THE ECONOMIC AND COMMUNITY IMPACTS OF THE UNIVERSITY OF VERMONT

October 2016

PREPARED BY:

Tripp Umbach
Research • Strategy • Impact

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ECONOMIC DRIVER TO THE STATE OF VERMONT

The University of Vermont directly or indirectly impacts residents throughout the state by means of organizational spending, employment opportunities, government revenue generated from spending, research activities, and visitor spending in the region (i.e., retail, food services, cultural events, etc.). The University of Vermont generates the following impacts on an annual basis to the State of Vermont.

INNOVATIVE RESEARCH IMPACTS

In FY14, UVM reported approximately $128 million in research and educational grants and contracts, 84 percent of which were from out-of-state sources. The university’s research operations make tangible and quantifiable economic contributions to the state. Along with creating jobs for research staff and support personnel, UVM scientists are contributing to new product development and technology commercialization. The research activity at The University of Vermont generated the following impacts (a subset of the overall impacts).

EDUCATING HEALTH CARE LEADERS OF THE FUTURE

The University of Vermont Medical Center, in partnership with The University of Vermont College of Medicine and College of Nursing and Health Sciences form the state’s only academic medical center. The academic medical center educates the health care professionals of the future and contributes to growing the health care workforce in the region.

The University of Vermont College of Medicine Economic Impacts

- In fiscal year 2014, The University of Vermont College of Medicine directly and indirectly generated $403.3 million in economic impact to the State of Vermont, directly and indirectly supported 2,616 jobs in the state, and generated more than $18.8 million in state and local government revenue impact.

The University of Vermont College of Nursing and Health Sciences Economic Impacts

- In fiscal year 2014, The University of Vermont College of Nursing and Health Sciences directly and indirectly generated $38.2 million in economic impact to the State of Vermont, directly and indirectly supported 419 jobs in the state, and generated more than $2.8 million in state and local government revenue impact.
ECONOMIC IMPACT STUDY BACKGROUND

Tripp Umbach was retained by The University of Vermont to measure the economic, employment, and government revenue impacts of operations and research of The University of Vermont throughout the State of Vermont. In addition to the economically-related impacts (dollars to the economy, employment, and taxes), the university generates additional impacts by means of its presence (business support, higher earning power for graduates, and community impacts). The impact that The University of Vermont has on the vitality of the region and state includes the following elements:

- Business volume impacts (capital expenditures, operational expenditures, salary data, and state and regional business volumes)
- The direct and indirect/induced employment impacts of the university
- The government revenue impact of UVM at the local and state levels
- The impact of spending by employees and students in the local economy on goods and services
- The impact of visitor spending on the economy (wage premiums, job creation, etc.)

This report also quantifies additional community impacts on the region served by the university, including:

- The economic impact of out-of-state research funding (including research commercialization, patents and licensing, and business spinoffs)
- The impact that university employees and students have on the community through donations and volunteer work
- The impact of university alumni on the economy (wage premiums, job creation, etc.)
The University of Vermont (UVM) is a powerhouse for economic and community activity across the State of Vermont. The University of Vermont attracts faculty, researchers, staff, and students from across the entire United States as well as internationally, to teach and learn at the top-tier university. Through an in-depth impact analysis process, Tripp Umbach has quantified the economic, employment, government revenue, and community impacts of The University of Vermont in the following report.

UVM directly employs more than 4,400 individuals and has a current student enrollment of approximately 12,500 students. Students come to UVM from all 50 states, the District of Columbia, and more than 80 foreign countries. The University of Vermont offers the balance between feeling small enough to recognize fellow students and faculty on campus while also being large enough to meet someone new everyday.

The University of Vermont directly or indirectly impacts residents throughout the state by means of organizational spending, employment opportunities, government revenue generated from spending, research activities, and visitor spending in the region (i.e., retail, food services, cultural events, etc.). The University of Vermont generates the following impacts on an annual basis to the State of Vermont:

**Economic Impact**

The University of Vermont affects business volume in Vermont in three ways:

1. Direct expenditures for goods and services by the university, its faculty, staff, students, and visitors. This spending supports local businesses, which in turn employ local individuals to sell the goods and provide the services that university constituencies need.
2. Indirect spending within the State of Vermont. The businesses that receive direct payments re-spend this money within the state, creating the need for even more jobs.
3. Induced spending by households either directly employed by The University of Vermont or its suppliers create a third tier of impact.
In FY14, the overall economic impact of The University of Vermont on the State of Vermont amounted to more than $1.33 billion annually ($562.1 million in direct impact and $770.6 million in indirect and induced impact). In other words, in FY14, The University of Vermont directly spent more than $562 million in the State of Vermont on items such as goods, supplies, vendors, construction, maintenance, and events. As a result of this spending by the university—vendors, local retailers, construction companies, suppliers, and local hospitality organizations were able to produce and spend dollars in the economy of Vermont (indirect and induced economic impact). The combined impacts of the spending by The University of Vermont as well as the re-spending of dollars by local vendors and suppliers of goods and services comprises the total economic impact of the university, amounting to more than $1.33 billion.

Industries impacted by the UVM’s spending range from the real estate market to insurance companies, financial institutions, legal services, and the hospitality industry.

**Employment Impact**

The University of Vermont employs individuals in a variety of fields, from teaching and research faculty to staff in administration and other offices. The University of Vermont is the third largest employer in the State of Vermont, directly employing more than 4,400 faculty, staff, and students. These jobs translate into spending that supports additional jobs (indirect and induced jobs) throughout the region and state.
In fiscal year 2014, the total employment impact that The University of Vermont had on the State of Vermont was **11,287 jobs**. These jobs (both full-time and part-time) include not only direct employment by the university, but also indirect and induced jobs created by supply and equipment vendors, contractors and laborers for the construction and renovation of university facilities, and jobs created in the community at hotels, restaurants and retail stores in support of the university’s workforce and its visitors.

The University of Vermont supports thousands of jobs statewide in virtually every sector of the economy, such as construction, business and professional services, restaurants and hotels, information technology, security, and temporary employment companies. These indirect/induced jobs (6,866 jobs) support the more than 4,400 jobs held by Vermonters directly employed by the university.

**State and Local Government Revenue Impact**

It is a common misperception that public universities do not generate tax revenue. State and local government revenues attributable to the presence of The University of Vermont totaled more than **$78.2 million** in FY14. Through its local spending (economic impact), as well as direct and indirect support of jobs (employment impact), a multitude of tax dollars are generated that contribute to the state and local tax base. As a result of the presence of UVM, faculty, staff, students and visitors travel to Vermont to pursue their educational path and in doing so spend dollars in the economy that in turn generate taxes.

The table below outlines the specific categories of tax revenue generation that The University of Vermont contributes to state and local governmental entities.
### THE UNIVERSITY OF VERMONT STATE AND LOCAL TAX REVENUE IMPACT, 2014

<table>
<thead>
<tr>
<th>Description</th>
<th>Employee Compensation</th>
<th>Tax on Production and Imports</th>
<th>Households</th>
<th>Corporations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dividends</td>
<td>$368,961</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Ins Tax- Employee Contribution</td>
<td>$167,523</td>
<td></td>
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</tr>
<tr>
<td>Social Ins Tax- Employer Contribution</td>
<td>$323,879</td>
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</tr>
<tr>
<td>Tax on Production and Imports: Sales Tax</td>
<td></td>
<td>$25,064,762</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Property Tax*</td>
<td></td>
<td>$33,327,756</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Motor Vehicle Lic</td>
<td></td>
<td>$652,960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: Other Taxes</td>
<td></td>
<td>$1,579,305</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax on Production and Imports: S/L NonTaxes</td>
<td></td>
<td>$137,213</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate Profits Tax</td>
<td></td>
<td></td>
<td></td>
<td>$2,700,492</td>
</tr>
<tr>
<td>Personal Tax: Income Tax</td>
<td></td>
<td></td>
<td>$10,853,172</td>
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</tr>
<tr>
<td>Personal Tax: NonTaxes (Fines- Fees)</td>
<td></td>
<td></td>
<td>$1,438,600</td>
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<tr>
<td>Personal Tax: Motor Vehicle License</td>
<td></td>
<td></td>
<td>$763,714</td>
<td></td>
</tr>
<tr>
<td>Personal Tax: Property Taxes**</td>
<td></td>
<td></td>
<td>$368,288</td>
<td></td>
</tr>
<tr>
<td>Personal Tax: Other Tax (Fish/Hunt)</td>
<td></td>
<td></td>
<td>$482,192</td>
<td></td>
</tr>
<tr>
<td>Total State and Local Tax</td>
<td>$491,402</td>
<td>$60,761,996</td>
<td>$13,905,966</td>
<td>$3,069,453</td>
</tr>
</tbody>
</table>

TOTAL: $78,228,817

*Includes both the taxes on commercial and private properties.

**Includes household personal property tax payments; dividend, interest, and rental income of persons with capital consumption adjustment; taxes on personal income, and in states where applicable, luxury items (such as a yacht tax).
The University of Vermont College of Medicine and College of Nursing and Health Sciences Impacts

The University of Vermont has nationally ranked educational programming at its College of Medicine and its College of Nursing and Health Sciences. The University is in close proximity to its major clinical site, The University of Vermont Medical Center (UVMMC). The University of Vermont Medical Center, in partnership with The University of Vermont College of Medicine and College of Nursing and Health Sciences form the state’s only academic medical center. The academic medical center educates the health care professionals of the future and contributes to growing the physician workforce in the region. While related to The University of Vermont Health Network, The University of Vermont College of Medicine and College of Nursing and Health Sciences also generate their own independent economic, employment, and tax revenue impacts.

The following economic, employment, and state government revenue impacts are those of the College of Medicine and the College of Nursing and Health Sciences independent of The University of Vermont Health Network or The University of Vermont Medical Center.

The University of Vermont College of Medicine Economic Impacts

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THE UNIVERSITY OF VERMONT RESEARCH IMPACT

In FY14, UVM reported approximately $128 million in research and educational grants and contracts, 84 percent of which were from out-of-state sources. The university’s research operations make tangible and quantifiable economic contributions to the state. Along with creating jobs for research staff and support personnel, UVM scientists are contributing to new product development and technology commercialization.

As a result of research activity and spending by The University of Vermont, there are economic, employment, and government revenue impacts generated in the region and state that would otherwise not be present if not for the significant research activity of the university. In FY14, more than $157.9 million was generated in the State of Vermont as a result of the research activity at UVM. The employment impact of the innovative research occurring at UVM supported 809 jobs throughout the state. Additionally, $5.3 million was generated in state and local government revenue attributed solely to the research activities of the university.

The economic, employment, and state and local government revenues generated by the research dollars spent by The University of Vermont also create another valuable asset – intellectual property. The Office of Technology Commercialization is the steward of these intellectual assets created in the course of academic research at UVM through the commercialization process. Through groundbreaking innovations by faculty, researchers, students of UVM, and regional licensing partners, the companies that have spun-off of UVM research activities span a variety of industries – health care, environmental services, simulation, horticulture, energy, and many more. A sub-set of some of these Vermont based companies includes the following:

- Apollo Biosciences, LLC
- BioMosaics, Inc.
- Costa Enterprises Ltd. Co.
- E.A.S.Y. LLC
- Leader Evaporator, Inc.
- MicroGen
- MHISSION Translational Services
- Patient Engagement Systems®
- Vermont Natural Coatings
- Visible Electrophysiology
THE UNIVERSITY OF VERMONT COMMUNITY BENEFIT IMPACT

When Ira Allen chartered and founded the University of Vermont in 1791, he made the astute observation that no state could prosper without educating its citizens. Centuries later, UVM maintains that educating Vermonters and providing service to the state are among its top priorities. Faculty, staff, and students of The University of Vermont choose to go beyond the boundaries of the campus and make a difference in the community.

The University of Vermont, its employees, and students are all active players in the community through community service, local fund raising, and cultural events. Looking across volunteer hours, as well as donations made to the community, UVM is a significant provider of community outreach and support, with impacts felt throughout the state. In fiscal year 2014, it is estimated that faculty, staff, and students provided a community impact of $15 million. The presence of the university is felt through donations made to community organizations such as the United Way or YMCA, as well as time donated for volunteer activities such as Habitat for Humanity or tutoring services for adolescents.

THE UNIVERSITY OF VERMONT STUDENT AND ALUMNI IMPACT

The impacts generated by The University of Vermont also do not occur in a vacuum. Students educated at the university are able to apply their knowledge throughout the state and country in a variety of ways to bring economic value to the regions in which they work. On average, the university graduates more than 2,900 students across their undergraduate and graduate programs every year.

<table>
<thead>
<tr>
<th>SALARY COMPARISON BY DEGREE TYPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Diploma: $32,552</td>
</tr>
<tr>
<td>Bachelor’s Degree: $53,300</td>
</tr>
<tr>
<td>Graduate Degree: $69,056</td>
</tr>
</tbody>
</table>

The University of Vermont is a talent magnet. By educating students, UVM adds to the talent pool of human capital in Vermont, New England, and the country. A UVM degree increases a graduate’s value, productivity and earning potential in the job market. Based on data on median annual earnings for university graduates in 2008 from the U.S. Department of Commerce’s Bureau of Economic Analysis, a bachelor’s degree earned at a university increases a graduate's salary by an average of $20,748 a year compared with a high school graduate’s...
salary (from $32,552 to $53,300), while a graduate degree earned at a university increases a graduate's salary, when compared to a bachelor's degree, by an average of $15,756 a year (from $53,300 to $69,056). Considering the average individual’s work life is roughly 40 years, the benefit of earning a college degree provides about $829,920 more in total lifetime wages over an individual whose education stopped after earning a high school diploma.

UVM does exceedingly well in retaining students to apply their education within the state. In academic year 2014, 31% of the undergraduate class were Vermont residents and 69% originated from outside of Vermont. In the same year, there were a total of 520 undergraduate Vermonters (64%) who remained in the state post-graduation to work and 497 out-of-state students (33%) who remained in the state to work. In total, the UVM undergraduate class of 2014-15 produced 1,017 individuals that have stayed in Vermont and are impacting the local and statewide economies every day.

Applying the standards of increased earning power outlined above, UVM graduates generated an additional $21.1 million in increased earning power within the state of Vermont. It is important to note that this is but one cohort of UVM graduates, and includes only those who received bachelor’s degrees. Those receiving advanced degrees certainly add to the salary impacts in Vermont, but there is not relevant data available at this time measuring how many of these students remain in Vermont after graduation. This increase in employment and earning power throughout the state is repeated year after year. Added together, approximately 32,000 UVM graduates live and work in Vermont, generating beneficial impacts every day that may otherwise have gone elsewhere. These are in addition to the impacts of the university’s operations and are not included in the overall numbers quantified in this study.

In addition to the increased earning power throughout the state, UVM alumni also generate impacts through the creation and development of new businesses in the region, providing employment opportunities for future alumni, volunteer work, cultural offerings, and educating the students of the future. These impacts are not quantified in this study, but they are important contributors to the health of the state’s economy.
ECONOMIC IMPACT STUDY CONCLUSIONS

Universities are significant generators of impact to the regions and states in which they operate. The University of Vermont provides traditional economic, employment, and government revenue impacts via institutional and employee spending across the state. The university provides a variety of high-quality employment opportunities to local residents and the employment of these individuals helps to support further employment throughout the state by way of employee spending. Every day, families, students, local residents and others make their way to campus for the plethora of events and activities on campus. These visitors to the region provide a substantial amount of impact to local restaurants, hotels/motels, and cultural events. In addition to these impacts, The University of Vermont provides impacts to the area and state by means of community involvement, volunteer work, donations to local non-profits, and cultural offerings.

- The University of Vermont, in fiscal year 2014, generated more than $1.33 billion in economic impact to the State of Vermont.
- More than 11,287 jobs were supported in FY14 throughout the State of Vermont either directly or indirectly as a result of the operations of The University of Vermont, the students it brings to the region, and friends and families visiting the region.
- The University of Vermont generated more than $78.2 million in state and local government revenue in fiscal year 2014 (dollars going back into the region).
- Faculty, staff, and students generate impacts to the state and region through community volunteer work and dollars donated to non-profits. In fiscal year 2014, the community benefit impact of faculty, staff, and students was $15 million.

With a strong focus on research, The University of Vermont generates both tangible and intangible impacts to the region. The University of Vermont stays true to its land-grant mission while also conducting groundbreaking research across many industries. Innovative research in the health care fields as well as applied research in the regional agriculture industries provides faculty, students, patients of local health care providers, and local residents access to innovative technologies and methodologies in their care and in their everyday lives. In FY14, UVM research activity generated $157.9 million in economic impact, supported 809 jobs, and generated $5.3 million in state and local government revenue impact.

The University of Vermont has an international reputation, attracting faculty, students and researchers from across the country and internationally. 225 years after its conception, UVM continues to fulfill its land-grant mission of providing education to Vermonters while also exploring globally impactful new discoveries. The impacts of UVM are far-reaching and continue to grow and support the future.
### APPENDIX A. DEFINITION OF TERMS

<table>
<thead>
<tr>
<th>Study Year</th>
<th>Fiscal Year 2014, FY14, July 1, 2013 – June 30, 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Economic Impact</td>
<td>The total impact of an organization is a compilation of the direct impact, the indirect impact, and the induced impact generated in the economy as a result of the organization.</td>
</tr>
<tr>
<td>Direct Economic Impact</td>
<td>Direct impact includes all direct effects the organization has on the region due to the organization’s operations. These include direct employees, organizational spending, employee spending, and spending by patients and visitors to the organization.</td>
</tr>
<tr>
<td>Indirect Economic Impact</td>
<td>The indirect impact includes the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money is spent outside of the local economy, either through imports or by payments to value added.</td>
</tr>
<tr>
<td>Induced Economic Impact</td>
<td>The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN’s default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not lost to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.</td>
</tr>
<tr>
<td>Multiplier Effect</td>
<td>The multiplier effect is the additional economic impact created as a result of the organization’s direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier.</td>
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<tr>
<td>-------------------------</td>
<td>------------------------------------------------------------------</td>
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<tr>
<td><strong>Government Revenue</strong></td>
<td>Government revenue that is collected by governmental units in</td>
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<td></td>
<td>addition to those paid directly by an organization, including</td>
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<td></td>
<td>taxes paid directly by employees of the organization, visitors</td>
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<td></td>
<td>to the organization, and vendors who sell products to the</td>
</tr>
<tr>
<td></td>
<td>organization.</td>
</tr>
<tr>
<td><strong>Direct Employment</strong></td>
<td>Total number of employees, both full-time and part-time, at</td>
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<tr>
<td></td>
<td>the organization based, on total jobs. Total headcount of</td>
</tr>
<tr>
<td></td>
<td>individuals that receive a paycheck from the organization.</td>
</tr>
<tr>
<td><strong>Indirect Employment</strong></td>
<td>Indirect employment is the additional jobs created as a result</td>
</tr>
<tr>
<td></td>
<td>of the organization’s economic impact. Local companies that</td>
</tr>
<tr>
<td></td>
<td>provide goods and services to an organization increase their</td>
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<td></td>
<td>number of employees as purchasing increases, thus creating an</td>
</tr>
<tr>
<td></td>
<td>employment multiplier.</td>
</tr>
</tbody>
</table>
APPENDIX B. METHODOLOGY

This economic impact analysis measures the effect of direct and indirect/induced business volume and government revenue impacts for all of UVM’s operations throughout Vermont. The methodology employed in the calculation of these impacts is IMPLAN. Primary data utilized to conduct the analysis was collected from The University of Vermont. Data included five-year average of capital expenditures, operational expenditures, employment headcounts, payroll and benefits, and taxes. The multipliers used in this study were derived from the IMPLAN software. Tripp Umbach’s approach to economic impact is decidedly conservative. Tripp Umbach’s approach to economic impact analysis is conservative by way of utilizing the industry standard software, IMPLAN, to conduct the impact analysis as well as using conservative assumptions for individual spending patterns. Tripp Umbach bases assumptions of spending on federal per diem rates.

Economic impact begins when an organization spends money. Studies measuring economic impact capture the direct economic impact of an organization’s spending, plus additional indirect and induced spending in the economy that results from direct spending. Visitor spending in the region is also a substantial component of the economic impact of an organization; visitors spend on retail, hotels/motels, restaurants, and other goods and services all of which filter through the economy and support local jobs.

1 Minnesota IMPLAN Group Inc. (MIG) is the corporation that is responsible for the production of IMPLAN (IMpact analysis for PLANning) data and software. IMPLAN is a micro-computer-based, input-output modeling system. With IMPLAN, one can estimate input-output models of up to 528 sectors for any region consisting of one or more counties. IMPLAN includes procedures for generating multipliers and estimating impacts by applying final demand changes to the model.
Total economic impact measures the dollars that are generated within Vermont due to the presence of The University of Vermont. This includes not only spending on goods and services with a variety of vendors throughout the state and the spending of its faculty, staff, students, and visitors; but also the business volume generated by businesses within Vermont that benefit from UVM’s spending. It is important to remember that not all dollars spent by a university remain in its home state. Dollars that “go” out of the state in the form of purchases to out-of-state vendors are not included in the university’s economic impact on the state. The multipliers utilized in this study are derived from the IMPLAN software.

Key economic impact findings presented in this report include the total current (FY14)$^2$ impact of UVM’s operations on the economy of and employment in Vermont, as well as the tax revenue impact on state and local governments. The analysis looked at the impacts of UVM on the State of Vermont.

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$^2$ Fiscal Year 2014 represents the period of time from July 1, 2013, to June 30, 2014.