\$0.05	\$0.17	\$0.15	\$0.18	\$0.15	\$0.04	\$0.05	\$0.04	\$0.14	\$0.10	\$0.00	\$0.09	\$0.00	\$0.08	\$0.11	\$0.10	\$0.05
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.05	\$0.23	\$1.01	\$1.37	\$3.50	\$0.63	\$0.33	\$1.16	\$1.03	\$1.22	\$1.05	\$0.26	\$0.33	\$0.31	\$0.97	\$0.71	\$0.03	\$0.60	\$0.00	\$0.55	\$0.77	\$0.71	\$0.37
Tax on Production and Imports: S/L NonTaxes	\$0.00	\$0.01	\$0.02	\$0.03	\$0.08	\$0.01	\$0.01	\$0.03	\$0.02	\$0.03	\$0.02	\$0.01	\$0.01	\$0.01	\$0.02	\$0.02	\$0.00	\$0.01	\$0.00	\$0.01	\$0.02	\$0.02	\$0.01
Corporate Profits Tax	\$0.02	\$0.09	\$0.42	\$0.58	\$1.41	\$0.25	\$0.14	\$0.49	\$0.40	\$0.52	\$0.42	\$0.09	\$0.12	\$0.11	\$0.41	\$0.30	\$0.01	\$0.27	\$0.00	\$0.25	\$0.33	\$0.31	\$0.16
Personal Tax: Income Tax	\$0.39	\$1.53	\$6.78	\$9.53	\$23.20	\$4.40	\$2.21	\$7.70	\$6.88	\$8.05	\$6.92	\$1.73	\$2.19	\$2.07	\$6.42	\$4.68	\$0.18	\$3.94	\$0.00	\$3.58	\$5.06	\$4.59	\$2.37
Personal Tax: NonTaxes (Fines- Fees)	\$0.06	\$0.25	\$1.09	\$1.54	\$3.74	\$0.71	\$0.36	\$1.24	\$1.11	\$1.30	\$1.12	\$0.28	\$0.35	\$0.33	\$1.03	\$0.75	\$0.03	\$0.63	\$0.00	\$0.58	\$0.82	\$0.74	\$0.38
Personal Tax: Motor Vehicle License	\$0.01	\$0.04	\$0.17	\$0.24	\$0.59	\$0.11	\$0.06	\$0.20	\$0.18	\$0.21	\$0.18	\$0.04	\$0.06	\$0.05	\$0.16	\$0.12	\$0.00	\$0.10	\$0.00	\$0.09	\$0.13	\$0.12	\$0.06
Personal Tax: Property Taxes	\$0.00	\$0.02	\$0.07	\$0.10	\$0.25	\$0.05	\$0.02	\$0.08	\$0.08	\$0.09	\$0.08	\$0.02	\$0.02	\$0.02	\$0.07	\$0.05	\$0.00	\$0.04	\$0.00	\$0.04	\$0.06	\$0.05	\$0.03
Personal Tax: Other Tax (Fish/Hunt)	\$0.00	\$0.01	\$0.06	\$0.08	\$0.19	\$0.04	\$0.02	\$0.06	\$0.06	\$0.07	\$0.06	\$0.01	\$0.02	\$0.02	\$0.05	\$0.04	\$0.00	\$0.03	\$0.00	\$0.03	\$0.04	\$0.04	\$0.02

Table C-8. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Construction of the Mixed-Use Portion of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	1.19	1.95	9.71	16.10	68.83	6.30	4.83	18.69	13.32	19.30	18.86	0.00	1.27	0.69	15.88	11.25	0.00	13.99	0.00	12.76	17.93	16.36	8.50
Dividends	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01
Social Ins Tax- Employee Contribution	0.00	0.01	0.03	0.06	0.22	0.02	0.02	0.06	0.05	0.06	0.06	0.00	0.00	0.00	0.05	0.03	0.00	0.04	0.00	0.04	0.06	0.05	0.02
Social Ins Tax- Employer Contribution	0.01	0.01	0.06	0.11	0.43	0.04	0.03	0.11	0.09	0.11	0.11	0.00	0.01	0.00	0.09	0.07	0.00	0.08	0.00	0.07	0.11	0.09	0.05
Tax on Production and Imports: Sales Tax	0.32	0.57	2.82	4.56	20.28	1.77	1.40	5.51	3.90	5.69	5.59	0.00	0.38	0.20	4.68	3.32	0.00	4.14	0.00	3.78	5.30	4.85	2.52
Tax on Production and Imports: Property Tax	0.31	0.55	2.73	4.41	19.60	1.71	1.36	5.33	3.77	5.50	5.40	0.00	0.36	0.19	4.53	3.21	0.00	4.00	0.00	3.66	5.12	4.69	2.44
Tax on Production and Imports: Motor Vehicle Lic	0.01	0.01	0.06	0.10	0.43	0.04	0.03	0.12	0.08	0.12	0.12	0.00	0.01	0.00	0.10	0.07	0.00	0.09	0.00	0.08	0.11	0.10	0.05
Tax on Production and Imports: Severance Tax	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tax on Production and Imports: Other Taxes	0.05	0.08	0.41	0.66	2.95	0.26	0.20	0.80	0.57	0.83	0.81	0.00	0.05	0.03	0.68	0.48	0.00	0.60	0.00	0.55	0.77	0.71	0.37
Tax on Production and Imports: S/L NonTaxes	0.00	0.00	0.01	0.02	0.07	0.01	0.00	0.02	0.01	0.02	0.02	0.00	0.00	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.02	0.02	0.01
Corporate Profits Tax	0.02	0.04	0.20	0.33	1.22	0.12	0.10	0.36	0.23	0.38	0.34	0.00	0.02	0.01	0.31	0.22	0.00	0.27	0.00	0.25	0.33	0.31	0.16
Personal Tax: Income Tax	0.39	0.56	2.80	4.85	19.56	1.93	1.39	5.29	3.82	5.45	5.31	0.00	0.35	0.20	4.49	3.17	0.00	3.94	0.00	3.58	5.06	4.59	2.37
Personal Tax: NonTaxes (Fines- Fees)	0.06	0.09	0.45	0.78	3.15	0.31	0.22	0.85	0.62	0.88	0.86	0.00	0.06	0.03	0.72	0.51	0.00	0.63	0.00	0.58	0.82	0.74	0.38
Personal Tax: Motor Vehicle License	0.01	0.01	0.07	0.12	0.50	0.05	0.04	0.14	0.10	0.14	0.14	0.00	0.01	0.01	0.11	0.08	0.00	0.10	0.00	0.09	0.13	0.12	0.06
Personal Tax: Property Taxes	0.00	0.01	0.03	0.05	0.21	0.02	0.02	0.06	0.04	0.06	0.06	0.00	0.00	0.00	0.05	0.03	0.00	0.04	0.00	0.04	0.06	0.05	0.03
Personal Tax: Other Tax (Fish/Hunt)	0.00	0.00	0.02	0.04	0.16	0.02	0.01	0.04	0.03	0.04	0.04	0.00	0.00	0.00	0.04	0.03	0.00	0.03	0.00	0.03	0.04	0.04	0.02

Table C-9. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Construction of the Under Armour Campus Portion of the Port Covington Project

Item	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Total	\$0.00	\$3.40	\$13.96	\$16.40	\$12.76	\$8.68	\$2.87	\$8.47	\$10.75	\$9.13	\$5.63	\$6.07	\$6.45	\$6.56	\$6.76	\$5.28	\$0.62
Dividends	\$0.00	\$0.00	\$0.01	\$0.01	\$0.01	\$0.00	\$0.00	\$0.00	\$0.01	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Social Ins Tax- Employee Contribution	\$0.00	\$0.01	\$0.05	\$0.06	\$0.04	\$0.03	\$0.01	\$0.03	\$0.04	\$0.03	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.02	\$0.00
Social Ins Tax- Employer Contribution	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.04	\$0.03	\$0.00
Tax on Production and Imports: Sales Tax	\$0.0	\$1.0	\$4.1	\$4.8	\$3.8	\$2.6	\$0.8	\$2.5	\$3.2	\$2.7	\$1.7	\$1.8	\$1.9	\$1.9	\$1.99	\$1.56	\$0.18
Tax on Production and Imports: Property Tax	\$0.0	\$1.0	\$4.0	\$4.7	\$3.6	\$2.5	\$0.8	\$2.4	\$3.1	\$2.6	\$1.6	\$1.7	\$1.8	\$1.9	\$1.93	\$1.50	\$0.18
Tax on Production and Imports: Motor Vehicle Lic	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.04	\$0.03	\$0.00
Tax on Production and Imports: Severance Tax	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.0	\$0.1	\$0.6	\$0.7	\$0.5	\$0.4	\$0.1	\$0.4	\$0.5	\$0.4	\$0.2	\$0.3	\$0.3	\$0.3	\$0.29	\$0.23	\$0.03
Tax on Production and Imports: S/L NonTaxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.01	\$0.01	\$0.00
Corporate Profits Tax	\$0.0	\$0.1	\$0.2	\$0.3	\$0.2	\$0.1	\$0.0	\$0.1	\$0.2	\$0.1	\$0.1	\$0.1	\$0.1	\$0.1	\$0.10	\$0.08	\$0.01
Personal Tax: Income Tax	\$0.0	\$1.0	\$4.0	\$4.7	\$3.6	\$2.5	\$0.8	\$2.4	\$3.1	\$2.6	\$1.6	\$1.7	\$1.8	\$1.9	\$1.93	\$1.51	\$0.18
Personal Tax: NonTaxes (Fines- Fees)	\$0.0	\$0.2	\$0.6	\$0.8	\$0.6	\$0.4	\$0.1	\$0.4	\$0.5	\$0.4	\$0.3	\$0.3	\$0.3	\$0.3	\$0.31	\$0.24	\$0.03
Personal Tax: Motor Vehicle License	\$0.0	\$0.0	\$0.1	\$0.1	\$0.1	\$0.1	\$0.0	\$0.1	\$0.1	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.05	\$0.04	\$0.00
Personal Tax: Property Taxes	\$0.0	\$0.0	\$0.0	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.02	\$0.02	\$0.00
Personal Tax: Other Tax (Fish/Hunt)	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.02	\$0.01	\$0.00

Table C-10. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Mixed-Use Tenants and Under Armour Campus Operations Occurring in the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$10.18	\$43.53	\$45.12	\$57.18	\$104.17	\$135.86	\$142.66	\$165.41	\$172.20	\$183.86	\$225.36	\$238.58	\$258.61	\$265.40	\$275.42	\$284.29	\$284.29	\$287.98	\$287.98	\$291.08	\$296.11	\$301.61
Dividends	\$0.01	\$0.03	\$0.03	\$0.05	\$0.09	\$0.12	\$0.13	\$0.15	\$0.16	\$0.17	\$0.21	\$0.23	\$0.25	\$0.26	\$0.27	\$0.28	\$0.28	\$0.28	\$0.28	\$0.29	\$0.29	\$0.30
Social Ins Tax- Employee Contribution	\$0.04	\$0.08	\$0.09	\$0.14	\$0.26	\$0.35	\$0.38	\$0.45	\$0.48	\$0.52	\$0.65	\$0.70	\$0.78	\$0.81	\$0.84	\$0.87	\$0.87	\$0.88	\$0.88	\$0.88	\$0.89	\$0.90
Social Ins Tax- Employer Contribution	\$0.07	\$0.16	\$0.17	\$0.27	\$0.50	\$0.68	\$0.73	\$0.87	\$0.93	\$1.00	\$1.26	\$1.36	\$1.51	\$1.56	\$1.62	\$1.68	\$1.68	\$1.70	\$1.70	\$1.71	\$1.73	\$1.75
Tax on Production and Imports: Sales Tax	\$2.75	\$15.74	\$16.16	\$19.36	\$34.70	\$44.29	\$46.10	\$52.89	\$54.69	\$58.01	\$70.24	\$73.75	\$79.16	\$80.96	\$83.93	\$86.47	\$86.47	\$87.79	\$87.79	\$88.90	\$90.71	\$92.68
Tax on Production and Imports: Property Tax	\$2.66	\$15.21	\$15.62	\$18.71	\$33.54	\$42.81	\$44.56	\$51.12	\$52.86	\$56.07	\$67.89	\$71.28	\$76.52	\$78.26	\$81.12	\$83.58	\$83.58	\$84.85	\$84.85	\$85.92	\$87.67	\$89.58
Tax on Production and Imports: Motor Vehicle Lic	\$0.06	\$0.33	\$0.34	\$0.41	\$0.73	\$0.93	\$0.97	\$1.11	\$1.15	\$1.22	\$1.48	\$1.55	\$1.67	\$1.71	\$1.77	\$1.82	\$1.82	\$1.85	\$1.85	\$1.87	\$1.91	\$1.95
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.40	\$2.29	\$2.35	\$2.81	\$5.05	\$6.44	\$6.70	\$7.69	\$7.95	\$8.44	\$10.21	\$10.72	\$11.51	\$11.77	\$12.20	\$12.57	\$12.57	\$12.77	\$12.77	\$12.93	\$13.19	\$13.48
Tax on Production and Imports: S/L NonTaxes	\$0.01	\$0.05	\$0.05	\$0.07	\$0.12	\$0.15	\$0.16	\$0.18	\$0.18	\$0.20	\$0.24	\$0.25	\$0.27	\$0.27	\$0.28	\$0.29	\$0.29	\$0.30	\$0.30	\$0.30	\$0.31	\$0.31
Corporate Profits Tax	\$0.29	\$0.91	\$0.96	\$1.32	\$2.52	\$3.35	\$3.56	\$4.21	\$4.41	\$4.76	\$5.91	\$6.31	\$6.93	\$7.14	\$7.41	\$7.68	\$7.68	\$7.78	\$7.78	\$7.87	\$7.99	\$8.14
Personal Tax: Income Tax	\$3.22	\$7.23	\$7.74	\$11.65	\$22.11	\$30.44	\$32.65	\$38.75	\$40.94	\$44.34	\$55.77	\$60.05	\$66.34	\$68.54	\$71.28	\$73.83	\$73.83	\$74.45	\$74.45	\$74.97	\$75.81	\$76.72
Personal Tax: NonTaxes (Fines- Fees)	\$0.52	\$1.17	\$1.25	\$1.88	\$3.56	\$4.91	\$5.26	\$6.25	\$6.60	\$7.15	\$8.99	\$9.68	\$10.70	\$11.05	\$11.49	\$11.90	\$11.90	\$12.00	\$12.00	\$12.09	\$12.22	\$12.37
Personal Tax: Motor Vehicle License	\$0.08	\$0.19	\$0.20	\$0.30	\$0.57	\$0.78	\$0.84	\$0.99	\$1.05	\$1.14	\$1.43	\$1.54	\$1.70	\$1.76	\$1.83	\$1.89	\$1.89	\$1.91	\$1.91	\$1.92	\$1.94	\$1.97
Personal Tax: Property Taxes	\$0.04	\$0.08	\$0.08	\$0.13	\$0.24	\$0.33	\$0.36	\$0.42	\$0.45	\$0.49	\$0.61	\$0.66	\$0.73	\$0.75	\$0.78	\$0.81	\$0.81	\$0.82	\$0.82	\$0.82	\$0.83	\$0.84
Personal Tax: Other Tax (Fish/Hunt)	\$0.03	\$0.06	\$0.06	\$0.10	\$0.18	\$0.25	\$0.27	\$0.32	\$0.34	\$0.37	\$0.46	\$0.50	\$0.55	\$0.57	\$0.59	\$0.61	\$0.61	\$0.61	\$0.61	\$0.62	\$0.63	\$0.63

Table C- 11. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Mixed-Use Tenant Operations Occurring in the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$10.18	\$32.41	\$32.41	\$32.41	\$61.89	\$91.02	\$91.02	\$101.23	\$101.23	\$103.64	\$127.56	\$127.56	\$128.70	\$128.70	\$131.93	\$134.03	\$134.03	\$137.71	\$137.71	\$140.82	\$145.85	\$151.34
Dividends	\$0.01	\$0.02	\$0.02	\$0.02	\$0.05	\$0.07	\$0.07	\$0.08	\$0.08	\$0.08	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.13	\$0.13
Social Ins Tax- Employee Contribution	\$0.04	\$0.04	\$0.04	\$0.04	\$0.09	\$0.18	\$0.18	\$0.20	\$0.20	\$0.20	\$0.27	\$0.27	\$0.27	\$0.27	\$0.27	\$0.28	\$0.28	\$0.29	\$0.29	\$0.29	\$0.30	\$0.31
Social Ins Tax- Employer Contribution	\$0.1	\$0.1	\$0.08	\$0.08	\$0.18	\$0.34	\$0.34	\$0.38	\$0.38	\$0.39	\$0.51	\$0.51	\$0.52	\$0.52	\$0.53	\$0.54	\$0.54	\$0.55	\$0.55	\$0.56	\$0.58	\$0.60
Tax on Production and Imports: Sales Tax	\$2.8	\$12.8	\$12.79	\$12.79	\$23.50	\$32.41	\$32.41	\$35.88	\$35.88	\$36.74	\$44.31	\$44.31	\$44.71	\$44.71	\$45.88	\$46.62	\$46.62	\$47.94	\$47.94	\$49.04	\$50.85	\$52.82
Tax on Production and Imports: Property Tax	\$2.7	\$12.4	\$12.37	\$12.37	\$22.71	\$31.33	\$31.33	\$34.68	\$34.68	\$35.51	\$42.83	\$42.83	\$43.22	\$43.22	\$44.34	\$45.06	\$45.06	\$46.33	\$46.33	\$47.40	\$49.15	\$51.05
Tax on Production and Imports: Motor Vehicle Lic	\$0.1	\$0.3	\$0.27	\$0.27	\$0.49	\$0.68	\$0.68	\$0.76	\$0.76	\$0.77	\$0.93	\$0.93	\$0.94	\$0.94	\$0.97	\$0.98	\$0.98	\$1.01	\$1.01	\$1.03	\$1.07	\$1.11
Tax on Production and Imports: Severance Tax	\$0.0	\$0.0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.4	\$1.9	\$1.86	\$1.86	\$3.42	\$4.71	\$4.71	\$5.22	\$5.22	\$5.34	\$6.44	\$6.44	\$6.50	\$6.50	\$6.67	\$6.78	\$6.78	\$6.97	\$6.97	\$7.13	\$7.39	\$7.68
Tax on Production and Imports: S/L NonTaxes	\$0.0	\$0.0	\$0.04	\$0.04	\$0.08	\$0.11	\$0.11	\$0.12	\$0.12	\$0.12	\$0.15	\$0.15	\$0.15	\$0.15	\$0.15	\$0.16	\$0.16	\$0.16	\$0.16	\$0.16	\$0.17	\$0.18
Corporate Profits Tax	\$0.3	\$0.6	\$0.57	\$0.57	\$1.24	\$2.00	\$2.00	\$2.27	\$2.27	\$2.33	\$2.95	\$2.95	\$3.00	\$3.00	\$3.07	\$3.13	\$3.13	\$3.23	\$3.23	\$3.32	\$3.45	\$3.59
Personal Tax: Income Tax	\$3.2	\$3.6	\$3.62	\$3.62	\$8.40	\$15.91	\$15.91	\$17.95	\$17.95	\$18.36	\$24.10	\$24.10	\$24.28	\$24.28	\$24.83	\$25.18	\$25.18	\$25.80	\$25.80	\$26.33	\$27.16	\$28.08
Personal Tax: NonTaxes (Fines- Fees)	\$0.5	\$0.6	\$0.58	\$0.58	\$1.35	\$2.57	\$2.57	\$2.89	\$2.89	\$2.96	\$3.89	\$3.89	\$3.91	\$3.91	\$4.00	\$4.06	\$4.06	\$4.16	\$4.16	\$4.24	\$4.38	\$4.53
Personal Tax: Motor Vehicle License	\$0.1	\$0.1	\$0.09	\$0.09	\$0.22	\$0.41	\$0.41	\$0.46	\$0.46	\$0.47	\$0.62	\$0.62	\$0.62	\$0.62	\$0.64	\$0.65	\$0.65	\$0.66	\$0.66	\$0.67	\$0.70	\$0.72
Personal Tax: Property Taxes	\$0.0	\$0.0	\$0.04	\$0.04	\$0.09	\$0.17	\$0.17	\$0.20	\$0.20	\$0.20	\$0.26	\$0.26	\$0.27	\$0.27	\$0.27	\$0.28	\$0.28	\$0.28	\$0.28	\$0.29	\$0.30	\$0.31
Personal Tax: Other Tax (Fish/Hunt)	\$0.0	\$0.0	\$0.03	\$0.03	\$0.07	\$0.13	\$0.13	\$0.15	\$0.15	\$0.15	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.21	\$0.21	\$0.21	\$0.21	\$0.22	\$0.22	\$0.23

Table C-12. Total IMPLAN Estimated State and Local Government Revenues, By Source, By Year Associated with the Maryland Impacts of the Under Armour Campus Portion of the Port Covington Project

Item	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Total	\$0.00	\$11.12	\$12.71	\$24.77	\$42.28	\$44.84	\$51.64	\$64.18	\$70.97	\$80.22	\$97.80	\$111.02	\$129.91	\$136.70	\$143.48	\$150.26	\$150.26	\$150.26	\$150.26	\$150.26	\$150.26	\$150.26
Dividends	\$0.00	\$0.01	\$0.01	\$0.03	\$0.05	\$0.05	\$0.06	\$0.07	\$0.08	\$0.09	\$0.11	\$0.12	\$0.14	\$0.15	\$0.16	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17	\$0.17
Social Ins Tax- Employee Contribution	\$0.00	\$0.04	\$0.05	\$0.10	\$0.17	\$0.18	\$0.20	\$0.25	\$0.28	\$0.32	\$0.39	\$0.44	\$0.51	\$0.54	\$0.57	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59	\$0.59
Social Ins Tax- Employer Contribution	\$0.00	\$0.08	\$0.10	\$0.19	\$0.32	\$0.34	\$0.39	\$0.49	\$0.54	\$0.61	\$0.75	\$0.85	\$0.99	\$1.04	\$1.09	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15	\$1.15
Tax on Production and Imports: Sales Tax	\$0.00	\$2.94	\$3.37	\$6.56	\$11.20	\$11.88	\$13.69	\$17.01	\$18.82	\$21.27	\$25.93	\$29.44	\$34.45	\$36.25	\$38.05	\$39.85	\$39.85	\$39.85	\$39.85	\$39.85	\$39.85	\$39.85
Tax on Production and Imports: Property Tax	\$0.00	\$2.85	\$3.25	\$6.34	\$10.83	\$11.49	\$13.23	\$16.44	\$18.19	\$20.56	\$25.07	\$28.45	\$33.30	\$35.04	\$36.78	\$38.52	\$38.52	\$38.52	\$38.52	\$38.52	\$38.52	\$38.52
Tax on Production and Imports: Motor Vehicle Lic	\$0.00	\$0.06	\$0.07	\$0.14	\$0.24	\$0.25	\$0.29	\$0.36	\$0.40	\$0.45	\$0.55	\$0.62	\$0.73	\$0.76	\$0.80	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84	\$0.84
Tax on Production and Imports: Severance Tax	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Tax on Production and Imports: Other Taxes	\$0.00	\$0.43	\$0.49	\$0.95	\$1.63	\$1.73	\$1.99	\$2.47	\$2.74	\$3.09	\$3.77	\$4.28	\$5.01	\$5.27	\$5.53	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80	\$5.80
Tax on Production and Imports: S/L NonTaxes	\$0.00	\$0.01	\$0.01	\$0.02	\$0.04	\$0.04	\$0.05	\$0.06	\$0.06	\$0.07	\$0.09	\$0.10	\$0.12	\$0.12	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13	\$0.13
Corporate Profits Tax	\$0.00	\$0.34	\$0.38	\$0.75	\$1.28	\$1.36	\$1.56	\$1.94	\$2.15	\$2.43	\$2.96	\$3.36	\$3.93	\$4.14	\$4.34	\$4.55	\$4.55	\$4.55	\$4.55	\$4.55	\$4.55	\$4.55
Personal Tax: Income Tax	\$0.00	\$3.61	\$4.12	\$8.03	\$13.71	\$14.53	\$16.74	\$20.79	\$22.99	\$25.98	\$31.67	\$35.95	\$42.07	\$44.26	\$46.45	\$48.64	\$48.64	\$48.64	\$48.64	\$48.64	\$48.64	\$48.64
Personal Tax: NonTaxes (Fines- Fees)	\$0.00	\$0.58	\$0.66	\$1.30	\$2.21	\$2.34	\$2.70	\$3.35	\$3.71	\$4.19	\$5.11	\$5.80	\$6.78	\$7.14	\$7.49	\$7.84	\$7.84	\$7.84	\$7.84	\$7.84	\$7.84	\$7.84
Personal Tax: Motor Vehicle License	\$0.00	\$0.09	\$0.11	\$0.21	\$0.35	\$0.37	\$0.43	\$0.53	\$0.59	\$0.67	\$0.81	\$0.92	\$1.08	\$1.13	\$1.19	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25	\$1.25
Personal Tax: Property Taxes	\$0.00	\$0.04	\$0.05	\$0.09	\$0.15	\$0.16	\$0.18	\$0.23	\$0.25	\$0.28	\$0.35	\$0.39	\$0.46	\$0.49	\$0.51	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53	\$0.53
Personal Tax: Other Tax (Fish/Hunt)	\$0.00	\$0.03	\$0.03	\$0.07	\$0.11	\$0.12	\$0.14	\$0.17	\$0.19	\$0.21	\$0.26	\$0.30	\$0.35	\$0.36	\$0.38	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40	\$0.40