DEMONSTRATING THE ECONOMIC VALUE OF NORTH CAROLINA A&T STATE UNIVERSITY TO THE PIEDMONT TRIAD AND THE STATE OF NORTH CAROLINA
NORTH CAROLINA AGRICULTURAL AND TECHNICAL STATE UNIVERSITY (N.C. A&T) is a public, doctoral/research, 1890 land-grant institution committed to exemplary teaching and learning, scholarly and creative research, and effective engagement and public service. With a diverse offering of educational and research opportunities available on the undergraduate and graduate levels in traditional and web-based environments, N.C. A&T improves higher education delivery statewide, regionally and globally by preparing high achieving, right-fit students for the careers of tomorrow. Throughout its history, N.C. A&T has maintained a rich tradition of academics, research and community outreach.

With an emphasis on preeminence in science, technology, engineering and mathematics ($STEM), N.C. A&T offers a climate of economic competitiveness. As a leading producer of African American and women engineers on the undergraduate level and a leading producer of certified public accountants, N.C. A&T’s hallowed halls have become sought-after destinations to select the next generation of change agents and global leaders for small businesses and Fortune 500 companies alike.
The purpose of this analysis is to assess the impact of N.C. A&T on the state economy, defined as the counties of Guilford, Forsyth, Alamance, Rockingham and Randolph. The analysis also looks at the benefits generated for students, North Carolina as a whole, and taxpayers. Our analysis shows that in FY 2012-13, the $259.5 million in payroll and operations spending of N.C. A&T, together with its construction spending and the spending of its students, visitors, alumni and start-up companies, created $656.2 MILLION in added regional income. This is equal to approximately 1.0% of the total Gross Regional Product of the Piedmont Triad, and is equivalent to creating 10,682 new jobs.

Impact ON THE REGIONAL BUSINESS COMMUNITY

During the analysis year, FY 2012-13, N.C. A&T spent $161.9 MILLION on payroll and benefits for 2,955 full-time and part-time employees, and spent another $97.6 million on goods and services to carry out its day-to-day operations and research. This initial round of spending creates more spending across other businesses throughout the regional economy, resulting in the commonly referred to multiplier effects. We estimate these multiplier effects in this study and report the additional economic activity that is created by the initial spending of N.C. A&T. Impacts are reported in terms of total income, which is analogous to Gross Regional Product, and the corresponding number of jobs created.

*NOTE:* Our estimated economic impacts are conservative in that we directly take into account the fact that state and local dollars spent on the university could have been spent elsewhere in North Carolina if not directed toward N.C. A&T, and thus would have created some economic impacts regardless. We account for these alternative uses of funds directly in our analysis by (i) assuming that if funds were not directed to N.C. A&T, they would have been returned to the taxpayer and generate economic impacts through household spending on goods and services, and (ii) subtracting the estimated economic impacts generated by this alternative use of funds from the estimated economic impacts of N.C. A&T. Thus, we report a net impact of N.C. A&T that is above and beyond what would have occurred had the funds been returned to the taxpayer.
**Operations spending impact**

Payroll and non-pay expenditures to support day-to-day operations (less research) of N.C. A&T amounted to **$143.4 MILLION** and **$82.1 MILLION**, respectively. The net impact of the university’s operations spending in the Piedmont Triad during the analysis year was approximately **$197.5 MILLION** in added regional income, which is equivalent to creating **3,257** jobs.

**Research spending impact**

Research activities of N.C. A&T impact the regional economy by employing people and making purchases for equipment, supplies and services. They also facilitate new knowledge creation throughout the Piedmont Triad through inventions, patent applications and licenses. In FY 2012-13, N.C. A&T spent **$18.5 MILLION** on payroll to support research activities.

Research spending of N.C. A&T generates **$30.2 MILLION** in added regional income for the Piedmont Triad economy, which is equivalent to creating **512** new jobs.

**Construction spending impact**

N.C. A&T built or renovated a number of its facilities during the analysis year. This spending generated a short-term infusion of income and jobs in the regional economy.

The net impact of the university’s construction spending in FY 2012-13 was **$1.9 MILLION** in added regional income, equivalent to **47** new jobs.

**Business start-up impact**

N.C. A&T creates an exceptional environment that fosters innovation and entrepreneurship, evidenced by the number of start-up companies related to N.C. A&T in the region. In FY 2012-13, start-up companies related to the university created **$1.1 MILLION** in added regional income for the Piedmont Triad economy, which is equivalent to creating **11** jobs.

**These economic impacts break down as follows:**

<table>
<thead>
<tr>
<th>INCOME</th>
<th>JOBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$197.5 MILLION</td>
<td>3,257</td>
</tr>
<tr>
<td>$30.2 MILLION</td>
<td>512</td>
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<tr>
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<tr>
<td>$46.6 MILLION</td>
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<td>$39.8 MILLION</td>
<td>1,034</td>
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<tr>
<td>$339.2 MILLION</td>
<td>4,973</td>
</tr>
<tr>
<td>$656.2 MILLION</td>
<td>10,682</td>
</tr>
</tbody>
</table>

**Total impact**

**Intellectual Property Created by N.C. A&T**

<table>
<thead>
<tr>
<th>Inventorships</th>
<th>Patent Applications</th>
<th>Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-10</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>2010-11</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>2011-12</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>2012-13</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>33</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>
Student spending impact

Around 62% of graduate and undergraduate students attending N.C. A&T originated from outside the region. Some of these students relocated to the Piedmont Triad and spent money on groceries, transportation, rent and so on at Piedmont Triad businesses.

The expenditures of students who relocated to the region during the analysis year added approximately $46.6 MILLION in regional income for the Piedmont Triad economy, which is equivalent to creating 847 new jobs.

Visitor spending impact

Out-of-region visitors attracted to the Piedmont Triad for activities at N.C. A&T brought new dollars to the economy through their spending at hotels, restaurants, gas stations and other regional businesses.

Visitor spending added approximately $39.8 MILLION in regional income for the Piedmont Triad economy, which is equivalent to creating 1,034 new jobs.

Alumni impact

Over the years, students gained new skills, making them more productive workers, by studying at N.C. A&T. Today, thousands of these former students are employed in the Piedmont Triad.

The accumulated contribution of former N.C. A&T students currently employed in the Piedmont Triad workforce amounted to $339.2 MILLION in added regional income to the Piedmont Triad economy, which is equivalent to creating 4,973 new jobs.

created the equivalent of 10,682 new jobs
RETURN ON INVESTMENT TO STUDENTS, SOCIETY AND TAXPAYERS

**Student perspective**

Students attending N.C. A&T during FY 2012-13 paid a total of $60.9 MILLION to cover the cost of tuition, fees, books and supplies. They also forwent $151.4 MILLION in money that they would have earned had they been working instead of learning.

In return for the money students invest to earn their degrees, they will receive a present value of $770.1 MILLION in estimated increased earnings over their working lives.

This translates to a return of $3.60 in higher future income for every $1 that students invest in their N.C. A&T education. The average annual return for students is **14.4%**.

**Societal perspective**

North Carolina as a whole will receive a present value of $3.7 BILLION in added state income over the course of the students’ working lives. Communities will also benefit from $623.4 MILLION in present value social savings related to reduced crime, lower unemployment and increased health and well-being across the state.

For every dollar that society spent on educations at N.C. A&T during the analysis year, North Carolina communities will receive a cumulative value of $10.30 in benefits, for as long as the 2012-13 students of N.C. A&T remain active in the state workforce.

**Taxpayer perspective**

In FY 2012-13, state and local taxpayers in North Carolina invested $110.5 MILLION to support the operations of N.C. A&T. The net present value of the added tax revenue stemming from the students’ higher lifetime incomes and the increased output of businesses amounts to $358.5 MILLION in benefits to taxpayers. Savings to the public sector add another $111 MILLION in benefits due to a reduced demand for government-funded services in North Carolina.

Dividing benefits to taxpayers by the associated costs yields a 4.2 benefit-cost ratio, i.e., every $1 in costs returns $4.20 in benefits. The average annual return on investment for taxpayers is **12.1%**.
North Carolina Agricultural and Technical State University is a public, land-grant, doctoral-research university and a constituent institution of The University of North Carolina system.

North Carolina Agricultural and Technical State University is an ADA/EEO and ADA compliant institution.

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This study was conducted by Economic Modeling Specialists International (EMSI). Any errors in the report are the responsibility of EMSI.