TOPIC: Amazon HQ2 – USM Workforce Report

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: Thursday November 9, 2017

SUMMARY: Regent Attman will share the information presented at the last Committee Meeting and review the summary information prepared on behalf of the State’s Amazon Headquarters bids.

ALTERNATIVE(S): Informational Item

FISCAL IMPACT: There is no fiscal impact

CHANCELLOR’S RECOMMENDATION:

COMMITTEE RECOMMENDATION: Informational DATE: Nov 9, 2017

BOARD ACTION: DATE:

SUBMITTED BY: Tom Sadowski (410) 576-5742
The University System of Maryland (USM)  
Response to Amazon HQ2 RFP

The University System of Maryland (USM) is the workforce engine of the State of Maryland, offering a full array of degree programs. There are over 170,000 students enrolled at 12 degree-granting institutions, regional higher education centers and online. Over 40,000 degrees and certificates are awarded at the undergraduate and graduate level each year. Nearly 80% of USM undergraduates remain in Maryland after receiving their degree to pursue their careers.

USM leverages its outstanding academic programs; leading-edge research; and a wealth of business resources and services to develop the talent and ideas that help drive Maryland’s economy. Our innovative curricula—including those in business, management, cybersecurity, the life sciences, information technology, and the health sciences—prepare students for the workplace and attract world-class faculty and researchers. USM institutions routinely partner with federal agencies, industry and in global research initiatives to enhance innovation, knowledge and develop best practices. USM helps organizations of all sizes—from startups to established corporations—improve their products and performance.

The tables below present the most recent enrollment figures as well as the total degrees granted, which grew by 3% from FY 2015 to FY 2017.

### USM Enrollment (Fall 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Undergraduate</th>
<th>Graduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowie</td>
<td>4,711</td>
<td>958</td>
<td>5,669</td>
</tr>
<tr>
<td>Coppin</td>
<td>2,507</td>
<td>432</td>
<td>2,939</td>
</tr>
<tr>
<td>Frostburg</td>
<td>4,884</td>
<td>792</td>
<td>5,676</td>
</tr>
<tr>
<td>Salisbury</td>
<td>7,861</td>
<td>887</td>
<td>8,748</td>
</tr>
<tr>
<td>Towson</td>
<td>19,198</td>
<td>3,145</td>
<td>22,343</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>3,222</td>
<td>2,761</td>
<td>5,983</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>905</td>
<td>5,577</td>
<td>6,482</td>
</tr>
<tr>
<td>University of Maryland, Baltimore County</td>
<td>11,142</td>
<td>2,498</td>
<td>13,640</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>28,472</td>
<td>10,611</td>
<td>39,083</td>
</tr>
<tr>
<td>University of Maryland Eastern Shore</td>
<td>3,277</td>
<td>627</td>
<td>3,904</td>
</tr>
<tr>
<td>University of Maryland, University College</td>
<td>44,219</td>
<td>13,310</td>
<td>57,529</td>
</tr>
<tr>
<td><strong>USM Total</strong></td>
<td><strong>130,398</strong></td>
<td><strong>41,598</strong></td>
<td><strong>171,996</strong></td>
</tr>
</tbody>
</table>
USM Degree Production (FY 2015 - FY 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Bachelor</th>
<th>Graduate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowie</td>
<td>2,346</td>
<td>981</td>
<td>3,327</td>
</tr>
<tr>
<td>Coppin</td>
<td>1,301</td>
<td>232</td>
<td>1,533</td>
</tr>
<tr>
<td>Frostburg</td>
<td>3,056</td>
<td>742</td>
<td>3,798</td>
</tr>
<tr>
<td>Salisbury</td>
<td>5,943</td>
<td>851</td>
<td>6,794</td>
</tr>
<tr>
<td>Towson</td>
<td>13,478</td>
<td>3,082</td>
<td>16,560</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>2,170</td>
<td>2,378</td>
<td>4,548</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>1,148</td>
<td>5,073</td>
<td>6,221</td>
</tr>
<tr>
<td>University of Maryland, Baltimore County</td>
<td>7,524</td>
<td>2,261</td>
<td>9,785</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>21,711</td>
<td>10,140</td>
<td>31,851</td>
</tr>
<tr>
<td>University of Maryland Eastern Shore</td>
<td>1,665</td>
<td>497</td>
<td>2,162</td>
</tr>
<tr>
<td>University of Maryland, University College</td>
<td>16,761</td>
<td>11,268</td>
<td>28,029</td>
</tr>
<tr>
<td>USM Total</td>
<td>77,103</td>
<td>37,505</td>
<td>114,608</td>
</tr>
</tbody>
</table>

STEM – Developing the talent driving our economic future

Increasing STEM degrees at the baccalaureate level has been a key priority. Since FY 2015, the number of degrees awarded has increased 9%, contributing to a 91.5% increase in STEM degrees awarded since 2009. USM is on pace to generate nearly-7,000 new STEM graduates each year.

USM Bachelor Degrees Awarded in STEM (FY 2015 - FY 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>FY 2015</th>
<th>FY 2016</th>
<th>FY 2017</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowie</td>
<td>96</td>
<td>101</td>
<td>93</td>
<td>-3%</td>
</tr>
<tr>
<td>Coppin</td>
<td>22</td>
<td>25</td>
<td>31</td>
<td>41%</td>
</tr>
<tr>
<td>Frostburg</td>
<td>136</td>
<td>132</td>
<td>155</td>
<td>14%</td>
</tr>
<tr>
<td>Salisbury</td>
<td>291</td>
<td>282</td>
<td>269</td>
<td>-8%</td>
</tr>
<tr>
<td>Towson</td>
<td>530</td>
<td>556</td>
<td>610</td>
<td>15%</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>86</td>
<td>74</td>
<td>75</td>
<td>-13%</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>University of Maryland, Baltimore County</td>
<td>1103</td>
<td>1,223</td>
<td>1,234</td>
<td>12%</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>2235</td>
<td>2,326</td>
<td>2,399</td>
<td>7%</td>
</tr>
<tr>
<td>University of Maryland Eastern Shore</td>
<td>122</td>
<td>143</td>
<td>103</td>
<td>-16%</td>
</tr>
<tr>
<td>University of Maryland, University College</td>
<td>1550</td>
<td>1,579</td>
<td>1,774</td>
<td>14%</td>
</tr>
<tr>
<td>USM Total</td>
<td>6,171</td>
<td>6,441</td>
<td>6,743</td>
<td>9%</td>
</tr>
</tbody>
</table>
Growing a Diverse and Dynamic Workforce, in Maryland and beyond

The University System of Maryland develops Maryland’s workforce, offering world-class programming at its institutions, regional education centers and online with more than 170,000 enrolled—reaching more than 84,000 students in over 20 countries and territories around the world. Its comprehensive online institution, the University of Maryland University College (UMUC), is one of the largest providers of educational services and programming to the U.S. military for the past 70-years, with more than 55,000 veteran alumni.

The following tables highlight key workforce areas of strategic interest to Amazon. At the undergraduate level, the degrees produced in STEM, Cyber Security, Health Professions, Accounting, Business & Management (All Areas), Computer Science (All Areas), Engineering (All Areas), and the specific programs of Computer Programming and Electrical Engineering are displayed. At the graduate level, the graduate degrees of all Business & Management programs (including MBA or Executive MBA), Law, Public Administration, and Medical or Health Professions (e.g., Doctors, Surgeons, Dentists, and Nurses) are displayed in the second table.

### USM Bachelor Degree Production in Key Workforce Areas (FY 2015 - FY 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>STEM</th>
<th>Health Professions</th>
<th>Cyber - Security</th>
<th>Accounting</th>
<th>All Business &amp; Management (General)</th>
<th>Computer Programming or Electrical Engineering (General)</th>
<th>All Computer Science (General)</th>
<th>All Engineering (General)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowie</td>
<td>290</td>
<td>248</td>
<td>144</td>
<td>-</td>
<td>366</td>
<td>-</td>
<td>128</td>
<td>-</td>
</tr>
<tr>
<td>Coppin</td>
<td>78</td>
<td>298</td>
<td>31</td>
<td>26</td>
<td>114</td>
<td>-</td>
<td>24</td>
<td>-</td>
</tr>
<tr>
<td>Frostburg</td>
<td>423</td>
<td>397</td>
<td>172</td>
<td>82</td>
<td>389</td>
<td>-</td>
<td>152</td>
<td>80</td>
</tr>
<tr>
<td>Salisbury</td>
<td>842</td>
<td>421</td>
<td>359</td>
<td>203</td>
<td>955</td>
<td>-</td>
<td>262</td>
<td>-</td>
</tr>
<tr>
<td>Towson</td>
<td>1,696</td>
<td>1,777</td>
<td>816</td>
<td>458</td>
<td>1,933</td>
<td>-</td>
<td>678</td>
<td>-</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>235</td>
<td>-</td>
<td>208</td>
<td>-</td>
<td>956</td>
<td>-</td>
<td>208</td>
<td>-</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>-</td>
<td>1,148</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>University of Maryland, Baltimore County</td>
<td>3,560</td>
<td>344</td>
<td>1,425</td>
<td>-</td>
<td>30</td>
<td>-</td>
<td>1,209</td>
<td>601</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>6,960</td>
<td>482</td>
<td>2,018</td>
<td>910</td>
<td>3,008</td>
<td>385</td>
<td>1,244</td>
<td>2,918</td>
</tr>
<tr>
<td>University of Maryland Eastern Shore</td>
<td>368</td>
<td>117</td>
<td>57</td>
<td>46</td>
<td>326</td>
<td>-</td>
<td>42</td>
<td>102</td>
</tr>
<tr>
<td>University of Maryland, University College</td>
<td>4,903</td>
<td>427</td>
<td>4,998</td>
<td>863</td>
<td>6,211</td>
<td>-</td>
<td>4,798</td>
<td>50</td>
</tr>
<tr>
<td>USM Total</td>
<td>19,355</td>
<td>5,659</td>
<td>10,228</td>
<td>2,588</td>
<td>14,288</td>
<td>385</td>
<td>8,745</td>
<td>3,751</td>
</tr>
</tbody>
</table>
USM Graduate Degree Production in Key Workforce Areas
(FY 2015 - FY 2017)

<table>
<thead>
<tr>
<th>Institution</th>
<th>Business &amp; Management (General)</th>
<th>Law (General)</th>
<th>Public Administration</th>
<th>Medical &amp; Health Professions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bowie</td>
<td>44</td>
<td>-</td>
<td>92</td>
<td>118</td>
</tr>
<tr>
<td>Coppin</td>
<td>38</td>
<td>-</td>
<td>-</td>
<td>40</td>
</tr>
<tr>
<td>Frostburg</td>
<td>234</td>
<td>-</td>
<td>-</td>
<td>12</td>
</tr>
<tr>
<td>Salisbury</td>
<td>97</td>
<td>-</td>
<td>-</td>
<td>19</td>
</tr>
<tr>
<td>Towson</td>
<td>169</td>
<td>-</td>
<td>-</td>
<td>679</td>
</tr>
<tr>
<td>University of Baltimore</td>
<td>664</td>
<td>927</td>
<td>244</td>
<td>-</td>
</tr>
<tr>
<td>University of Maryland, Baltimore</td>
<td>-</td>
<td>740</td>
<td>-</td>
<td>2741</td>
</tr>
<tr>
<td>University of Maryland, Baltimore County</td>
<td>136</td>
<td>-</td>
<td>-</td>
<td>30</td>
</tr>
<tr>
<td>University of Maryland, College Park</td>
<td>2563</td>
<td>-</td>
<td>86</td>
<td>361</td>
</tr>
<tr>
<td>University of Maryland, Eastern Shore</td>
<td>-</td>
<td>-</td>
<td>283</td>
<td></td>
</tr>
<tr>
<td>University of Maryland, University College</td>
<td>7308</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>USM Total</td>
<td>11,253</td>
<td>1,667</td>
<td>422</td>
<td>4,283</td>
</tr>
</tbody>
</table>

Serving the Entire State of Maryland

Inclusive of the enrollment and degree production highlighted, there are three USM Regional Centers where region-specific education and training needs are met in partnership with local employers and community colleges. In addition, research facilities have been developed at the Universities at Shady Grove in the areas of cyber, bio-health and bio-manufacturing. A new USM facility at the Southern Maryland Higher Education Center is dedicated to advancing autonomous systems and robotics technology.

USM Higher Education Regional Centers

**Universities at Shady Grove**
3,783 Enrolled
Located in Montgomery County Health Science Technology Corridor
Participants: Bowie; Salisbury; Towson; UMB; UMBC; UMCP; UMES; UMUC
Offers Upper-Division Bachelor Completion and Graduate Program in the areas of STEM; Business, Social Sciences, Health Professions; Education

**Southern Maryland Higher Education Center**
383 Enrolled
Located in St. Mary’s County near Patuxent Naval Air Base, adjacent to private airport and UMCP Autonomous Systems Test Center
Participants: Bowie, Salisbury, Towson, UMCP, UMUC
Offers Upper-Division Bachelor Completion and Graduate Program in the areas of Engineering, Business, Social Sciences, Health Professions; Education

**University System of Maryland at Hagerstown**
479 Enrolled
Located in Washington County
Participants: Frostburg, Salisbury, Towson; UMES; UMUC
Offers Upper-Division Bachelor Completion and Graduate Program in the areas of Business, Social Sciences, Health Professions; Education